CS3300: Introduction to Software Engineering

Feasibility study for Group Messaging Server

Version 0.0: May 5, 2015

Team: Smartwatch and Smartphone, team 5, Swatch

Table of Contents

Executive Summary

Our project is the design and creation of a mobile application which combines a mobile phone, a tablet, a web browser, and a smartwatch in order to allow communication between group members by way of a server. The web view, phone application, and tablet application will each work by allowing group members to fully send and receive messages amongst themselves. The smartwatch will have a more simplistic design to fit it's technological limitations. This kind of service is becoming increasingly popular as people try to find ways to remotely communicate and perform meetings. It's availability to anyone allows for a large amount of potential growth. The project will be completed over the course of the next month.

Description of Product and Service

Our team is considering creating a real time team chat android applications that will run on multiple devices. Customer will be able to access this application on the android devices and on the Web. This application will allow users to create chat rooms, send individual and group messages, and share documents. Current technology trends entail applications to be compatible with multiple devices which will make our application market competitive and beneficial for our customers.

Technology Considerations

Customers demand a simple and fluid message application that traverses several platforms seamlessly. With this in mind, it is key to our team that we utilize the capabilities of each platform to make the user experience constant throughout while adhering to each platform's limitations and design guidelines. Our foundation will be the web client which will require the team to set up a clean, easy RESTful api for sending and receiving messages as well as creating new chat rooms and viewing previous messages within a chat. Other considerations will be the cost of the domain name as well as the servers needed to run the site.

The project is also aimed at Android Wear, phone, and tablet devices, and special considerations must be made to adhere to the functionality and usability of these sets of devices. For phone and tablet devices, the chat app will allow normal use for users

comparable to using the desktop website (creating chat rooms, replying to messages, etc.). The tablet interface will take advantage of the device's larger screen, but will not require a separate project thanks to Android's use of XML layouts to target different screen sizes across devices. However, with Android Wear devices, the app must have limited functionality in order to provide a fluid and easy to navigate user experience. Thus, the Android Wear application will focus on message notifications, the ability to view chat conversations, and send predefined quick reply messages.

Thankfully, all needed technology resources have already been obtained or are free to access since our team has testable Android Wear and Phone devices as well as Android Studio and SDKs freely provided by Google. This means we should have no external costs to prepare the application.

Product/Service Marketplace

The marketplace for multi-platform messaging applications, though relatively new, is one that is flourishing, with fierce competition driving all players to develop new features and streamline services. Although the single platform messaging service has existed for many more years (computer instant messaging and SMS messaging, for example), multi-platform messaging didn't appear until the rise of internet-connected mobile devices (palm pilots, feature phones, and eventually smartphones). A big shift that has happened in recent years is the shift from desktop computer-centered messaging to mobile-centered messaging, with companies developing messaging applications for mobile and often ignoring desktop messaging entirely.

Currently, a variety of existing messaging applications exist in this marketplace. Google Hangouts, Facebook Messenger, WhatsApp, and iMessage all have a very strong presence, and many other smaller messaging apps are also working to increase their market share.

We plan to distribute the mobile app for our product via the Google Play store. Our Internet app for our product will be a web-based application accessible to anyone with an Internet connection. A consumer may choose our application over some competitors because we provide a multi-platform channel of communication that is not reliant on the choice of device: any internet-connected device, whether smartphone, tablet, smartwatch, or desktop computer, will be able to connect to this application. Furthermore, because the API for our application is publicly available for use, any

third-party product would be able to integrate chat into their application, or even allows customers the ability to perform a high amount of customization to the chat client.

Marketing Strategy

If our product is to be successful, we have to find a way to differentiate ourselves from other similar services, such as Google Hangout, Facebook, WhatsApp and other similar products. In order to do this, this service will be capable of be utilized across multiple devices, including smartwatches. Our diversity across multiple devices, including wearable assets should be enough to allow us to stand out with regards to what users can utilize our system. Since the system can be easily acquired and distributed, we can avoid being undercut by larger competition, and by utilizing the play store we can reach out to a large variety of users.

The system's user space also allows for it to be utilized as a modifiable system by the client to add specific traits. By allowing parts of our API to be public, we can give the clients unprecedented control over the messaging application that larger groups wouldn't generally allow. It is important to note that security may need to be thoroughly checked before allowing users access to all of the materials in the files, but by allowing for a large amount of customization, the system because a standout product on the market.

Organizing and Staffing - N/A

Schedule

Team project is expected to take 1 month and 2 weeks till launch of the application. The following is a high level schedule of some significant milestones for this project:

May 12, 2015: Initiate Project
May 19, 2015: Project kickoff meeting
June 2, 2015: Complete requirements
June 4, 2015: Complete design
June 9, 2015: Complete test plan
June 23, 2015: Complete testing
June 25, 2015: Project Delivery

Upon approval of this project, the assigned project team will create a detailed schedule to include all tasks and deliverables.

Financial Projections - N/A

Findings and Recommendations

Based on our findings, we will begin development of the two part application. The feasibility document shows that the project is manageable within the the allotted timeframe. Through our study we found that:

Technology

- The smartwatch application must be kept simple in order to facilitate use
- The phone will be used as the main form of communication
- We can obtain our needed technology cheaply
- A wearable device can be used to allow communication, if only at a basic level
- The technology can be applied across a wide range of devices

Marketing

- The field is currently a growth area
- this product is marketable to almost anyone who owns a compatible device

Financial

- Releasing on proven platforms should aid in our endeavors
- our technological requirements are low budget