SYSTEM AND SOFTWARE DESIGN DESCRIPTION (SSDD):
FOR

An Internet Instant Messaging System

Version 1.0
2016-10-23

Prepared by:
James Combs, Joel Seida
University of Texas at Dallas
Dallas, TX

CS4349.001 SSDD

[put program /system name here]
TABLE OF CONTENTS

Section Page

1 INTRODUCTION

The purpose of this document is to describe a secure internet instant messaging system with supported functionalities, security features, threat model, and attacks considered in a complete and concise manner. The internet instant messaging system supports authentication of its users, confidentiality of the messages and data exchanged between users, and verification of the integrity of messages and data exchanged between its users. This document will describe in general how users log into the system, establish sessions with other users, and how the system provides integrity and confidentiality of message transfers between users as well as any other assumption that have been made in the design of the implementation for the internet instant messaging system.

1.1 DOCUMENT OVERVIEW

This subsection shall provide an overview of the organization of this SSDD.

Section 2 of this document describes the system and software constraints imposed by the operational environment, system requirements and user characteristics.

Section 3 of this document describes the system and software architecture fromthe developer's and the user's viewpoint.

Section 4 provides detailed design descriptions for every component defined in the architectural view(s).

2 SYSTEM AND SOFTWARE ARCHITECTURE

This section of the document shall describe with detail every detailed design entity or component of the system as well as the relationship and interface between them. These architectural entities, when integrated together as specified within this document, shall implement all functions performed by the system in response to an input or in support of an output as described by the System and Software Requirements Specification (SSRS). All architectural entities or components shall: be uniquely identifiable, be well described, have clear responsibilities, have well specified interfaces, and have well described interactions with other architectural entities and any external systems. All necessary views at the architectural level (or high-level design) shall be clearly described in this section. Each view shall include at least the following details: identification, configuration information, and languages.

2.1 DEVELOPER'S ARCHITECTURAL VIEW

This subsection contains the descriptions of a system and all of its major components, using the methods, techniques, and languages from the developer's viewpoint. Each viewpoint description includes the viewpoint identification, description, and diagrammatic representation.

2.2 USER'S ARCHITECTURAL VIEW

This subsection contains the descriptions of a system and all of its major components, using the methods, techniques, and languages from the user's viewpoint. Each viewpoint description includes the viewpoint identification, description, and diagrammatic representation.

2.2.1 User's View Identification

Identify the view, state the purpose of the view, and identify major components or processes of the architecture.

[Insert text here.]

2.2.2 User's View Representation and Description

Provide a diagram and description of the user's view of the architecture.

[Insert diagram here.]

2.3 Developer's View Identification

Identify the view, state the purpose of the view, and identify major components or processes of the architecture.

[Insert text here.]

2.3.1 Developer's View Representation and Description

Provide a diagram and description of the developer's view of the architecture.

[Insert diagram here.]

2.4 [insert name of viewpoint] ARCHITECTURAL VIEW

This subsection contains the descriptions of a system and all of its major components, using the methods, techniques, and languages from other than the developer's or user's viewpoint. Each viewpoint description includes the viewpoint identification, description, and diagrammatic representation.

Repeat this subsection for each viewpoint identified.

2.4.1 [insert name of viewpoint]'s View Identification

Identify the view, state the purpose of the view, and identify major components or processes of the architecture.

[Insert text here.]

2.4.2 [insert name of viewpoint]'s View Representation and Description

Provide a diagram of the developer's view of the architecture.

[Insert diagram and descriptions here.]

[Insert text or table here.]

3 SOFTWARE DETAILED DESIGN

This section of the document should describe with detail the design of the software being described in this document. The level of detail of the design entities and their relationship and interfaces shall be sufficient to enable software implementers to implement an integrate each of the described components in order to achieve full implementation of the software being described in this SSDD. This section shall specify for each design entity the following information: purpose, processing, data, interfaces, dependencies and relationships, concept of execution, needed resources, design rationale, information for reuse, types of errors, and error handling.

The detailed design must correspond to an existing architectural view, normally the developer's view, but unusual circumstances may call for other detailed design viewpoints. If so, repeat this subsection as needed for those other viewpoints.

3.1 DEVELOPER'S VIEWPOINT DETAILED SOFTWARE DESIGN

Identify the viewpoint and make reference to the diagram or model defining the view.

[Insert text, diagram or model here.]

3.2 COMPONENT/ENTITY DETAILED DESIGN

3.2.1 Detailed Design for Component/Entity: [insert Component/Entity name here]

3.2.1.1 Introduction/Purpose of this Component/Entity [insert your text here]

3.2.1.2 Input for this Component/Entity [insert your text here]

3.2.1.3 Output for this Component/Entity [insert your text here]

3.2.1.4 Component/Entity Process to Convert Input to Output [insert your text here]

3.2.1.5 Design constraints and performance requirements of this Component/Entity [insert your text here]

3.3 DATA DICTIONARY

This subsection shall list and describe all the data and data structures defined and/or used by the components and entities specified above. For each data item or structure indicate where it is defined, referenced, and modified.

Data Dictionary				
Name	**Type/Range**	**Defined by...**	**Referenced by...**	**Modified by...**

4 APPENDIX A. [insert name here]

Include copies of specifications, mockups, prototypes, etc. supplied or derived from the customer. Appendices are labeled A, B, . . . n. Reference each appendix as appropriate in the text of the document.

[insert appendix A here]

5 APPENDIX B. [insert name here]

[insert appendix B here]