This report describes a survey of which gameplay design patterns are likely to be of interest when designing or analysing public games. By looking at a collection of public games already developed, and in most cases tested and evaluated, 32 patterns are identified - some which were new and some which were updated from existing descriptions. These patterns are used to exemplify three different definitions of the concept of “public” in relation to gameplay, and these definitions are used to formulate guidelines for starting the process of designing or analysing public games.
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1. Introduction

Games are becoming more and more widespread as leisure activities. For example, in the US the game industry added $4.9 billion to the U.S. Gross Domestic Product and grew 10.6% between 2004 and 2009 compared to the average of 1.4% for the total economy\(^1\). In 2011, the average age of gamers in the US is 30 and 47% of gamers are female\(^2\). Gaming is also popular on mobile IT devices: 33% report playing games on smart phones and 25% report using other handheld devices for games\(^3\).

While mobile devices have allowed gamers to access games in places they previously could not play in, the still inherent many of the conventions of other types of digital games. One of these is focusing players' attention on the screen through rich graphics and gameplay that penalizes those that move their gaze away from the screen to perform other activities. While this may be inappropriate for safety reasons - a typical scenario is the gamer too engrossed in the gameplay to look for traffic while crossing roads - it also misses the chance of making use of many of the functional attributes of the devices as well as the environment in which the gamers find themselves. Finally, many games are played for social reasons, to interact with other players. While mobile IT devices can do so through connectivity to the internet, this misses the opportunity to support face-to-face interaction with those nearby.

1.1. Public Games

Public Games is the idea of games that are designed to work well in public. This is a shift from games that focus gamers away from their surroundings to one where the games are integrated part of the many activities that occur in public places. The concept of public games share attributes with ubiquitous games (which stresses the accessibility of games)\(^4\) and pervasive games (which stresses the blurring of gameplay activities and other activities)\(^5\).

While this report on public games is primarily intended to explore how they can be supported through mobile IT devices, it should be noted that they can also be created as installations or through non-digital means. This is not to say that the technologies embedded in mobile IT devices are bad for gaming. Rather, these mobile IT devices contain main technologies, e.g. GPS, near-field communication, and cameras, which could be used to connect the game system on the devices with activities outside the devices' displays.

1.2. Designing Games

There are many challenges to designing games. In most cases they require competences from many different disciplines, including but not limited to gameplay design, computer engineering, graphical design, interaction design, sound design, and script writing. Coordinating these

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3 Ibid.
activities and making communication possible between people with widely varying backgrounds add to the actual design challenges within each discipline. It is beyond the scope of this report to explore the particularities of all possible disciplines (especially since the disciplines that are relevant changes between game projects) and interrelationships between all these. Instead, it focused on what arguably is the core discipline which always is present in game development projects: gameplay design. This is the design of “the structures of player interaction with the game system and with other players in the game”\(^8\), and primarily consists of creating the rules for a game.

Another challenge to creating games is that they have to balance between novelty and familiarity. Partly this is the same novelty any product or service benefits from having compared to those with which it competes, but partly it is also that the attraction of games is to learn to master something\(^7\) - which is easier to guarantee if one offers something new to learn rather than repeat an already present offering. However, familiarity is also required: a too novel type of gameplay may be difficult to grasp and thereby not seem interesting or may pose a too high threshold to learn before one can appreciate it.

The challenges above can be compounded when designing for new technological platforms. This since previously existing conventions may not fit the contexts in which the new platforms are used. In addition, making fullest use of the new possibilities of the technologies is a novel challenge in itself.

Generalizing, the task of designing games falls into the categories of problems called wicked\(^8\). These problems have no clear formulation and stating the problem is in practice the same as finding a solution. However, each solution is unique and there is no easy way of judging when the solution is finished or how good the solution is. This is partly due to the fact that various stakeholder may prefer different solutions and the challenges the problem contains may be explained in diverse ways. Finally, designers do not have the same "right" to be wrong in the way researchers can be regarding hypotheses since the context is to create designs that are viable in real world contexts.

### 1.3. Languages for talking about Games and Gameplay

Given that designing games - and especially public games - are wicked problems, how can one mitigate the challenges? One solution is to make oneself have a rich and diverse set of tools that can be applied in various contexts for various problems.

One such tool is having a design language\(^9\). This is the idea that each design discipline can develop word and concepts that help in the particular sense making needed for that discipline. While they quite naturally are a subset and compatible with ordinary languages, that have been identified to have three specific components: a collection of basic building blocks (i.e. concepts), a way of describing how these concepts relate to each other, and a way of expressing when concepts are

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applicable and when they are not applicable. While design languages can help in conceptualizing, analyzing, and discussing specific design solutions another important aspect of them is that the availability of design concepts makes it possible to imagine the larger design space of potential designs. While such design spaces can help minimize the risk of overlooking possibilities it can be essential in understanding new or rarely explored areas.

The need for design languages are been identified by game developers\textsuperscript{10,11} and several projects have been begun to address this need by the practitioners themselves\textsuperscript{12,13,14}. However, this work has either not been continued or has developed very slowly due to the obligations their initiators have in continuing to create games.

Researchers have also started to document or develop design languages. One such approach is design patterns. This takes its beginning in wish of Christopher Alexander and others to empower non-architects to be able to take part in design discussions regarding the construction of buildings and to this end, they created a collection of patterns which explain solutions to design problems\textsuperscript{15}. Each of these patterns can be seen as an available building block for designers but does also contain the scope in which they are applicable. Since using one of these patterns typically requires the application of one or several more specific patterns they can also be seen as containing knowledge on how the relate to each other. While the use of design patterns has meet limited success within architecture, it has been widely adopted within software engineering\textsuperscript{16} and through this also spread to many other design disciplines, e.g. interaction design\textsuperscript{17} and online learning\textsuperscript{18}.

The gameplay design pattern approach\textsuperscript{19} applies design languages to gameplay with some modification. Primarily this concern that the actual core of gameplay - what players should do in the game - is less restricted than the core of most other design disciplines. This makes gameplay design have less external problems predefined than other design areas (this is not to say it does not have any: the limitations of platforms, target audiences, business models, etc. can be phrased as problems), and due to this the patterns were described as reoccurring design possibilities rather than solutions to existing problems. The other noteworthy change is having a more detail system of relations between the patterns including patterns that can modify other patterns and pairs of patterns which may be difficult to have together.

The pattern collection has since its creation been expanded to cover several more specific areas of gameplay, including pervasive games\textsuperscript{20}, rehabilitation games\textsuperscript{21}, non-player characters\textsuperscript{22} and dialogues with them\textsuperscript{23}. They have also been used to describe how designers can influence players to experience camaraderie\textsuperscript{24}, engage in pottering\textsuperscript{25}, and behave "well"\textsuperscript{26,27}. The approach has also been adopted by other researchers whom have developed their own collections\textsuperscript{28,29,30}. See the ontology project for an alternative approach to design patterns for describing games\textsuperscript{31}.

1.3.1. The Gameplay Design Pattern template
To ensure consistency and help readability, each design collection tends to make use of its own standardized format. This format is somewhat different between different design collection due to the needs of the particular field, e.g. in gameplay design the problems that exist are less often caused by external constraints than in architecture or software engineering. Below, a brief listing of the sections and subsections used for gameplay design patterns are given followed by a concrete example of a pattern using the template (and the formatting used later in this report):

**Name** - the name of the pattern, either descriptive or idiomatic and typically the most common expression for the gameplay pattern used in a game or research community

**Definition** - a one-sentence description that encapsulates the main concept behind the pattern.

**Popular description** - A description of the concept behind the pattern which does not make use of any other pattern. This to allow any pattern to be read without having previous knowledge about other patterns.

**Examples** - Games that contain instances of the pattern. Typically from several different categories of games to show the varying context the pattern can exist in. Some examples may be


\textsuperscript{27} Linderoth, J., Björk, S. & Olsson, C. (2012). Should I stay or should I go - Boundary maintaining mechanisms in Left 4 Dead 2. Nordic DiGRA 2012, June 6-8, Tampere, Finland.


classified as weak since the pattern does not have a strong or clear presence. Anti-examples is an optional subcategory for examples that at first may seem to have the pattern or are clear cases of where the pattern does not or cannot exist.

**Using the pattern** - A description of the requirements and choices that exist if a pattern is to exist in a specific game. In many cases this is described in terms of what other patterns are needed or how the effects of the current pattern can be changed by other patterns, but sometimes this is also in terms of what patterns may be difficult to combine with the existing one (patterns are shown in SMALL CAPS). Optional subsections describe aspects related to presentations of game world (diegetic aspects), design of user interfaces (interface aspects), and how the gameplay relates to narration (narrative aspects).

**Consequences** - An analysis of what the typical or likely consequences on gameplay of having a pattern present in a game design. These consequences are typically described through relations to other patterns.

**Relations** - A compact listing of all patterns used in the two sections above. The relations are categorised in parent-child relations (can instantiate - can be instantiated by), modifying relations (can modify - can be modified by), and antagonistic relations (possibly conflicting with). A seldom used relation allows for temporal aspects of a pattern to be described as well (possible closure effects). Some relations are also Boolean combinations, e.g. one pattern may require the combination of two patterns to emerge. Since the patterns do not describe guaranteed cause and effect relations, the names have been chosen to act as reminders of this fact.

**History** - An archival entry to help keep track of the development of the pattern over time.

**References** - A listing of external sources used to describe the pattern.

**Acknowledgments** - A listing of people that have contributed to the creation of the pattern.

### 1.4. An example pattern: Levels

>A level is a part of the game in which all player action takes place until a certain goal has been reached or an end condition has been fulfilled.

One way that games can divide gameplay into separate sections or chunks are to spatially constrain players into different parts of the game world. These separate parts are typically called **LEVELS**.

The difference between LEVELS in a game may be in content, aesthetics, or a combination of both. Commonly used differences between levels in early arcade games, such as Missile Command, are different color themes and speed of enemy units, thereby creating different levels of difficulty. By contrast, most of the current first-person shooters and real-time strategy games have new environments to be explored in each level, i.e., each level presents new enemies and puzzles for the player. In some games, the levels can also have different primary activities the player has to perform repetitively.
1.4.1. Examples

Many early computer games included LEVELS but where the difference was only in theme or difficulty if there was any difference at all. Examples of such games include Asteroids, Pac-Man, and Missile Command and the primary use of LEVELS in these games are to signify progression and repopulate the game world, and this is still found in some puzzle games such as Bejeweled, Staries, and Zoo Keeper. However, many other puzzle games have different configurations or game elements to offer new challenges. Examples of this include Braid, Continuity, Cogs, the Incredible Machine game series, Sokoban, and Portal series. Other computer games that make use of Levels to offer new challenges include Marble Madness, Mercury Meltdown, and the Lemmings series, as well as racing games such as the Gran Turismo series, the Need for Speed series, and the Wipeout series.

Many other computer games use LEVELS to gradually increase the difficulty while at the same time developing a story of sorts. Examples of this include The Legend of Zelda series, the Super Mario series, the Doom series, the Quake series, the Left 4 Dead series, NetHack, the Diablo series, and Torchlight.

Computer games with large game worlds sometimes use LEVELS to handle issues of system resources and keeping various monsters and non-player characters from moving freely. The Elder Scrolls series and the Fallout series are examples of such games. The instances found in some Massively Multiplayer Online Games, e.g. World of Warcraft, can be seen as a similar form of LEVELS. These allow subsets of the players logged on to particular servers to together try to complete specially designed challenges without interference or support from others; in fact several different groups can be in their own instance of the same LEVEL and have no effect on each other, and this is the source of the name for the game concept. It should be noted though that players often have the possibility to leave these Levels without completing some goal.

Although not as common as in computer games, some board games can be seen as making use of LEVELS. Examples of this includes the missions of both Space Alert and Space Hulk, which are described as part of a larger story even if each game instance only typically makes use of one of the LEVELS. The dungeons found in many tabletop roleplaying games can be seen as weak examples of LEVELS - they are often described as such in supplements but in many cases players could leave them whenever they wish.

1.4.2. Using the pattern

When implementing LEVELS in a game, game designers must decide how many LEVELS the game contains, how they differ and relate to each other, and if they are parts of a larger GAME WORLD (e.g. through INSTANCES) or constitute the GAME WORLD. Another aspect is how much RANDOMNESS is to be used in the creation of the LEVELS for each game instance. While most of the comments about how LEVELS can be designed below assume that these are created by game designers, games such as the Advance Wars series and LittleBigPlanet have built-in support for players to create and share LEVELS as a form of PLAYER CREATED GAME ELEMENTS. While
LEVELS are usually designed as a continuum of the GAME WORLD populated with game elements, they can also be created from TILES (this is done for example in Space Hulk).

Themes are an easy way to differentiate LEVELS (see diegetic aspects below) but this needs to be tied to changed gameplay if this should not just be an visual difference. Another way to differentiate between LEVELS is by changing the end conditions and the primary activities of the players. Having different types of goals that require different fields of expertise guarantees VARIED GAMEPLAY and includes the possibility of having UNKNOWN GOALS as the player progresses from level to level.

The combination of theme, end condition, and primary activities sets the boundaries for what diegetic game elements should be used in a given level. The use of game elements such as ALARMS, PROPS, BIG DUMB OBJECTS, BOSS MONSTERS, CONTROLLERS, CLUES, ENEMIES, ENVIRONMENTAL EFFECTS, GAME ITEMS, HELPERS, INSTALLATIONS, LANDMARKS, OBSTACLES, PICK-UPS, RESOURCE GENERATORS, SELF-SERVICE KIOSKS, SWITCHES, and TRACES are all common. These, and the spatial relationships between them, can be used to subdivide the LEVELS into areas with distinctively different gameplay, including ARENAS, CHOKE POINTS, FLANKING ROUTES, GALLERIES, SAFE HAVENS, SECRET AREAS, SNIPER LOCATIONS, and STRONGHOLDS. Of course, they may also make them into INACCESSIBLE AREAS. Designing parts of LEVELS to be traversed mainly by VEHICLES can make them into VEHICLE SECTIONS.

Many of these are inherently STRATEGIC LOCATIONS while others can become this due to rarity or their position in relation to other game elements. In addition, using different setups can provide further VARIED GAMEPLAY and SURPRISES. In addition to these diegetic elements, LEVELS can be populated with non-diegetic elements such as GEOSPATIAL GAME WIDGETS, GOAL POINTS, SAVE POINTS, and SPAWN POINTS, of which the latter provide the possibility of GAME ELEMENT INSERTION during gameplay on the LEVEL. Where SPAWNING of players' AVATARS occur is especially important as this determines the starting conditions for the players, and this can be used to create TENSION if it puts them in danger from their very appearance - this can be avoid by putting the SPAWN POINTS in SAFE HAVENS. WARP ZONES can be created both as abstract entities or INSTALLATIONS, and can be used to either connect together different parts of the LEVEL or provide the means to move to other LEVELS. DIEGETICALLY OUTSTANDING FEATURES can be used to draw players' attention to any of these elements in the LEVELS, or to draw them towards RED HERRINGS.

The use of TERRITORIES can be used to shift focus partly from what is happening in the LEVELS to the attributes of the actual LEVELS.

There are some options for LEVELS that affect the overall travel through them. The first is the option to let them be BACKTRACKING LEVELS, i.e. is LEVELS that one first moves through and then has to move back through. The second, which is a way is an opposite, is to provide QUICK RETURNS so that players do not have to go through parts of LEVELS they have already been in unless they wish to do so. Of course, one can introduce TRAVERSE goals besides the one typically present of getting to the end of a LEVEL.
The spatial construction of LEVELS affect how players can be made aware of the existence of further LEVELS, and how they perceive that they can reach them. Being able to directly observe the other levels through INVISIBLE WALLS or INACCESSIBLE AREAS is an obvious way to do this, but GAME STATE OVERVIEWS as well as CLUES and HELPERS can also be used. The latter option is in some cases easier to fit within the THEMATIC CONSISTENCY of the game. Providing several different LEVELS played can chose to play, found for example in the Super Mario series, gives players a FREEDOM OF CHOICE.

Game designers can with relative surety make LEVELS have CASUAL or CHALLENGING GAMEPLAY since they can decide on a quite exact level what types of challenges the players will meet. This can be used to create SMOOTH LEARNING CURVES by making the first LEVELS small or easy so that players can get familiar with interfaces and core gameplay, and when they have completed these they can proceed with more challenging ones.

A common effect of finishing a LEVEL is the QUICK TRAVEL to another LEVEL, and this is typically also a form of ONE-WAY TRAVEL. While simply reacting a specific location may be enough to change level, the use of CONDITIONAL PASSAGEWAYS can tie the completion of LEVELS to other goals than just TRAVERSE. This may be done through ULTRA-POWERFUL EVENTS when the end condition for completing the LEVEL has been reached, or be activated by players by the use of a WARP ZONE - the latter can allow players the possibility to handle CHARACTER DEVELOPMENT and collecting of LOOT before moving on to the next LEVEL.

### 1.4.2.1. Diegetic Aspects

As for GAME WORLDS, both DIEGETIC and THEMATIC CONSISTENCY affect how players perceive LEVELS. In contrast to GAME WORLDS however, LEVELS can also help create DIEGETIC CONSISTENCY since they can show imply larger GAME WORLDS than are shown by representing different parts of them. Being limited parts of these GAME WORLDS, LEVELS provide natural points for creating GAME WORLD EXPLORATION and TRAVERSE goals. Finishing TRAVERSE goals are often symbolized by the activation of a CONTROLLER, such as opening the main door to the next level, or by defeating a BOSS MONSTER. Regardless of what specific goals are used in a LEVEL, game designer creating LEVELS need to consider how players should be able to do GAME WORLD NAVIGATION (BIG DUMB OBJECTS can play roles here), and between which parts of the LEVELS the exists LINE OF SIGHT. Optionally, one may consider if one should actively design to support SPEED RUNS.

In order to be perceived as part of the same game, LEVELS need not only share the same core gameplay but also have DIEGETIC CONSISTENCY between them. As the change from one LEVEL to another typically signifies a change from one location to another, this can be used as a means to change theme, e.g. from a forest to a cave or from a railway station to a factory. The theme can then be used to set the boundaries for how much the DIEGETIC CONSISTENCY can be stressed; changing the theme too much to introduce new gameplay can however become an example of ALIEN SPACE BATS.

The design of a part of a GAME WORLD can of course also be used to create ENVIRONMENTAL STORYTELLING.
1.4.2.2. **Interface Aspects**

Mini-maps are quite common interface tools to help with the Game World Navigation of Levels.

1.4.2.3. **Narrative Aspects**

Unless created completely by randomness, Levels are predetermined story structures and can thereby be used to progress a narrative as gameplay progresses, especially since any present Boss Monsters or environmental storytelling can be more likely to be encountered by players through how they are herded through the Levels.

1.4.3. **Consequences**

The concept of Levels lets the game designer delimit Game Worlds and thereby the complexity of the game - especially for Game World Navigation - as well as giving players limited foresight. When leaving a Level is an irreversible event this can be used to let the transitions function as Closure Points. In games with Hotseating, the completion of a Level can be a natural point for a new player to take over playing the game. Levels can also be used to progress the narration structures in a controlled fashion since they can be predetermined story structures and make the rest of a Game World into inaccessible areas. Besides what actually take place in the Levels, this progression of stories can be done through cutscenes between the Levels. Since entering new Levels put players in contact with new game elements, they can provide Game Element Insertion into the game seen as a whole.

Except when used as smaller part of a Game World (as for example The Elder Scrolls series and World of Warcraft does), the existence of a Level assumes the existence of a next Level or the completion of the game. This provides explicit short-term Game World Exploration goals of finding the next Level. The completion of a level thereby provides strong hovering closures and anticipation, and the former can be increased further if save points only exist between the Levels. These types of Levels create Goal Hierarchies and provide a form of Unlocking, be it linear, as is the case with the many first-person shooters such as the Doom series, or structured in a more elaborate way, as is done for example in the different worlds in the Super Mario series.

By being different both as to structure and gameplay, Levels can provide varied gameplay and Surprises. Combined with environmental effects or switches this can become varying rule sets and only some rules apply on some Levels. Levels partly or wholly created through randomness can vary gameplay further and in this can also supports replayability (as for example in NetHack). Levels also have the possibility to support Game World Exploration and Traverse goals, the former which may be extended to a larger scale if players have a choice between the order in which to complete Levels.

Movement between Levels create quick travel unless games are explicitly designed to not have this. One example of how this can be avoid is present in the Left 4 Dead series - here the safe rooms are present in both levels and changes occur when all doors are closed so the noticeable difference of having changed Levels is minimized.
LEVELS can instantiate EXTRA CHANCES since they are portions of the whole gameplay in a game and failing one of them can be separate from failing the whole game.

