Requirements and Analysis Document for the KudoMessage Project (RAD)

Contents

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This version overrides all previous versions.

1 Introduction

The following content will give a brief overview of the project, why the outcome of it is of any use and how we shall organize our work structure during the process.

1.1 Purpose of application

Our application, KudoMessage, aims to help common people in their everyday life by giving them the opportunity to send text messages from multiple devices. Our opinion is that one shouldn't be bound to send text messages (SMS) from your smart phone when you have a computer or tablet close at hand, which we argue is easier to use for texting. The messages that you send to others when using this application will be stored under a specific label in your Gmail inbox, what way you will always have a back up storage for your text conversations with your beloved ones.

1.2 General characteristics of application

Server application for the phone that will communicate with the Push-server
KudoMessage will first of all be developed as a web application, that way it will be available at all devices with an internet connection.

To use the KudoMessage service, the user will first have to download an application to his/her smart phone that will be run as a background application. This app will make sure that the text messages are sent from the user's phone by telling the app what google account it should belong and listen to. The user can then, by logging on to the application via a computer/tablet, register the same google account, and thus send text messages from his/her smart phone through a different device.

1.3 Scope of application

The application will be applied on several devices as mentioned earlier. It will only work as an aid to send text messages. If the user tries to send a message to a telephone number that doesn't exist it will not be taken care of by our application. The main objective is to develop a web application that will be runnable through all devices with an Internet connection. We aim to release native applications for all devices later on (this will be done with the most appropriate programming language for the specific device), there wont probably be any time for this during this study period though.

1.4 Objectives and success criteria of the project

1. It should be possible to send text messages to other cell phones with your regular phone number, but instead of texting from your own phone you should be able to do it using your:

    1. Computer
    2. Android tablet

    This by using the web application on the webpage http://www.kudomessage.se.

2. When a user receives an SMS they should be informed about this by the application.

3. It should be possible to see conversations with your contacts and send messages to them.

4. A random message-generator will be implemented that will be easy to use for the user.

1.5 Definitions, acronyms and abbreviations

- GUI, graphical user interface
- Java EE, platform independent programming language (EE stands for Enterprise Edition)
- Glassfish, a web server to host java files
- JSF, (Java Server Faces) The HTML pages with connection to java classes.
- Hustler, the push server
- OAuth 2.0, gives us the possibility to access server resources on behalf of the resource owner
- GCM (Google Cloud Messaging), a service that helps developers to send data from servers to their Android applications on Android devices.

2 Requirements

2.1 Functional requirements

The user(s) should be able to:

1. Install the background application on his/her smart phone and choose the Google account that should be used as a storage container for the messages.
2. Select a language for the GUI to the web/android/desktop application.
3. Log in to your account.
4. Send a message from:
    a) a computer by using the desktop application.
    b) a tablet, smart phone or computer using the web application.
5. Log out and exit the application.

2.2 Non-functional requirements

2.2.1 Usability

Although we believe that usability is important for the application, this isn't where we put our main focus. The functionality of the application is relatively simple, seen from a user perspective, and we therefore believe that we won't have to dedicate any greater amount of time for this.

We will, nevertheless, put time aside to make a user guide for the program. It will include the whole process, from installing the background server to your smart phone, to using the web application.

2.2.2 Reliability

NA

2.2.3 Performance

It is hard to guarantee a perfect performance for this application due to the dependency on how well your own telecommunication operator works. The application is the intermediary between the user and the operator and are therefore not to blame for poor network connection. We can't guarantee that there wont be any delay due to the communication with GCM.

The user should, however, get a notification that clarifies if the SMS was delivered successfully or not.

2.2.4 Supportability

The web application will suit all platforms, as it is accessible through a regular web browser. There are plans to develop native applications that are tailored to suit a specific operating system later on, as mentioned earlier. IPhone devices will be excluded due to the fact that there is no convenient way to send SMS through an app using an iPhone.

2.2.5 Implementation

The reason we're developing the app as a web application is so that it can be used from all devices without having to be installed first. It will be quick and easy to use. The only requirements to use this application, is to have a web browser, a Google account and an Android smartphone with android 2.2 or higher.

2.2.6 Packaging and installation

To use the application the user has to download the android server from Google Play. In addition to this, the only thing a user has to do is to log on with their Google account at http://wwwkudomessage.se and start using the application.

2.2.7 Legal

A user has to follow the Terms of Service that are provided by Google.

2.3 Application models

2.3.1 Use case model

See APPENDIX for UML diagram and textual descriptions.

2.3.2 Use case priority

1. SendMessage
2. ReceiveMessage
3. AddReceiver
4. AutoGeneratedMessage
5. RegisterServer
6. LogIn
7. AddContact

2.3.3 Analysis model

See APPENDIX.

2.3.4 User interface

The web interface is built with standard conventions in mind and based upon how other message applications are built. The GUI adapts dynamically for the screen size however for optimal usage we require a minimum resolution of 680x200. Considering that the interface is made for web browsers in tablets and computers which normally require a minimum size of 1024x768 we believe that this requirement will more than suffice.

