

Reality Sensing, Mining and Augmentation   
for Mobile Citizen–Government Dialogue

FP7-288815

**Test scenario’s &** **results**

**Mobile Sensor Collection Component (C14) and  
Sensor Data Storage Service (C8)**

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**1. Template instructions**

This template is used for documenting test scenarios and test results. ‘D4.4 – Technical verification and testing strategies’ describes per phase which tests need to be performed and which work package/partner is responsible for setting up and performing these tests.

Along with the software development the test scenarios are constructed based on the requirement as described in ‘D4.1 – System Architecture and Design’ and ‘D5.1 – Detailed Use Case Descriptions’.

These test scenarios are described and agreed upon before starting the actual tests. This means that all blue sections need to be pre-filled before starting the actual test. The red sections need to be completed during/after the test.

**2. Test configuration**

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| Software identification | |
| Name | Mobile Sensor Collection Component (C14) |
| Versions | Release from 1. June 2014 |

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| --- | --- |
| Test period | |
| Test phase | Service Level Testing |
| Test Types | Functional |
| Test Status | Test plan concept |
| Planned test start date | 01.06.2014 |
| Actual test start date | 23.06.2014 |
| Test completion date | 01.07.2014 |
| Partners(s) | UKOB |
| Tester(s) | Lukas Haertel, Heinrich Hartmann |

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| Test environment | |
| Test environment | Development |
| Test devices | Mobile Devices:   * LG G2 * Google Nexus 4 |
| Test pc’s | Lenovo Think Pad T410s (x64. Intel Core i5 CPU@2.4Ghz, 4Gb RAM, 100 GB HDD)   * Ubuntu 12.04 Desktop * Chromium Browser Version 34.0.1847.116 |

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| --- | --- |
| References | |
| Reference | Deliverable D1.1 contains technical documentation of the Sensor Mining Component. |

# 3. Test scenarios

## Approach

The Sensor Collection component is responsible for the collection of sensor data during the trial. The component is tested along with the Sensor Collection Service, which is responsible for storing the data on a server and make them available for other back-end services. We test this functionality on a mobile device using a testing GUI and inspect the uploaded data using a data inspection tool that is attached to the Sensor Storage Service.

## Scenarios

The table below should describe the test scenarios executed by the testers to make sure the software meet its requirements and is ready for deployment.

General guidelines for describing scenario’s:

* Tests should be described is such a way that somebody with only minor project knowledge should be able to perform them, so be specific.
* Concentrate on real life scenarios. What are the users, and what should they be able to with the application.
* Try to make separate test scenarios for individual function points.
* While writing test cases keep in mind all your test cases should be simple and easy to understand. Don’t write explanations like essays. Be to the point.
* Keep in mind input data for test cases is very important part in testing, your test cases should validate range of input data. Also check how system behaves in the normal & abnormal conditions, e.g. purposely provide invalid input.
* Make sure test scenarios are added that cover all test types (Functional / User Acceptance / Security / Interoperability), however it is not required to make separate sections for each test type.
* Make sure the test scenarios covers all the required functionality. Assume that all functionality that is not covered by the test scenarios does not work.
* Avoid repetition of test cases

