ANDROID SETTINGS MANGER

Software Requirements Specification

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# Revision History

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# **1. Introduction**

## 1.1. Purpose

The purpose of this document is to present a detailed description of the **OCCASUS**. It will explain the purpose and features of the application, the interfaces of the application, what the application will do, the constraints under which it must operate. The audience of this document includes: project developers and customers, and users who wish to view the project requirements and specifications.

## 1.2. Scope of Project

This **OCCASUS** will be a personalization tool working on android system. This Application will be designed to help the user to customize the phone settings according to the scheduled tasks/meetings, so that the phone settings change automatically when required, which would otherwise have to be performed manually at various intervals. By maximizing the customizability the user will be able to schedule his phone settings beforehand.

More specifically, this application is designed to allow the user to schedule the profile settings beforehand for a certain period of time, and the settings will reset automatically when time period is over. The user can schedule his phone to silent mode during meetings and at the same time choose certain contacts that can be allowed during the meeting. The Application will notify the user about any upcoming birthday/festivals/events that has been synchronized via other applications. The Application will allow user to set an automatic message reply to incoming call in case the user is busy in some meeting.

## 1.3. Glossary

|  |  |
| --- | --- |
| **Term** | **Definition** |
| Application | Tool that perform a certain task |
| User | Person that uses a application or any other computer service |
| Android | Mobile Operating System developed by Google(used in most of the phones) |
| Parameter | A basis factor |
| Event | A particular situation for which the user modifies the phone settings |
| GUI | Graphical User Interface (Allows users to interact with electronic devices through graphical icons and visual indicators) |
| Notification | Delivering a message |
| Profile | User Information |
| Network Settings | Settings involving Wi-Fi, Bluetooth, GPS etc. |
| User Error | Error made by the user unknowingly |

## 

## 1.4. References

* <http://standards.ieee.org/findstds/standard/1074-1997.html>

IEEE. IEEE Std 830-1998 IEEE Recommended Practice for Software Requirement Specifications. IEEE Computer Society, 1998.

* lms.uom.lk/sf/shantha/Project-web-sites/2007-08/.../Group3\_SRS.pdf

Libra: An Economy-Driven Cluster Scheduler. Version: <1.0>

* <http://standards.ieee.org/findstds/standard/1074-1997.html>

Social Mood Swing: Team GREP of MCIS department - Jacksonville State University

## 1.5. Overview of Document

The remaining sections of this document will cover an overall description of this software, as well as requirements and specifications for the software.

* The General Description section of this document gives an overview of the functionality of the Application. It describes the informal requirements and establish a context for the technical requirements specification in the Specific Requirements Section.
* The Specific Requirements section of this document is written primarily for the developers and describes in technical terms, the details of the functionality of the product.

Both sections of the document describe the same software product in its entirety, but are intended for different audiences and thus use different languages.

# **2. General Description**

## 2.1 Product Perspective

Although there are a lot of distinct android applications like Llama, Silence, Busy me etc. on the Google Play Store with many of the features we are offering; however it includes some unique features like automated messaging for a particular situation.Some applications of this category use location as a parameter to update the specified profile, but this application purely uses time as the only factor.

## 2.2 Product Functions

This app will enable the user to automate the basic functions of the phone depending on time and date. The user will have to create a separate profile for all the different situations. When a particular event will finish, the app will restore the profile to the one existing before that event was created. The application and output will be developed for android mobile devices.

## 2.3 User Characteristics

The intended user will be a member of general public who has a busy schedule and doesn’t have time or forgets to change their phone’s settings on a regular basis. Users are not expected to have a very high level of technical expertise.

## 2.4 General Constraints

The app only handles the profiles based on the events and network settings as specified by the user.The user won’t be able to store any document relating to a particular event.

## 2.5 Assumptions and Dependencies

**User Error: -**It is assumed that user does not create two events for the same time interval in a particular profile.

**Android OS: -**The software’s functionality is dependent upon standard Android 4.1+ operating system features functioning properly.The software will only be made available for devices running Android 4.1+(Jelly Bean and newer).

