

# Software Requirements Specification

for

# Task Management System

Version 1.0

Prepared by

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## Revisions

Version	Primary Author(s)	Description of Version	Date Completed
1.0	Kathrynn Gonzalez Tina Roper	This is the first version of this document	10/04/13

# 1 Introduction

This Software Requirements Specification, SRS, will provide a description for a task management system. In the following sections we will define the document purpose, the scope of the task management product, and the intended audience for this document. Additional sections will define acronyms and abbreviations, and explain any document conventions. We will end the SRS with a section for references and acknowledgments.

## 1.1 Document Purpose

This Software Requirements Specification will describe the processes and functions of the Task Management System. The intended audience for this document will be the designers of this system, Professor Xinghui Zhao and her teaching assistant, and managers and their workers. The major portion of the product will be described within this documentation, with a possible upgrade to the system available in the future which may include a points reward system redeemable for avatars and avatar upgrades.

## 1.2 Product Scope

The Task Management System provides an interface for both managers and workers to use to track their daily tasks. Each user, manager or worker, will have a different user interface. The manager will have a traditional manager user interface, with the worker having a traditional worker interface. The manager interface will allow for entering of new tasks, editing tasks, deleting tasks, and searching of tasks. The manager interface will also allow for creating and deleting of users. Lastly, this interface will have the permission to reset passwords. The worker interface will allow them to search tasks and mark tasks that they have completed. The system will also provide a history of previous tasks assigned or completed.

## 1.3 Intended Audience and Document Overview

Task Management 1.0 SRS is derived from communication between the authors, and their product customers. Our professor Dr. Zhao as a requirement for the Washington State University Software Engineering course has requested this SRS. Therefore, our intended audience consists of the clients, the developers, and Dr. Zhao and her teaching assistant.

## 1.4 Definitions, Acronyms and Abbreviations

Avatar -	A graphical image that represents a person.
API -	Application Programming interface
JDBC -	Java Database Connectivity
SRS -	Software Requirements Specifications
SQL -	Structured Query Language
GUI -	Graphical User Interface

## **1.5 Document Conventions**

1. All text contained in this document is 11pt Arial font.
2. Section titles are 18pt Arial font.
3. Subsection titles are 14pt Arial font.
4. Any further subsection breakdown is 12pt Arial font.
5. All sections and subsection are numbered using the X.X.X... format, where X represents numbers.
6. Document text will be single-spaced and maintain 1" margins

## **1.6 References and Acknowledgments**

At this time this SRS does not reference any outside resources.

## 2 Overall Description

### 2.1 Product Perspective

The Task Management System will be a new self-contained product. Communication will be done via a Java interface to a server that will connect with the SQL database that stores the Task Management information.

