This deliverable describes the driving experiment in Schladming. It includes information and results on architecture implementation, as well as integration/usage difficulties. The document provides facility developers and testbed operators with information on aspects of usability prior to usage by open call experiments and the next release of baseline components.
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# Table of Contents

1. Executive Summary ............................................................................................................................ 3
2. Introduction ........................................................................................................................................ 4
3. Experiment Architecture and Implementation .............................................................................. 5
4. Experiment in Schladming .............................................................................................................. 11
    4.1. Mid - Europe ........................................................................................................................... 11
    4.2. Experiment Execution ........................................................................................................... 12
5. Results and Impact ........................................................................................................................... 13
    5.1. Total installs ............................................................................................................................. 13
    5.2. Active Devices ......................................................................................................................... 14
    5.3. Active Devices ......................................................................................................................... 15
    5.4. Schladming App usage ........................................................................................................... 20
        5.4.1. Selected View types ......................................................................................................... 20
        5.4.2. List view .................................................................................................................................... 21
        5.4.3. Map view .................................................................................................................................. 22
    5.5. Babylon - Feedback ................................................................................................................ 24
    5.6. Mid Europe .............................................................................................................................. 24
6. Conclusion ......................................................................................................................................... 25
1. Executive Summary

This deliverable presents the final results in the driving EXPERIMEDIA experiment at Schladming. The focus is on providing information about the experiments and the final results.

The preparatory steps for the first experiment run in December 2012 have been completed to a large extent with some final integration work and tests pending. The driving experiment was done during the Mid Europe in July.
2. Introduction

This deliverable is the final report for EXPERIMEDIA’s driving experiment at Schladming focusing on augmented reality services and UGC at large-scale live events.

The driving experiment at Schladming provides insights into core elements of the EXPERIMEDIA facility and alongside also strives to maximize the value impact for the venue itself. Schladming as a tourist destination relies on visitors and their satisfaction. With intensified competition among tourism destinations it is paramount to provide a competitive advantage to attract new visitors as well as to retain loyal tourists. Within the driving experiment the main objective for Schladming is to provide visitors and citizens with innovative future Internet technology solutions that improve the on-site experience. Users should have the information at hand to enable the best possible experience and ideally the EXPERIMEDIA technologies deployed in the experiments will help to attract new visitors to the region, improve the visitor retention rate and contribute to a positive economic development of the region.

As part of the experiment the created mobile application (or “app”) allows visitors to experience the region and its activities in a modern and innovative way. The app also helps visitors of events at Schladming like e.g. the Mid Europe festival¹ to find co-occurring events and related places to help them see where “the party is on”. Besides that it also provides additional information about points of interest (POI) in the vicinity. The driving experiment integrates components from the Pervasive Content Component (PCC) and Social Content Component (SCC). It also communicates with the Experiment Content Component (ECC).

In this scenario, Social Networking Sites (e.g. Facebook) were exploited as an interface between real-world and virtual information and for location-sensitive real-time evaluation of service and tourist venue offers. Other technologies were “actuated” through the social interconnection of users.

¹ MID EUROPE® is one of the most important international festivals for wind bands: [http://www.mideurope.at/index.php](http://www.mideurope.at/index.php)
3. Experiment Architecture and Implementation

This section provides updated information on the driving experiment architecture and implementation details which have already been described on D4.1.2. The experiment's background has also already been described in D4.1.1 as well as related to the operational aspects in D3.1.1, D3.1.2, D3.1.3 and D3.1.4. As the focus of this document is to provide a progress report we do not reiterate the already given explanations but rather inform about changes and new information available.

The driving experiment app has been tested during the Mid Europe, a wind music festival taking place in July in Schladming very year. Due to this event we decided to temporarily rename the app to “Mid Europe Schladming” so visitors and participants can find the app easily in the Google Play Store.2

The starting point of the driving experiment app is the dashboard. The dashboard consists of six buttons, “Facebook login/logout”, and “List, Map”, “Mid Europe Program”, “Augmented Reality” and “Feedback”. Besides these buttons, on the dashboard additional features are available in the menu on the right top side containing Update and Fake GPS.

The “Facebook” button allows the user to connect and disconnect to/from his Facebook account. Facebook is used to retrieve the information if friends have liked or have checked-in to Facebook pages that are associated with POIs in the database. This information – e.g. five friends have liked the “Die Tischlerei Restaurant”, could help users to decide what POI e.g. restaurant he is going for dinner. If the user pushes the Facebook disconnect button, then the Facebook token is being removed and all cached information and sessions are deleted.

