

**University of Gothenburg  
Department of Computer Science and Engineering  
Software Engineering and Management, Bachelor's Programme  
Gothenburg, Sweden, May 2015**

**Group 11**

**Stephen Mensah,  
Sepehr Afrouzi Manesh  
Amor Poturovic**

# **“EasyDrive” App Documentation**

## **Abstract**

This report shows how our group developed an android application to be used by truck drivers .This app will be reasonably safe to use while driving on the road as requested of us in our the project assignment as first year student of software engineering and management.

## **Table of Content**

- 1.0 Introduction**
- 2.0 Product Vision**
- 3.0 User Stories**
- 4.0 Development**
  - 4.1- Sprint Meeting**
  - 4.2- Story List**
  - 4.3- Backlog Report**
  - 4.4- Application component**
  - 4.5- Design decisions**
  - 4.6- External dependencies**
- 5.0 - Validation**
- 6.0 Final conclusion**

## **1.0 Introduction**

As part of the learning process of this course, we students were asked to develop an android application with emphasis on integrating Automatic Grade Android(AGA) into the development of our android app.

For the above reason , our group(made up 3 members) came up with an idea to design an application that will provide a safe communication between fleet manager and their truck drivers on the road. Generally the app will involve a fleet manager safely interacting with their truck drivers during their line of duties.

## **2.0 Product Vision**

To develop an android application called “EasyDrive” that will provide a very safe way of communication between fleet managers and truck drivers while driving, with main infancies relying on promoting attentive and safe driving.

## **3.0 User Stories**

❑ As driver ;

1. I want to sign in so I can access my page.
2. While driving , I want to listen to messages from the manager through voice.
3. After the truck is at stop, i want to see the fuel consumption.
4. At speedometer zero( truck at a total stop), I want to send messages.
5. At speedometer zero( truck at a total stop), I want to see driver shedules.

❑ As manager

1. I want to sign in so I can access my page.
2. I want to sign up new truck drivers .
3. I want to send and check messages to and from truck drivers.
4. I want to create account and schedules for drivers.
5. Check the list of all drivers in the database.

## 4.0 Development

We used android studio in developing our application. During implementation we used sprints in a Scrum-inspired fashion. Below is summary of what we accomplish for each sprint as well as reflections on decisions and challenges in the subsequent sprint.

### 4.1 Sprint Meetings

Below was the schedules for the various sprint meeting.

<b>Date &amp; Time</b>	<b>Room(s)</b>	<b>What</b>
23/2 8:15 - 12:00	Mållgan	<b>Sprint 1</b>
9/3 8:15 - 12:00	Alfons	<b>Sprint 2</b>
23/3 8:15 - 12:00	Alfons	<b>Sprint 3</b>
20/4 8:15 - 12:00	Alfons	<b>Sprint 4</b>
4/5 8:15 - 12:00	Alfons	<b>Sprint 5</b>
18/5 8:15 - 12:00	Alfons	<b>Sprint 6</b>