The Android interface is based on the Android Holo HIG (human interface guidelines) and will work on any Android phone running a Holo-compatible version (Android Honeycomb 3.0).

2.2 References

Use cases
Overview.

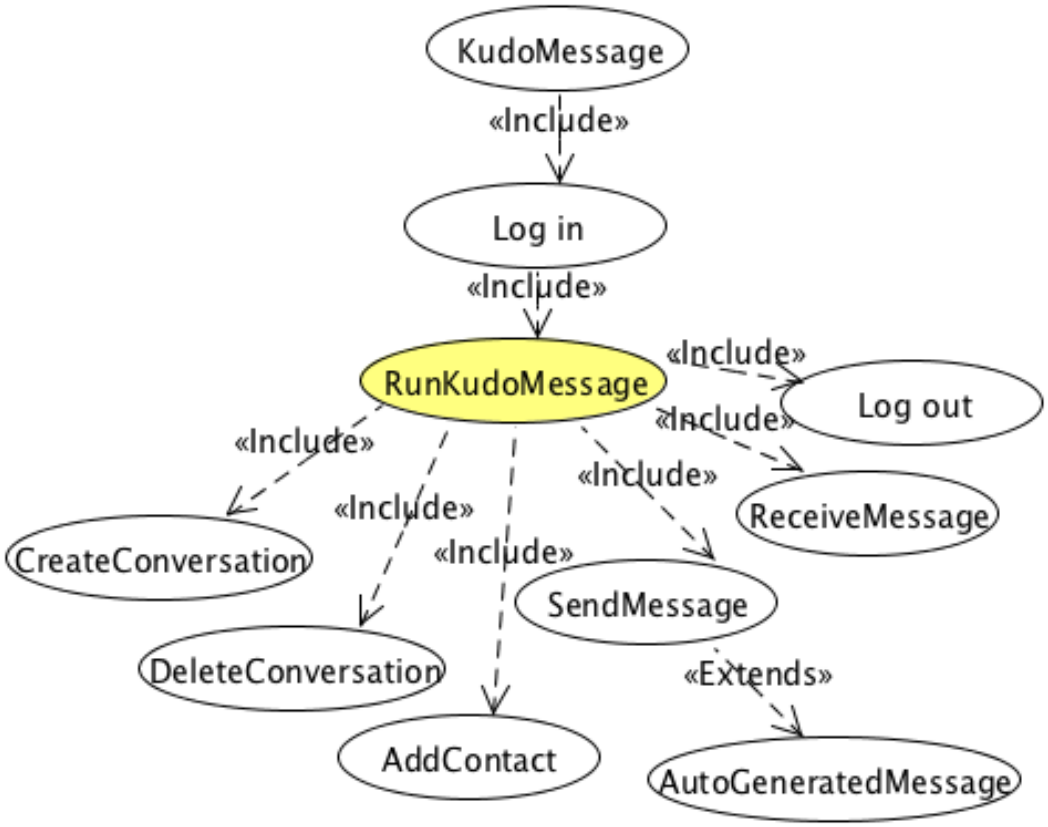

Figure 1: Use Case overview

GUI

Figure 2: Web page design

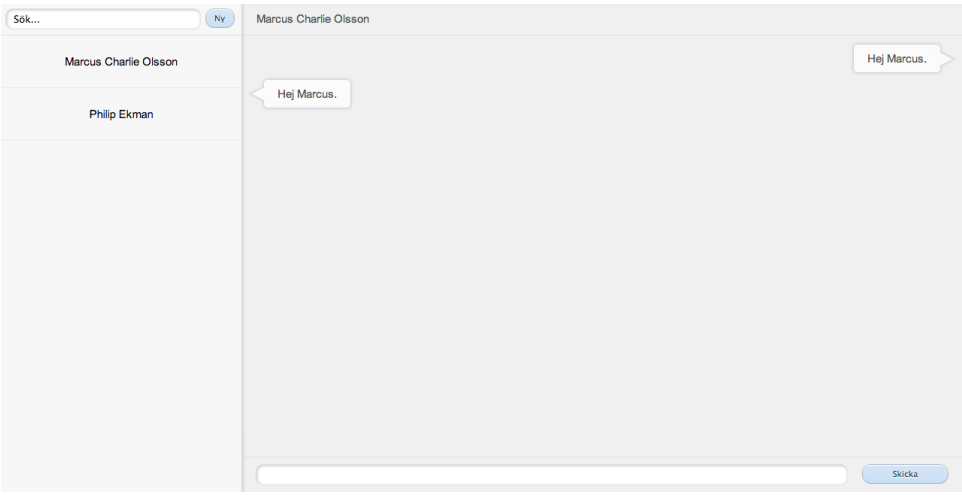

Figure 3: The web application

Analysis Model