# CS 401 Group 4 Communication System Project

Software Requirements Specification

Revision History

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| --- | --- | --- | --- |
| **Date** | **Revision** | **Description** | **Author** |
| 02/08/2023 | 1.0 | Initial Version | Jonathan Lunn |
| 2/20/2023 | 1.1 | Requirements for message thread & users. | Vicente Chavez |
|  |  | Test |  |
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# Purpose

This document outlines the requirements for the Communication system that we are developing.

## Scope

This document will catalog the user, system, and hardware requirements for the communication system. It will not, however, document how these requirements will be implemented.

## Definitions, Acronyms, Abbreviations

List any acronyms, terms etc. that need to be defined.

## References

Use Case Specification Document – Step 2 in assignment description

UML Use Case Diagrams Document – Step 3 in assignment description

Class Diagrams – Step 5 in assignment description

Sequence Diagrams – Step 6 in assignment description

## Overview

The communication program that we are developing is designed for a large business to have a text based contact system for inner organization conversations and communication. This will be server client based and have logs for all conversations.

# Overall Description

## Product Perspective

## Product Architecture

The system will be organized into a currently unspecified number of major modules with at least 2, one will be the server module and the other will be the client module.

The system will be organized into \_\_\_ major modules: the \_\_\_ module, the \_\_\_ module, and the \_\_\_\_\_ module.

Note: System architecture should follow standard OO design practices.

## Product Functionality/Features

The high-level features of the system are as follows (see section 3 of this document for more detailed requirements that address these features):

## Constraints

Text only messaging.

All messages are logged and stored.

List appropriate constraints.

Constraint example: SR7 Since users may use any web browser to access the system, no browser-specific code is to be used in the system.

## Assumptions and Dependencies

Each user has a unique identifier and only one for themselves to use.

Users have access to the internet.

Users belong to the purchasing company.

The user has access to a computer.

List appropriate assumptions

Assumption Example: It is assumed that the maximum number of users at a given time is 15,000.

# Specific Requirements

## Functional Requirements

### Common Requirements:

3.1.1.1 All users must belong to the organization.

3.1.1.2 The messages have a size limit.

3.1.1.3 Users must be online to receive messages.

Provide requirements that apply to all components as appropriate. SR10

Example:

3.1.1.1 SR9 Users should be allowed to log in using their issued id and pin, both of which are alphanumeric strings between 6 and 20 characters in length.

3.1.1.2 SR23 The system should provide HTML-based help pages on each screen that describe the purpose of each function within the system.

### Client Module Requirements:

Provide module specific requirements as appropriate. SR10

Example:

3.1.2.1 SR9 Users should be allowed to log in using their issued id and pin, both of which are alphanumeric strings between 6 and 20 characters in length.

### Server Module Requirements:

3.1.3.1 Server manages User file to verify

Provide module specific requirements as appropriate. SR10

Example:

3.1.2.1 SR9 Users should be allowed to log in using their issued id and pin, both of which are alphanumeric strings between 6 and 20 characters in length.

### Chat Log Module Requirements:

* + - 1. Message threads will only display the X most recent messages.
      2. Once a message thread is created, users will not be able to be added or removed.
      3. Only valid users can be a part of a message thread.
      4. A message thread must have at least 2 valid users.

Provide module specific requirements as appropriate. SR10

Example:

3.1.2.1 SR9 Users should be allowed to log in using their issued id and pin, both of which are alphanumeric strings between 6 and 20 characters in length.

### Users Module Requirements:

* + - 1. There are two types of users: Regular and Admins.
      2. Admins can see logs of all message threads.
      3. Regular users should not be able to view logs.
      4. All users will be able to create new groups, send and receive messages.

## External Interface Requirements

Provide module specific requirements as appropriate. SR10

Example:

3.2.1 SR9 SR1 The system must provide an interface to the University billing system administered by the Bursar’s office so that students can be automatically billed for the courses in which they have enrolled. The interface is to be in a comma-separated text file containing the following fields: student id, course id, term id, action. Where “action” is whether the student has added or dropped the course. The file will be exported nightly and will contain new transactions only.

## Internal Interface Requirements

Provide module specific requirements as appropriate. SR10

Example:

3.3.1 SR17 The system must process a data-feed from the grading system such that student grades are stored along with the historical student course enrolments. Data feed will be in the form of a comma-separated interface file that is exported from the grading system nightly.

3.3.2 SR24 The system must process a data-feed from the University billing system that contains new student records. The feed will be in the form of a comma-separated text file and will be exported from the billing system nightly with new student records. The fields included in the file are student name, student id, and student pin number.

# Non-Functional Requirements

## Security and Privacy Requirements

4.1.1 The general user is not able to see messages that are not sent to them.

4.1.2 The Administrators and IT users can review message logs for everyone in the organization.

Example:

4.1.1 The SR8 System must encrypt data being transmitted over the Internet.

## Environmental Requirements

Example:

4.2.1 SR20 System cannot require that any software other than a web browser be installed on user computers.

4.2.2 SR25 System must make use of the University’s existing Oracle 9i implementation for its database.

4.2.3 SR26 System must be deployed on existing Linux-based server infrastructure.

## Performance Requirements

Example:

4.3.1 SR27 System must render all UI pages in no more than 9 seconds for dynamic pages. Static pages (HTML-only) must be rendered in less than 3 seconds.