## 4.2 Story List

# Story List

Theme	ID	User Story	Acceptance Criteria	Comments	Sprint	Status	Points
Planing	BAC1	As group we want to select team members so we can start to work	a) Should be one scrum master b) All team members will be developers	Stephen will be the scrum master Sepehr and Amor will be team members All team members will be developers	Sprint 1	Accepted	2.0
Planing	BAC2	As group we want to discuss the product vision so we can know what to work on	a) create user stories b) start with the backlog		Sprint 1	Accepted	4.0
Programming	PRO1	As developers we want to design the login interface so we can see the login page	a) Should be one username field b) Should be one password field c) Should be a background picture		Sprint 1	Accepted	6.0
Programming	PRO2	As developers we want to create a database so we can access data from the database	a) Login should use the database to check for users		Sprint 1	Accepted	10.0
Programming	PRO3	As developers we want to program the login button so we can access the main page	a) The login button need to check the users from the database b) If manager log in he/she should be taken to the manager menu c) If a driver log in he/she should be take to the driver menu		Sprint 1	Accepted	8.0
Manager	ADM1	As developers we want to create the manager layout so we can see the home page of manager	a) If a manager log in he/she should be taken to the home screen for managers		Sprint 2	Accepted	5.0
Manager	ADM7	As developers we want to create an activity for manager so we can add new drivers from this activity	a) Username, password, email and full name should be there b) When manager presses add driver button, the data have to be stored in database		Sprint 2	Accepted	4.0
Manager	ADM5	As developers we want to create the menu for managers so we can get to different pages when using the menu	a) Atleast one another page should be accessible from the menu		Sprint 2	Accepted	3.0
Manager	ADM8	As developers we want to create an activity for manager so we can create schedules for driver from this activity	a) Driver name, date and destination should be there b) When manager presses create schedule button, the data should be stored in the database		Sprint 2	Accepted	5.0
Manager	ADM9	As developers we want to create an activity for manager so we can see all the users in the database	a) All users should be printed from the database		Sprint 2	Accepted	5.0
Manager	ADM11	As developers we want to make it available for manager to send message so we can send messages to the drivers	a) Should be one Driver field where the manager enters who the message is to b) Should be a text field where the manager write the message c) When the manager presses the send message button it should be saved in the database		Sprint 3	Accepted	6.0
Manager	ADM13	As developers we want to make it available for the manager to see all schedules from the menu so we can see which driver is going to do what	a) Should be a button on the homepage, when the manager presses this button, he/she should be taken to a new activity where he can see all schedules.		Sprint 3	Accepted	2.0
Manager	ADM10	As developer we want to create a message option in the menu for manager so we can send and check messages	a) Should be a "Send Message" button b) Should be a "Inbox" button c) When this button are pressed the manager should be taken to different activities		Sprint 3	Accepted	3.0
Manager	ADM12	As developers we want to make it available for the manager to check his message so we can check the messages from the drivers	a) The messages should come from the database b) It should be in a listview		Sprint 3	Accepted	4.0
Driver	USR1	As developer we want to create the driver layout so we can see the homepage of the user	a) If a driver log in he/she should be taken to the home screen for users		Sprint 2	Accepted	4.0
Driver	USR2	As developers we want to print current status from AGA on the home screen for drivers so we can see current status on AGA	a) Atleast two things from AGA should be printed on the home screen		Sprint 4	Accepted	8.0
Driver	USR3	As developers we want to make it available for drivers to send message so we can send message to manager	a) Atleast one another page should be accessible from the menu		Sprint 2	Accepted	4.0
Driver	USR4	As developer we want to make it available for drivers to send message so we can send message to the manager	a) Should be a text field where the drivers enter his information b) When the driver presses send the message should be stored in the database		Sprint 4	Accepted	5.0
Driver	USR5	As developer we want to create an activities option in the menu for drivers so we can get to the activities page when this is pressed	a) Should be a "Send Message" button b) Should be a "Check Messages" button c) Should be a "Schedule" button		Sprint 4	Accepted	4.0
Driver	USR6	As developers we want to the text to speech activity so we can get to a different page when AGA is more then 0	a) Messages for the drivers should be printed on top b) When the text to speech button is pressed the app should read the message out loud c) If the next button is pressed the driver should get a different message d) If the back button is pressed the driver should see the previous message		Sprint 5	Accepted	9.0
Driver	USR7	As developers we want to create a function that checks if the speed from AGA is at 0 so we can get to different pages	a) If speed is more then 0, driver shouldnt be able to access the homepage b) The driver should be taken to a new activity thats called Text to speech		Sprint 5	Accepted	2.0
Driver	USR8	As developers we want to make it available for the user to check the schedule so we can see the schedule	a) Schedule should be taken from the database b) All the schedules should be printed in a listview c) Should be a "Date" field so the driver can see when it starts d) Should be a "Destination" field so the driver can see where he/she is heading e) Should be a "Driver" field so the driver can see which schedule is for him/her		Sprint 4	Accepted	5.0
Driver	USR9	As developer we want to make it available for drivers to check message so we can see the messages for drivers	a) All messages should be printed in a list view b) Should be a "to:" field in the listview so the driver can see who the message is to c) Should be a "message:" field in the listview so the driver can see the message d) Messages should be printed from the database		Sprint 4	Accepted	7.0