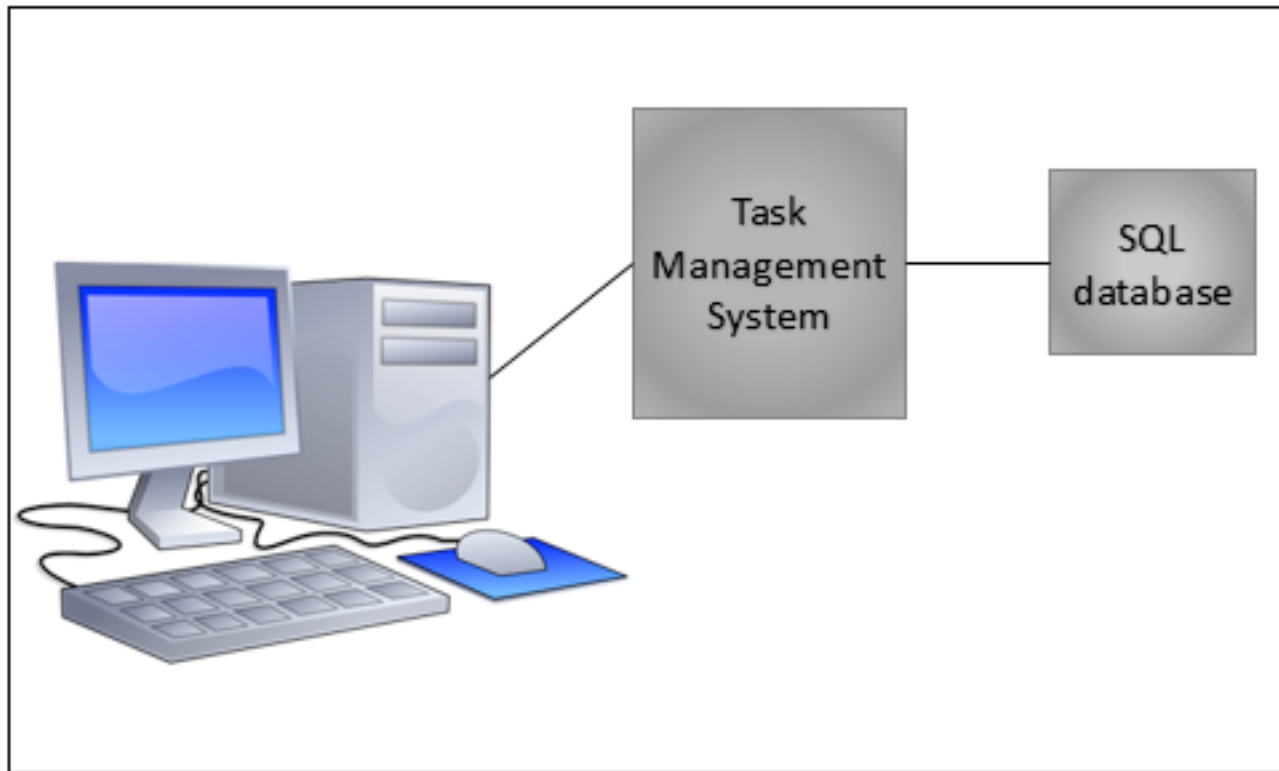


Figure 1-Shows the environment of the Task Management System

### 2.2 Product Functionality

The log-on interface UI01

- The system will allow new users to create a manager account
- The system will allow existing users to log-on to their account
- The system will provide general help information
- The system will allow the manager to reset passwords

The manager interface UI02

- The system will update from the database upon log-on
- The system will allow for management of worker accounts for creation and deletion of users

- The system will allow for changing of both manager and worker passwords
- The system will allow for searching of current and previous tasks
- The system will update database upon logging out

#### The manage tasks interface UI03

- The system will allow for creation of new tasks
- The system will allow for editing of tasks
- The system will allow for deletion of tasks
- The system will allow for management confirmation of completed tasks

#### The worker interface UI04

- The system will update from the database upon log-on
- The system will allow for tasks to be marked completed
- The system will allow for viewing of rewards status
- The system will allow for searching of current and previous tasks
- The system will allow for changing of passwords
- The system will update database upon logging out

