

**SYSTEM AND SOFTWARE DESIGN DESCRIPTION (SSDD):
FOR**

An Internet Instant Messaging System

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CS4349.001 SSDD

[put program /system name here]
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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 architecture from the developer and user viewpoint.

Section 3 provides a detailed description of the threat model considered in the security protocol design.

Section 4 provides a detailed description of the design of the software supported functionalities as well as the data structures required for implementation of supported functions that contribute to the implementation of the overall system and software architectural entities and components.

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 project requirements specification. 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.

[Insert text here.]

Provide a diagram and description of the architecture.

[Insert diagram here.]

[Insert diagram here.]

3 THREAT MODEL

This section of the document should describe with detail the potential threats and risks considered for the system described in this document. Security features, threat ranking, assets, attacks considered, countermeasures and mitigation will be identified, quantified, and addressed in a complete and detailed manner.

3.1 THREAT IDENTIFICATION

This subsection of the document describes the threats considered and identified during the design of the system referenced in this document.

3.2 THREAT RANKING

This subsection of the document ranks the threats identified in the previous subsection from the perspective of risk factors.

3.3 ENTRY POINTS

This subsection of the document defines the interfaces through which an attacker can interact with the system or supply it data.

3.4 ASSETS

This subsection of the document identifies and lists the resources/items of interest to an attacker. Assets can be both physical and abstract.

3.5 ATTACKS CONSIDERED

This subsection of the document lists any attacks considered during the assessment and identification of potential threats and against the security protocols described in SECURITY FEATURES.

3.6 SECURITY FEATURES

This subsection of the document lists and describes the provided security controls and policies to mitigate or prevent the threats and attacks identified in THREAT IDENTIFICATION and ATTACKS CONSIDERED.

4 SOFTWARE DETAILED DESIGN

This section of the document should describe with detail the design of the software being described in this document. This section shall specify the following supported functions that correspond to the relevant architectural entity and components: logging into the system, establishing a session with other another user, and how the security features mentioned in SECURITY FEATURES are implemented to provide authentication of users, message integrity, and message transfer confidentiality.

4.1 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.

<i>Data Dictionary</i>				
<i>Name</i>	<i>Type/Range</i>	<i>Defined by...</i>	<i>Referenced by...</i>	<i>Modified by...</i>

5 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]

6 APPENDIX B. [insert name here]

[insert appendix B here]