Games with short LEVELS that one complete through PUZZLE SOLVING create META GAMES. These support NEGOTIABLE GAME SESSIONS when the individual puzzles vary in amount time needed to complete them.

1.4.4. Relations

1.4.4.1. Can Instantiate

ANTICIPATION, CASUAL GAMEPLAY, CHALLENGING GAMEPLAY, DIEGETIC CONSISTENCY, EXTRA CHANCES, FREEDOM OF CHOICE, GAME ELEMENT INSERTION, GAME WORLD EXPLORATION, GAME WORLDS, GOAL HIERARCHIES, HOVERING CLOSURES, INACCESSIBLE AREAS, LIMITED FORESIGHT, GAME WORLD NAVIGATION, PREDETERMINED STORY STRUCTURES, QUICK TRAVEL, SMOOTH LEARNING CURVES, SURPRISES, TRAVERSE, UNKNOWN GOALS, VARIED GAMEPLAY

with Environmental Effects or Switches

VARYING RULE SETS

with Irreversible Events

CLOSURE POINTS

with Puzzle Solving

META GAMES, NEGOTIABLE GAME SESSIONS

with Randomness

REPLAYABILITY

with Spawn Points

TENSION

1.4.4.2. Can Modulate

GAME WORLD NAVIGATION, GAME WORLDS, HOTSEATING

1.4.4.3. Can Be Instantiated By

BACKTRACKING LEVELS, INSTANCES, PLAYER CREATED GAME ELEMENTS, TILES

1.4.4.4. Can Be Modulated By

ALARMS, ALIEN SPACE BATS, ARENAS, BIG DUMB OBJECTS, BOSS MONSTERS, CHOKE POINTS, CONDITIONAL PASSAGEWAYS, CONTROLLERS, CLUES, DIEGETIC CONSISTENCY, DIEGETICALLY OUTSTANDING FEATURES, ENEMIES, ENVIRONMENTAL EFFECTS, ENVIRONMENTAL STORYTELLING, FLANKING ROUTES, GALLERIES, GAME ELEMENT INSERTION, GAME ITEMS, GAME STATE OVERVIEWS, GEOSPATIAL GAME WIDGETS, GOAL POINTS, HELPERS,
INACCESSIBLE AREAS, INSTALLATIONS, INVISIBLE WALLS, IRREVERSIBLE EVENTS, LANDMARKS, LINE OF SIGHT, MINI-maps, OBSTACLES, ONE-WAY TRAVEL, QUICK RETURNS, PICK-UPS, PROPS, RANDOMNESS, RED HERRINGS, RESOURCE GENERATORS, SAVE POINTS, SAFE HAVENS, SECRET AREAS, SELF-SERVICE KIOSKS, SNIPER LOCATIONS, SPAWN POINTS, SPAWNING, SPEED RUNS, STRATEGIC LOCATIONS, STRONGHOLDS, SWITCHES, TERRITORIES, THEMATIC CONSISTENCY, TRACES, TRAVERSE, UNLOCKING, VEHICLE SECTIONS, VEHICLES, WARP ZONES

1.4.4.5. Possible Closure Effects
CUTSCENES, QUICK TRAVEL, SAVE POINTS

1.4.4.6. Potentially Conflicting With
-

1.4.5. History
A revised version of the pattern LEVELS that was part of the original collection in the book Patterns in Game Design [1].

1.4.6. References

1.4.7. Acknowledgments
-
2. Method

This report on the public games makes use of gameplay design patterns to identify potential design choices available for developers of such games. The choice of this approach was primarily that it has been successfully used for similar emerging or experimental gameplay types (as listed in the previous section) and that using the method would allow for making use of an already existing collection of approximately 500 patterns\(^{32}\).

The actual method used in identifying and developing the patterns consist primarily of game analysis. The sources for the analysis is a mixture of studying academic papers, descriptions of particular public games in popular press, and personal experience of testing the games (primarily experimental games in conjunction to demonstrations of them at academic conferences). In addition, some of the examples have been developed in project which the author has been involved so experimental design research can be counted as a method used.

All relevant design patterns identified have been created in a wiki, and while doing so have been related to all other patterns in the wiki. Given the public nature of the wiki, feedback has been received from other game researchers, game journalists, and game students and this has been used to improve the descriptions.

2.1. History of the public game gameplay design pattern collection

The basis for gameplay design collection concerning public games is quite naturally the initial collection from 2005\(^{33}\). However, Nokia had already commissioned a report of design patterns for mobile games while this collection was being edited\(^{34}\) and several of these patterns were relevant to public games since these quite often are supported through mobile phones. Similarly, the exploration of pervasive games was relevant to public games since these two categories have a significant overlap\(^{35}\). Thus, the collection presented in this report is a development and expansion of these collections, both in the addition of individual patterns and in the addition of significant amount of examples and content in already existing patterns. Further, all the patterns describe here are part of the new gameplay design wiki\(^{36}\). This means that they are linked to all other patterns, and thereby help support gameplay design in general as well as regarding the specifics of public games.

\(^{32}\) The original collection consists of ~300 patterns and the current wiki collection has ~380 patterns. However, only 100 or so of the original patterns have been updated and inserted in the wiki.


\(^{36}\) http://gdp2.tii.se/index.php/Main_Page
3. Result

The result of this study can be divided into four parts. First, several games that were highly public in some way have been identified and are briefly described. Second, the different ways games can be public have been distilled from the examples. Third, specific gameplay design patterns have been identified or revised and allow more precise descriptions of the potential gameplay structures possible in public games. Fourth, and finally, initial guidelines for designers of public games are provided based upon a set of different categories of design patterns.

3.1. Noteworthy Games

While design patterns can help in the understanding of specific design solutions regarding the gameplay of public games, these can be difficult to understand without a context for those unfamiliar with design patterns or gameplay design. For this reason, brief descriptions of some public games are described here. The games chosen have been so to exemplify a number of different subtypes of public games regarding gameplay, technology use, and design intent.

3.1.1. Can You See Me Now?

Developed by the Mixed Reality Lab in Nottingham and the art group Blast Theory, Can You See Me Now? is a game where players move on an online map of a city they are in. They try to avoid being capture by runners - facilitators equipped with GPS receivers that roam the physical city but whose coordinates are used to position them onto the game map. This mixing of the real world and a digital one provides distinctly different challenges. Runners have to navigate a populated city with traffic while chasing the virtual players. While players do not have to physically move, knowledge about how easy it is to move physically in particular areas of the city is a vital advantage for gameplay. While GPS coverage can be unreliable in urban environments, runners can use this to their advantage by learning where GPS dead exists and use these to ambush nearby players.

Can You See Me Now? is an example of a public game in two way. First, the game is set up in museums and gallery so people engaging with the game are likely to have an audience. Second, the runners move around among people that are unlikely to understand that they are witnessing one half of a game in action.

For more information, see the paper Can you see me now?37.

http://www.mrl.nott.ac.uk/~axc/documents/papers/ToCHI06.pdf
3.1.2. ConQwest

ConQwest is a team-based game developed in 2004 by Frank Lantz, Mattia Romeo, Dennis Crowley, Kevin Slavin, Liz Cioffi and others. The teams battle over the control of zones in a real city by moving their totems (giant inflatable plastic figures) into the zones. If the teams meet each other in a zone, they battle each other by betting points they have collected earlier by finding hidden semacodes and taking pictures of these with smartphones. Teams can unlock bonus treasures as gameplay continues and the first team to 5000 points wins and receive a reward of $5000.

The game is set up as special occasions, typically for high schools to challenge each other, and part of the design intent is clearly to make the game noticeable for the general public.

For more information, see the official website for the game: files.nyu.edu/dc788/public/conqwest/

3.1.3. Conspiracy for Good

Conspiracy for Good is an Alternative Reality Game (ARG), i.e. a game where gameplay content is hidden in reality and appropriate existing material for the game setting and story. The game ran for 4 months in an online format before enacting four live events in public areas of London during the autumn of 2010. Players were recruited by three specific mobile games available on Nokia phones as well as through "teaser" videos, but given the nature of ARGs many may not have been aware of that they were being invited to a larger game.

The collective puzzle solving activity done online is one way in which Conspiracy for Good is public. Another, rather obviously, is through the interaction the several small groups had during the live events which in some cases consists of performing actual voluntary work. Players with the possibility of being in London during the live events had an opportunity to move between the two types of gameplay.
For more information, see the paper Narrative Friction in Alternate Reality Games: Design Insights from Conspiracy For Good 38.

3.1.4. Day of the Figurines

Day of the Figurines is a game that combines a SMS-based text adventure with a public exhibition of the game state at a museum or gallery. People visiting the exhibition can start playing by selecting a figurine and provide some basic information about the character they wish to play. This figurine is then placed on the city map so other visitors can see its position. After this, the game contacts the player by sending SMS describing the current situation, game events, and the actions of other players. As players move around in the game world by sending commands by SMS, the game facilitators update their position on the city map.

The game is public in both the way a significant part of the game state is shown to those visiting the exhibition and in the way people can play the game in any environment where they can send SMS.

For more information, see the paper Day of the Figurines: Supporting Episodic Storytelling on Mobile Phones 39 or the website for the game within the context of the IPerG EU project 40.

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40 http://www.pervasive-gaming.org/iperg_games1.php
Geocaching is a treasure hunt played in the real world. Participants register at a website and can there identify the general location of "geocaches" that contain the treasures. Using GPS devices and hints from the website, players then move about in the real world trying to locate these geocaches. Items found in them can be taken as long as they are replaced with other items of equal or greater value. Participants show that they have completed geocaches by describing on the website what they retrieved from the geocaches. Creating geocaches is the second level of gameplay available, and in many cases series of geocaches have been created that build upon each other or have themes.

While geocaching depends on other players to create geocaches and to search for the ones that one may have created, in practice geocaching is playable without concerns of who else is playing currently. For this reason, it is easy to spontaneously incorporate geocaching in some other activity that has brought oneself to a new area, and gameplay can be interrupted whenever if some other type of activity becomes more important or interesting.

For more information, see www.geocaching.com.
3.1.6. Insectopia

Insectopia is a mobile phone game where players try to have the largest and most valuable insect collections. If available, an insect can be collected every 3 minutes if playing alone, but players can team up and collect all present insects if the players are near each other. The insects are generated through the detection of active Bluetooth devices near the mobile phones, and each Bluetooth device maps to a unique insect (although many insects exist for each type of insects). This means that actual game content at any given point is entirely dependent on where and when the player is playing the game. In addition, found insects need to be caught again every 8 days which creates an interest in players to identify which Bluetooth devices in their surroundings map to rare insects observed.

The use of Bluetooth id codes makes Insectopia possible to play in most public urban environments whenever players want to. Since the individual actions are independent of each other, players can make as many or as few as they want without committing them to continued gameplay. Besides making the game possible to play in most circumstances, it also makes it easy to interrupt if needed. Further, it may be impossible to notice the difference between playing Insectopia and for example texting, so the game can be played discretely in most situations.

For more information, see the paper "Insectopia: exploring pervasive games through technology already pervasively available".41

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3.1.7. Momentum

The game Prosopopeia Bardo 2 "Momentum" (Momentum for short) was a combination of a live-action role-playing game and a pervasive game. In it, 30 participants moved between different degrees of playing and not playing in a game which spanned more than 30 days, and the gameplay activities made it necessary to move through and play in public environments. They played themselves as people that were sometimes possessed by dead revolutionaries that had the goal of saving themselves from oblivion. A collection of technology - masked to fit the theme and aesthetics of the game - allowed for both the players to communicate with the "dead" and for game facilitators to steer the gameplay.

While the gameplay design allowed players to easily move between playing or not (or optionally pretending that nothing special was happening while still continuing to play), Momentum added complexity in that players did not know if other people in public environments where part of the game or not. A few were, and a few were prepared by the game facilitators to do certain actions (give a painting to the first person who asked for it) but without knowing it was part of a game.

For more information, see the website for the game within the context of the IPerG EU project⁴².

3.1.8. Pacman Must Die

Pacman Must Die is an experimental mobile phone game. In it, players control one ghost each and try to capture Pacman. However, all mobile screens are linked together so players can move from their own screen to another player's screen in their hunt for Pacman. This means that the players need to positions themselves and their screens in a fashion that helps them be able to have a view over all screens. This requirement of cooperation is however made more complex since players are also competing with each other and can easily spoil the chances of players that are on their screens by simply moving the phone.

For more information, see the paper "Why is everyone inside me?" Using Shared Displays in Mobile Computer Games.33

3.1.9. Uncle Roy All Around You

Uncle Roy All Around You is a game played collaboratively between players both in an online city and in an actual city. The players moving around in the actual city have 60 minutes to find the office of uncle Roy and are given instructions on what to do. The players accessing the online city are also given missions but can access photos of the actual city within the online city and can thereby give support to the other players through a chat/audio message system. Players that make it to the office are asked if they are willing to help another player - a stranger - if they have a crisis. Players that have moved around in the real city and answer yes are match to players from the online experience who likewise answer yes and the game ends with the possibility for these people to get to know each other.

For more information, see the paper Uncle Roy all around you: mixing games and theatre on the city streets.44


3.2. Identified patterns

The games in the previous section show that public games can take quite different forms. One can however distinguish some meanings of public in the examples. First, games can be *publically available* so that people can without great difficulties begin playing them. Insectopia and Geocaching are examples of this; they can in principle be played in any location with Bluetooth devices and GPS coverage respectively. This does however not automatically cause them to be *publically played*, i.e. played in an environment populated with others doing activities not based on the game activity. Momentum, Conspiracy for Good, Can You See Me Now?, and Uncle Roy Around You are example of this second type of public games (and the two first games are partially public in the first sense as well). Even when it is the case that the games are played among non-players, those other people may not be aware of the fact that a game is in progress since it may not be *publically visible*. While those observing players of ConQuest or Pacman Must Die may not realize the exact nature of the gameplay activity, they are very likely to notice that those players are participating in some unusual activity. Day of the Figurines shows how gameplay that is publically available can be locally publically visible by having an art installation that reflects the game state. Can You See Me Now? and Uncle Roy Around You work similarly but instead exhibit the online players when they play. Lastly, games can of course be played by a public, i.e. the game is something tied closely to the fact that those playing it are an audience to some other ongoing event.

Each of the example games contains many gameplay design patterns, of which most are common to many other types of games. In order to limit the description of patterns to those most relevant to public games - but by doing so also providing entry points to exploring the larger collections of patterns - this report only discusses those belonging to three categories. The first, pervasive patterns, corresponds to the public availability of games. The second, gameplay adaptability patterns, deals with how games can be modified to fit in various contexts and by doing so relate to how well games can be publically played. The third and last category, audience patterns, deals with how non-players can be supported by game design and how these can in turn affect gameplay and thereby linked to publically visible games. The categories overlap each other so some patterns exist in more than one category.

Adopting the style of Lankoski45, design patterns are indicated by having their name in SMALL CAPS. While this section described the categories and the next section provides a guideline for using them to understand public games, the patterns themselves are described in chapter 6.

3.2.1. Pervasive Patterns

These patterns are related to making games playable in contexts non-dedicated or prepared especially for that gameplay. The two core patterns regarding this are *Pervasive Gameplay* and *Ubiquitous Gameplay* while the other patterns in the group described more specific game mechanics or consequences of these patterns. A total of 19 patterns populate the category, and the category can be seen as a sub-category of interface patterns.

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3.2.1.1. Identified Patterns
Artifact-Location Proximity, Backseat Gamers, Extra-Game Input, Hybrid Gameplay Spaces, Memorabilia, Non-Player Help, Pervasive Gameplay, Physical Navigation, Player Physical Prowess, Player-Artifact Proximity, Player-Avatar Proximity, Player-Location Proximity, Player-Player Proximity, Real Life Activities Affect Game State, Real World Gameplay Spaces, Seamful Gameplay, Self-Reported Positioning, Spectators, Ubiquitous Gameplay

3.2.2. Gameplay Adaptability Patterns
These are patterns which provide ways of making games fit players' preferences. This can be done by either simply making the game accessible to larger groups of people or by letting players modify the game to suit them. A total of 11 patterns belong to this category.

3.2.2.1. Identified Patterns
Difficulty Levels, Interruptibility, Minimalized Social Weight, Negotiable Game Instance Duration, Negotiable Game Sessions, Negotiable Play Sessions, Pervasive Gameplay, Self-Reported Positioning, Social Adaptability, Tiered Participation, Ubiquitous Gameplay

3.2.3. Audience Patterns
This category includes patterns for enabling non-player to participate in the gameplay events as well as potential consequences of this. 7 patterns have been identified as being part of the category.

3.2.3.1. Identified Patterns
Backseat Gamers, Extra-Game Broadcasting, Extra-Game Input, Non-Player Help, Public Player Statistics, Real World Knowledge Advantages, Spectators

3.3. Guidelines
The categories introduced in the previous section outline three main ways in which games can be public. These categories can be seen as starting points for either achieving design goals or for beginning analysis of games and gameplay. Not being opposites, they can also be combined to offer more complex interpretations of public in public games.

Looking at the categories, 7 patterns are found in two categories. These are Backseat Gamers, Extra-Game Input, Non-Player Help, Pervasive Gameplay, Self-Reported Positioning, Spectators, and Ubiquitous Gameplay. While these patterns may be slightly more likely to be relevant to public games since they are relevant to several types of public games, this in itself does not guarantee that they are the most important patterns to consider when designing public games. It should however be noted that nearly all games can have Spectators even if they are not designed to support this since players can make conscious efforts to show the gameplay to others; as patterns that can emerge from Spectators this also that most games can have Backseat Gamers and Non-Player Help.

While public games are likely to make use of computer technology, not all patterns are directly linked to technology - this happens most in the category of pervasive patterns. This reiterates the
fact that the gameplay design patterns focus on gameplay and not technology, and that different types of technologies may support the same gameplay.

Concluding, the above argument can be summarized as a couple of guidelines:

- **Consider which aspects of public the game will contain**
  Identifying what aspects of public is relevant for a game can help focus work. It can also be used to filter down which gameplay design patterns are relevant to consider.

- **Consider the effects of SPECTATORS, BACKSEAT GAMERS, and NON-PLAYER HELP**
  Since nearly all games can have these patterns by design or by player interference, their influence on gameplay and surrounding activities need to be considered in nearly all cases. This even if the only intension is to minimize the likelihood that they would emerge.

- **Separate gameplay and technology considerations**
  While some technology can support specific types of gameplay and not others, there is not necessarily a one-to-one mapping and any particular type of gameplay described through a gameplay design pattern can most often be instantiated in a design using a variety of technologies. It is therefore prudent to not consider gameplay and technology as one and the same but rather as interrelated aspects. Some projects may benefit from beginning by considering technological possibilities or constraints while other may benefit from doing so regarding gameplay. That said, the category of pervasive patterns is probably more relevant to work heavily focused upon technology since there is a higher frequency of correlation between gameplay and technology in that group.

These guidelines are equally relevant for analyzing existing games as when designing new games since they relate to how the games are or will be played.
4. Conclusion

This report describes a survey of which gameplay design patterns are likely to be of interest when designing or analysing public games. By looking at a collection of public games already developed, and in most cases tested and evaluated, 32 patterns were identified - some which were new and some which were updated from existing descriptions. These patterns were used to exemplify three different definitions of the concept of “public” in relation to gameplay, and these definitions were used to formulate guidelines for starting the process of designing or analysing public games.
5. Appendix: Design Pattern Collection

The following section contains all the gameplay design patterns identified for public games. They are reprints from the wiki collection (http://gdp2.tii.se) which looks at all types of games. For this reason, the patterns contain references to many games which are not public games.

5.1. Artifact-Location Proximity

*Game rules that depend on technology-sensed proximities between physical artifacts and physical locations.*

Many games have bringing items to specific locations as conditions for gameplay events. While this is in many cases done with both items and locations that are either fictional or virtual, it may also be done with physical ones. The pattern **ARTIFACT-LOCATION PROXIMITY** signifies when technology checks whether these types of condition are met for physical items and locations.

5.1.1. Examples

The movement of teams’ giant animal totems in ConQwest is an example of **ARTIFACT-LOCATION PROXIMITY**. In the Swedish LARP Kejsartemplet, the placement of a magic stone in its receptacle removed the power from all wizards; this was implemented through sensing the stone’s presence in the receptacle and relaying this electronically to bracelets worn by the wizards.

