**Course Project Report**

**CSI3370: Software Engineering and Practice**

Elite Three

Chatter

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Version <1.1>

<07/09/2018>

Version History

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| --- | --- | --- | --- |
| Version # | Implemented Section | Implemented  by | Details/Comments |
| <1.0> | Project Description, Project Statement, Project Requirements | <Brandon  Furdock> | Completed sections related to overall vision of Chatter application. Described basic functionality of system. |
| <1.1> | Requirement specification list, Process model and schedule,  User Story Creation | <Brandon  Furdock> | Developed plan/schedule to allow us to complete project. Formalized requirements, content, tables, etc required for these sections. |

Table of Contents

I. Project Description. 3

A. Project statement 3

B. Objectives. 3

C. Target Environment 3

D. Technologies & tools. 3

E. Process model & schedule. 3

II. Requirements. 3

A. Functional requirements. 3

B. Non-functional requirements. 3

# **I. Project Description**

Chatter is a chat application that allows iOS users to chat in a simple and efficient manner. Chatter places the trust of its users in the highest regard, and includes a detailed companion website which clearly describes to users how their data is being handled.

## **A. Project statement**

The widespread adoption of personal mobile devices has produced a massive improvement in people’s ability to communicate quickly. Messaging applications like iMessage, WhatsApp, Facebook Messenger, and WeChat boast billions of users. As popular as they may be, these communication applications often have deep flaws. First, they are often so complex as to alienate new users. Furthermore, even if a user has the technical ability to effectively use a messaging application, the companies running these applications often have interests which do not align with those of its users. The vision of Chatter is to create a simple, transparent mobile messaging application which addresses these concerns. This system shall allow users to communicate to others via message in a simple manner. In addition, this system shall include a website which clearly explains how user data is handled. Finally, this system shall provide an environment which encourages user feedback, further improving the trust between user and developer.

## **B. Objectives**

Create a functional mobile messaging application

Utilize the tools of iOS development

Use HTML, CSS, and PHP to develop a website

Create meaningful documentation to describe the Chatter system

Present results using effective presentation aids

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## **C. Target Environment**

iOS is currently active on over a billion devices worldwide, and is the target environment for the Chatter application. The iOS ecosystem provides a stable platform for the first implementation of the Chatter application. Although not a goal of this first iteration, an easy future transition to the desktop environment could be enabled through the 2019 integration of UIkit into OSX.

## **D. Technologies & tools**

Swift - The programming language

UIKit - An iOS development library which allows creation of an effective user interface

HTML - The standard markup language used in creation of websites

CSS - Defines the look and layout of the Chatter website

PHP - A programming language which allows more advanced features to be added to the chatter website

## **E. Process model & schedule**

In only one month, the Chatter system must be ready for demonstration. Due to the highly compressed development timeline that must be followed, our group has decided to follow the Incremental Process. Through adherence to the philosophies of the incremental process, we hope to deliver a functional product in this tight timeframe. The first increment will be focused on delivering the core product. This core functionality included in this product will be the ability to send messages between users.

The second increment will focus on creating a user account system. This will include the ability for a user to login to an account where their messages can be retrieved, even if they are using Chatter on a new device. The development of a database system for Chatter will help us achieve this goal.

The final increment will be focused on making the user interface as appealing as possible. As this is not a core requirement of the Chatter system, the time scheduled for this increment can be shortened if necessary.



7/22/18 - Delivery of First Increment

7/29/18 - Delivery of Second Increment

8/10/18 - Delivery of Third Increment

# **II. Requirements**

# Questions from Team #1:

\*Highlighted questions are intended for implementation/explanation in system

Are you anonymous? Can people see who they’re talking to?

Is there any type of spam filtering?

How is login information handled?

Can you create your own chat groups?

Is there any option to block users? What type of privacy settings are available?

Is there a limit to how many people can join a chat group? How does this affect performance?

Hosted by a user or server? Latency issue?

How intuitive is the chat app? Is a tutorial necessary or can you learn by yourself?

What kind of private info do you store? How protect it?

Will it keep a running log of the chat room from inception?

If one person joins group, can they see messages from before they joined?

Will we be able to use emoji?

Are voice messages possible?

Voice to text?

Social Media integration?

Read receipts? Can you turn them on or off?

## **A. Functional requirements**

Ability to send messages between users on separate devices.

Ability to create groups where sent messages are received by all members of the group.

Creation of a website which details the operation of the application.