# **3. Specific Requirements**

## 3.1 External Interface Requirements

### **3.1.1 User Interfaces**

A user friendly GUI for the application will be implemented with separate tabs for events and toggles. The idea is to keep the GUI as simple as possible. The look will be uniform among all the tabs.

* Users shall be able to create an event or use an existing event in calendar.
* Users shall be able to add and edit toggles to an event.

### **3.1.2 Hardware Interfaces**

The product is an android application, so it will run on any device able to run Android 4.1 or higher. The usage of the four physical buttons on the phone will be the default features assigned to them. The options button will be used to trigger different menus in different instances.

### **3.1.3 Software Interfaces**

The product will be connected to all the calendar related applications of the android phone, i.e., device calendar, Google calendar and Facebook calendar. Other than that, the following APIs will be accessed to implement toggles:

* Bluetooth APIs
* Wi-Fi APIs
* APIs for profiles
* Calendar API
* Google Calendar API
* Facebook Calendar API

### **3.1.4 Communications Interfaces**

The application will use the messaging service of the mobile for communications for the purpose mentioned in the features section.

## 3.2 Functional Requirements

This section describes specific features of the software project. If desired, some requirements may be specified in the use-case format and listed in the Use Cases Section.

### **3.2.1 Retrieving events**

3.2.1.1 Introduction

The application provides two ways to retrieve the events. We can choose an already existing event from device calendar. In such a case, the details are already present in the calendar and the application just needs to access these details from there. It also allows user to create a new event in which the user needs to specify all the concerned details of the event

3.2.1.2 Inputs

* Event title
* Event description
* Repetition
* Event timings
* Required Profile
* Notification timing

3.2.1.3 Processing

Extraction of the required details from the calendar.

3.2.1.4 Error Handling

### **3.2.2 Toggle Profiles, Network settings**

3.2.2.1 Introduction

The specified profile should be activated by the application when the event starts and should end with the event.

3.2.2.2 Inputs

The time from the device clock can be considered as an input. It is used to check if the event has started or not

3.2.2.3 Processing

It takes the time from the device clock and compares it with the starting time of the existing events. If the time matches, i.e. the event has started, it automatically toggles the profile according to the event requirements.

3.2.2.4 Output

* Notification prior to the starting of the event.
* The action specified is implemented.

## 3.4 Non-Functional Requirements

### **3.4.1 Performance**

Resource consumption of this application should not reach an amount that renders the mobile device unusable. The application should be capable of operating in the background should the user wish to utilize other applications.

### **3.4.2 Reliability**

The software will meet all of the functional requirements without any unexpected behavior.At no time should the event’s settings not work without alerting the user to potential errors.

### **3.4.3 Availability**

The software will be available at all times on the user’s Android device as long as the device is in proper working order.The functionality of the software won’t depend on any external services such as internet access.

### **3.4.4 Security**

The software should never disclose any personal information of the user, and should collect no personal information from its own users.

### **3.4.5 Maintainability**

The software should be written clearly and concisely. The code will be well documented. Particular care will be taken to design the software modularly to ensure that maintenance is easy.

**3.4.6 Portability**

This software will be designed to run on any Android operating system version 4.1 or higher. The software will be forward compatible for all currently released Android operating system versions (up to 4.2).

**3.4.7 Upgradability**

A key feature supporting this goal is automatic download of patches and upgrade of the end-user’s machine. Also, we shall use data file formats that include enough meta-data to allow us to reliably transform existing customer data during an upgrade.

## 3.5 Logical Database Requirements

We will use an in-process library called SQLite which implements a transactional SQL database engine to save our events and other relevant information. When an events ends, the details of that event will be removed from the list.

## 3.6 Other Requirements

The application requires access to Calendar and Wi-Fi Connection Information. It also requires Device ID and Call Information and Contactsto handle the exceptional contacts.