The “List” button opens a view containing two different views, the first view is named ALL and the second view is named CATEGORIES. In the view ALL all POIs available in the database are listed as shown in Figure 2 on the centred image. Each list item consists of maximum four images located on the left side, which show what categories the POI is assigned to. On the top the POI’s name and address are located. On the right side the orientation of the device to the POI and the distance to the POI are shown. A sorting feature can be found in the menu which contains three sorting options “Alphabetically”, “Distance” and “Facebook” that can be used to sort the list view. The “Alphabetically” option sorts the list by the POI’s name, the “Distance” option by the distances to POIs and “Facebook” option sorts the list by the Facebook likes in a descending order. The view CATEGORIES contains all POIs grouped by 10 root-categories “Shopping”, “Mid Europe”, “Gastronomy”, “Attraction”, “Others”, “Bank”, “Medicine”, “Accommodation”, “Infrastructure “and “WM Special”. By selecting one of these root-categories e.g. “Shopping” a list of sub-categories in this case e.g. “clothes”, “sports shop”, “tobacconist”, “groceries” etc. are shown. For example if the user selects clothes then a list of all POIs that are assigned to the sub-category “clothes” is shown, further this list can be sorted too.

The “Map” button opens the map view that is using the Google Maps API v2.0 supporting vector graphics and an easy to implement clustering mechanism to group POIs located close to

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2 https://play.google.com/
each other in one blue cluster pin making the map neater to the user as shown in Figure 2 on the right image. Each POI in the map view is represented by a red pin. If the user clicks on a red pin a bubble view is shown that shows the name and a short description about the POI. By clicking this bubble the user can switch to the detail view of this POI showing a long description as well as social media information, e.g., likes and check-in. To support the user in finding a desired POI the map view provides a filter widget similar to the CATEGORIES view mentioned above. In this filter widget the user can select multiple root and sub-categories as well. If the user is looking for clothes, then he/she opens the filter view, expands the “Shopping” root-category and further selects the sub-category “clothes”. After the selection the map view shows all POIs associated to the sub-category “clothes”.

The “Mid Europe Program” button opens the Mid Europe program, which is a copy from the Mid Europe homepage and further parsed so only the Mid Europe timetable is shown in the html-view. This was specifically added for the experiment run during the festival and was scraped again for the general version of the app.

The “Augmented Reality” button opens the experimental part of the driving experiment app, the augmented reality viewer. The viewer is library developed by JRS that can be easily integrated with just a few lines of code. The augmented reality viewer contains a slider to filter the selected POIs by its distance. The slider provides two point-controls, the first for minimum distance—it is by default 0 meters—and the second for maximum distance. Further the augmented reality view contains also the filter widget mentioned in the map view.

The “Feedback” button opens the Babylon feedback view containing the Babylon emotion wheel. For our requirements it was necessary to slightly modify the demo code so a feedback is sent only if the user pushes the “Submit feedback” button in the bottom. We have assumed that users, who do not know this kind of feedback mechanism, will first try to touch the wheel. In the default implementation a touch instantly triggers the transmission of the feedback, which would lead to false results when users try to use the feedback wheel for the first time. Moreover the feedback button in the bottom is disabled for one hour after clicking, so spamming can be prevented.

The dashboard’s menu contains two submenus “Update” and “Fake GPS”. Clicking “Update” removes all data from the database and starts a new import from the Infonova R6 service. Fake GPS is a helpful feature for demonstration issues. By activating the Fake GPS the GPS update is disabled and a static location in Schladming is used instead.

The application is available in German and English language, except some parts of the content like descriptions, titles etc. which are available in German only. The app language is automatically chosen by the app depending on the system’s language. The app requires at least Android 2.2 to be installed on a device.

A screenshot of the augmented reality view on the driving experiment app is shown in Figure 1. This view augments information about points of interest in the camera view. Additional information is also retrieved from further sources such as social networks where for instance Facebook likes and check-ins are displayed and the related external social content site can be
accessed directly. A personalization according to likes and check-ins from friends is also done on the fly. Further content such as ratings and consolidated information from various sources are also be shown in the final driving experiment app. In addition to the augmented reality view additional views are offered to the users as shown in Figure 2. A list view of POIs as well as a map view is provided. Through usage figures this allows insights into the acceptance of different presentation modes.

