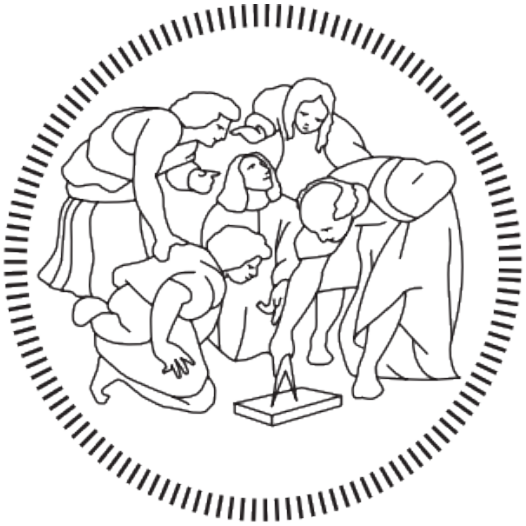

POLITECNICO
MILANO 1863

Software Engineering 2

Acceptance Test Deliverable document

SafeStreets

Version 1.0 - 21/01/2020

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Contents

Introduction

1.1 Project Identification

SafeStreets Implementation

Authors

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Clarence Antichi

URL: https://github.com/ClarenceAntichi/AlterioAntichi

Reference Documents

- Requirement Analysis and Verification Document: https://github.com/ClarenceAntichi/AlterioAntichi/blob/master/DeliveryFolder/RASD1.pdf
- Design Document: https://github.com/ClarenceAntichi/AlterioAntichi/blob/master/DeliveryFolder/DD1.pdf
- Implementation and Test deliverable document: https://github.com/ClarenceAntichi/AlterioAntichi/blob/master/DeliveryFolder/ITD.pdf
- Specification document: "SafeStreets Mandatory Project Assignment"
- Specification document: "SafeStreets Implementation Assignment"

1.2 Purpose and Scope

The purpose of this document is to provide valuable information about how the acceptance testing has been performed on an external project, using black box testing techniques. The test cases are mainly built based on information provided by the use cases declared in the RASD, simulating the interactions that common users should commonly perform with the system.

Additional notes are also provided about the quality of the documentation read to install the software, test the functionalities provided by the application and tips on the user experience in general.

1.3 Document Structure

The Acceptance Test Deliverable document is composed by five chapters:

Introduction: first chapter, contains a brief description of the document and its scope and general information about the inspected project.

Installation setup: second chapter, provides information about the easiness of installation and eventual issues had during the installation steps.

Acceptance test cases: third chapter, describes the tests executed on the prototype and their outcome.

Other notes: fourth chapter, contains additional notes regarding the user experience in general and the documentation provided.

Effort spent: fifth chapter of the document, shows how much effort each member of the group has spent on the various chapters of the document and the implemented prototype.

Installation setup

The installation of the software consists in the single step of installing the apk on an android device, which it's a really simple step. No other instructions are provided, as the system is already online and therefore there is no need of running the server locally. Anyway a short guide for local installation could have been nice, also because there is no way to install the client on iOS without building directly the client with XCode, without instructions we couldn't test the application on iPhone unfortunately.

Acceptance test cases

This section is mainly focused on testing the fulfillment of functionalities involving the use cases described in the RASD(section 3.2.2). Testing has been performed on a physical smartphone device running Android 10 (Q) and an Android emulator running Android 8.1 (Oreo).

Use case: Account Registration This test deals with the event flow of the registration of an account. From the homepage, we have clicked the registration button and filled all the fields in the registration page. We have found in the registration form a button that opens a map to retrieve the region, which was not described in the event flow of the use case, and found difficulties to understand how to actually retrieve the region from the map. Only by contacting the authors we were able to understand how to retrieve the region, by long-pressing on a location of the map and returning back to previous screen using "back" button. There's no description about the implementation of how an authority is recognized as such in the ITD document, so we have no means to test it. We tried to register multiple accounts with the same username but the test failed the exception described in the RASD. It seems more like it is the email that must be unique.