## 4.3 Backlog Report

# Backlog Report

Theme	ID	User Story	Acceptance Criteria	Comments	Sprint	Status	Points
Planning	BAC1	As group we want to select team members so we can start to work	a) Should be one scrum master b) All team members will be developers	Stephen will be the scrum master Sepehr and Amor will be team members All team members will be developers	Sprint 1	Accepted	2.00
	BAC2	As group we want to discuss the product vision so we can know what to work on	a) create user stories b) start with the backlog		Sprint 1	Accepted	4.0
	Total for theme 'Planning'			6.0 points			
Basic	PRO1	As developers we want to design the login interface so we can see the login page	a) Should be one username field b) Should be one password field c) Should be a background picture		Sprint 1	Accepted	6.0
	PRO2	As developers we want to create a database so we can access data from the database	a) Login should use the database to check for users		Sprint 1	Accepted	10.0
	PRO3	As developers we want to program the login button so we can access the main page	a) The login button need to check the users from the database b) If manager log in he/she should be taken to the manager menu c) If a driver log in he/she should be take to the driver menu		Sprint 1	Accepted	8.0
	Total for theme 'Basic'			24.0 points			
Manager	ADM1	As developers we want to create the manager layout so we can see the home page of manager	a) If a manager log in he/she should be taken to the home screen for managers		Sprint 2	Accepted	5.0
	ADM2	As developers we want to create an activity for manager so we can add new drivers from this activity	a) Username, password, email and full name should be there b) When manager presses add driver button, the data have to be stored in database		Sprint 2	Accepted	4.0
	ADM5	As developers we want to create the menu for managers so we can get to different pages when using the menu	a) Atleast one another page should be accessible from the menu		Sprint 2	Accepted	3.0
	ADM8	As developers we want to create an activity for manager so we can create schedules for driver from this activity	a) Driver name, date and destination should be there b) When manager presses create schedule button, the data should be stored in the database		Sprint 2	Accepted	5.0
	ADM9	As developers we want to create an activity for manager so we can see all the users in the database	a) All users should be printed from the database		Sprint 2	Accepted	5.0
	ADM11	As developers we want to make it available for manager to send message so we can send messages to the drivers	a) Should be one Driver field where the manager enters who the message is to b) Should be a text field where the manager write the message c) When the manager presses the send message button it should be saved in the database		Sprint 3	Accepted	6.0
	ADM13	As developers we want to make it available for the manager to see all schedules from the menu so we can see which driver is going to do what	a) Should be a button on the homepage, when the manager presses this button, he/she should be taken to a new activity where he can see all schedules.		Sprint 3	Accepted	2.0
	ADM10	As developer we want to create a message option in the menu for manager so we can send and check messages	a) Should be a "Send Message" button b) Should be a "Inbox" button c) When this button are pressed the manager should be taken to different activities		Sprint 3	Accepted	3.0
	ADM12	As developers we want to make it available for the manager to check his message so we can check the messages from the drivers	a) The messages should come from the database b) It should be in a listview		Sprint 3	Accepted	4.0
	Total for theme 'Manager'			37.0 points			
Driver	USR1	As developer we want to create the driver layout so we can see the homepage of the user	a) If a driver log in he/she should be taken to the home screen for users		Sprint 2	Accepted	4.0
	USR2	As developers we want to print current status from AGA on the home screen for drivers so we can see current status on AGA	a) Atleast two things from AGA should be printed on the home screen		Sprint 4	Accepted	8.0
	USR3	As developers we want to make it available for drivers to send message so we can send message to manager	a) Atleast one another page should be accessible from the menu		Sprint 2	Accepted	4.0
	USR4	As developer we want to make it available for drivers to send message so we can send message to the manager	a) Should be a text field where the drivers enter his information b) When the driver presses send the message should be stored in the database		Sprint 4	Accepted	5.0
	USR5	As developer we want to create an activities option in the menu for drivers so we can get to the activities page when this is pressed	a) Should be a "Send Message" button b) Should be a "Check Messages" button c) Should be a "Schedule" button		Sprint 4	Accepted	4.0
	USR6	As developers we want to the text to speech activity so we can get to a different page when AGA is more then 0	a) Messages for the drivers should be printed on top b) When the text to speech button is pressed the app should read the message out loud c) If the next button is pressed the driver should get a different message d) If the back button is pressed the driver should see the previous message		Sprint 5	Accepted	9.0
	USR7	As developers we want to create a function that checks if the speed from AGA is at 0 so we can get to different pages	a) If speed is more then 0, driver shouldnt be able to access the homepage b) The driver should be taken to a new activity thats called Text to speech		Sprint 5	Accepted	2.0
	USR8	As developers we want to make it available for the user to check the schedule so we can see the schedule	a) Schedule should be taken from the database b) All the schedules should be printed in a listview c) Should be a "Date" field so the driver can see when it starts d) Should be a "Destination" field so the driver can see where he/she is heading e) Should be a "Driver" field so the driver can see which schedule is for him/her		Sprint 4	Accepted	5.0
	USR9	As developer we want to make it available for drivers to check message so we can see the messages for drivers	a) All messages should be printed in a list view b) Should be a "to" field in the listview so the driver can see who the message is to c) Should be a "message" field in the listview so the driver can see the message d) Messages should be printed from the database		Sprint 4	Accepted	7.0
	Total for theme 'Driver'			48.0 points			
Total for backlog 'easyDrive backlog'				115.0 points			