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| --- | --- | --- | --- | --- | --- |
| No. | Requirements | Expected behaviour | Results round 1 | Results round 2 | Results round 3 |
| 1 | R-SC.8. The application must be sucessfully set up on a device that runs Android 2.2 or higher. | Download and Installation of a packaged version of the application works. | OK | OK |  |
| 3 | The collector must prompt the user to activate GPS if it is not enabled on the device. | A popup is shown when start recording is clicked and no GPS is activated. | OK | .OK |  |
| 4 | Clicking „Start Recording“ must activate the recording. Clicking „Stop Recording“ must deactivate the recording. | The state changes accordingly in the status bar. Also the queue size sown in the status bar must change permanently and the sample count must increase. | OK | OK |  |
| 5 | Clicking „Transfere Samples“ must transfere any recorded samples. | The recorded samples should be shown in the inspection front end. | OK | OK |  |
| 6 | Clicking „Start Streaming“ must activate the streaming. Clicking „Stop Streaming“ must deactivate the streaming. | The state of streaming must be indicated by a green bar in the respective button. | OK | OK |  |
| 7 | When clicking „Delete All Samples“, all samples must be deleted. | The sample count in the status window must show 0. | OK | OK |  |
| 8 | The user must be able to set a user ID | When clicking set next to the ID text-box, the user Id in the information section below must change to the text in the ID text-box. | OK | OK |  |
| 9 | R-SC.1 The collector must record a GPS sample every five seconds. | Record and upload sensor samples using the mobile application. The uploaded sensor samples are shown in the inspection front end.  In the case of time series data like accelerometer samples, zoom into the plot until individual samples are visible and verify that the samples are recorded in the correct frequencies.  For discrete data like wifi accesspoints, lookup the corresponding entries in the table view. | OK | OK |  |
| 10 | R-SC.2 The accelerometer sensor of the device must be recorded at 40 Hz. | NOK | OK |  |
| 11 | R-SC.2 The linear acceleration sensor of the device must be recorded at 40 Hz. | NOK | OK |  |
| 12 | R-SC.2 The gravity sensor of the device must be recorded at 40 Hz. | NOK | OK |  |
| 13 | R-SC.5 Every thirty seconds, the currently available WiFi access points must be logged with their respective signal strengths. | NOK | OK |  |
| 14 | R-SC.5 Every twenty seconds the network cells visible to the phone must be logged. | OK | OK |  |
| 15 | If the phone supports the „Google Play Services“, activities recognized by these services must be recorded. | OK | OK |  |
| 16 | R-SC.8 A sent annotation must be recorded. | OK | OK |  |
| 17 | On clicking start-recording, an annotation with the text „Start Recording“ must be logged, on licking stop-recording an annotation with the text „Stop recording“ must be logged. | Open the raw ssf file, which has been transferred to the server, and check if correct annotations are set in the file. | OK | OK |  |
| 18 | Service Center Integration:  Log Files | The component shall sent health-check signals in regular intevals to the Live+Gov Service Center.  The Service Center Web Application shall show “Staus: OK” for the HAR service. | OK | OK |  |
| 19 | Service Center Integration:  Health Checks | The component shall upload log files in regular intervals to the Live+Gov service center.  The Service Center Web Application shall show the received log files. | OK | OK |  |

**4. Issues raised**

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| --- | --- |
| Issue No. | 1 |
| Scenario ID | 10, 11, 12 |
| Severity | High |
| Type | Bug |
| Summary | Frequency |
| Description | When recording the data on the LG G2 phone, the targeted sensor rate of 40Hz is not matched and the phone records the data at 120Hz. |
| Workaround | Downsampling |
| Recommendations |  |

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| --- | --- |
| Issue No. | 2 |
| Scenario ID | 13 |
| Severity | High |
| Type | Bug |
| Summary | Wifi not recorded |
| Description | The WiFi access points are not logged on the LG G2 phone. |
| Workaround | - |
| Recommendations | - |

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| --- | --- |
| Issue No. | [The unique issue number] |
| Severity | [Low / Medium / High] |
| Type | [Bug / Change request] |
| Summary | [One line summary of the issue] |
| Description | [Description of the issue, please give enough information to reproduce the issue] |
| Workaround | [If there is a workaround that mitigates the issue then give it here] |
| Recommendations | [Recommendation regarding this issue] |

|  |  |
| --- | --- |
| Issue No. | [The unique issue number] |
| Severity | [Low / Medium / High] |
| Type | [Bug / Change request] |
| Summary | [One line summary of the issue] |
| Description | [Description of the issue, please give enough information to reproduce the issue] |
| Workaround | [If there is a workaround that mitigates the issue then give it here] |
| Recommendations | [Recommendation regarding this issue] |

Etc.

**5. Issue screenshots**

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| Issue No. | [The unique issue number] |
| [Screenshot relevant for issue] | |

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| --- | --- |
| Issue No. | [The unique issue number] |
| [Screenshot relevant for issue] | |

|  |  |
| --- | --- |
| Issue No. | [The unique issue number] |
| [Screenshot relevant for issue] | |

Etc.