Creation of a user feedback section on the website which encourages user feedback

## **B. Non-functional requirements**

Transparent use of user data

Ability for users to quickly begin using the application (less than 5 minutes)

Fast, efficient transmission of messages between users (less than 5 seconds)

Small download size (less than 100 MB)

Availability greater than 95%

Table 1: Requirement Specifications List

|  |  |  |
| --- | --- | --- |
| Identifier | Priority | Requirement |
| REQ1 | 1 | The system shall allow text-based messages be sent between users |
| REQ2 | 4 | The system should allow emoji to be sent between users |
| REQ3 | 1 | The system shall provide a website which details operation of the Chatter application |
| REQ4 | 2 | The system shall provide a feedback mechanism which encourages user feedback |
| REQ5 | 2 | The system shall be transparent in its use of user data |
| REQ6 | 3 | The system should allow users to quickly begin using the application |
| REQ7 | 5 | The system should be able to be downloaded in a small (<100 MB) file |
| REQ8 | 5 | The messaging application should have an availability greater than 95% |
| REQ9 | 6 | The system should provide a robust ability to retrieve lost user data |

User Stories & Detail

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| --- | --- | --- |
| Identifier | User Story | Size |
| ST-1 | As a new user, I can quickly create an account. | 10 points |
| ST-2 | As a person new to technology, I can easily figure out how to send a message. | 8 points |
| ST-3 | As an executive of a company, I can easily learn of how my sensitive data will be handled on Chatter. | 4 points |
| ST-4 | As a longtime user of Chatter, I can switch devices and access all my old messages. | 6 points |
| ST-5 | As an organization looking to use Chatter in the workplace, I can be certain it will have uptime greater than 95% | 3 points |
| ST-6 | As a college student, I can send emojis through Chatter | 3 points |

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| User Story ST-1 | As a new user, I want to quickly create an account so I can send messages. |
| Priority: 1 | This is a core functionality of the system |
| Estimate (10) | (4 points) User Name System  (4 points) Secure Password Solution  (2 points) Effective Login Page |
| Success: | 1. User enters a valid username and password |
| Failure: | 1. User fails to enter a valid username and password. The user is prompted to re enter information. |

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| User Story ST-2 | As someone unfamiliar with technology, I want a clear and simple way to send messages. |
| Priority: 1 | This is a core functionality of the system |
| Estimate (8) | (4 points) Clear User Interface  (4 points) No needless features |
| Success: | 1. User enters text on a keyboard which automatically pops up 2. User clearly sees “send” button at all times |
| Failure: | 1. User encounters technical difficulties. A small “help” button links to a step-by-step guide on Chatter’s website |

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| User Story ST-3 | As an executive of a company, I can easily learn of how my sensitive data will be handled on Chatter. |
| Priority: 2 | This is an important functionality of the system |
| Estimate (4) | (3 points) Companion website provides a detailed description of Chatter’s privacy practices  (1 points) Allow user to send feedback regarding privacy features |
| Success: | 1. User visits website and can easily navigate to a comprehensive explanation of Chatter’s privacy practices 2. User can quickly send Chatter development team questions about |
| Failure: | 1. User finds online documentation unclear 2. User can’t figure out how to contact Chatter team |

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| User Story ST-4 | As a longtime user of Chatter, I can switch devices and access all my old messages. |
| Priority: 4 | This is an important functionality of the system |
| Estimate (10) | (4 points) Properly Implemented Database System  (2 points) Successful linkage between user info and user data |
| Success: | 1. User buys a new iPhone, and is able to continue using Chatter on this new device without any problems. |
| Failure: | 1. User enters login information on a new device, but his old messages do not appear. |

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| User Story ST-5 | As an organization looking to use Chatter in the workplace, I can be certain it will have uptime greater than 95% |
| Priority: 5 | This is a desired functionality of the system |
| Estimate (3) | (1 point) Ensure reliability of database functionality  (2 points) Test how often failures occur |
| Success: | 1. This organization uses Chatter to manage its business communication without a loss of revenue due to system failure |
| Failure: | 1. This organization integrates the Chatter system into its business plan, but must stop use due to frequent failures |

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| User Story ST-6 | As a college student, I can send emojis through Chatter. |
| Priority: 7 | This is a supplemental feature of the system |
| Estimate (3) | (3 points) Use UIkit to integrate the emoji functionality into the Chatter system. |
| Success: | 1. The user feels they can fully express themselves through use of different emoji. |
| Failure: | 1. The user discontinues use of Chatter, feeling it doesn’t have the features he/she desires. |