A screenshot of the interface for emotional sensing through the Babylon interface is shown in Figure 3. In addition to this QoE measurement tool further questionnaires are available inside the application to capture user feedback.

![Augmented reality view screenshot](image)

Figure 1: Augmented reality view screenshot (left side: Augmented Reality browser; right side: detail view)

The left image in Figure 2 shows the app dashboard.
An example for the JSON data returned from the tourism board's data repository about points of interest is displayed in Figure 4. This data is also used in the content management system of the region to serve the website of the region at [http://www.schladming-dachstein.at](http://www.schladming-dachstein.at) as shown in Figure 5. Through this integrated data flow it is also possible to provide unique information across different channels and use the officially provided information in the driving experiment. In the driving experiment this information was enhanced with further data sources which are believed to increase the value to the visitors - one of the hypotheses already confirmed in the
experiment. Berger et al.⁹ already argued that mobile information systems provide additional value to tourists, however, he failed to provide empirical evidence.

Figure 6: Example JSON from Infonova POI service
4. Experiment in Schladming

This section provides information on the progress of the driving experiment and any difficulties we encountered. The experiment run successfully from 8th July until 13th July during the Mid Europe 2013. The Mid Europe is one of the most popular international wind music festivals with about 2500 musicians from all over the world who joined the festival this year. Due to technical delays we were not able to run the experiment on schedule at the Ski World Championships 2013 in Schladming, therefore we decided to run the experiment at the Mid Europe 2013 because it was the only event in Schladming available in summer time, with enough potential participants for the experiment.

4.1. Mid - Europe

According to the implementation plan presented in D4.1.2 a short explanation of the progress made is provided here:

- The Mid Europe Schladming app was finished in time before the start of Mid Europe 2013 in Schladming. We were able to fulfil all requirements and moreover we had some extra time to integrate a helpful benefit - the Mid Europe program, to make the app more attractive for Mid Europe participants and musicians. The users can visualise the available POIs in different kind of ways like in list views that can be sorted and grouped by categories and sub-categories, on a map view that can be filtered by categories and sub-categories as well and in an Augmented Reality viewer overlaying the POIs on the camera view. For demonstration purposes a fake GPS setting can be activated in the dashboard’s menu.

- We decided to integrate Facebook into the Mid Europe Schladming app because of two reasons. Firstly, Facebook is the leading social media platform providing information like events and business pages and moreover it connects this information with user behaviour (e.g. likes and check-ins). Secondly, the Facebook API is not as restrictive as the APIs of its competitors like Google+, foursquare and so on. During our initial tests with the Facebook API we discovered that depending on the token requested by the web or mobile API, different results were returned. In our first tests we queried friend likes and friend check-ins using the web token which is similar to running Facebook in a web browser. Using this web token, the exact numbers of friend likes and check-ins that Facebook shows in the web browser was returned. Assuming the same result for the mobile token we integrated the Facebook SDK into the Mid Europe Schladming app and were surprised to learn that the result was different to that of the web token. The query with the web token returned 7 friend likes and 15 friend check-ins, while the query with the mobile token returned only 4 friend likes and 10 friend check-ins. First we assumed that there was something wrong with the Facebook query, however after searching for the problem on different developer portals we discovered that other developers have reported about the same strange behaviour using mobile tokens and web tokens. Getting no clear answer from the developer portals and from Facebook itself we assumed that Facebook handles mobile and web queries in a different way, maybe there
is some privacy issue involved. Thus the counts in the app are what Facebook returns by
the mobile query and minor deviations are to be expected.

• To associate Facebook pages to the POIs stored in the Infonova database it was first
necessary to find all available Facebook pages in a radius of 50 kilometres around
Schladming. For this reason a tool was developed to retrieve all available Facebook pages
in this radius. Unfortunately it was not possible to automatically assign the Facebook
pages to their POIs, so they were assigned manually using the web front end of the POI
management system.

• Due to technical problems we were not able to use the ECC Android client for the
experiment. During some tests we discovered that the client stops pushing metrics to the
ECC after a short time, only a restart of the experiment instance via the ECC dashboard
could solve this problem temporally. Together with IT Innovation we tried to fix this
bug, however it was not possible to solve it in time for the experiment run. This issue
was attended to and is resolved in the new version of the ECC. So it was necessary to
deactivate the ECC Android client and reactivate the JRAnalytics, a lightweight reporting
tool developed by JOANNEUM RESEARCH.