5.1.2. Using the pattern

Making use of **ARTIFACT-LOCATION PROXIMITY** in a game consist of modifying physical **GAME ITEMS** (quite often **TOOLS**) so that they can be sensed by some technology embedded in a specific location. The modification required depends primarily on the sensing technology used, and the technology choice can also determine what actually is meant by proximity and what artifacts can trigger the proximity. For example, RFID tags can let the game design determine exactly which unique artifacts trigger conditions with a short range while a pressure plate would accept all artifacts over a certain weight placed on it.

**ARTIFACT-LOCATION PROXIMITY** can require **EXTENDED ACTIONS** to trigger either the condition of entering or leaving the proximity of a location. This may be to control player actions (not being able to leave with the artifact immediately or having a chance of returning it shortly after it has been removed). It also provides a safeguard if the sensing technology used is deemed a bit unreliable.

5.1.3. Consequences

As any gameplay mechanic depending on location, **ARTIFACT-LOCATION PROXIMITY** can give rise to **STRATEGIC LOCATIONS**. Further, since **ARTIFACT-LOCATION PROXIMITY** is quite often combined with the **DELIVERY** pattern, **PHYSICAL NAVIGATION** and **PLAYER-LOCATION PROXIMITY** are likely to become part of the gameplay.

Because **ARTIFACT-LOCATION PROXIMITY** implies that players need to visit locations even if the game does not use **PLAYER-LOCATION PROXIMITY**, it gives rise to several patterns related to player movement. These include **ENCOURAGED RETURN VISITS** and **TRVERSE**, but also ones stressing **PERVERSIVE GAMEPLAY** such as **CHANGES IN PERCEPTION OF REAL WORLD**.
PHENOMENA due to GAMEPLAY, PHYSICAL NAVIGATION, and REAL WORLD KNOWLEDGE ADVANTAGES.

Like PLAYER-LOCATION PROXIMITY and PLAYER-PLAYER PROXIMITY, the use of ARTIFACT-LOCATION PROXIMITY can help GAME MASTERS remotely control Pervasive Games and LARPs.

5.1.4. Relations

5.1.4.1. Can Instantiate

CHANGES IN PERCEPTION OF REAL WORLD PHENOMENA DUE TO GAMEPLAY, ENCOURAGED RETURN VISITS, PERVERSIVE GAMEPLAY, PHYSICAL NAVIGATION, REAL WORLD KNOWLEDGE ADVANTAGES, STRATEGIC LOCATIONS, TRAVERSE

with Delivery

PHYSICAL NAVIGATION, PLAYER-LOCATION PROXIMITY

5.1.4.2. Can Modulate

GAME ITEMS, GAME MASTERS, TOOLS

5.1.4.3. Can Be Instantiated By

-

5.1.4.4. Can Be Modulated By

EXTENDED ACTIONS

5.1.4.5. Possible Closure Effects

-

5.1.4.6. Potentially Conflicting With

-

5.1.5. History

Updated version of the pattern Artifact-Location Proximity first described in the report Game Design Patterns for Mobile Games [1].

5.1.6. References


5.1.7. Acknowledgements

Johan Peitz

5.2. Backseat Gamers

People not playing a game that are trying to influence gameplay of a game by influencing the actions and opinions of the players.
In many cases when games are being played, people not playing the game are able to observe it. Those people that also try to affect the outcome of the game through communicating with the actual players are BACKSEAT GAMERS.

Note: Although players rather than gamers are used in this pattern to describe those engaged in gameplay, those trying to affect the gameplay are described as gamers. This since the influence they are trying to achieve typically relates to manipulating the game state, i.e. gaming, rather than the other types of activities a game can support.

5.2.1. Examples
Cheering crowds in sports such as Soccer or Ice Hockey are BACKSEAT GAMERS. So are the coaches of sport teams although they typically have more explicit abilities (and power) to control the players' actions.

Single-player computer games are typically games that easily accommodate BACKSEAT GAMERS since several people can simultaneously view the display showing the game. While fast-paced games can make giving advice hard, game focusing on open world exploration (e.g. the Elder Scrolls series and Minecraft) or turn-based games (e.g. the Civilization and X-COM series) typically allow players to take in comments from those nearby while still being able to play without being handicapped.

While the game Backseat Gaming may seem to directly point towards supporting BACKSEAT GAMERS, it actually refers to the fact that the players of the game sit in the backseat of cars. This does however not stop the other passengers, including those sitting in the front seats from being BACKSEAT GAMERS.

5.2.2. Using the pattern
The primary requirement for BACKSEAT GAMERS to be possible is only that the game can have SPECTATORS. One way of modulating the pattern is to allow DROP-IN/DROP-OUT gameplay - this way people can move between being BACKSEAT GAMERS and being actual players (which is a way to support TIERED PARTICIPATION in a game).

The difference between NON-PLAYER HELP and BACKSEAT GAMERS is mainly in the awareness of "non-players" if they are affecting a game.

5.2.2.1. Interface Aspects
Supporting BACKSEAT GAMERS does require some way for people besides the players observing the gameplay. This is typically not a problem with traditional board games or those co-located with players of computer games. Although not common, hypothetically computer games could support BACKSEAT GAMERS not near the actual players by having specific SPECTATOR views and COMMUNICATION CHANNELS between the SPECTATORS and the players.

5.2.3. Consequences
BACKSEAT GAMERS allow those not playing a game to influence it anyway. This is a form of TIERED PARTICIPATION and can support a sense of TOGETHERNESS between those playing and those not playing.
BACKSEAT GAMERS may disrupt the social agreement a game instance is based on. This since the extra help may be perceived as cheating. While not necessarily noticeable in MEDIATED GAMEPLAY, this makes the pattern easily come in conflict with PVP for games that have UNMEDIATED SOCIAL INTERACTION.

Regardless of if it takes place in SINGLE-PLAYER GAMES or MULTIPLAYER ones, BACKSEAT GAMERS can make the ordinary players into PROXY PLAYERS if they are allowed to influence them too much.

5.2.4. Relations

5.2.4.1. Can Instantiate
PROXY PLAYERS, TIERED PARTICIPATION, TOGETHERNESS

5.2.4.2. Can Modulate

5.2.4.3. Can Be Instantiated By
HOTSEATING, SPECTATORS

5.2.4.4. Can Be Modulated By
DROP-IN/DROP-OUT

5.2.4.5. Possible Closure Effects

5.2.5. Potentially Conflicting With
UNMEDIATED SOCIAL INTERACTION in PVP games

5.2.6. History
New pattern created in this wiki.

5.2.7. References

5.2.8. Acknowledgements

5.3. Difficulty Levels
Controls in a game for letting player choose how difficult the gameplay should be.

To be enjoyable, a game being played needs to have a difficulty fitting the challenge its players wishes to have. Many games try to solve this by steadily become more difficult as gameplay progresses under the assumption that players are getting more skilled - which can be described as keeping the players in the Flow channel [1]. This does however not solve the case of games that are replayed since they start at a higher skill level. DIFFICULTY SETTINGS are design options that allow players to modify the difficulty to what they perceive as being their right level, which may
be harder than normal if they are skilled but also easier than normal if they are not used to the type of game or simply want a more relaxing experience.

5.3.1. Examples

The Doom series lets players choose between five different DIFFICULTY LEVELS: I'm Too Young To Die, Hey, Not Too Rough, Hurt Me Plenty, Ultra-Violence, and Nightmare. These differ by the number of monsters encountered (or their strength), ammunition available for weapons, the speed of monsters and damage taken from their attacks, and how often they respawn. Left 4 Dead series lets players choose between Easy, Normal, Advanced, and Expert when playing, and this affects the speed, strength, and health of the "infected" as well as how often hordes of them attack players. In addition, players of Left 4 Dead 2 can choose to use the Realism Mode in which the game does not provide non-diegetic information about where the other players or supplies are.

The Hearts of Iron series of grand strategy games let players select DIFFICULTY LEVELS ranging from Very Easy to Very Hard. These affect the number of manpower available, industrial capabilities, availability of resources, revolt risks, and efficiency of naval bases and supply networks.

DIFFICULTY LEVELS can also be found in board games. Space Alert lets players choose difficulty simply by choosing between different scenarios (the actual challenges are randomized, so it is the structures that are chosen by selecting particular scenarios). Players of Pandemic can increase the level of difficulty in games by seeding card stacks with additional "epidemic" cards while in Forbidden Island one can make it harder to win by starting with a higher water level.

5.3.2. Using the pattern

Designing DIFFICULTY LEVELS consists of deciding on different types of modifications to the gameplay that should be used to describe different levels of difficulty. The options naturally depend on what values are handled by the game system, but generally DECREASED ABILITIES or IMPROVED ABILITIES form the basis for creating a difficulty level. For MULTIPLAYER GAMES a general choice also exists regarding if all players need to have the same difficulty setting or not - if they do not have to have this then DIFFICULTY LEVELS provide a HANDICAP SYSTEM (as they do in any SINGLE-PLAYER GAME).

Examples of more specific modifications include to change how much HEALTH players have, introduce general multipliers to DAMAGE taken or given, make AMMUNITION or TOOLS that restore HEALTH more or less common, change the numbers of ENEMIES encountered and how often REPAWNING occurs, as well as modifying the skill of AI PLAYERS and ALGORITHMIC AGENTS controlling ENEMIES. In games with TEAMS, limiting the possibilities for COORDINATION is a way to make gameplay more difficult. The Realism Mode in Left 4 Dead 2 is an example of this, but also shows that DIFFICULTY LEVELS do not have to be simply choices along one scale. In this case the use of GEOSPATIAL GAME WIDGETS are severely distanced and thereby makes COORDINATION more difficult, but any kind of modification (or groups of modifications) could be broken out as a separate choices - the ability to switch FRIENDLY FIRE on and off in Quake 3 by console commands can be seen as an additional example. When selectable, systems providing DYNAMIC DIFFICULTY ADJUSTMENT can be seen as a form of thing
type of **Difficulty Levels** as well. Board games requiring no dexterity and with **Perfect Information** provide a very specific form of difficulty setting - that of not using any **Tokens** and thereby requiring some or all player to continuously having to engage in **Memorizing** the game state. Chess played in this way is called Blindfold Chess. The use of **Permadeath** in games can be the basis for additional **Difficulty Levels**; Diablo II and the hardcore version of BatMUD are examples of this. The use of **Asymmetric Starting Conditions** for **Abstract Player Constructs** such as countries are often based upon the setting of the games - not all countries in the Hearts of Iron series have equal possibilities to handle the turmoil of the Second World War and, as the name suggests, not all countries in the Europa Universalis series were posed to be able and expand their influence between the 15th and 19th century AD.

While **Difficulty Levels** in themselves do not provide explicit goals in games (they modulate the ones that exist), an except can be found when they are used together with **Goal Achievements**. In these cases, i.e. when there exists **Goal Achievements** tied to specific **Difficulty Levels** as for example done in Torchlight, they do give rise to the presence of **Handicap Achievements**.

### 5.3.2.1. Interface Aspects

The setting of **Difficulty Levels** is typically done either in **Secondary Interface Screens**, or, for **Multiplayer Games**, in **Game Lobbies**.

### 5.3.3. Consequences

**Difficulty Levels** are a form of **Handicap System**, and since players can choose to deviate from the standard they also represent a form of **Optional Rules**. They give players a **Freedom of Choice** to have either **Casual** or **Challenging Gameplay**, as well as set the level of **Framed Freedom** they wish to have if some freedom exists to begin with. When players use **Difficulty Levels** to gradual increase the levels as they get better, this use of the pattern allows for **Smooth Learning Curves** that can be used to develop **Game Mastery**. However, this is under the responsibility of players that this occurs - **Difficulty Levels** can as easily work against **Game Mastery** if players are tempted to play on easy levels to complete or dominate the game.

**Negotiable Game Sessions** can be supported through **Difficulty Levels** since they can both change the amount of challenges that need to be overcome as well as making it less likely than one fails and has to redo parts of a game.

As mentioned above, **Difficulty Levels** can be combined with **Goal Achievements** to create **Handicap Achievements**.

**Difficulty Levels** provide a weak form of **Social Adaptability** in games since players have a basic level of influence in what the game will require from them.
5.3.4. Relations

5.3.4.1. Can Instantiate
CHALLENGING GAMEPLAY, CASUAL GAMEPLAY, FREEDOM OF CHOICE, GAME MASTERY, HANDICAP SYSTEMS, NEGOTIABLE GAME SESSIONS, OPTIONAL RULES, SMOOTH LEARNING CURVES, SOCIAL ADAPTABILITY, PERMADEATH

with Goal Achievements

HANDICAP ACHIEVEMENTS

5.3.4.2. Can Modulate
AI PLAYERS, ALGORITHMIC AGENTS, AMMUNITION, FRAMED FREEDOM, GEOSPATIAL GAME WIDGETS, DAMAGE, ENEMIES, HEALTH, RESPawning, TOOLS

COORDINATION and FRIENDLY FIRE in games with Teams

5.3.4.3. Can Be Instantiated By
DECREASED ABILITIES, DYNAMIC DIFFICULTY ADJUSTMENT, GAME LOBBIES, IMPROVED ABILITIES, SECONDARY INTERFACE SCREENS

ASYMMETRIC STARTING CONDITIONS together with CHARACTERS or ABSTRACT PLAYER CONSTRUCTS

MEMORIZING together with PERFECT INFORMATION

5.3.4.4. Can Be Modulated By
-

5.3.4.5. Possible Closure Effects
-

5.3.4.6. Potentially Conflicting With
GAME MASTERY

5.3.5. History
New pattern created in this wiki.

5.3.6. References

5.3.7. Acknowledgments
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5.4. Extra-Game Broadcasting
The broadcasting of game events in other media than that in which the gameplay occurs in.
Some games are designed to let people that are not playing know how gameplay progress. This can be achieved by connecting them to other communication channels so they can rely events that occur as a form of EXTRA-GAME BROADCASTING.

5.4.1. Examples

Games residing on social media platforms, e.g. FarmVille and Mafia Wars, make use of the various messaging functionality available to make it possible to share what is happening in the game. This may be simply to divulge the progress but can also be to request help or brag. The SMS-based game Day of the Figurines lets visitors to a museum gain an overview of the game state by having a physical installation on which the location of players' characters is shown through figurines.

EXTRA-GAME BROADCASTING occurs in conjunction with many game instances but are actually not part of the game designs. The most common case is for Sports such as Soccer and Ice Hockey, which are often broad-casted both nationally and internationally. This has also happened to some computer-based games, e.g. the Starcraft series in South Korea.

Alternate reality games can be said to have EXTRA-GAME BROADCASTING since the make use of other media to convey gameplay, and do so without being open about it. Examples of games where this occurs is Conspiracy for Good, Momentum, The Beast, and The Lost Experience.

5.4.2. Using the pattern

Designing EXTRA-GAME BROADCASTING consists of deciding which game events to broad-cast, when to do so, and what media to use. What type of event is suitable depends on the game and intended audience but the giving out of REWARDS or ACHIEVEMENTS are often suitable since they can function as a piece of positive news. However, since too many messages or the wrong type of messages can be perceived as annoying it is common to make players responsible for that games are actually broad-casted - this can be to let them call for NON-PLAYER HELP, send out INVITES, or let them engage in BRAGGING. While these all relate to passed or ongoing events EXTRA-GAME BROADCASTING can also be used to advertise upcoming events, this can be especially appropriate for EVENTS TIMED TO THE REAL WORLD since then things observed in the real world can reminded of the game event.

A special case of EXTRA-GAME BROADCASTING is RABBIT HOLE INVITATIONS, which are invitations to play games using ALTERNATE REALITY GAMEPLAY. FAKE GAME CANCELLATIONS, also used in these types of games, can be created through EXTRA-GAME BROADCASTING. Both of these do not directly relate to gameplay but more to the setup phases of game instances.

5.4.3. Consequences

EXTRA-GAME BROADCASTING makes it easy to have Spectators in a game since it provides a form of Public Player Statistics. For games with DROP-IN/DROP-OUT gameplay they can also support ENCOURAGED RETURN VISITS by reminding players of tasks they need doing, events that have just unfolded, or upcoming EPHEMERAL EVENTS. They can also create a need for it by reminding players of a game's existence through broad-casting other players' events. Since EXTRA-GAME BROADCASTING allows players and other people to know about ones' performance in the game, they can be the basis for GAME-BASED SOCIAL STATUSES.
EXTRA-GAME BROADCASTING that can be activated by players can be used to increase the VALUE OF EFFORT for activities that they may wish to tell (or brag) about, e.g. CONSTRUCTION or SPEED RUNS.

5.4.4. Relations

5.4.4.1. Can Instantiate
Bragging, Encouraged Return Visits, Fake Game Cancellations, Game-Based Social Statuses, Invites, Non-Player Help, Public Player Statistics, Spectators

with Construction or Speed Runs

VALUE OF EFFORT

5.4.4.2. Can Modulate
Achievements, Construction, Encouraged Return Visits, Ephemeral Events, Events Timed to the Real World, Rewards

5.4.4.3. [Can Be Instantiated By
Rabbit Hole Invitations

5.4.4.4. Can Be Modulated By
-

5.4.4.5. Possible Closure Effects
-

5.4.4.6. Potentially Conflicting With
-

5.4.5. History
New pattern created in this wiki.

5.4.6. References
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5.4.7. Acknowledgements
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5.5. Extra-Game Input

Affects on game states whose sources are neither internal nor directly from players.

Game systems consist of states and rules for how these states can change. The changes are usually initiated through the actions of players or as follow-up effects from earlier changes, but depending on the physical instantiation of a game other forces may be able to affect the game state. Typically this EXTRA-GAME INPUT is not supposed to happen and game facilitators, players, or the system itself should strive to prevent this and remove these unwanted changes if possible (e.g. a king knocked over in Chess by the wind should be place upright). However,
games can be designed to let some types of EXTRA-GAME INPUT be permitted as allowed ways to change the system. This is typically to introduce randomness and surprises, or to make it possible to provide new content during game instances.

5.5.1. Examples

While a large part of the tasks of game facilitators and game masters typically relies in upholding and running the games, the introduction of new rules or new gameplay content by them can be seen as a form of EXTRA-GAME INPUT when done during gameplay and not clearly as independent expansions. Examples of this include additions to games and game worlds made in Tabletop Roleplaying Games such as Dungeons & Dragons and World of Darkness, patches or interventions in Massively Multiplayer Online Games such as World of Warcraft and Ultima Online, and updates in social media games such as FarmVille and Mafia Wars. If these are treated as EXTRA-GAME INPUT is however subjective; to those that expect these changes and do not suffer unexpected setbacks due to these it can be seen as part of the game while for others it can be seen as surprises or violations of what was considered to be the game.

Games using sensors do not always qualify as having EXTRA-GAME INPUT. For example, those that use various types of location sensors (e.g. Geocaching and SCVNGR) use these to make the real world part of the gameplay area. Examples of games where the sensors are used more to create input rather than ground the game include the Boktai series, in which players must place the game cartridge in direct sunlight while playing to recharge their solar guns. The use of Bluetooth devices in Insectopia to generate insects also qualify since the availability of many of these are unpredictable.

Games where different game instances can be influenced by other game instances, from the same game or other games, are also a way of providing EXTRA-GAME INPUT. Examples of such games include Spore, where races and artifacts created by players are used to create content in other players' games, and NetHack, where messages written by a player in one game instance can be found by players in another game instance. In 4 Minutes and 33 Seconds of Uniqueness the only influence players have over the gameplay is when they begin, all other input to the game comes as EXTRA-GAME INPUT when other players start playing the game. The ability to help other players in CityVille and FarmVille are borderline cases of EXTRA-GAME INPUT since they must have acknowledged each other as neighbors; the ability of non-players to help by clicking links in Facebook is a stronger example.

5.5.2. Using the pattern

In relation to other types of input to a game system, the primary concern for EXTRA-GAME INPUT is of course its source and if the input should be processed before affecting the game system. Several types of input sources exist. PURCHASABLE GAME ADVANTAGES and some types of GAME ELEMENT INSERTION provide ways in which players can provide EXTRA-GAME INPUT in strongly regulated ways. COUPLED GAMES lets other games provide EXTRA-GAME INPUT to games. NON-PLAYER HELP lets those not playing a game be able to make gameplay actions and goals easier for players. DEDICATED GAME FACILITATORS and GAME MASTERS are maybe a somewhat surprising option for EXTRA-GAME INPUT since their tasks mainly consist of ensuring that game systems are maintained and updated. However, when they provide EVOLVING RULE
SETS or new gameplay content they are working outside these tasks and changing either the game state in ways not defined by rules or changing the rules themselves.