## 4.4 Application Components

EasyDrive has the following component;

- ❑ Sign in page for both driver and manager
- ❑ Message page both driver and manager
- ❑ Sign up for new driver
- ❑ Voice play message page for the driver
- ❑ Create schedules page for the manager
- ❑ View schedules page for both driver and manager
- ❑ view fuel remaining, engine speed and fuel rate.

## 4.5 Design Decisions (such as API level, etc.)

Below are the design decisions we chose for our app “EasyDrive”.

```
apply plugin: 'com.android.application'
```

```
android { compileSdkVersion 22
```

```
    buildToolsVersion "21.1.2"
```

```
    defaultConfig {
```

```
        applicationId "com.example.amor.easydrive"
```

```
        minSdkVersion 15
```

```
        targetSdkVersion 21
```

```
        versionCode 1
```

```
        versionName "1.0" }
```

```
    buildTypes {
```

```
        release {
```

```
            minifyEnabled false
```

```
            proguardFiles getDefaultProguardFile('proguard-android.txt'), 'proguard-rules.pro'
```

```
        }
```

```
}  
  
}
```

## 4.6 External dependencies

They are located in the **root** `build.gradle` file .

```
dependencies {  
  
    compile fileTree(dir: 'libs', include: ['*.jar'])  
  
    compile fileTree(dir: 'libs', include: 'Parse-*.jar')  
  
    compile files('libs/Automotive-API-1.0-SNAPSHOT.jar')  
  
    compile files('libs/SDP-1.0-SNAPSHOT.jar')  
  
    compile files('libs/VIL-1.0-SNAPSHOT.jar')  
  
    compile 'com.android.support:appcompat-v7:22.1.1'  
  
    compile 'com.parse.bolts:bolts-android:1.+'  
  
    compile 'com.android.support:support-v4:22.1.1'  
  
    compile 'org.slf4j:slf4j-android:1.7.7'  
  
    compile 'com.google.android.gms:play-services:7.0.0'  
  
}
```

## 5.0 Validation

We did not actually use any structured way of testing our application during the development stages, instead we tested each different feature as we created it by the use of the emulator installed on our computers and sometimes with our android cell phones.

## **6.0 Final conclusion**

This project has been very educative to us and some level of experience have been acquired by each member in our group. Finally, we succeeded with producing a prototype that fulfills the laid down requirements on the use of AGA which was asked for in the project assignment.