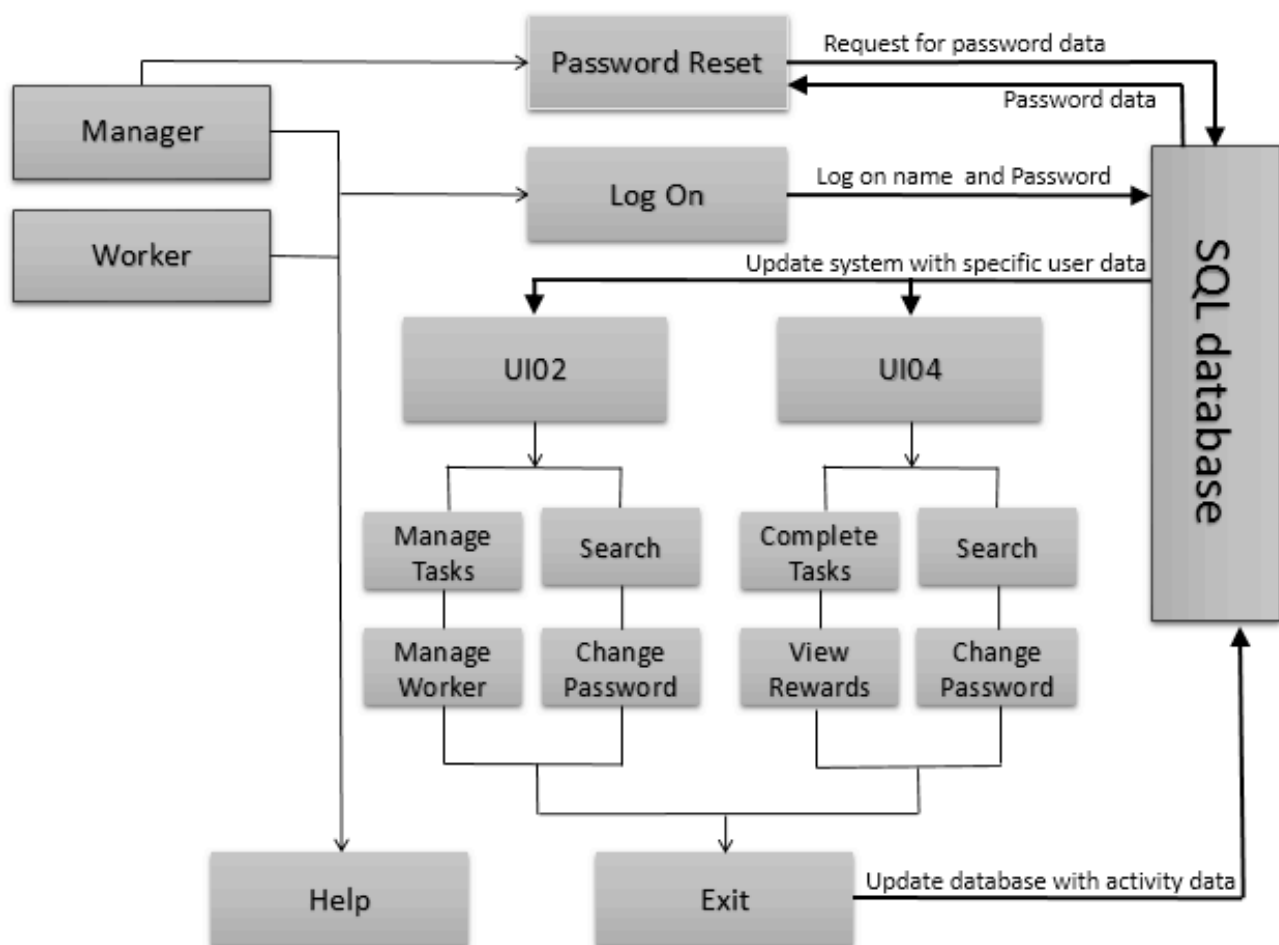


Figure 2-Data flow diagram of the Task Management System

## **2.3 Users and Characteristics**

The intended users for the Task Management System will be managers and their children/workers. The most important users will be the parents as they will have more functionality than the children and be responsible for starting new worker accounts.. The system will require basic understanding of how a computer works, i.e. how to turn it on. It is expected that the user will have very little technical expertise.

## **2.4 Operating Environment**

The Task Management System will run on a Windows 8 platform and a Mac X operating system. Complications may arise if run on something earlier than Windows 8. The System will need to communicate between the Java application and the SQL Database software.

## **2.5 Design and Implementation Constraints**

The system must be programmed in an object-oriented language, in this case we will be using Java. The system must use an internet connection or the user will not be able to communicate with the database. The Task Management System must be portable so that multiple computers may be used to look at the information. The SQL database must be attached to the system. At this time, testing has not been done on versions earlier than Windows 8.

## **2.6 User Documentation**

There should be minimal help needed to run this system. Should there be a need for help, there will be a help menu that will guide the user through using the system. This document will also serve as for all help documentation that follows.

## **2.7 Assumptions and Dependencies**

One assumption that could affect the design is that the user runs a Mac X or Windows 8 operating system; a Windows operating system less than version 8 may cause unknown effects to the system functionality. Another assumption that could affect the design is that the user will have adequate internet connection; this could affect the speed with which the interface communicates with the database. Lastly, this system will be written for users with a basic understanding of how computers work. Users with less computer experience may have a harder time.



## 3 Specific Requirements

### 3.1 External Interface Requirements

#### 3.1.1 User Interfaces

The Task Management System will have four main graphical user interfaces:

**Log On UI01** will consist of the log-on interface. It will contain text fields allowing user name and password for log-on with a corresponding button, a button for a help menu which will assist in usability, and a button which will allow the manager to reset password. Depending on the type of user which logs on, either the manager or the worker interface will be loaded.

**Manager UI02** will consist of various different tasks. This interface will allow for tasks search, password changes, worker account management and the ability to navigate to the manage tasks UI (UI103 described below).