EXTRA-GAME INPUT is quite natural to consider for games with PERSVASIVE or UBQUITOUS GAMEPLAY since these already assume many potential source for such input will be available. If fact, some types of input may be impossible to avoid, especially in HYBRID GAMEPLAY SPACES, and not considering these while designing is likely to ruin any chance of reaching intended gameplay. REAL LIFE ACTIVITIES AFFECT GAME STATE makes activities that players would do anyway into gameplay events (although the frequency and timing of when the activities are done may change due to being part of the game).

5.5.2.1.  Diegetic Aspects
Direct use of EXTRA-GAME INPUT into games as content can easily threaten to compromise DIEGETIC CONSISTENCY of a game unless the diegesis is very similar to the context in which the input is received.

5.5.2.2.  Interface Aspects
A few types of EXTRA-GAME INPUT do not directly affect gameplay but are instead used to create HANDLES. The primary case for this is how social media games such as FarmVille and Mafia Wars make use of profile images as part of creating player HANDLES.

5.5.3.  Consequences
EXTRA-GAME INPUT that uses time and dates are input can make games have EVENTS TIMED TO THE REAL WORLD, which in turn can modify the likelihood of eliciting ENCOURAGED RETURN VISITS. If players can themselves affect the EXTRA-GAME INPUT, they may be encouraged to do EXTRA-GAME ACTIONS which does this as well as may cause CHANGES IN PERCEPTION OF REAL WORLD PHENOMENA due to GAMEPLAY since the games draw attention to certain real world phenomena.

Games that allow EXTRA-GAME INPUT through having PERSVASIVE GAMEPLAY make REAL LIFE ACTIVITIES AFFECT GAME STATE.

5.5.4.  Relations

5.5.4.1.  Can Instantiate
CHANGES IN PERCEPTION OF REAL WORLD PHENOMENA DUE TO GAMEPLAY, EXTRA-GAME ACTIONS, EVENTS TIMED TO THE REAL WORLD, HANDLES

with Pervasive Gameplay

REAL LIFE ACTIVITIES AFFECT GAME STATE

5.5.4.2.  Can Modulate
ENCOURAGED RETURN VISITS, PERSVASIVE GAMEPLAY, UBQUITOUS GAMEPLAY

5.5.4.3.  Can Be Instantiated By
COUPLED GAMES, DEDICATED GAME FACILITATORS, EVOLVING RULE SETS, GAME ELEMENT INSERTION, GAME MASTERS, HYBRID GAMEPLAY SPACES, NON-PLAYER HELP, PERSVASIVE
GAMEPLAY, PURCHASABLE GAME ADVANTAGES, REAL LIFE ACTIVITIES AFFECT GAME STATE, UBQUITOUS GAMEPLAY

5.5.4.4. **Can Be Modulated By**

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5.5.4.5. **Possible Closure Effects**

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5.5.4.6. **Potentially Conflicting With**

DIEGETIC CONSISTENCY

5.5.5. **History**

Updated version of the pattern Extra-Game Input first described in the report Game Design Patterns for Mobile Games [1].

5.5.6. **References**


5.5.7. **Acknowledgements**

Johan Peitz

5.6. **Hybrid Gameplay Spaces**

*Gameplay spaces that consist of a combination of both a real world space and a virtual or symbolic one.*

The gameplay space of most games tends to be defined either in real world terms or symbolically. Those games that make this distinction difficult through having part of their gameplay spaces most easily understood in relation to the real world while having the other parts primarily understandable as abstract ones have hybrid gameplay spaces.

5.6.1. **Examples**

The game Can You See Me Now? has some location-tracked players move around in a city while other players hunt them by moving avatars on a map of that city. Uncle Roy All Around You similarly makes players moving in a city and in a virtual environment share a game, but here they collaborate. Pacman must die can also be seen as a game with hybrid gameplay spaces since players need to organize their game devices to utilize the gameplay area which is split over the devices.

5.6.2. **Using the pattern**

The use of real world gameplay spaces is a prerequisite for hybrid gameplay spaces. Besides this, some connection to an abstract gameplay space is needed. This can be done purely conceptually, through the use of location sensors that can link physical places to virtual ones, or through overlaying the physical space with a virtual one (i.e. augmented reality [1]).

While real world gameplay spaces allow for many proximity-based mechanics, hybrid gameplay spaces allows for the very specific player-avatar proximity.
5.6.3. Consequences
The use of REAL WORLD GAMEPLAY SPACES required for HYBRID GAMEPLAY SPACES make games with this pattern open to having EXTRA-GAME INPUT whether intentionally or not. It likewise opens up for the possibility of having PERVERSIVE GAMEPLAY although if this is practically possible depends on the specific gameplay actions contained in the game.

5.6.4. Relations

5.6.4.1. Can Instantiate
EXTRA-GAME INPUT, PERVERSIVE GAMEPLAY

5.6.4.2. Can Modulate
-

5.6.4.3. Can Be Instantiated By
REAL WORLD GAMEPLAY SPACES

5.6.4.4. Can Be Modulated By
PLAYER-AVATAR PROXIMITY

5.6.4.5. Possible Closure Effects
-

5.6.4.6. Potentially Conflicting With
-

5.6.5. History
Updated and renamed version of the pattern Hybrid Spaces first described in the report Game Design Patterns for Mobile Games [2].

5.6.6. References


5.6.7. Acknowledgements
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5.7. Interruptibility

Game structures that allow players to interrupt their gameplay without disrupting the gameplay for the players or others players.

Since it is often difficult to know exactly how long play sessions will take, players often have to interrupt their gameplay at unexpected points. Another reason for such interruptions is that the external situation has changed and no longer permits continued gameplay. Games that can
gracefully handle this so gameplay can continue with a minimum of negative effects have **interruptibility**.

### 5.7.1. Examples

All Turn-Based Games can easily be interrupted simply by not making one's turn. While this may irritate other players in some games, it is unproblematic in single-player games.

Games in the Europa Universalis and Hearts of Iron series can be paused whenever in single-player games to perform actions and plan.

Games based upon players' proximity to locations or other players, e.g. Geocaching and Insectopia, are built upon short bursts of player action injected into other activities. From the perspective of playing the game, the games support **interruptibility** since players are not required to do actions at any given point of time.

While players may suffer limited setback by not playing social media games such as FarmVille and Zombie Lane, these are not due to interrupting ongoing play sessions but rather for not playing the games for a significant amount of time. This means that cutting play sessions short in these games are unproblematic and they support **interruptibility** well.

In Momentum, players roleplay themselves being intermittently possessed by a ghost. They can easily interrupt their gameplay by deciding that the ghost has stopped possessing them.

### 5.7.2. Using the pattern

There are two aspects regarding the use of **interruptibility** in games. One relates to making it possible to interrupt one's gameplay without ruining the game instances, the other relates to making it possible to interrupt gameplay without suffering negative consequences. **Game pauses** and support for **save-load cycles** help pausing game instances so they can be resumed later, while **asynchronous gameplay** is based upon not requiring all players to be active at the same time and thereby make it easy (or necessary) for individual players to take breaks in the gameplay.

Since nothing happens in **turn-based games** until player actions are done, these support **interruptibility**. However, this points to the possibility that Interruptibility exists but causes negative consequences since the game state should continues to update. This most obviously can occur in **multiplayer games** since other players may not want to experience **downtime**, and this becomes especially problematic in games with **mediated gameplay** since the causes for the interruption may not be apparent to other players. However, games with **persistent game worlds** can have this regardless if any other players have ongoing play sessions. **No-ops** let players take breaks even if they can be affected by game events and the gameplay can become unbalance for other players, and **tick-based games** can enforce **no-ops** for players who have not provided new gameplay actions before the tick occurs. **Drop-in/drop-out** designs avoid that the pausing player has negative consequences but other players can still experience imbalances - **algorithmic agents** and **AI players** can avoid this by filling in for the players that have left. Games that provide Interruptibility for some players while gameplay continues for others need to consider how (and if) players can rejoin the game instances: **spawning** is a typical solution.
5.7.2.1. **Diegetic Aspects**

**Interruptibility** may cause issues with **Diegetic Consistency** in **Multiplayer Games** since the removal of a player's **Character** may be difficult to explain in diegetic terms.

5.7.2.2. **Interface Aspects**

Games supporting **Interruptibility** may need to provide **Secondary Interface Screens** or **Game Lobbies** to help players know if other players have interrupted their gameplay, and to let returning players be aware of the current game state.

5.7.3. **Consequences**

**Interruptibility** gives players a **Freedom of Choice** when to play, which in many cases can become **Tradeoffs** between playing now or at a later point. By making it possible for players to choose when to play without negative consequences for not playing, the pattern helps provide **Social Adaptability** and give a game **Minimalized Social Weight**. This in turn helps make both **Pervasive** and **Ubiquitous Gameplay** possible.

As mentioned above, providing **Interruptibility** for one player may cause **Downtime** for others unless mitigated by DROP-IN/DROP-OUT mechanics.

5.7.4. **Relations**

5.7.4.1. **Can Instantiate**

**Downtime**, **Freedom of Choice**, **Minimalized Social Weight**, **Pervasive Gameplay**, **Social Adaptability**, **Tradeoffs**, **Ubiquitous Gameplay**

5.7.4.2. **Can Modulate**

- 

5.7.4.3. **Can Be Instantiated By**

AI **Players**, **Algorithmic Agents**, **Asynchronous Gameplay**, **Drop-In/Drop-Out**, **Game Pauses**, **No-Ops**, **Spawning**, **Tick-Based Games**, **Turn-Based Games**

5.7.4.4. **Can Be Modulated By**

**Game Lobbies**, **Secondary Interface Screens**

5.7.4.5. **Possible Closure Effects**

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5.7.4.6. **Potentially Conflicting With**

**Mediated Gameplay**, **Multiplayer Games**, **Persistent Game Worlds**

**Diegetic Consistency** in **Multiplayer Games**

5.7.5. **History**

Updated version of the pattern Interruptibility first described in the report Game Design Patterns for Mobile Games [1].
5.7.6. References


5.7.7. Acknowledgements

Johan Peitz

5.8. Memorabilia

Content or artifacts gained during gameplay that are accessible after game instances end.

Components used to play a game are typically kept together between games so that the game can be played again. However, some games have rules for letting players gain ownership of components before, during, or after gameplay. These components may be ones actually used for gameplay or additional ones for recording the gameplay planned or occurred, but can in both cases serve as MEMORABILIA of specific game instances.

5.8.1. Examples

Winning specific marbles in Marble Games is an archetypical example of MEMORABILIA in games, and a similar case can be found in Magic: The Gathering when one plays for cards. To a lesser degree, MEMORABILIA exists in Warhammer 40K as players have to assemble and paint their miniatures before the game can be used and this makes the introduction of each one a potentially memorable occurrence.

Games that provide possibilities to take screenshots of ongoing gameplay also allow players to create MEMORABILIA. Examples of games that do this are numerous and include the Doom, Europa Universalis, Left 4 Dead, Quake, and Sims series as well as World of Warcraft.

Live Action Roleplaying Games such as 1942 – Noen å stole på, Dragonbane, and Trenne Byar often result in many types of MEMORABILIA since players and facilitators need to create all props for these games.

5.8.2. Using the pattern

MEMORABILIA requires that items linked to game instances can be kept by players after gameplay. This can be achieved in two main ways. The first way is simply to use the actual gameplay components. While this may be unproblematic in games that are only played once (as for example many Live Action Roleplaying Games are), those that are supposed to be playable several times can make use of HETEROGENEOUS GAME ELEMENT OWNERSHIP and here GAME ELEMENT TRADING can effectively be used to create the MEMORABILIA pattern. The second way of making MEMORABILIA possible is to create artifacts specifically for this purpose during or after gameplay. GAMEPLAY STATISTICS are probably the easiest sources for creating these artifacts, but the chronicles kept by some players of Tabletop Roleplaying Games show how players can create their own MEMORABILIA.

5.8.2.1. Narrative Aspects

While MEMORABILIA help players remember and retell gameplay events, this aspect of narratives is on a meta-game level since at least the retelling of it occurs outside gameplay.
5.8.3. Consequences
Memorabilia can support Trans-game Information since they can contain information that is usable in other game instances, especially if they are actually used within the other game instances. They can also serve as Social Rewards and causes for Bragging - especially if they have been won from other players.

Physical Memorabilia can work against Ubiquitous Gameplay since they imply the need to have Memorabilia to be able to give to players.

5.8.4. Relations
5.8.4.1. Can Instantiate
Bragging, Social Rewards, Trans-game Information

5.8.4.2. Can Modulate
-

5.8.4.3. Can Be Instantiated By
Game Element Trading Gameplay Statistics, Heterogeneous Game Element Ownership

5.8.4.4. Can Be Modulated By
-

5.8.4.5. Possible Closure Effects
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5.8.4.6. Potentially Conflicting With
Ubiquitous Gameplay

5.8.5. History
Updated version of the pattern Memorabilia first described in the report Game Design Patterns for Mobile Games [1].

5.8.6. References

5.8.7. Acknowledgements
Johan Peitz

5.9. Minimalized Social Weight
Games that interfere little with players’ abilities to social interact with other people while the games are being played.

Games are often played as a way to have social interaction with others. While the gameplay itself can in this way be a type of social interaction, games can pose obstacles for social interaction by requiring players to focus their attention on interacting with the game interface, updating the
game state to reflect the effects of actions, or interacting with parts of the game system that isn't mediated to other players. Even when the games do not interrupt the flow of interaction between players, they may do so with non-players that the players are able to (or should be able to) interact with. While it may be impossible to fully avoid these issues, games that pose few obstacles to social interaction can be said to have MINIMALIZED SOCIAL WEIGHT.

5.9.1. Examples

Puzzle Games consisting on many levels that can be solved in rather short amount of time, e.g. Angry Birds, Continuity, and Sokoban, have MINIMALIZED SOCIAL WEIGHT since they easily can be abandoned and do not distract other surrounding activities. The same applies to Party Games such as the Mario Party and WarioWare series since each party game does not take much time to play.

Both the technology and gameplay in the live-action roleplaying games Prosopopeia and Momentum were designed to not necessarily be noticeable. This was a design requirement for the games since they partly took place in public spaces.

5.9.1.1. Anti-Examples

Arcade Games such as Pac-Man or Donkey Kong fail to let players easily interact with each other or spectators since moving one's attention away from the gameplay for a second may cause one to lose lives in the game.

Each turn in Ricochet Robots focuses all players' attention on finding the most efficient way to move a robot across a board, and any kind of social interaction during this time disrupts gameplay.

Even if the Donkey Konga and the Guitar Hero and Rock Band series are Party Games, they do not support MINIMALIZED SOCIAL WEIGHT since players mimic attention demanding performances.

5.9.2. Using the pattern

A starting point for achieving MINIMALIZED SOCIAL WEIGHT is to avoid the usually negative patterns of ANALYSIS PARALYSIS and EXCISE. While deciding to aim for this is usually easy in a game design process, the pattern also typically conflicts with ATTENTION DEMANDING and choosing which pattern to support may be a tougher design decision.

INTERRUPTIBILITY is one way of trying to minimize how much attention the game requires from players. This since even if players may need to focus on the gameplay while played they can easily stop to engage in social interaction with others. Issues with the solution exist for games with MEDIATED GAMEPLAY or when the interruptions are perceived as causing DOWNTIME since in both these cases other players feel that their gameplay is being negatively affected. MINIGAMES offers a solution similar to INTERRUPTIBILITY in that the end of each mini game is a position where gameplay can be interrupted.

While SELF-FACILITATED GAMES do provide EXCISE, they do provide MINIMALIZED SOCIAL WEIGHT since players can whenever they wish to interrupt non-social gameplay and EXCISE to have social interaction outside the game. Note that requiring or supporting SOCIAL
INTERACTION does not in itself make games have MINIMALIZED SOCIAL WEIGHT, this both because interaction within the gameplay may be strongly affected by the game and because the pattern may also refer to interaction with non-players.

5.9.2.1. Interface Aspects
Besides the actual interaction required with a game’s interface (which is part of the discussion above), the design of the interface can add social weight to a game. Interfaces that are difficult or time-consuming to use add social weight as do those that draw attention to themselves through their appearance. One example of how games can draw attention to themselves purely through the interface - and thereby work against the pattern of MINIMALIZED SOCIAL WEIGHT - is through having JUICY INTERFACES. MIMETIC INTERFACES is another, in which the players are made to draw attention to the game by how they interface with them.

5.9.2.2. Narrative Aspects
As media developed to be ATTENTION DEMANDING with a narration of diegetic events, CUTSCENES work against MINIMALIZED SOCIAL WEIGHT.

5.9.3. Consequences
Since it reduces the intrusion a game has on the social context in which it is played, MINIMALIZED SOCIAL WEIGHT makes it have both PERVASIVE GAMEPLAY and SOCIAL ADAPTABILITY.

5.9.4. Relations

5.9.4.1. Can Instantiate
PERVASIVE GAMEPLAY, SOCIAL ADAPTABILITY

5.9.4.2. Can Modulate
-

5.9.4.3. Can Be Instantiated By
INTERRUPTIBILITY, MINIGAMES

5.9.4.4. Can Be Modulated By
-

5.9.4.5. Possible Closure Effects
-

5.9.4.6. Potentially Conflicting With
ATTENTION DEMANDING, ANALYSIS PARALYSIS, CUTSCENES, EXCISE, JUICY INTERFACES, MIMETIC INTERFACES

5.9.5. History
A pattern based on the concept of Social Weight, first introduced by Toney et al. [1].
5.9.6. References


5.9.7. Acknowledgements

5.10. Negotiable Game Instance Duration

*Games where the time duration of the entire game instance is negotiable.*

One of the characteristics that affect is people are willing to play a game is how long time they will have to commit to for its gameplay. Games where the players can decide upon the time limits for the entire game instance have Negotiable Game Instance Duration.

5.10.1. Examples

Games of Blackjack or Poker among friends can easily have Negotiable Game Instance Duration since each round does not take too much time and the game can be stopped with problems after each round.

Although the rules for Ricochet Robots suggest a number of rounds to play, they also explicitly state that players can change this as long as all players agree upon this before the game starts.

Games such as Ghost Stories, Pandemic, and Inca Empire let players choose variants which either make it more likely for them to lose earlier or introduces randomness to when the game ends. As such, they are weak examples of Negotiable Game Instance Duration since they let players have some influence over how long a game instance should be but without good precision.

5.10.2. Using the pattern

Negotiable Game Instance Duration can be supported by letting players set Time Limits for the game instances. This may be time measured by clocks (as in some variants of Chess) and may also be number of numbers of turns in Turn-Based Games (the Civilization computer game series supports this for example).

A concrete but more specific way of creating Negotiable Game Instance Duration is to have Self-Facilitated Meta Games that consist of games with Time Limited Game Instances. If the reason for considering Negotiable Game Instance Duration is primarily to let individual players have control over how much time their game sessions should take, Drop-In/Drop-Out gameplay is an alternative. This does however work against a feeling of Togetherness.

Negotiable Play Sessions and Negotiable Game Sessions can indirectly support the pattern since if the players all agree on upper boundaries for the time spent (or when it is spent), this will lead to an upper boundary for the game instance also.
CONFIGURABLE GAMEPLAY AREAS can also indirectly support this pattern since changing the distances players, CHARACTERS, or UNITS need to move is also likely to change the time it takes to play through the game.

5.10.2.1. Narrative Aspects
The pattern can work against NARRATION STRUCTURES unless these structures can scale for varying lengths of gameplay.

5.10.3. Consequences
Given that NEGOTIABLE GAME INSTANCE DURATION lets players have control over how long a game instance should take and thereby lets them fit the gameplay time with other activities, it provides SOCIAL ADAPTABILITY. It may not provide SOCIAL ADAPTABILITY to the same level as DROP-IN/DROP-OUT gameplay, but it does ensure that players can perceive the whole gameplay and have a greater sense of TOGETHERNESS with the other players.

5.10.4. Relations

5.10.4.1. Can Instantiate
SOCIAL ADAPTABILITY

5.10.4.2. Can Modulate

5.10.4.3. Can Be Instantiated By
CONFIGURABLE GAMEPLAY AREAS, NEGOTIABLE GAME SESSIONS, NEGOTIABLE PLAY SESSIONS, TIME LIMITS

META GAMES together with SELF-FACILITATED GAMES and TIME LIMITED GAME INSTANCES

5.10.4.4. Can Be Modulated By

5.10.4.5. Possible Closure Effects

5.10.4.6. Potentially Conflicting With
NARRATION STRUCTURES

5.10.5. History
New pattern created in this wiki.

5.10.6. References

5.10.7. Acknowledgements

5.11. **Negotiable Game Sessions**

*Support for players to have complete gameplay experiences while having influence over the time need and without negatively affecting other players' gameplay experience.*

Players of any game may have preferences on how long the game should take to complete, and this may change between each time the game is played. Games that allow players to influence the time taken to play through them can be said to have **NEGOTIABLE GAME SESSIONS**.