• The integration of the Babylon emotional wheel worked quite well, just a few
modifications were necessary.

• To make the app as robust as possible we did unit tests as well as user tests to get
feedback about bug issues and the usability.

• Finally the Mid Europe app was submitted to the Google Play Store a couple of days
before the Mid Europe started.

4.2. Experiment Execution

The experiment ran from 8th to 13th July in Schladming during the Mid Europe 2013, an
international wind music festival. To inform people about the experiments taking place at the
Mid Europe a booth in the Congress – a large event hall in Schladming – was set up. “Schladming
2030” recommended to deploy the EXPERIMEDIA stand in the Congress as different concerts
were performed each day which attracted musicians and participants as well as the general public
and tourists.

On 10th July a special event, the “Lange Nacht” (Long Night), was celebrated. The event started
at about 5 pm in the afternoon and lasted until midnight. During the “Lange Nacht” various
open-air concerts on different stages were performed and many stores were kept open for
shopping. During this event we tried to motivate people via flyers to download the Pinpoint
Schladming app to participate at the experiment. Over 150 flyers were spread and we talked to
many people to inform them about the app and the experiments. Unfortunately we were not able
to attract as many people as we hoped to download the “Mid Europe Schladming” app. Often
we people answered that they don’t need an app because they are local people.

Due to massive problems with the ECC Android client integrated into the Pinpoint Schladming
app we decided to reactivate the JRS Analytics logging to monitor the activity of the participants.
The new app version using the JRS Analytics was deployed at the Google Play store in the
evening of 9th July, just in time for the start of the festival.
5. Results and Impact

During the EXPERIMEDIA’s driving experiment in Schladming large amounts of app usage data were collected. Usage data were logged via Google plays and JRS app data logger. Because of some technical issues no data were logged via ECC.

The planned execution of the driving experiment was changed from February 2013 (Ski World Championship) to July 2013 (Mid Europe). Unfortunately much less visitors were there during this event.

5.1. Total installs

Total installs is how many times the app has been downloaded. Until the End of Mid Europe in total 39 times the Application was downloaded on a mobile devices. During the experiment 16 users were persuaded to install the Application.

![Total installs](image)

Although around 2,500 participants were present at Mid Europe in Schladming only a small number of users installed the Schladming application.

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5.2. **Active Devices**

Active installs are how many instances of your app are on devices -- i.e. not uninstalled. If a user uninstalls the App, then re-installs it, the total download count goes up by two and active install counts by one. Just about one in two were active users.\(^5\) In total up to 23 active users were registered.

![Graph: Active devices installs](image)

**Figure 7: Active devices installs**

During the experiment the following number of devices were installed, uninstalled or upgraded:

<table>
<thead>
<tr>
<th>Date</th>
<th>installed</th>
<th>uninstalled</th>
<th>upgraded</th>
<th>Sum installed devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>08(^{th}) July</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td>09(^{th}) July</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>10(^{th}) July</td>
<td>0</td>
<td>1</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>11(^{th}) July</td>
<td>4</td>
<td>0</td>
<td>6</td>
<td>24</td>
</tr>
<tr>
<td>12(^{th}) July</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>21</td>
</tr>
<tr>
<td>13(^{th}) July</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td><strong>11</strong></td>
<td><strong>9</strong></td>
<td><strong>22</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Table 1: Active devices installs**

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5.3. Active Devices

Because of some technical issues, explained in section 4.1, no app-usage logs are available before 10th July. To solve the problems the app version 9 was released during the driving experiment phase on 10th July. The following 18 types were logged by the application:

1) application_status
   • showing the status of the application
     o ‘foreground’: App is active
     o ‘background’: App is inactive

2) babylon_color_type
   • selecting the babylon color type

3) battery_level
   • showing the battery status

4) battery_status
   • showing the battery status

5) carrier_name
   • carrier name of the SIM card

6) gsm_strength
   • Showing the GSM radio strength

7) localization_type
   • showing if GPS is activated or deactivated
     o ‘Fake GPS’: GPS was disabled and the fake location (47.394167, 13.689167) was activated
     o ‘GPS’: Localization via GPS

8) manufacturer_name
   • manufacturer name

9) os_version
   • Android version

10) phone_model_name
    • model name of the device

11) Selected_Facebook_ID
    • if POI is associated with a Facebook Page ID, the Page ID is logged

12) Selected_List_View_Sort_Criteria
    • sorting is available in view type List View only
      o ‘Alphabetically’: sorting the list by alphabet
      o ‘Facebook’: sorting the list by Facebook counts (descending)
      o ‘Distance’: sorting the list by distance (descending)

13) selected_POI
    • User selected a specific POI

14) selected_root_categories
    • User has selected a root-category.