Use case: Log In This test concerns the log in screen. We have tested some random non-registered data to see if we could access the application directly, and it has failed the access as it is supposed to work. The case of an existing email but mismatched password also have worked as described, it asked to refill the log in form. One small issue is that on screen UI its stated that the username must be inserted in the first field, but the email is required instead.

Use case: Violation Report This test deals with the functionalities of the violation report screen. We have tried to take a photo without the license plate and the

app correctly informed the us that the license plate was not recognized and does not allow us to send the report. While with a valid photo, we were able to send the report with the selected violation report and additional information in the "Further details" field. There is an issue with the "Further details" field that is not correctly saved or received, because it's not displayed in the violation details. There is also one visualization issue after the report is sent, after returning to report tab, the report list is not updated with the new one, also no message about of the success of the operation is shown on screen. To actually check that the report is received, we found that we could refresh by swiping down, but an automatic refresh could be more elegant.

Use case: Information Request This test performs some checks on the information request screen. We have tried different combinations of values for the fields, and the requested data was correctly retrieved. Even though the application allows a combination of a "from" field date that comes later in time than the "to" field date, the data queried has no problem and it's correct. When no reports are found, a black screen with map visualization on Rome is displayed, the interface could be improved in this case to notify the absence od violations.

Use case: Authority-Request This test concerns the additional functionalities provided to an authority user. We have registered an authority account and successfully logged into the application. We have tried the additional functionality that allows an authority to check reports in their area of jurisdiction and the correct data was retrieved (all reports in its region). For explore tab, license plate must be uppercase, otherwise it won't match the violations correctly. Also, it seems that authority see the same information of a normal user, we don't know for certain if it's by design or something is missing.

Other notes

Regarding the client versions, in RASD section 3.5.6 it's stated that the application must work on most of the available browsers, but neither in installation steps neither in DD there are information about a web application, maybe it was designed for municipalities and therefore is not present as it was not required in base service, maybe it refers only to an hypothetical website, but we have no other clues.

We found some inconsistencies between the mockups and the actual screen of the application, especially in the main menu, that is completely different. Also the interfaces are a bit cryptic to navigate, especially completing the fields where is required to click on the button next to a field to open a map and then long press a location and manually click the back button to return to the previous screen. These steps are really unconventional and no information about what to do is shown on screen, we actually have to mail the authors to understand how to proceed for the map interactions. We are aware that the prototype is probably meant to show the main functionalities of the system, but the user interface should surely be revamped in future development.

It seems that the client works fine on multiple versions of Android, but we have no way to test it on iOS. RASD section 3.5.6 state that must work for the most known smartphone operative systems, so also a way of installing on iOS should have been provided.

We have an hard time in searching important information about the system to actually provide a valid testing. Even if ITD is good structured and describe well the implementation choices, RASD and DD documents are pretty vague in many sections, for example in no section is explained accurately what special permissions has an authority account compared to a normal user account. This is stated vaguely in some uses cases and the introduction by the "Privileged request" definition (RASD

section 1.3.1), but we have no idea of what fields should be accessible only from authority and therefore couldn't test that the requirement is satisfied (actually the requirement of different info on data request isn't even stated in RASD requirements section 3.2.4).

Regarding the authority and normal users, we also don't get what actually changes between the two accounts in the prototype presented. We saw that an authority has a new "Your area" tab, that retrieves automatically reports in their area provided in registration. Anyway a normal user can easily emulate the same functionality by using the same region of that authority in the "explore" tab, the result will be exactly the same. The only extra functionality for authorities seems the research for license plate in "explore" tab, but normal user can also see the license plate in reports so they could "manually" search them for small samples.

Effort Spent

Andrea Falanti:

Document section	Hours
Introduction	0.75
Installation setup	0.25
Acceptance test cases	0.75
Other notes	1.25
Total	3

Andrea Huang:

Document section	Hours
Introduction	0
Installation setup	0.25
Acceptance test cases	1.25
Other notes	0.25
Total	1.75