*Note:* This pattern is based upon the Game Sessions concept from the activity-based framework used for developing the original gameplay design patterns collection.

5.11.1. **Examples**

Sandbox Games such as Dwarf Fortress, Minecraft, and Sims series does not force players to strive towards winning conditions and can for this reason continue to be played for as long as players find them interesting. Even those that have more explicit winning conditions, as for the Elder Scrolls series and the Grand Theft Auto series, have **NEGOTIABLE GAME SESSIONS** when they let players continue playing after the game is won.

There is no natural ending point for Tabletop Roleplaying Games such as Dungeons & Dragons or Call of Cthulhu as long as the game master and enough players are willing to continue. This gives these games a weak form of **NEGOTIABLE GAME SESSIONS**.

Massively Multiplayer Online Games such as World of Warcraft and Eve Online have no winning conditions and continue regardless if exactly which players are logged onto the game. While arriving late or leaving early may cause disruptions for other players, this only affects a small group of players instead of all players, so these games can be said to have **NEGOTIABLE GAME SESSIONS**. Similarly, FarmVille and Zombie Lane only lets players weakly interact with each other and have no enforced winning conditions so players can play them for as long as they wish motivated primarily by the local goals they have. The same applies to mobile games Geocaching and Insectopia.

5.11.2. **Using the pattern**

Several factors affect if a game supports **NEGOTIABLE GAME SESSIONS**. The two first relate to the variety of length of game sessions supported by the game while still providing a meaningful gameplay experience. The minimum amount of time or actions required of a player can be affected by **DIFFICULTY LEVELS** while **SPEED RUNS** make a goal of shortening game sessions but all games have thresholds under which it is difficult to see players being able to have senses of gameplay closure. **PUZZLE SOLVING** games with small **LEVELS** where each level can be seen as its own game, e.g. Sokoban, probably have the lowest such thresholds. The maximum length of game sessions can quite easily be raised: **SIDEQUESTS** does it in discrete amounts while **SANDBOX GAMEPLAY** opens up for game sessions as long as players can find interesting goals for themselves (**REPLAYABILITY** also provides more context to players but between different game sessions). **TIME LIMITS** that are set by players is a way to enforce maximum limits to the game sessions and can in this way help support the pattern.
NEGOTIABLE PLAY SESSIONS can give rise to NEGOTIABLE GAME SESSIONS when the length of play sessions determine the game session length rather than the overall game session length being static in terms of challenges, LEVELS, or similar measures (but not turns) and play sessions need to add up to this. For example, Chess can have NEGOTIABLE GAME SESSIONS since the allowed amount of time for each turn (seen as a play session) can be negotiated.

MULTIPLAYER GAMES complicates the issue of having NEGOTIABLE GAME SESSIONS since it either requires that all players can - and do - align their game sessions or that the game system supports unsynchronized game sessions. While this makes basic forms of MULTIPLAYER GAMES work against the pattern, SELF-FACILITATED GAMES and DROP-IN/DROP-OUT respectively show how these requirements can be supported.

In SELF-FACILITATED GAMES with REAL WORLD GAMEPLAY SPACES, NEGOTIABLE GAME SESSIONS can partly be created through CONFIGURABLE GAMEPLAY AREAS since these can put upper and lower boundaries on how long the game sessions will take.

5.11.3. Consequences
Like NEGOTIABLE PLAY SESSIONS, NEGOTIABLE GAME SESSIONS provide one of the needed aspects of both CASUAL GAMEPLAY and UBQUITOUS GAMEPLAY, and through this SOCIAL ADAPTABILITY.

5.11.4. Relations

5.11.4.1. Can Instantiate
CASUAL GAMEPLAY, SOCIAL ADAPTABILITY, UBQUITOUS GAMEPLAY

5.11.4.2. Can Modulate
-

5.11.4.3. Can Be Instantiated By
DIFFICULTY LEVELS, DROP-IN/DROP-OUT, NEGOTIABLE PLAY SESSIONS, SANDBOX GAMEPLAY, SELF-FACILITATED GAMES, SPEED RUNS, TIME LIMITS

PUZZLE SOLVING together with LEVELS

CONFIGURABLE GAMEPLAY AREAS in SELF-FACILITATED GAMES with REAL WORLD GAMEPLAY SPACES

5.11.4.4. Can Be Modulated By
-

5.11.4.5. Possible Closure Effects
-

5.11.4.6. Potentially Conflicting With
MULTIPLAYER GAMES
5.11.5. **History**
New pattern created in this wiki.

5.11.6. **References**
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5.11.7. **Acknowledgements**
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5.12. **Negotiable Play Sessions**

Support for individual players to be able to decide how long their play sessions should be without negatively affecting the outcome or gameplay for all players.

Many times playing a game is done over several play sessions. Players may have different preferences on how long these should be, and individual players may change their preferences from play session to play session. Games that include design options to let players have varying lengths of their play sessions without disrupting the gameplay progression (but not necessarily the gameplay experience) can be said to have **NEGOTIABLE PLAY SESSIONS**.

*Note: This pattern is based upon the Play Sessions concept from the activity-based framework used for developing the original gameplay design patterns collection.*

5.12.1. **Examples**
Puzzle Games such as Angry Birds, Sokoban, and the Portal series don't require the presence of other players (except the co-op variant of Portal 2) and players can retry individual levels without any penalties. This allows players to stop their current play sessions whenever they want with the only penalty being the possibly wasted time on one level.

Players of Geocaching can whenever they wish choose to start looking for nearby caches and suffer no penalty for stopping. Equipped with a GPS and access to the internet, the only potential problem for not being able to play whenever one wants to - besides other obligations one may have - is that there may be no caches nearby. Insectopia functions rather similarly but uses Bluetooth device to generate game content.

That there are many players in multiplayer games makes it more difficult for them to have NEGOTIABLE PLAY SESSIONS, since leaving the game may disrupt the gameplay for the other players. Turn-based games that do not need computational support, e.g. board games such as Chess and Go, can easily be split into many play sessions if both players agree, so they can be said to have some support for NEGOTIABLE PLAY SESSIONS. When playing through some asynchronous communication means (such as email) the individual play sessions can take place anytime within the boundaries set up for when one needs to report one's next move. The Left 4 Dead series shows that also computer-based games can support that individual players can decide how long to game without it disrupting other players.
### 5.12.1. **Anti-Examples**

Arcade games such as Pac-Man or Space Invaders do not let players pause and constantly put their gameplay positions in jeopardy. Players may choose when to start playing but the only way to choose when to stop a play session is to abandon the whole game session.

### 5.12.2. **Using the pattern**

While NEGOTIABLE PLAY SESSIONS implies that individual players can "negotiate" with the game on how long a play session can be while still providing meaningful results, the presence of other players complicates this. Leaving a game may unbalance it for remaining players or even make further gameplay impossible (in both cases ruining their VALUE OF EFFORT). For this reason MULTIPLAYER GAMES are likely to be incompatible with NEGOTIABLE PLAY SESSIONS unless design features are added specifically to counter this.

NEGOTIABLE PLAY SESSIONS can be supported in several different ways. TURN-BASED GAMES provide natural breaking points for the sessions while SELF-FACILITATED GAMES give players control over every step in the update of the game. GAME PAUSES provide support for players of SINGLE-PLAYER REAL-TIME GAMES to interrupt their play sessions, and games that allow Save-Load Cycles let players continue easily between power downs of the systems that run them. DROP-IN/DROP-OUT gameplay allows players of MULTIPLAYER REAL-TIME GAMES to control the lengths of their play sessions without disrupting gameplay for others. TICK-BASED GAMES with long tick (or the use of slowly recharging BUDGETED ACTION POINTS) let players choose when to play within a tick and for how long.

Finally, TIME LIMITS support NEGOTIABLE PLAY SESSIONS when players set the limits before starting play sessions even if this does not make the negotiable once they have started.

### 5.12.3. **Consequences**

Having NEGOTIABLE PLAY SESSIONS provides a basis for providing both NEGOTIABLE GAME SESSIONS and NEGOTIABLE GAME INSTANCE DURATION. Further, by letting players have control over when they play parts of what will become the total gameplay of a game, NEGOTIABLE PLAY SESSIONS provides characteristics found in both CASUAL and UBQUITOUS GAMEPLAY.

### 5.12.4. **Relations**

#### 5.12.4.1. **Can Instantiate**

CASUAL GAMEPLAY, NEGOTIABLE GAME SESSIONS, NEGOTIABLE GAME INSTANCE DURATION, UBQUITOUS GAMEPLAY

#### 5.12.4.2. **Can Modulate**

- 

#### 5.12.4.3. **Can Be Instantiated By**

DROP-IN/DROP-OUT, GAME PAUSES, SAVE-LOAD CYCLES, SELF-FACILITATED GAMES, TICK-BASED GAMES, TIME LIMITS, TURN-BASED GAMES
5.12.4.4. Can Be Modulated By
-

5.12.4.5. Possible Closure Effects
-

5.12.4.6. Potentially Conflicting With
MULTIPLAYER GAMES

5.12.5. History
New pattern created in this wiki.

5.12.6. References
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5.12.7. Acknowledgements
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5.13. Non-Player Help

The designed possibility for people not playing the game to help players.

Some games allow people not playing the game to provide information or perform actions that can support players pursuims in them. When this is intentional planned for by the game design, this NON-PLAYER HELP can provide unexpected support and open up for social interaction beyond that contained in the gameplay itself.

5.13.1. Examples
Contestants in Who Wants to Be a Millionaire? have several lifelines to help them during the game, one such was Phone-A-Friend which allows a non-player to suggest an answer (it has been removed in some cases due to the possibility of people using search engines to find answers). Players of FarmVille and Mafia Wars can broadcast requests for help to players and non-player alike, and by thus support a form of NON-PLAYER HELP in that new people can start playing the game with the initial goal of aiding the inviting player.

People meeting those participating in a Scavenger Hunt game can help by giving items to them. Related, Alternate Reality games [1] such as Prosopopeia can put players in situations where they interact with other people without being sure if they are performing roles in the games or are simply random people caught up in the gameplay. Although difficult to know in advance, the interaction they provide can be interesting experience, red herrings, or NON-PLAYER HELP.

5.13.2. Using the pattern
The primary need for NON-PLAYER HELP to be possible is that other people are aware than they can help. This can be done by EXTRA-GAME BROADCASTING. Beyond that, implementing support for NON-PLAYER HELP consists to a large degree on controlling access to the game in general. This since making it possible for non-players to modify the game state to easily can skew PLAYER BALANCE, make it impossible for players' to feel a VALUE OF EFFORT for their own
actions, and hinder them to have an exaggerated perception of influence. For these reasons, non-player help often needs to be restricted to providing people with limited set of actions which are also privileged (although also not as powerful as the players' actions). To avoid them to be used to often, their usefulness can be limited further by having cooldown periods. Another case may be that the help that can have an inherent uncertainty of information, as for example the answers provided from using the phone-a-friend lifelines in Who Wants to Be a Millionaire?, since this makes the non-player help have risk/reward qualities.

Non-player help provides a way to affect players' private game spaces, and where the action can be its own reward requiring no further gameplay. This is one way players intentionally can affect each other in massively single-player online games.

Game masters and other types of dedicated game facilitators that are people can be considered a form of non-player help, typically to judge rule disagreements, lessen excise, present storytelling eloquently, or support never ending stories. Invites support a type of one-time non-player help in that they can make people start playing a game as late arriving players for the reason of helping the people already playing. Spectators is maybe the most common form of non-player help but the help is only indirectly related to game states. This since the spectators can provide moral support to motivate players to feel an increased sense of value of effort for their actions (although it should be noted that they can also cause tension).

5.13.2.1. Diegetic Aspects

Unless a game design has a solution for explaining the appearances of events of non-players, and quite possibly also the non-player themselves, in the game world this is likely to break its thematic consistency. Games with alternate reality gameplay solve this by their inherent merger with other activities but other games may have to have dedicated game facilitators adding context representing the non-player help.

5.13.2.2. Interface Aspects

Given that the non-players typically are not willing to spend much time understanding how to perform their help, they typically need dedicated and simplified ones that allow the to do their non-player help without accessing the whole game interface or game world.

5.13.3. Consequences

Non-player help is a form of altruistic actions as well as a type of extra-game input. By helping players with various actions, they may counter the need of players to engage in excise or grinding. When the non-player help either come unsuspectingly or at an unsuspected time they may be pleasant surprises. Non-player help also create cooperation and social interaction between people, independent of if it is just a particular game event or a long more open-ended encounter.

Since requesting non-player help reveals aspects of how well (or bad) one has played, the use of the pattern gives a form of public player statistics.
5.13.4. Relations

5.13.4.1. Can Instantiate


5.13.4.2. Can Modulate

Massively Single-Player Online Games

*with Altruistic Actions*

Private Game Spaces

5.13.4.3. Can Be Instantiated By

Alternate Reality Gameplay, Dedicated Game Facilitators, Game Masters, Invites, Late Arriving Players, Spectators

5.13.4.4. Can Be Modulated By

Cooldown, Limited Set of Actions, Privileged Actions

5.13.4.5. Possible Closure Effects

Late Arriving Players

5.13.4.6. Potentially Conflicting With

Exaggerated Perception of Influence, Excise, Grinding, Player Balance, Thematic Consistency, Value of Effort

5.13.5. History

New pattern created in this wiki.

5.13.6. References


5.13.7. Acknowledgements

Erik Fagerholt, Martin Hjulström, Sus Lundgren

5.14. Pervasive Gameplay

*Gameplay that can co-exist or merge with other activities.*

The archetypical view of gaming activities are as being separated from other "ordinary" activities (which can be seen in the metaphor of the magic circle [1] that has been more extensively in later work of understanding games [2]). This is however not true of all games, in some cases because they can rather easily co-exist with other activities and in other cases because the game design makes "ordinary" activities into gameplay actions. Both types of game have Pervasive Gameplay.
For more information about Pervasive Gameplay, although based upon a slightly different usage of pervasive to define pervasive games, see Pervasive Games - Theory and Design [3]. Note also that while ubiquitous and pervasive are used as synonyms, the patterns Pervasive Gameplay and Ubiquitous Gameplay are defined to describe different aspects of gameplay in this pattern collection.

5.14.1. Examples

Car Numberplate Games are examples of games that are specifically made to make car travelling more enjoyable. Insectopia and Pirates! do the same but can more generally merge with other types of activities. Assassin also does this but since the actual killings can disrupt other activities there are typically safe places and safe hours in the game instances.

Alternate Reality Games with roleplaying components, e.g. Momentum and Prosopopeia, need to be designed so that players can combine their roleplaying with their everyday social interactions, or with relative little friction move between social roles.

5.14.2. Using the pattern

Designing Pervasive Gameplay consists of considering what other activities can be used to piggyback gameplay activities and considering how to avoid gameplay activities that disrupt other activities. Real Life Activities Affect Game State makes other activities into gameplay activities and therefore possible to do simultaneously, but the game design may still cause disruptions if it makes the frequency, timing, or location of the activities not fit the surroundings. How disruptive activities are naturally depend on their nature but also on which other activities also take place at any given place; it is however worth noticing that Physical Navigation can easily merge with other activities as long as is done at the same speed as other movement.

Generally, having Ubiquitous Gameplay makes it easier to support Pervasive Gameplay since limiting the dependency on dedicated places and equipment making it easy for the gameplay activity to be able to co-exist with other activities. Since it may not be possible to make a game work with all types of other activities, one solution is to limit the Pervasive Gameplay to function with some activities but avoid conflicts with other activities. This can be done through designating Safe Havens (this is typically done in Assassin) or through supporting Drop-In/Drop-Out gameplay. Momentum and Prosopopeia used this to handle situations where one no longer could roleplay being a ghost that had possessed the player. The fact that other activities may occur together with the Pervasive Gameplay typically offers easy ways of making the activities affect the gameplay through Extra-Game Input. While Interruptibility makes it possible to have pause gameplay when it would disturb other activities, this in itself is only a solution for slow-paced games. Minimalized Social Weight solves the problem of games negatively affecting other social activities, which is often one of the primary challenges to making a game have the pattern of Pervasive Gameplay.

For games that rarely require interaction from the players, co-existing with other activities depend more making players be at the locations where these activities take places rather than make the activities possible to occur simultaneously. The prime way of doing this is to use Real World Gameplay Spaces or Hybrid Gameplay Spaces, which can easily be constructed through the use of Physical Navigation, typically through the Artifact-Located
5.14.3. Consequences
Games with Pervasive Gameplay are either likely to at least take partially place in public environment or be explicitly designed to do so. For this reason, they are likely to make use of Real World Gameplay Spaces, be viewable by Spectators, and instantiate Events Timed to the Real World simply because real world events will likely affect gameplay. Pervasive Gameplay is an enabler for Alternate Reality Gameplay since they by definition are able to co-exist with other activities and thereby can hide or merge with these activities.

While some types Extra-Game Input may explicitly be designed as part of Pervasive Gameplay, other types of Extra-Game Input may be difficult to avoid because the game design cannot control the gameplay context as well as for other types of games where no other activities are supposed to co-exist with the game activity. Both types of input can however lead to the presence of the pattern Real Life Activities Affect Game State.

5.14.4. Relations

5.14.4.1. Can Instantiate
Alternate Reality Gameplay, Events Timed to the Real World, Extra-Game Input, Real World Gameplay Spaces, Spectators

with Extra-Game Input

Real Life Activities Affect Game State

5.14.4.2. Can Modulate

5.14.4.3. Can Be Instantiated By
Artifact-Location Proximity, Hybrid Gameplay Spaces, Interruptibility, Minimalized Social Weight, Physical Navigation, Player-Artifact Proximity, Player-Location Proximity, Player-Player Proximity, Real Life Activities Affect Game State, Real World Gameplay Spaces, Ubiquitous Gameplay

5.14.4.4. Can Be Modulated By
Drop-In/Drop-Out, Extra-Game Input, Safe Havens

5.14.4.5. Possible Closure Effects

5.14.4.6. Potentially Conflicting With

5.14.5. History
Based upon the concept of Activity Blending which is described in the Report on Short-Term Play Testing of Socially Adaptable Game Prototypes [4].
5.14.6. References


5.14.7. Acknowledgements

5.15. Physical Navigation

Navigation through gameplay environments through bodily movement.

Movement and navigation are common occurrences in games. While they in many games are done symbolically through moving characters through fictive environments, some games instead have players do Physical Navigation through requiring them to move their own bodies through a physical environment as part of the gameplay.

5.15.1. Examples

While many sports include physical movement, Orienteering is the prime example of one that also requires navigation. The navigation required in Geocaching relatively easy in contrast since GPS use is part of the activity. BotFighters, Pirates!, Treasure, and Uncle Roy All Around You are all games that rely less on making players move to specific locations but nevertheless require players to navigate in physical environments.

Quite naturally, Live Action Roleplaying Games such as Assassin, Dragonbane, and Trenne Byar require some level of Physical Navigation since they are played in large areas that players need to traverse.

Human PacMan re-interprets Pac-Man by making players embody all the characters and thereby force them to do Physical Navigation to play the game. ConQwest also makes players do Physical Navigation, but in this case teams of players need to more huge game pieces around a city.

5.15.2. Using the pattern

On a general level, Physical Navigation in a game is the combination of Game World Navigation and Real World Gameplay Spaces. More specifically, it also requires goal locations and challenges to reaching these. While the challenges are more or less the same as for any Game World Navigation, Player Physical Prowess may become a gameplay feature unless explicitly design against (through for example avoiding Races or Time Limits). In contrast, the goal locations nearly always have additional characteristics due to the real world
consequences of using Artifact-Location Proximity, Player-Artifact Proximity, Player-Avatar Proximity, Player-Location Proximity, or Player-Player Proximity.

5.15.2.1. Interface Aspects

Physical Navigation is a primary example of where players use their own bodies as interfaces for the game. In this sense, Mimetic Interfaces can provide a form of Physical Navigation through requiring players to use their bodies to do Game World Navigation even if they are actually moving Avatars rather than their own bodies any significant distances.

5.15.3. Consequences

Physical Navigation changes the way Game World Exploration, Movement, Races, and Stealth function since players can use all their sensory abilities and are limited by their own physical abilities. Having previous knowledge of the area to be navigated is an example of Real World Knowledge Advantages, and one that is likely to appear in games using Physical Navigation.

Since it is a real world activity to move and navigate, Physical Navigation instantiates the pattern Real Life Activities Affect Game State when present. Since the reason why someone moves in an environment can be difficult to perceive, Physical Navigation is one of the most accessible ways of creating Pervasive Gameplay as long as the speed of moving can fit within what is socially acceptable.