15) selected_sub_root_category
    • User has selected a root- and further a sub-category.
16) **view_type**
- ‘Dashboard’: main screen
- ‘Facebook Login’: Facebook login started on the main screen
- ‘Detail View’: user has chosen a specific POI to show information in detail view
- ‘Category List View’: list view organized by root-categories and sub-categories
- ‘Mid Europe Program’: shows the Mid Europe program
- ‘ARBrowser View’: POIs visualized in AR view
- ‘Babylon’: Babylon Feedback view
- ‘POI Share’: user has shared POI over mail/Facebook/Google+ etc.
- ‘POIs updated successful’: POIs were updated successfully
- ‘Map View’: POIs shown on the map view

17) **visible_POI_count**
- counting the visible POIs
  - ‘count of visible POIs’ (~1036 if no filtering or category-grouping is applied e.g.: im view_type “List_View”; 1 if view_type is “Detail_View”)

18) **wifi_strength**
- showing the WIFI strength

During the driving experiment 2143 log items were gathered from 12 devices. These devices actively used the Schladming application during Mid Europe. As mentioned in Table 2 three devices used the application considerably (>=500 log items). One of those was the device used for demonstrating the app to interested users, who were not able to install the app (no Android device, no interest to download any apps, ...). On the other side two devices didn’t use the app in any kind of navigation (00000000-53ed-b66d-…; 00000000-53ed-b66d-…).
The most log entries were for gsm_strength with 1160 data sets (~54%) followed by view_type (248), application_status (151), wifi_strength (105), visible_POI_count (97), localization_type (69), battery_status (64), Selected_List_View_Sort_Criteria (59), selected_root_categories (36), phone_model_name (27), battery_level (26); carrier_name (26), manufacturer_name (26), os_version (26), selected_sub_root_category (11), selected_POI (8), babylon_color_type (2) and Selected_Facebook_ID (2).

![Log entries](image)

**Figure 8: allocated log entries**

The number of gsm_strength log entries was suspiciously high. Around fifty per cent of all entries are assigned to this log entry type. Probably the signal variance of this carrier in Schladming is higher than by A1. It resulted in the high number of gsm_strength log entries for this carrier.
While all twelve active users used a mobile Internet connection, nine of them also used WIFI for Internet connection. Because no GPS coordinates were logged, the WIFI hotspots can’t be evaluated.

<table>
<thead>
<tr>
<th>UserHashKey</th>
<th>GSM Carrier</th>
<th>GSM Entries</th>
<th>Min. level</th>
<th>Max. level</th>
<th>Average</th>
<th>WIFI Entries</th>
<th>Min. level [dB]</th>
<th>Max. level [dB]</th>
<th>Average [dB]</th>
</tr>
</thead>
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<tr>
<td>00000000-12e9-7ad1-db55-412f0e4788ae</td>
<td>A1</td>
<td>217</td>
<td>6</td>
<td>26</td>
<td>16,1</td>
<td>18</td>
<td>-31</td>
<td>-60</td>
<td>-42,8</td>
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<td>405</td>
<td>15</td>
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<td>-</td>
<td>-</td>
</tr>
<tr>
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<td>T-Mobile</td>
<td>19</td>
<td>5</td>
<td>12</td>
<td>8,7</td>
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<td>-51</td>
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<td>A1</td>
<td>1</td>
<td>12</td>
<td>-</td>
<td>12</td>
<td>7</td>
<td>-29</td>
<td>-38</td>
<td>-34,1</td>
</tr>
<tr>
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<td>A1</td>
<td>2</td>
<td>13</td>
<td>14</td>
<td>13,5</td>
<td>19</td>
<td>-43</td>
<td>-49</td>
<td>-45,9</td>
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<tr>
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<td>1</td>
<td>7</td>
<td>-</td>
<td>7</td>
<td>0</td>
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<td>-</td>
<td>-</td>
</tr>
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<td>7</td>
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<td>0</td>
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<td>3</td>
<td>8</td>
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<td>40</td>
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<td>11,6</td>
<td>2</td>
<td>-51</td>
<td>-53</td>
<td>-52</td>
</tr>
</tbody>
</table>