5.15.4. Relations

5.15.4.1. Can Instantiate

Pervasive Gameplay, Real Life Activities Affect Game State, Real World Knowledge Advantages

5.15.4.2. Can Modulate

Game World Exploration, Movement, Races, Stealth

5.15.4.3. Can Be Instantiated By

Artifact-Location Proximity, Player-Artifact Proximity, Player-Avatar Proximity, Player-Location Proximity, Player-Player Proximity

Game World Navigation together with Mimetic Interfaces or Real World Gameplay Spaces

5.15.4.4. Can Be Modulated By

Player Physical Prowess

5.15.4.5. Possible Closure Effects

-

5.15.4.6. Potentially Conflicting With

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5.15.5. History
Updated version of the pattern Physical Navigation first described in the report Game Design Patterns for Mobile Games [1].

5.15.6. References

5.15.7. Acknowledgements
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5.16. Player Physical Prowess

Players’ abilities to perform physical activities are used to determine the outcome of a game.

Games can provide both mental and physical challenges to players. Those that do the latter benefit Player Physical Prowess, but this can be done in several different ways. Common examples include testing players’ strength, their endurance, their precision, their reflexes, or a combination of these.

5.16.1. Examples
Sports such as Soccer, Decathlon, and Marathons are examples of games where different types of Player Physical Prowess are critical to how well one can participate. Games which make players mimic the activities of physical activities, e.g. Wii Sports and Dance Dance Revolution series, also tend to make the mimicking activities in physically demanding ones. Games that require quick eye-hand coordination, e.g. Counter-Strike or the Tekken series, also require Player Physical Prowess even if they may not be as physically exhausting.

The performance of runners in Can You See Me Now? is dependent on Player Physical Prowess since they need to quickly move around in a real world city.

5.16.2. Using the pattern
Specific ways of requiring Player Physical Prowess in games include using Dexterity-Based Actions (which are important in First-Person Shooters such as the Quake and Doom series), strength tests (as in Weightlifting), and endurance tests (as in for example Marathons and Ironman Triathlons). Mimetic Interfaces that copy activities that require physical skills is another apparent way to insert the pattern in a game. Time Limits can be used to restrict for how long players have to be able to maintain a certain activity and thereby the requirements of Player Physical Prowess.

Simply having Player-Location Proximity as part of a game may introduce requirements of Player Physical Prowess into a game if it is important who reaches the location first or it is important in which order players arrive there.
5.16.2.1. **Interface Aspects**

Quite obviously, games using **Player Physical Prowess** needs some way of measuring the players' physical activities. This can be either through letting the players physical interact with the game system or through having sensors that measure their activities.

5.16.3. **Consequences**

Since the physical abilities are often ones that can be improved, **Player Physical Prowess** offers one route for players to develop **Game Mastery**. However, the pattern may work against Social Adaptability since both players' abilities and their possibilities to improve depends quite heavily their inclination. It also makes the use of **Proxy Players** problematic since it is no longer the players' physical skills that are tested during gameplay.

Since **Player Physical Prowess** makes players perform physical activities, it is likely to lead to the **Extra-Game Consequences** of training of these, which may include physical exercise. Taking another perspective, the pattern can be seen as instantiating **Real Life Activities Affect Game State** since players actually need to do specific physical activities themselves to affect the game.

In games with **Physical Navigation**, the presence of **Player Physical Prowess** affects players' ability to be the first to reach the goal locations.

5.16.4. **Relations**

5.16.4.1. **Can Instantiate**

**Extra-Game Consequences, Game Mastery, Real Life Activities Affect Game State**

5.16.4.2. **Can Modulate**

**Physical Navigation**

5.16.4.3. **Can Be Instantiated By**

**Dexterity-Based Actions, Mimetic Interfaces, Player-Location Proximity**

5.16.4.4. **Can Be Modulated By**

**Time Limits**

5.16.4.5. **Possible Closure Effects**

- 

5.16.4.6. **Potentially Conflicting With**

**Proxy Players, Social Adaptability**

5.16.5. **History**

Updated version of the pattern Player Physical Prowess first described in the report Game Design Patterns for Mobile Games [1].
5.16.6. References


5.16.7. Acknowledgements

5.17. Player-Artifact Proximity

Game rules that depend on players being physically close to artifacts.

Players’ physical position in relation to gameplay artifacts is typically assumed not to be part of gameplay since either the artifacts are virtual ones or all players are co-located and can easily reach all artifacts. However, some games do this by measuring the position of both players and gameplay artifacts or otherwise ensuring that they are close to each other in order for players to interact with the artifacts or for gameplay events to be initiated. Games that do this make use of PLAYER-ARTIFACT PROXIMITY. Note that artifacts can be either physical ones or virtual ones that are somehow given a location in the physical space.

5.17.1. Examples

Sports that make use of balls or pucks are trivial cases of PLAYER-ARTIFACT PROXIMITY since it is rather obvious that players need to be close to them to be able to influence them. Ice Hockey and Soccer are two examples of this. Baseball is a somewhat more interesting example since pitchers need to throw balls within the strike zone of the batters, in effect requiring that a PLAYER-ARTIFACT PROXIMITY is achieved.

Geocaching is based on players trying to find small caches hidden by other players. While the general locations of these are given with GPS coordinates, players need to locate the actual caches to be able to report their contents. Insectopia makes use of nearby Bluetooth devices to generate gameplay content and given the range of Bluetooth communication, this becomes a form of PLAYER-ARTIFACT PROXIMITY.

5.17.2. Using the pattern

Design choices linked to PLAYER-ARTIFACT PROXIMITY relate to what events are triggered by coming within the proximity and leaving it, and the distance for the proximity threshold. This can be modulated by having several different proximity thresholds for different events, making the triggering require EXTENDED ACTIONS, and making the events continuously trigger as long as players perform the EXTENDED ACTIONS of being in the proximity. While sensors or DEDICATED GAME FACILITATORS can measure distances between players and artifacts to determine if they are in proximity, and alternative exists in creating GAIN INFORMATION goals that are completed by physically examining the artifacts. This option is used in Geocaching where technology helps players get close enough to the caches to start looking for them based upon clues received and then verify that they have been found by reporting on what it contained.

Beyond this, the artifacts used can be gameplay TOKENS or GAME ITEMS such as TOOLS, so when using PLAYER-ARTIFACT PROXIMITY one should take the design possibilities these have into consideration.
5.17.3. Consequences

**PLAYER-ARTIFACT PROXIMITY** makes the physical position of **TOKENS** or **TOOLS** into a gameplay feature, and thereby modify the **TOKENS** and **TOOLS**. This also makes games have **REAL WORLD GAMEPLAY SPACES** since the gameplay area is linked to the real world, and if this area is not denied to other activities it can also create **PERVERSIVE GAMEPLAY**. Having to move to come close to artifacts (or achieve a certain distance from them) makes **PHYSICAL NAVIGATION** a consequence of **PLAYER-ARTIFACT PROXIMITY**.

If **GAME ELEMENT TRADING** is supported for the artifact and proximity is required to gain **OWNERSHIP**, **PLAYER-ARTIFACT PROXIMITY** gives rise to **PLAYER-PLAYER PROXIMITY**.

5.17.4. Relations

5.17.4.1. Can Instantiate

**GAME ELEMENT TRADING**, **PERVERSIVE GAMEPLAY**, **PHYSICAL NAVIGATION**

*with Game Element Trading*

**PLAYER-PLAYER PROXIMITY**

5.17.4.2. Can Modulate

**GAME ITEMS**, **REAL WORLD GAMEPLAY SPACES**, **TOKENS**, **TOOLS**

5.17.4.3. Can Be Instantiated By

- **DEDICATED GAME FACILITATORS, EXTENDED ACTIONS, GAIN INFORMATION**

5.17.4.4. Can Be Modulated By

- **DEDICATED GAME FACILITATORS, EXTENDED ACTIONS, GAIN INFORMATION**

5.17.4.5. Possible Closure Effects

- ****

5.17.4.6. Potentially Conflicting With

- ****

5.17.5. History

Updated version of the pattern **PLAYER-ARTIFACT PROXIMITY** first described in the report Game Design Patterns for Mobile Games [1].

5.17.6. References


5.17.7. Acknowledgements

Johan Peitz

5.18. Player-Avatar Proximity

*Game rules that depend on players being physically close to avatars.*
Being close to other players is important in games where players physically enact gameplay action, e.g. Live Action Roleplaying Games and sports. Likewise, games the proximity to other avatars is usually important in games that take place in virtual environments, for example Fighting Games, FPS Games, and Massively Multiplayer Online Games. However, a less common case is when the physical location of one player and the virtual location of another player's avatar are important to gameplay. This Player-Avatar Proximity feature can only occur in games where players' locations are mapped to virtual environment (or vice versa) but then give players an additional level of complexity of spatial relations.

5.18.1. Examples
The pervasive game Can You See Me Now? pitches group of players navigating real world environments against individual ones that move their avatars on a game map of the real world environment. Through GPS devices the locations of the first group is positioned on the map and the group can use this to catch the individual players by coming close to their avatars.

Uncle Roy All Around You is a co-operative game where a player navigating the real world can team up with one navigating a virtual one to complete tasks.

5.18.2. Using the pattern
Being in some sense a combination of Player-Player Proximity and how Avatars can interact with each other, the design of Player-Avatar Proximity has the possibilities of both and often the consequences of them as well. As one example, Extended Actions can be used both to require a certain time before the proximity is acknowledged by the game system and the effect of being in the proximity can be an Extended Action.

5.18.3. Consequences
Player-Avatar Proximity is a specific gameplay feature that can be used in Hybrid Gameplay Spaces, which modifies both how players can act within these spaces and the Avatars inhabiting them. Given that both players and avatars have possibility to move, the pattern creates Physical Navigation and is likely to create Orthogonal Differentiation in the form of Privileged Movement since it is unlikely that players and avatars will have the same possibility of moving. These two ways of locomotion is likely to give games additional Replayability, especially if players need to choose Classes and these provide only one of the types of locomotion.

Placing players close to each other, even if one is present through an avatar, is also likely to create Social Interaction between them.

5.18.4. Relations

5.18.4.1. Can Instantiate
Orthogonal Differentiation, Physical Navigation, Privileged Movement, Replayability, Social Interaction

5.18.4.2. Can Modulate
Avatars, Hybrid Gameplay Spaces
**5.18.4.3. Can Be Instantiated By**

- 

**5.18.4.4. Can Be Modulated By**

EXTENDED ACTIONS

**5.18.4.5. Possible Closure Effects**

- 

**5.18.4.6. Potentially Conflicting With**

- 

**5.18.5. History**

Updated version of the pattern Player-Avatar Proximity first described in the paper Understanding Pervasive Games through Gameplay Design Patterns [1].

**5.18.6. References**


**5.18.7. Acknowledgements**

Johan Peitz

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**5.19. Player-Location Proximity**

*Game rules that depend on players being physically close to places.*

While many games make the position of players' tokens and characters in the game worlds into important part of the gameplay, few make the actual position of the players themselves part of the game. The main exception to this is traditional sports. Those that make physical location has specific gameplay meaning when players approach or enter them make use of a **PLAYER-LOCATION PROXIMITY** relation.

**5.19.1. Examples**

While many sports inherently make use of **PLAYER-LOCATION PROXIMITY**, Orienteering explicitly sets goals for players to position themselves at specific locations.

Human PacMan, Geocaching, Pirates!, and SCVNGR rely on player movement and use technology to let people report in their locations to the game systems. Backseat Gaming also uses technology to locate players but is designed to work for the passengers of a car. Uncle Roy All Around You also depends on players' location in the physical world, but let the players report their locations freely regardless of where they actually are.

**5.19.2. Using the pattern**

Implementation of **PLAYER-LOCATION PROXIMITY** is rather straightforward - one simply designs location-dependent gameplay (e.g. regarding **CHECK POINTS**, **EXPLORATION**, or **TRAVERSE**) as usually but for players instead of **AVATARS**, **CHARACTERS**, or **TOKENS**. Specific details that need
to be addressed (and which may be more difficult due to real world measuring) include what distance should trigger gameplay events, and if Extended Actions are need for the triggering to take place or the triggered events to continue. Besides this, considerations need to be made are due to the possible consequences of player movement such as Player Physical Prowess and Real World Knowledge Advantages, since these can imbalance gameplay.

A specific alternative for games with Player-Location Proximity, first reported for Uncle Roy All Around You, is to let players do Self-Reported Positioning rather than rely on technology or Dedicated Game Facilitators to do this. While this can remove problems with the reliability of the technology to locate players, it can also let players have a more play-like approach to the games (since the games support Casual Gameplay). Another pattern that specifically can modulate Player-Location Proximity is Seamless Gameplay; this allows players to make use of their knowledge of the detection capabilities of the underlying positioning system to appear and disappear from the game state intentionally.

Delivery goals typically requires that players' Focus Loci carry or move a specific game element to a specific location. This makes games using Artifact-Location Proximity likely to force the players themselves to go to the locations, and thereby the combination of Delivery and Artifact-Location Proximity can be used to create Player-Location Proximity.

5.19.3. Consequences

Gameplay depending on Player-Location Proximity is likely to create Traverse goals, and races if Time Limits exist or other players may block effects by arriving to the place first. Since moving to physical locations requires Physical Navigation, the pattern may also make Player Physical Prowess and Real World Knowledge Advantages part of the gameplay. If the locations are not well-known to the players, Player-Location Proximity dependent gameplay can also give rise to Game World Exploration and Changes in Perception of Real World Phenomena due to Gameplay. The locations that players' positions are compared are Strategic Locations unless very many of them exist.

While Player-Location Proximity always creates Real World Gameplay Spaces, it can also create Pervasive Gameplay if the gameplay area is not explicitly stated and separated from other activities. When the gameplay area in the latter case becomes large enough, as is the case for example with Geocaching, Insectopia, and SCVNGR, the pattern also promotes Encouraged Return Visits.

When used in pervasive games and LARPs, Player-Location Proximity gives Game Masters information about players' locations and thereby let them instantiate gameplay events based upon where the players are.

5.19.4. Relations

5.19.4.1. Can Instantiate

Changes in Perception of Real World Phenomena due to Gameplay, Encouraged Return Visits, Pervasive Gameplay, Physical Navigation, Player Physical Prowess, Races, Real World Knowledge Advantages, Strategic Locations, Traverse.
with Self-Reported Positioning

CASUAL GAMEPLAY

5.19.4.2. Can Modulate
GAME MASTERS, REAL WORLD GAMEPLAY SPACES

5.19.4.3. Can Be Instantiated By
PLAYER-ARTIFACT PROXIMITY together with DELIVERY

5.19.4.4. Can Be Modulated By
EXTENDED ACTIONS, SEAMFUL GAMEPLAY, SELF-REPORTED POSITIONING

5.19.4.5. Possible Closure Effects
-

5.19.4.6. Potentially Conflicting With
-

5.19.5. History
Updated version of the pattern PLAYER-LOCATION PROXIMITY first described in the report Game Design Patterns for Mobile Games [1].

5.19.6. References

5.19.7. Acknowledgements
Johan Peitz

5.20. Player-Player Proximity

Game rules that depend on players being physically close to other players.

Spatial proximity is often a core part of game rules. For games where gameplay actions are directly done by players without any mediation the often translates into the case of PLAYER-PLAYER PROXIMITY being an important factor in what can or cannot be done.

5.20.1. Examples
Sports where several participants compete simultaneously and can affect each other, e.g. Soccer, Basketball, and Boxing, depend on Player-Player Proximity. Likewise, Live Action Roleplaying Games such as 1942 – Noen å stole på, Conspiracy for Good, and Momentum, rely on PLAYER-PLAYER PROXIMITY since players wish to have face-to-face interaction when roleplaying. Assassin and children's games such as Hide-and-Seek also make being close to other players a factor of gameplay.

Another type of PLAYER-PLAYER PROXIMITY exists in games where players do not have to have actual physical interaction but technology requires them to be close. Examples of such games
include BotFighters, Human PacMan, Pirates!, and Treasure. Pacman must die provides a variant of this since here multiple mobile devices each contain part of the mediated game and players need to place them appropriately to be able and move through the gameplay area.

5.20.2. Using the pattern
The main design choices for PLAYER-PLAYER PROXIMITY, as for the other patterns related to proximity, is what distance is defined as proximity and if it is achieving it, maintaining it, or leaving it that triggers effects (or all of these). Beyond this, designers need to consider the potential effects of unsupervised SOCIAL INTERACTION since this is likely to occur as an effect of the pattern. While gameplay design to hinder players from having SOCIAL INTERACTION with each other as soon as PLAYER-PLAYER PROXIMITY is achieved may be difficult to enforce, EXTENDED ACTIONS can be used to trigger mechanical gameplay events based upon entering, maintaining, or breaking proximity. SEAMFUL GAMEPLAY incorporates the variations in how well the underlying technology detects players as part of the PLAYER-PLAYER PROXIMITY mechanic.

While players can be motivated to come close to other players by gameplay events directly caused by Player-Player Proximity, the combination of Game Element Trading and Player-Artifact Proximity is likely to make it happen even without other effects.

5.20.3. Consequences
PLAYER-PLAYER PROXIMITY modifies REAL WORLD GAMEPLAY SPACES so that the areas containing players gain additional gameplay values. The pattern is also likely to make PHYSICAL NAVIGATION part of gameplay in a game as well as SOCIAL INTERACTION. If the gameplay area is not restricted from other areas, the pattern will also create PERVERSIVE GAMEPLAY.

The use of PLAYER-PLAYER PROXIMITY makes it possible for GAME MASTERS to have access to a part of the game state even if they are not present themselves. This can be useful in pervasive games and LARPs.

5.20.4. Relations

5.20.4.1. Can Instantiate
PERVASIVE GAMEPLAY, PHYSICAL NAVIGATION, SOCIAL INTERACTION

5.20.4.2. Can Modulate
GAME MASTERS, REAL WORLD GAMEPLAY SPACES

5.20.4.3. Can Be Instantiated By
GAME ELEMENT TRADING together with PLAYER-A RTIFACT PROXIMITY

5.20.4.4. Can Be Modulated By
EXTENDED ACTIONS, SEAMFUL GAMEPLAY

5.20.4.5. Possible Closure Effects

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5.20.4.6. Potentially Conflicting With

5.20.5. History

Updated version of the pattern Player-Player Proximity first described in the report Game Design Patterns for Mobile Games [1].

5.20.6. References


5.20.7. Acknowledgements

Johan Peitz

5.21. Real Life Activities Affect Game State

Gameplay where real world activities provide input to the game state.

Activities performed in game are typically activities done specifically to affect the games. However, some games do take the activities done for other purposes and use them as input for changing the game state and those that do so have the pattern REAL LIFE ACTIVITIES AFFECT GAME STATE.

5.21.1. Examples

The energy usage in a household is the primary input to the game Power Explorer, indirectly causing the players' everyday behavior affect the game through how much electrical energy their activities use.

Zombies, Run! takes the physical exercise players do when jogging as input, letting players be able to gather resources to be used in the zombie apocalypse the game takes place in.

While Conspiracy for Good makes charity work and donations part of its gameplay, it is a weak example of REAL LIFE ACTIVITIES AFFECT GAME STATE since it only does so at specific points in the game and it is design to make people be more charitable rather than make use of the charity work players already do.

5.21.1.1. Anti-Examples

The Rock Band series and Wii games such as Wii Sports are not examples of REAL LIFE ACTIVITIES AFFECT GAME STATE even if they may cause players to become excited and exhausted. This since the activities performed are caricatures of certain real world activities rather than examples of the actual real world activities.

5.21.2. Using the pattern

Implementing REAL LIFE ACTIVITIES AFFECT GAME STATE consists of deciding which real world activities to use and how to measure or translate the activities to game state changes. While GAME MASTERS or UMPIRES can let the input to the game state be qualitative and can change the mapping on the fly, technology-based systems can let games do their real world activities with a
greater sense of privacy. **PLAYER-LOCATION PROXIMITY**, **PLAYER-PLAYER PROXIMITY** and other similar patterns do not directly make **REAL LIFE ACTIVITIES AFFECT GAME STATE** part of the gameplay of a game, but patterns related to it such as **PHYSICAL NAVIGATION** and **PLAYER PHYSICAL PROWESS** can when they are consequences of real world activities.

**REAL LIFE ACTIVITIES AFFECT GAME STATE** can typically be created through **EXTRA-GAME INPUT** together with **PERVERSIVE GAMEPLAY**.

5.21.2.1. **Interface Aspects**
Using **REAL LIFE ACTIVITIES AFFECT GAME STATE** typically require the use of some sensing technology or **DEDICATED GAME FACILITATORS** to observe the activities since requiring players to do this disrupts the activities (and fake input can be given).

5.21.3. **Consequences**
**REAL LIFE ACTIVITIES AFFECT GAME STATE** is a form of **EXTRA-GAME INPUT**, and one which makes **PERVERSIVE** and **UBQUITOUS GAMEPLAY** possible. Since **REAL LIFE ACTIVITIES AFFECT GAME STATE** rewards those good at certain real world activities, knowledge of how to do those activities is beneficial for gameplay. This also leads to games having this pattern to be likely to have the pattern **REAL WORLD KNOWLEDGE ADVANTAGES**. However, doing the activities with another purpose added may make players consider the activities in new ways, so the pattern can also give rise to **CHANGES IN PERCEPTION OF REAL WORLD PHENOMENA DUE TO GAMEPLAY**.

**REAL LIFE ACTIVITIES AFFECT GAME STATE** is difficult to combine with **MIMETIC INTERFACES** since one pattern deals with making real world activities into gameplay actions while the other makes mimicking real world activities into gameplay actions.

5.21.4. **Relations**

5.21.4.1. **Can Instantiate**
**CHANGES IN PERCEPTION OF REAL WORLD PHENOMENA DUE TO GAMEPLAY**, **EXTRA-GAME INPUT**, **PERVERSIVE GAMEPLAY**, **REAL WORLD KNOWLEDGE ADVANTAGES**, **UBQUITOUS GAMEPLAY**

5.21.4.2. **Can Modulate**

5.21.4.3. **Can Be Instantiated By**
**GAME MASTERS**, **PHYSICAL NAVIGATION**, **PLAYER PHYSICAL PROWESS**, **UMPIRES**

**EXTRA-GAME INPUT** **together with** **PERVERSIVE GAMEPLAY**

5.21.4.4. **Can Be Modulated By**

5.21.4.5. **Possible Closure Effects**

5.21.4.6. Potentially Conflicting With Mimetic Interfaces

5.21.5. History
Updated version of the pattern REAL LIFE ACTIVITIES AFFECT GAME STATE first described in the report Game Design Patterns for Mobile Games [1].

5.21.6. References

5.21.7. Acknowledgements

5.22. Real World Gameplay Spaces
Games where the specifics of physical space that constitutes the gameplay space affects the gameplay.

In one sense, all games require some space in the real world, even if it is through computers or other machines that enable them. However, a distinction can be made for games where players physically need to move their entire bodies to new locations in order to game. In these cases, the games can be said to have REAL WORLD GAMEPLAY SPACES in which the gameplay takes place which either denies that space to other activities or leads to the two activities sharing the space. Similarly, games where the game elements moved are large enough to interfere significantly with other activities in the same space can be said to have REAL WORLD GAMEPLAY SPACES.

5.22.1. Examples
Sports like Soccer and Ice Hockey are obvious examples of REAL WORLD GAMEPLAY SPACES since players need to move around in specially designated areas to participate. Competitions with remote controlled vehicles (e.g. those arranged by IFMAR[1]) and the robot gladiator games shown in the TV series [2] also have REAL WORLD GAMEPLAY SPACES.

Live Action Roleplaying Games and Alternate Reality Games (e.g. Trenne Byar and Momentum) take place in physical environments which may or may not be shared with other activities and people not aware of the game activity taking place. The same applies to Geocaching and Can You See Me Now?. Insectopia and Pirates! can be seen as weak examples since the position in the real world do matter to gameplay but only in how players are in proximity to other players or game elements.

5.22.1.1. Anti-Examples
Blindfold Chess can be seen as a counter-example of REAL WORLD GAMEPLAY SPACES since it does not require any space at all besides that which the people playing it would occupy anyway. Insectopia is an example of a game where the physical proximity of players to Bluetooth devices is part of the gameplay but where the specific of the physical space is not important.
5.22.2. Using the pattern

The pattern **REAL WORLD GAMEPLAY SPACES** can quite easily be part of a game through defining a physical space and specifying how this related to gameplay actions. The simplest of these relations is to define that actions can only be performed within the space but the introduction of **REAL WORLD GAMEPLAY SPACES** open up for several specific other patterns, namely those related to physical proximity. The most common of these are probably **PLAYER-ARTIFACT PROXIMITY**, **PLAYER-LOCATION PROXIMITY**, and **PLAYER-PLAYER PROXIMITY**.

Games with **ALTERNATE REALITY GAMEPLAY** and **PERVERSIVE GAMEPLAY** can be designed to require movement or actions in the real world and thereby instantiate **REAL WORLD GAMEPLAY SPACES**. It should be noted however that properly designed games with **REAL WORLD GAMEPLAY SPACES** can allow **PERVERSIVE GAMEPLAY** so the patterns can instantiate each other. **CROSSMEDIA GAMEPLAY** can make games indirectly have **REAL WORLD GAMEPLAY SPACES** by making players need to move in the real world to access the different media used in the games.

**CONFIGURABLE GAMEPLAY AREAS** may be a valuable way of modifying games with **REAL WORLD GAMEPLAY SPACES** that are set up anew for each game instance.

### 5.22.2.1 Interface Aspects

**REAL WORLD GAMEPLAY SPACES** is an interface pattern in that it either requires players to move their own bodies as part of gameplay or state something about how game elements are moved within the game.

### 5.22.3 Consequences

Games with **REAL WORLD GAMEPLAY SPACES** typically have **EVENTS TIMED TO THE REAL WORLD**, either due to explicit design choices or because real-world events affect the gameplay and thereby become game events. When **GAME WORLD NAVIGATION** is required, this creates **PHYSICAL NAVIGATION** which can in turn be seen as an example of **EVENTS TIMED TO THE REAL WORLD**. The pattern can give rise to **REAL WORLD KNOWLEDGE ADVANTAGES** in games where not all necessary information about the gameplay space is available to players at all time (i.e. a game without **PERFECT INFORMATION**).

Further, **REAL WORLD GAMEPLAY SPACES** is a prerequisite for **HYBRID GAMEPLAY SPACES**.

### 5.22.4 Relations

#### 5.22.4.1 Can Instantiate

**EVENTS TIMED TO THE REAL WORLD**, **HYBRID GAMEPLAY SPACES**, **REAL WORLD KNOWLEDGE ADVANTAGES**

*with Game World Navigation*

**PHYSICAL NAVIGATION**

#### 5.22.4.2 Can Modulate
5.22.4.3. **Can Be Instantiated By**  
Alternate Reality Gameplay, Crossmedia Gameplay, Pervasive Gameplay

5.22.4.4. **Can Be Modulated By**  
Configurable Gameplay Areas, Player-Artifact Proximity, Player-Location Proximity, Player-Player Proximity

5.22.4.5. **Possible Closure Effects**  
-

5.22.4.6. **Potentially Conflicting With**  
-

5.23. **History**  
New pattern created in this wiki.

5.24. **References**  

5.24.1. **Acknowledgements**  
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5.25. **Real World Knowledge Advantages**  
Games where players can make use of specific real world knowledge to their advantage.

Many games benefit players with various generic real world skills and abilities, e.g. manual dexterity, memorizing, and planning ahead. Fewer games let players received noticeable advantages during gameplay due to have knowledge of real world facts. Games that do have this - either by intent or by mistake - offer players Real World Knowledge Advantages.

5.25.1. **Examples**  
Organized betting on Sports is an example of Real World Knowledge Advantages since knowing the current performance of dogs, horses, or teams can let players have better understanding of the true odds rather than those offered. Fantasy Sports such as Fantasy Football are similar but here players create imaginative teams based on the statistics of performers of the real sports, and these games may or may not involve monetary rewards.

Quiz Games such as Trivial Pursuit and Who Wants to Be a Millionaire? are based around the players' knowledge about worldly facts, and therefore quite naturally players may have Real World Knowledge Advantages. Fauna is noteworthy in this context since it does let players make some use of others' knowledge through guessing similar.

Games where players have to move through physical environments not specifically created for the games often also can let players have Real World Knowledge Advantages. Examples of such games include BotFighters, Can You See Me Now?, and Geocaching.
5.25.2. Using the pattern
The simplest and most direct way of providing the possibility of Real World Knowledge Advantages is to make use of Quizzes.

Less common, Real Life Activities Affect Game State can create Real World Knowledge Advantages since most activities are easier to perform well if one has knowledge about them. More specific, and typically requiring much more localized game design, is to make use of Real World Gameplay Spaces. This can give Real World Knowledge Advantages to players since it they can use what they know about the environment to help in Physical Navigation and attaining Player-Location Proximity or Artifact-Location Proximity.

5.25.3. Consequences
The Real World Knowledge Advantages pattern often leads to chances of showing Game Mastery, since in many cases the advantages are clearly noticeable or possible to convey to others.

5.25.4. Relations
5.25.4.1. Can Instantiate
Game Mastery

5.25.4.2. Can Modulate
-

5.25.4.3. Can Be Instantiated By
Artifact-Location Proximity, Quizzes, Physical Navigation, Player-Location Proximity, Real Life Activities Affect Game State, Real World Gameplay Spaces

5.25.4.4. Can Be Modulated By
-

5.25.4.5. Possible Closure Effects
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5.25.4.6. Potentially Conflicting With
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5.25.5. History
Updated and renamed version of the pattern Extra Game Future Knowledge Advantage first described in the report Game Design Patterns for Mobile Games [1].

5.25.6. References
5.25.7. Acknowledgements

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5.26. Seamful Gameplay

*Games where explicit knowledge of the coverage areas of underlying sensing technologies provide gameplay advantages.*

Technologies can be used to allow the location of players to be input to the game state. While lack of coverage by these technologies are easily seen as problems for game designs, Seamful Gameplay makes use of the unreliability and dead spots as features that can be exploited by players.

5.26.1. Examples

Treasure makes use of GPS and WiFi to require players to move in and out of the detection areas of the two technologies are part of a treasure collecting game.

The runners (professional players) of the GPS-based game Can You See Me Now? developed tactics where they could use dead spots to temporarily disappear from the game world in order to set up ambushes.

5.26.2. Using the pattern

The prime use of Seamful Gameplay is to make a virtue out of dead spots arising from supporting Player-Location or Player-Player Proximity with technologies that do not work everywhere. This means that the pattern is difficult to apply on games that have Ubiquitous Gameplay.

5.26.2.1. Diegetic Aspects

Since Seamful Gameplay can abruptly remove or insert players' Focus Loci in Game Worlds, the pattern poses a problem for Diegetic Consistency.

5.26.2.2. Interface Aspects

Seamful Gameplay can be seen as an interface pattern since it makes the coverage spaces of technologies into areas where gameplay actions can or cannot be done.

5.26.3. Consequences

The most typical effect of Seamful Gameplay is to allow Stealth by dropping out of coverage areas. Since the seams of the underlying technologies are typically not obvious to players, developing knowledge about these constitutes a form of Game Mastery and getting this knowledge can lead to Changes in Perception of Real World Phenomena Due to Gameplay.

Somewhat paradoxically, even if Seamful Gameplay cannot be added to games with Ubiquitous Gameplay it can make games have Ubiquitous Gameplay when they did not otherwise.
5.26.4. Relations

5.26.4.1. Can Instantiate

Changes in perception of real world phenomena due to gameplay, game mastery, ubiquitous gameplay

With player-location proximity or player-player proximity

Stealth

5.26.4.2. Can Modulate

Player-location proximity, player-location proximity

5.26.4.3. Can Be Instantiated By

-

5.26.4.4. Can Be Modulated By

-

5.26.4.5. Possible Closure Effects

-

5.26.4.6. Potentially Conflicting With

Diegetic consistency, ubiquitous gameplay

5.26.5. History

A pattern based upon the concept of using seamless design in game design, first introduced in the paper Gaming on the Edge: Using Seams in Ubicomp Games [1].

5.26.6. References


5.26.7. Acknowledgements

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5.27. Self-Reported Positioning

Games where variations in players' physical locations are part of the gameplay but where the current locations are reported to the game by the players.

Some games use the location of players as input of the game state but need this information to be reported to where the game state is stored. Games have self-reported positioning when this is done by the explicit actions of players.

Note: this pattern complies with the original definition of the concept of Self-Reported Positioning in that players choose what location to report and can thereby report locations far from where they actually are.
5.27.1. **Examples**
Uncle Roy All Around You is the game that originated the concept of **SELF-REPORTED POSITIONING** [1].

5.27.1.1. **Anti-Examples**
Location-based social network such as Foursquare [2] and Gowalla [3] let players check-in whenever they wish but the systems provide the actual information, so players cannot report other locations that ones where they actually are.

5.28. **Using the pattern**
**SELF-REPORTED POSITIONING** requires that a game makes use of **PLAYER-LOCATION PROXIMITY**, but it is the easiest way to support this pattern since one only needs to make use of a communication system, not a sensing technology and a communication system.

5.28.1.1. **Interface Aspects**
**SELF-REPORTED POSITIONING** is an interface pattern since it makes players use an interface to tell the game system their positions.

5.28.2. **Consequences**
**SELF-REPORTED POSITIONING** provides a narrow form of **SELF-FACILITATED GAMES**. It however does so within a context where players report to some game system so it can also be seen as a way of modulating **MEDIATED GAMEPLAY**. Since it loosens the requirements of where players actually are, it makes games with **PLAYER-LOCATION PROXIMITY** have **CASUAL GAMEPLAY**. This also helps provide **SOCIAL ADAPTABILITY** since players do not need to go places if they do not have the time or want, or do not want to disturb those in the locations.

5.28.3. **Relations**

5.28.3.1. **Can Instantiate**
**SELF-FACILITATED GAMES**, **SOCIAL ADAPTABILITY**

*with Player-Location Proximity*

**CASUAL GAMEPLAY**

5.28.3.2. **Can Modulate**
**MEDIATED GAMEPLAY**, **PLAYER-LOCATION PROXIMITY**

5.28.3.3. **Can Be Instantiated By**
- 

5.28.3.4. **Can Be Modulated By**
- 

5.28.3.5. **Possible Closure Effects**
-
5.28.3.6. Potentially Conflicting With

5.28.4. History
A pattern based upon the concept "Self-Reported Positioning", originally coined by the artist group Blast Theory and researchers at the Mixed Reality Laboratory. See Benford et al. 2004 [1] for more details.

5.28.5. References


5.28.6. Acknowledgements

5.29. Social Adaptability

Games that through their design easily can be modified for varying social contexts.

There are many reasons why people wish to play various games, but in many cases, games need to be rejected because they do not fit the wanted or required social requirements of the wanted gaming activity. This may be practical issues related to where one plans to play, who wants to play, and when people can take part in the activity. Games that have flexible underlying systems, are facilitated by humans, or have different ways of being played can fit a wider range of social conditions by having SOCIAL ADAPTABILITY - the ability of the game design to function in various settings while still giving a quite similar gameplay experience.

The above SOCIAL ADAPTABILITY deals with some of the boundary conditions for being able to play games. However, playing a game is in itself a social context which may vary. The rules of games may unintentionally (from the designers' perspective) create unwanted situations, e.g. having a novice player make a trivial solution which cannot be retracted or making one player have a hopeless situation simply due to a series of bad luck. In such cases, the social reason for playing may be threatened and players may wish to bend or ignore rules to keep the gameplay interesting or enjoyable for everyone. Games that allow players to fudge or outright violate rules and game states in this sense have SOCIAL ADAPTABILITY during game instances.

5.29.1. Examples
Many children's game, e.g. Hide-and-Seek and Tag, depend on the players having some agreement of what constitutes the area in which one can play. This forms a low level of Social Adaptability.
Traditional board games such as Backgammon and Chess do support Social Adaptability in that it is the players that update the game state through moving physical game elements. This allows them to retract moves if both players agree upon it and also set up examples to show specific game situations. Go is similar but in addition has a handicap system that provides Social Adaptability in "real" games, allowing players of different skills to meet each under with equal chances. Unlike most Sports, Golf also supports this type of Social Adaptability.

Tabletop Roleplaying Games such as Dungeons & Dragons and Storytelling System have game masters that are responsible for running the game system, developing the story, and enacting the various diegetic characters encountered. All these areas can be manipulated by the game masters - sometimes without the players' awareness but sometimes with their unspoken consent - to make sure the group has a whole avoid unwanted experiences.

Insectopia, Geocaching, and Momentum are all weak examples of games having Social Adaptability since players can take pauses in them whenever and are thereby able to adopt to the social context.

5.29.2. Using the pattern

Being able to control when one wants to play is an important aspect of Social Adaptability, which often is a question of how to support Interruptibility. This can be achieved through Drop-In/Drop-Out, Game Pauses, or Proxy Players depending on other features of a game (as if it is a Multiplayer Game), but is also one of the abilities the use of Game Masters can bring to a game design. Tiered Participation can provide Social Adaptability by letting players move between different levels of engagement in the gameplay rather than moving for either playing or not playing. In addition to considering the possibility to interrupt gameplay, Social Adaptability can also be supported by letting players decide how long the game should take; Negotiable Game Sessions and Negotiable Game Instance Duration can support this.

Where one can play a game also affects Social Adaptability. The strongest way to support this form of Social Adaptability is through Ubiquitous Gameplay but another way is through Configurable Gameplay Areas in Self-Facilitated Games. Minimalized Social Weight can also help make games possible to play in a wider range of environment since the game actions and events produced by games can be disturbing in certain environments (depending on both the actions and the environment). Self-Reported Positioning allows players to be flexible about where they are in the game compared to where they actually are in the real world and thereby support some Social Adaptability.

What interaction a game should provide is also part of Social Adaptability. While Difficulty Levels provide a small amount of influence to players in how challenging a game should be, Player Decided Results let them have a small influence on the outcome of events. Player Decided Rule Setup can give more power and granularity in how they can influence the gameplay experience. One specific examples of this is Handicap Systems which makes it possible for players with different skill levels in a game to compete with equal chances. Free Game Element Manipulation, Fudged Results, and Self-Facilitated Games give even more power to the players, but Game Masters can provide the same feature if player power is
not wanted in this sense. Examples why this could be the case include that it would cause exercise, remove the possibility of surprises, or that the players are not believed to be able to uphold the game system.

There are many patterns that can weaken or remove social adaptability in games. Somewhat paradoxically, multiplayer games work against social adaptability since a player must consider the other players' opinions on when and how to play. Challenging gameplay can provide thresholds for novice players or those that cannot for some reason dedicate all their abilities to a specific play or game session; player physical prowess does this as well but for physical activities. Games that require players' attention continuously, i.e. those with the show must go on but without being mitigated by game pauses or drop-in/drop-out gameplay, also make it difficult to fit their gameplay into environments with changing social demands. Mediated gameplay quite naturally lead to some restrictions on social interaction between players and thereby make enacting any possible social adaptability more difficult. Dedicated game facilitators typically do this as well but also restrict modifying or ignoring rules unless explicitly design to allow this - game masters are an exception to this since they often have power over changing the rules and game states freely.

A somewhat unlikely candidate for causing problems with social adaptability is changes in perception of real world phenomena due to gameplay. However, games with this pattern are based on players already having some perceptions of the phenomena the game design focuses upon. This restricts the number of players that the design can work for and this cannot easily be changed by players in direct conjunction to playing these types of games.

5.29.3. Consequences

The primary consequence of social adaptability is to provide players with a freedom of choice regarding when and how they are to play a game. When players have the power to use the game social adaptability to fit their preferences, this can enforce their sense of togetherness.

5.29.4. Relations

5.29.4.1. Can Instantiate

Freedom of Choice, Togetherness

5.29.4.2. Can Modulate

-

5.29.4.3. Can Be Instantiated By

Difficulty Levels, Drop-In/Drop-Out, Free Game Element Manipulation, Fudged Results, Game Pauses, Game Masters, Handicap Systems, Interruptibility, Minimalized Social Weight, Negotiable Game Sessions, Negotiable Game Instance Duration, Player Decided Results, Player Decided Rule Setup, Proxy Players, Self-Facilitated Games, Self-Reported Positioning, Tiered Participation, Ubiquitous Gameplay

Configurable Gameplay Areas together with Self-Facilitated Games
5.29.4.4. Can Be Modulated By
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5.29.4.5. Possible Closure Effects
-

5.29.4.6. Potentially Conflicting With
CHALLENGING GAMEPLAY, CHANGES IN PERCEPTION OF REAL WORLD PHENOMENA DUE TO GAMEPLAY, DEDICATED GAME FACILITATORS, MEDIATED GAMEPLAY, MULTIPLAYER GAMES, PLAYER PHYSICAL PROWESS, THE SHOW MUST GO ON

5.29.5. History
New pattern.

5.29.6. References
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5.29.7. Acknowledgements
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5.30. Spectators
People, possibly former, current, or future players, who observe the actions that players do in a game without being able to affect the game themselves.