Table 3: GSM and WIFI connection quality

GSM Carriers were A1, “3” and T-Mobile. Two devices didn’t log the used GSM Carrier. The GSM signal_strength was logged between 1 (lowest possible level) and 30 (the highest possible value is 32). “3” were GSM carrier of the bottom quality as well as of the best quality. Probably the signal variance of this carrier is higher than by A1.
Two devices (“…873” and “…014”) have caused significantly more GSM strength log entries. Both devices used GSM carrier “3”. Because of the small number of active users during EXPERIMEDIA’s driving experiment in Schladming no Quality of Service interpretation of the high number of gsm_strength logs is possible.

A conspicuous point is that both devices with the most gsm_strength log entries have significantly more signal level changes. Because of the permanent signal level changes the battery_status (battery_level) decreasing 1% per every two minutes while using the app in the foreground.
5.4. Schladming App usage

The starting point of the driving experiment app is the dashboard. The dashboard consists of six buttons, “Facebook login/logout”, and “List, Map”, “Mid Europe Program”, “Augmented Reality” and “Feedback”.

5.4.1. Selected View types

A screenshot of dashboard is shown in Figure 11. The dashboard, which is start and home screen was of course the most logged view type with 137 log entries.

Figure 11: Schladming App – Selected view types

Furthermore the users had the possibility to update the POI data manually by clicking on the top right corner button , which gives access to the update as well as the Fake GPS functionality.
5.4.2. List view
The list view allows the user to list all available POIs (at Mid Europe they numbered 1036). The POIs can be sorted via three categories: Alphabetically, Facebook and Distance.

![Figure 12: Selected List View](image)

Via list view sort criteria three sorting criteria’s were possible ('Selected_List_View_Sort_Criteria'):

- ‘Alphabetically’: sorting the list by alphabet (standard option); 38 (44) log entries (6 entries are redundant)
- ‘Facebook’: sorting the list by Facebook counts (descending); 6 log entries
- ‘Distance’: sorting the list by distance

While fifty percent of the active users changed the default sorting criteria also to ‘Distance’ only two users sorted via ‘Facebook’.

<table>
<thead>
<tr>
<th>Date</th>
<th>00000000-12e9-7d81-db55-412f0e4788ae</th>
</tr>
</thead>
<tbody>
<tr>
<td>July</td>
<td>[Detail View @ Sporthotel Royer]</td>
</tr>
<tr>
<td>10th</td>
<td>[Detail View @ Star Movie]</td>
</tr>
</tbody>
</table>

Table 4. List view log (user ...8ae)

<table>
<thead>
<tr>
<th>Date</th>
<th>ffffffff-ac01-cb6c-80e9-67287fe77014</th>
</tr>
</thead>
<tbody>
<tr>
<td>July</td>
<td>[Detail View @ Marias Mexican]</td>
</tr>
<tr>
<td>11th</td>
<td></td>
</tr>
</tbody>
</table>

Table 5. List view log (user ...014)

Two users used the detailed view functionality by utilize the list view.
5.4.3. Map view

Via Map view the users have the possibility to view all POIs on the Map. Furthermore filter categories (root and sub_root) cater for requested information.

By using filter categories (‘selected_root_categories’ and ‘selected_sub_root_category’) the shown POIs can be restricted. Root categories were chosen 22 times by three users. Two of these users also selected sub root categories (4 log entries).

Table 6, Table 7 and Table 8 show the gathered Map filter logs during Mid Europe. Three users applied the map view. The mentioned “Detail Views” were chosen by the users.

<table>
<thead>
<tr>
<th>Date</th>
<th>Root Category</th>
<th>Sub Root Category</th>
</tr>
</thead>
</table>
| July 10th | Shopping  
[Detail View @ Blue Tomato Snow & Surf]  
Gastronomy, Attraction  
Gastronomy, Attraction, Others  
Gastronomy, Attraction, Others, Bank  
Gastronomy, Attraction, Others, Bank, Medicine  
Gastronomy, Attraction, Others, Bank, Medicine, Accommodation  
[Detail View @ Advent erleben in Aigen]  
[Detail View @ alp.reif Bike Center]  
[Detail View @ Marias Mexican]  
[Detail View @ Gasthof Brunner] | Clothes |
| July 11th | Shopping  
[Detail View @ Leben mit Tradition - Trachtenmoden Ringhofer] | Clothes |
| | | |