Not all people who can observe the development of a game played are players. Those who cannot directly affect the game as a player are SPECTATORS. While these do not experience gameplay directly, they can gain an experience from watching the game and can learn or prepare to play the game.

5.30.1. Examples
Players whose avatars are killed in Counter-Strike have to wait until the next game begins before being able to play. Depending on the server, they may be able to watch as Spectators while they are waiting or can only view a scoreboard.

Most tournaments, e.g. within Chess, Go, Soccer, and the Starcraft series, have SPECTATORS to the individual games that are played. This allows people participating in the tournament but not in the individual game to follow the gameplay as well as letting other interested people follow the whole tournament.

Games that take place in public environments, e.g. ConQwest, Insectopia, Momentum, cannot help but be observed by non-players. If these SPECTATORS are aware that they are witnessing gameplay is another issue though. In the case of Day of the Figurines, it is easier to say that people are aware since one part of the game is a public installation at a museum where people can view the positions of all players' characters in the game world.
5.30.1.1. Anti-Examples

Many computer games that depict sports or car races, e.g. Wii Sports, and the FIFA and Gran Turismo series, have diegetic SPECTATORS in their games. But since these are not actual people watching the events taking place,

5.30.2. Using the pattern

SPECTATORS can either be people who will not be players at all in a game session at all or be used to give players information about the game while not playing or being able to act within it. In either case, they need to be provided with some form of PUBLIC INFORMATION in order to be considered SPECTATORS as they otherwise have no information about the game state.

Players currently in a game can temporarily become SPECTATORS by ULTRA-POWERFUL EVENTS or TURN TAKING (this is more or less impossible to hinder in games with HOTSEATING unless the players themselves do not wish it), and making players into SPECTATORS can be used to instantiate DOWNTIME as a form of PENALTY. LATE ARRIVING PLAYERS can as SPECTATORS be given a GAME STATE OVERVIEW for a short period of time before joining the game to let them be aware of the current situation within the game. Games which have PLAYER ELIMINATION, especially EARLY ELIMINATION but also PERMADEATH, can use Spectators to allow the eliminated players to continue to follow the gameplay.

There are many ways of supporting non-player SPECTATORS. First, many games inherently support SPECTATORS with some possibility to get an insight to a game in progress. This includes traditional board, card, and miniature games but typically not tabletop roleplaying games. Most computer games also allow SPECTATORS simply by letting them view the display showing the game, but understanding the game situation may be difficult in fast-paced games or games heavily relying on interaction between different players. Games with ALTERNATE REALITY, PERVERSIVE, or UBQUITOUS GAMEPLAY often cannot help having Spectators but in these cases, the people watching may not be aware that they are seeing gameplay actions. EXTRA-GAME ACTIONS work similarly, but provide designers with more control of the likelihood of SPECTATORS noticing the actions, and how they should perceive them.

Games that specifically want to support SPECTATORS, e.g. most TOURNAMENTS, can do so in several ways. GAMEPLAY STATISTICS such as HIGH SCORE LISTS, PUBLIC PLAYER STATISTICS, and REPLAYS can be used let SPECTATORS (and possible future players) gain information about previous gameplay activities while EXTRA-GAME BROADCASTING can be used to push such information into other media than the one supporting or mediating the game.

While watching the actions of players may be the naturally most interesting activity of SPECTATORS, any type of AGENTS be help provide interest to a game since they provide seeming intent to what happens in the games. Further, MULTIPLAYER GAMES are like to be more interesting since here players are either intentionally competing or cooperating to achieve certain goals. SPECTATORS may by themselves or by encouragement by game facilitators modify their interest in the watch games by making META GAMES, with BETTING on the outcome of the game as the most common example of this.
5.30.2.1. **Interface Aspects**

SPECTATORS is an interface pattern.

5.30.3. **Consequences**

The presence of SPECTATORS in games allows players to show their GAME MASTERY and from this display gain GAME-BASED SOCIAL STATUSES, especially when difficult or complex gameplay actions like REPEAT COMBOS are required. Allowing people to be SPECTATORS, as for example is common in TOURNAMENTS, make it possible for these people to gain STRATEGIC KNOWLEDGE about the game and players may act as mentors through showing how to perform possible actions. This is possible even if games with no players, i.e. ZERO-PLAYER GAMES, since the SPECTATORS can learn simply from observing what gameplay actions work in given situations.

When SPECTATORS can communicate with the players, this allow for SOCIAL INTERACTION between, making it possible to have SOCIAL INTERACTION even in SINGLE-PLAYER GAMES. This may however also lead the SPECTATORS to willing or not, and knowingly or not, provide NON-PLAYER HELP. When the SPECTATORS are aware of the gameplay in progress and try to influence the development of the gameplay by giving advice and commands, this can instead become a case of BACKSEAT GAMERS.

The possibility of being SPECTATORS can help LATE ARRIVING PLAYERS to understand the current game state before joining a game. Likewise, being able to observe the states of MULES can help players judge if they need to start playing actively or can let the MULES continue with their automated behavior.

While it can be argued that no game is being played unless somebody is performing gameplay actions, the use of SPECTATORS can question this argument. Specifically, ZERO-PLAYER GAMES or games with NO DIRECT PLAYER INFLUENCE can be meaningful if SPECTATORS (which may be players in the sense that they may have set up in advance the actions being done) are allowed to observe the gameplay as it unfolds.

SPECTATORS can be cast as NON-PLAYER CHARACTERS in games. While this is most easily conceivable in ALTERNATE REALITY GAMES or PERVASIVE GAMES, it can be used in most games to make the NON-PLAYER CHARACTERS have more agency or unpredictability that if they are controlled by algorithms.

The use of SPECTATORS allows people that are not players in one game to be players in META GAMES based upon the game, e.g. BETTING on the outcome.

5.30.4. **Relations**

5.30.4.1. **Can Instantiate**

BACKSEAT GAMERS, BETTING, GAME MASTERY, GAME-BASED SOCIAL STATUSES, NON-PLAYER HELP, STRATEGIC KNOWLEDGE

**with Repeat Combos**

GAME MASTERY
with Single-Player Games

SOCIAL INTERACTION

with Zero-Player Games

STRATEGIC KNOWLEDGE

5.30.4.2. Can Modulate

LATE ARRIVING PLAYERS, MULES, NON-PLAYER CHARACTERS, NO DIRECT PLAYER INFLUENCE, ZERO-PLAYER GAMES

5.30.4.3. Can Be Instantiated By

ALTERNATE REALITY GAMEPLAY, DOWNTIME, EARLY ELIMINATION, EXTRA-GAME ACTIONS, EXTRA-GAME BROADCASTING, GAME STATE OVERVIEW, GAMEPLAY STATISTICS, HIGH SCORE LISTS, HOTSEATING, NON-PLAYER HELP, PENALTIES, PERMADEATH, PERVERSIVE GAMEPLAY, PLAYER ELIMINATION, PUBLIC INFORMATION, PUBLIC PLAYER STATISTICS, REPLAYS, TOURNAMENTS, TURN TAKING, UBQUITOUS GAMEPLAY, ULTRA-POWERFUL EVENTS

5.30.4.4. Can Be Modulated By

AGENTS, META GAMES, MULTIPLAYER GAMES

5.30.4.5. Possible Closure Effects

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5.30.4.6. Potentially Conflicting With

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5.30.5. History

An updated version of the pattern Spectators that was part of the original collection in the book Patterns in Game Design [1].

5.30.6. References


5.30.7. Acknowledgements

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5.31. Tiered Participation

Games where players can belong to different tiers in regards to their expected involvement in the gameplay.

While many people may wish to play a certain game, not all may have the same possibilities to engage in gameplay for the same periods of time or with the same types of activities. Games with TIERED PARTICIPATION try to solve this issue by having several distinct different ways of playing the game, each which puts different types of requirements on how to play in terms of time spend playing and types of gameplay actions that should be performed.
5.31.1. Examples

Tiered Participation is most commonly found in alternate reality games such as Conspiracy for Good and Momentum. Can You See Me Now? and Uncle Roy All Around You are mixed reality games where participants can engage in the games either through physical movement in an urban environment or through moving their avatars in a virtual environment. Wizard’s Apprentice is an example of a computer-augmented board game designed to support one player - typically a parent - that is only moderately interested in the game but instead more interested in supporting the other players - typically children - so they can have an engaging and fun experience.

Weaker examples of the pattern can be found in games where non-players can observe the gameplay and give advice. While this can occur in most games, it is probably the most socially acceptable and less disturbing in puzzle games, e.g. Angry Birds or Continuity. The pattern becomes strong when observers can choose to join the game and become players, as is supported for example Gauntlet or Lego Star Wars series.

5.31.2. Using the pattern

The main requirement of Tiered Participation is rather obviously that there should be several different ways of playing the game in regards to actions required and time spent while still be regarded as a player. Two concrete ways of doing this is through supporting Backseat Gamers or Functional Roles, where the roles in the latter case differ in commitment required besides actual gameplay actions provided. Other ways of doing this often build upon making different parts of the game available through different access routes, which means having some gameplay accessible through Mediated or Ubiquitous Gameplay.

A major design choice for the Tiered Participation is if the tiers are intended to support different groups of players or to support players in moving between different levels of commitment, or both. Wizard’s Apprentice is an example of the first case (where the wizard player can only increase his or her engagement in the game by being a Backseat Gamer) while the Drop-In/Drop-Out gameplay in the Lego Star Wars series support the second case. Most alternate reality games, e.g. Conspiracy for Good, but especially those tied to TV series (e.g. The Truth About Marika or The Lost Experience) support both.

5.31.3. Consequences

The main reason for having Tiered Participation in games is to support Social Adaptability. While players of some of the tiers may have Downtime, this is often intentionally so since those players have been perceived not to want to engage with the game as often as players in other tiers. Allowing players to move between tiers or playing on several tiers at once eliminates the risk of the players feeling unfairly treated compared to others.

Since players are interacting with the game under different conditions, it may be difficult to provide Player Balance while having Tiered Participation. This can be offset (as often in the case for unbalanced games) by using Handicap Systems or by circumventing it by having the game be based upon Cooperation.
5.31.4. Relations

5.31.4.1. Can Instantiate
DOWNTIME, SOCIAL ADAPTABILITY

5.31.4.2. Can Modulate
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5.31.4.3. Can Be Instantiated By
BACKSEAT GAMERS, DROP-IN/DROP-OUT, FUNCTIONAL ROLES, MEDIATED GAMEPLAY, UBIQUITOUS GAMEPLAY

5.31.4.4. Can Be Modulated By
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5.31.4.5. Possible Closure Effects
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5.31.4.6. Potentially Conflicting With
PLAYER BALANCE

5.31.5. History
New pattern created in this wiki. See the paper Emerging Participatory Culture Practices: Player-Created Tiers in Alternate Reality Games [1] for the first academic treatment of the concept.

5.31.6. References


5.31.7. Acknowledgements
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5.32. Ubiqitous Gameplay

Gameplay which is possible at most times and in most locations without requiring significant adjustments to these locations.

Most games require technological platforms to be played or that preparations are made before gameplay begins, but even so, it may not be possible to play them due to other people being disturbed by the gameplay. Part of the problem is due to the fact a games rules, game state, and information typically require some form of medium so that players can perceive them. Further, those with complex algorithms that the players are not intended to calculate themselves require computers or game facilitators. Both these types of requirements limits where and when games can be played. Games that by design try to avoid these requirements, and thereby can be played more easily at any place and at any time, strive to have UBIQUITOUS GAMEPLAY.
5.32.1. Examples

Rock-Paper-Scissors requires only another player in reasonable vision range to be able to play and is due to this a prime example of Ubiquitous Gameplay. Children's Games such as Tag or Hide-and-Seek can be played in most places, and can be said to support Ubiquitous Gameplay as long as one has others to play with and the games are not perceived as disruptive by others. Assassin and various flash mobs (see McGonigal 2005 [1] for examples) are played by adults but otherwise are similar in structure. The traditional parlor game Twenty Questions and the trivia game Six Degrees of Kevin Bacon are probably more independent of time and location that the previous examples, only requiring two players and that one can ask and answer questions.

Card Games such as Contract Bridge, Poker, Rummy, and Spades arguably have high Ubiquitous Gameplay since they do not require much space and decks of cards are easy to carry along (or get hold of). The same applies to Dice Games; Yahtzee is one example but Craps, Greed, Hazard, and Liar's Dice are better ones since they require less in note taking. Card games using unique decks, e.g. M.I.G., No Thanks!, and Werewolf, can also support Ubiquitous Gameplay due to their small size, but do this to a lesser degree (Roll Through the Ages: The Bronze Age is a similar example for Dice Games). Collectible Card Games such as Magic: The Gathering in turn supports it even less but significantly more than computer-based or console-based games.

Computer Games can support Ubiquitous Gameplay if the devices are small enough to carry around easily. Among the first such devices were the Game & Watch games and these have been followed by many other types, e.g. the Nintendo GameBoy series, the Nintendo DS series, and the PlayStation Portable series, and most modern mobile phone (e.g. the iPhone) are gaming platforms with large ranges of games available. It should however be noted that not all, and even very few games actually, support Ubiquitous Gameplay since they require constant attention on what is happening on the game screens or do not allow game pauses. The games that do start to support Ubiquitous Gameplay when placed on mobile gaming platforms therefore tend to be Puzzle Games such as Angry Birds and Sokoban or turn-based games such as the Advance Wars series.

Geocaching makes use of GPS devices and the internet to let players find caches all over the world, and this can be done at any time regardless of other players. Location-based social network such as Foursquare [2] and Gowalla [3] have gameplay elements and can therefore be seen as having Ubiquitous Gameplay.

5.32.1.1. Anti-examples

Computer Games in general have had low Ubiquitous Gameplay, but as mentioned above this is avoided by using devices such as the Nintendo Gameboy platforms or mobile phones.

Space Alert times game events through the playing of CD tracks from a CD included in the game. This means that one has to have access to a CD player in addition to the game to play it. This put it nearly on par with computer games in regards to what support it requires to be playable.
5.32.2. Using the pattern

There are two main issues to making it possible to take part of the gameplay of a game without limiting it to specific locations or setups. One concerns how to handle the presence or lack of presences of other players and the other concerns how to handle the need for technological platforms or physical gameplay elements. A third concern which often overlaps with both of the two other concerns is the question of when one can play.

While the easiest way to avoid the issue of having several players able to play together is of course to make games into Single-Player Games. When this is not a possibility, Asynchronous Gameplay can let players be able to do gameplay actions when others are not active. This however can create Downtime for players if they have to wait for other players, and if this is perceived as a problem the ubiquitousness can be sacrificed somewhat through making the games be Tick-Based ones.

Games using some technological medium or platform inherit how well they support Ubiquitous Gameplay from these, so for games that need to use such as platform the act of designing Ubiquitous Gameplay firstly consists of selecting an appropriate medium or platform. Not requiring internet connections compared to requiring it is one example of how Ubiquitous Gameplay can be increased in a game, providing a dedicated computer instead of relying on an general-purpose one is another example (as is done by for example King Arthur). Dedicated Game Facilitators typically take the role of being both a medium for providing the gameplay and doing calculations needed for updating the game state. For this reason, having them work against Ubiquitous Gameplay. Seamful Gameplay is an approach to make use of the lack of coverage of sensing or communication technologies and gameplay mechanics, in doing so it can support Ubiquitous Gameplay when it partly existed without the pattern but is impossible to use when Ubiquitous Gameplay already exists.

Even avoiding computers and Dedicated Game Facilitators can pose problems to achieving Ubiquitous Gameplay. Depending on their numbers and their physical characteristics, Cards and Dice may be problematic for Ubiquitous Gameplay. This is typically however only an issue if custom decks of Cards or other Dice than 6-sided ones are used since otherwise it is rather easy to acquire them. The same applies to Tokens; they are easily replaceable unless they do have to convey unique attributes (glass beads are used very often as Tokens in Magic: The Gathering but not part of the actual game). The presence of Miniatures and Game Boards on the other hand often clashes with Ubiquitous Gameplay, the former due to them often being unique (and hand-painted by players) and the latter due to their size and the specificity of what is on them. (Blind Chess shows how a game can gain Ubiquitous Gameplay at the cost of requiring Memorizing).

Besides patterns concerning specific types of game elements, those concerning player ownership of them can negatively affect Ubiquitous Gameplay. Examples include Game Element Trading and Memorabilia. Heterogeneous Game Element Ownership also belongs to this group, but it does provide some support for Ubiquitous Gameplay in that players share the burden of providing the necessary game elements. That games do not need to rely on gameplay elements or make use things already in the environment can be seen through examples...
such as Assassin, Hide-and-Seek, Rock-Paper-Scissors, Six Degrees of Kevin Bacon, Tag, and Twenty Questions.

However, even if the medium or platform is independent or semi-independent of place, the activity of gaming may not be. Design solutions such as DROP-IN/DROP-OUT, INTERRUPTIBILITY, and both NEGOTIABLE GAME SESSIONS and NEGOTIABLE PLAY SESSIONS make it possible to affect when gameplay takes place and thereby avoid permanent breakdowns in game instances due to the current surroundings. UBIQUITOUS GAMEPLAY is difficult to combine with ATTENTION DEMANDING since this makes it more difficult to players to chosen when to play or not. In fact, allowing GAME PAUSES or DROP-IN/DROP-OUT gameplay are two opposite ways of letting players play whenever they wish and thereby solving the concern about when one can play. REAL LIFE ACTIVITIES AFFECT GAME STATE makes games have more UBIQUITOUS GAMEPLAY simply because other activities become gameplay and thereby make the time one does these activities into possible gameplay activities.

Another division, based on designers' intent to create games for exploratory, disruptive, or portability purposes, divides games with UBIQUITOUS GAMEPLAY into ubicomp games, pervasive games, and ubiquitous games [4]. As this trichotomy shows, UBIQUITOUS GAMEPLAY shares and has overlapping characteristics with other classifications of gameplay, e.g. ALTERNATE REALITY GAMEPLAY and PERVASIVE GAMEPLAY, and game designers using one may benefit from considering the requirements and possibilities of all of these.

Given that UBIQUITOUS GAMEPLAY is intended to let games be played in most contexts, they offer natural possibilities to make use of both EXTRA-GAME INPUT and EXTRA-GAME CONSEQUENCES.

5.32.3. Consequences

UBIQUITOUS GAMEPLAY opens up for a game to have SOCIAL ADAPTABILITY. Although not all UBIQUITOUS GAMEPLAY is intended to be casual, games that include the pattern do help meet the requirement of CASUAL GAMEPLAY since they make lower the thresholds for beginning to play.

Even if UBIQUITOUS GAMEPLAY can be based around EXTRA-GAME INPUT and CONSEQUENCES, it can be more or less impossible to avoid unexpected types of EXTRA-GAME INPUT and CONSEQUENCES. This means that games with UBIQUITOUS GAMEPLAY should be treated as instantiating these patterns in addition to being able to be modified by them, and when this makes the gameplay merge with other activities the pattern creates PERVASIVE GAMEPLAY. When this makes players play games in public environments, it also makes it likely that the gameplay has SPECTATORS, although these may or may not be aware of that a game is being played.

TIERED PARTICIPATION can be created in games by having some - but not all - of the gameplay interaction available through UBIQUITOUS GAMEPLAY.
5.32.4. Relations

5.32.4.1. Can Instantiate
Casual Gameplay, Extra-Game Consequences, Extra-Game Input, Pervasive Gameplay, Social Adaptability, Spectators, Tiered Participation

5.32.4.2. Can Modulate
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5.32.4.3. Can Be Instantiated By
Asynchronous Gameplay, Drop-In/Drop-Out, Game Pauses, Heterogeneous Game Element Ownership, Interruptibility, Negotiable Game Sessions, Negotiable Play Sessions, Real Life Activities Affect Game State, Seamful Gameplay, Single-Player Games

5.32.4.4. Can Be Modulated By
Extra-Game Consequences, Extra-Game Input

5.32.4.5. Possible Closure Effects
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5.32.4.6. Potentially Conflicting With
Attention Demanding, Dedicated Game Facilitators, Game Boards, Game Element Trading, Heterogeneous Game Element Ownership, Memorabilia, Miniatures, Seamful Gameplay

5.32.5. History
Based upon the concept of Decontextability which is described in the Report on Short-Term Play Testing of Socially Adaptable Game Prototypes [5].

5.32.6. References


5.32.7. Acknowledgements
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