Table 6. Map view log (user ...8ae)
Table 7. Map view log (user 014)

<table>
<thead>
<tr>
<th>Date</th>
<th>Root</th>
<th>Sub Root</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 11th</td>
<td>Mid Europe, Gastro</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Attraktion</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Unterkunft</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Mid Europe</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Mid Europe, Attraktion</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Mid Europe, Attraktion, Sonstiges</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Gastro</td>
<td>Restaurant</td>
</tr>
<tr>
<td></td>
<td>Mid Europe</td>
<td>Mid Europe</td>
</tr>
<tr>
<td></td>
<td>Einkaufen</td>
<td>Biofachgeschäft</td>
</tr>
<tr>
<td></td>
<td>Bank</td>
<td>Bankomat</td>
</tr>
<tr>
<td></td>
<td>Mid Europe, Sonstiges</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Mid Europe, Gastro</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Mid Europe</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 8. Map view log (user 324)

<table>
<thead>
<tr>
<th>Date</th>
<th>Root</th>
<th>Sub Root</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 13th</td>
<td>Gastro</td>
<td>Restaurant</td>
</tr>
<tr>
<td></td>
<td>Gastro</td>
<td>Pizzeria</td>
</tr>
<tr>
<td></td>
<td>Gastro</td>
<td>Café</td>
</tr>
<tr>
<td></td>
<td>Gastro</td>
<td>Restaurant</td>
</tr>
<tr>
<td></td>
<td>Medizin</td>
<td>Apotheke</td>
</tr>
<tr>
<td></td>
<td>Einkaufen, Gastro</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Einkaufen, Gastro, Attraktion</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Einkaufen, Gastro, Attraktion, Sonstiges</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Einkaufen, Gastro, Attraktion, Sonstiges, Bank</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Einkaufen, Gastro, Attraktion, Sonstiges, Bank, Medizin</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Einkaufen, Gastro, Attraktion, Sonstiges, Bank, Medizin, Infrastruktur</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Einkaufen, Gastro, Attraktion, Sonstiges, Bank, Medizin, Infrastruktur, WM Spezial</td>
<td></td>
</tr>
</tbody>
</table>

Only one device used the detailed view functionality of the map view.
5.5. **Babylon - Feedback**

The app Feedback functionality was accessed 9 times by three users.

![Figure 14: Babylon Feedback](image)

This QoE measurement tool is designed to capture user feedback.

Unfortunately no feedback was captured during Mid Europe although the application was called several times by user.

5.6. **Mid Europe**

The “Mid Europe Program” button opens the Mid Europe program, which is a copy from the Mid Europe homepage and further parsed so only the Mid Europe time table is shown in the html-view (Figure 15).

![Figure 15: Mid Europe website screenshot](image)

This view was used several times by six users.
6. Conclusion

The EXPERIMEDIA’s driving experiment in Schladming was executed elaborately by the experimenter during Mid Europe from July 8th to July 13th. Nevertheless only a few users installed the application. The Ski World Championship Schladming 2013 would have been a much better test field for the Pinpoint Schladming app because much more people from all around the world were visiting the venue. In contrast, Mid Europe 2013, as a music festival for wind bands, was visited rather by local people who are well informed about their region or city. Nevertheless only a few local people or visitors used the application.

Recommendations for further experimentations:

- Include more the local venture to extend the advertising effectiveness of the application
- Focus on more touristic events
- Focus on the benefits of the application to get more active users

Three out of 12 (25%) active users were heavy application users during the experiment. To find POIs the map view option was used more often than the list view option. To filter specific categories was a very useful and often used functionality because it enabled a user to find the relevant POIs within a few “clicks”.

Unfortunately no “direct” QoS feedback could be gathered by the experiment. On one side ‘Babylon’ wasn’t utilised by any user to give feedback about the usage experience. On the other side no QoS logs via ECC could be collected. To evaluate and interpret e.g. GSM and/or WIFI signal strength the corresponding GPS positions are missing because of the quick change from ECC to JRAnalytics, which was never meant to gather this kind of data.

Recommendations to prevent these issues in further experiments:

- Logging of the GPS position is an essential metric for further analysis
- Test baseline components as early as possible to give baseline component owners the chance for bug fixes