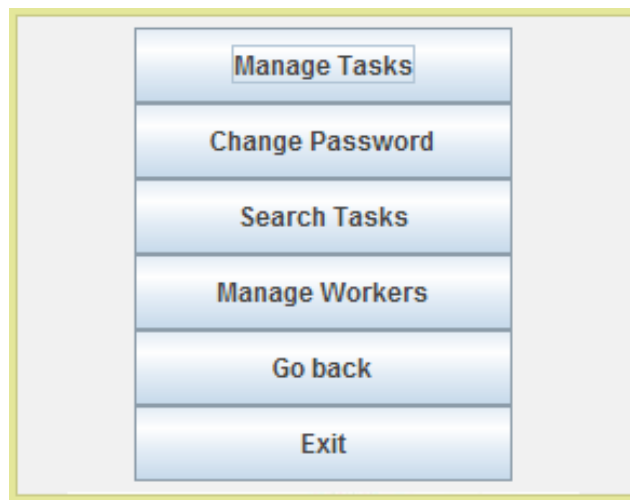


Figure 3- Screenshot of UI02 shows the options given to managers after log on

A screenshot of a software interface for adding a task. It features a light gray background with a yellow border. The form contains the following elements: a 'Description:' label followed by a text input field containing 'Clean your room'; an 'Extra Details:' label followed by a text input field containing 'Clean your desk off too'; a 'Dollar Reward:' label followed by an empty text input field; an 'Other Reward:' label followed by a text input field containing 'Family movie night'; a 'Required?' label followed by a radio button (selected) and the text 'Yes'; and three stacked blue buttons labeled 'Add', 'Go back', and 'Exit'.

Figure 4-Screenshot of UI02 shows the add task ability which extends manage tasks

**Manage Tasks UI03** will allow the manager to confirm that tasks have been completed, add new tasks, edit tasks, and delete tasks.

**Worker UI04** will be a limited version of the parental interface. The worker will only be allowed to mark finished tasks complete, search through tasks, view rewards earned, and change their password.

A screenshot of a software interface showing a vertical stack of six blue buttons. The buttons are labeled from top to bottom: 'Mark tasks complete', 'Search tasks', 'View Rewards', 'Change Password', 'Go back', and 'Exit'. The interface has a light gray background with a yellow border.

Figure 5-Screenshot of UI04 shows the options given to a worker upon log on

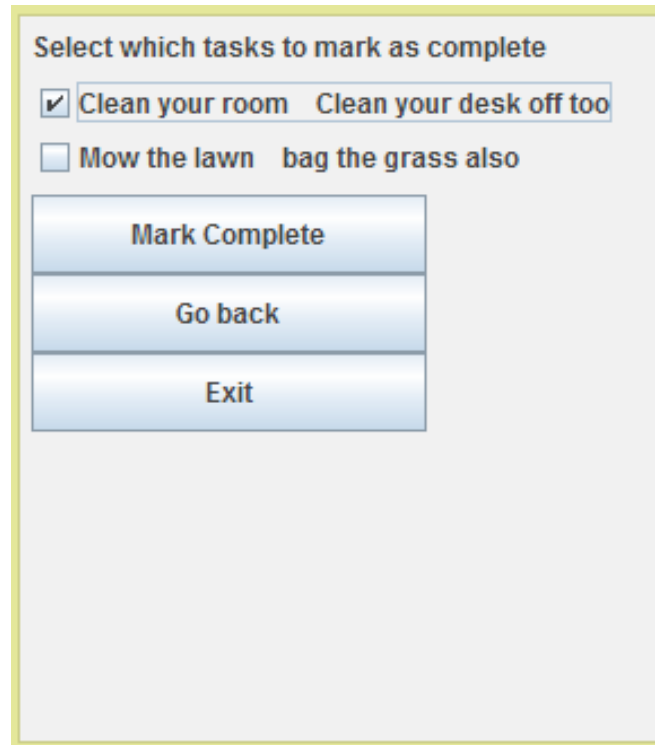


Figure 6-Screenshot of UI04 shows the extended interface where a worker will mark tasks complete

### 3.1.2 Hardware Interfaces

The Task Management System does not require a hardware interface.

### 3.1.3 Software Interfaces

The Task Management System will be using a Java API to communicate to the server, which will allow access to the SQL database.

### 3.1.4 Communications Interfaces

The Task Management System will use the JDBC driver to communicate with the SQL database.

## 3.2 Functional Requirements

REQ 1.0 Start-up

REQ 1.1 The system will allow for user id and password

REQ 1.1.1 The system will log user in to manager or worker portion of program

REQ 1.2.2 The system will allow manager to add new tasks

REQ 1.2.3 The system will allow manager to edit tasks

- REQ 1.2.4 The system will allow manager to delete tasks
- REQ 1.2.5 The system will allow manager to confirm tasks have been completed
- REQ 1.3.0 The system will allow limited but necessary operations for workers
- REQ 1.3.1 The system will allow workers to mark tasks completed.
- REQ 1.3.2 The system will allow workers to view rewards
- REQ 1.3.3 The system will allow workers to search tasks
- REQ 1.3.4 The system will allow workers to change their password
- REQ 2.0 The system will provide a basic help guide to aide in usability
- REQ 3.0 The system will allow for managers to reset passwords

### 3.3 Behaviour Requirements

#### 3.3.1 Use Case View

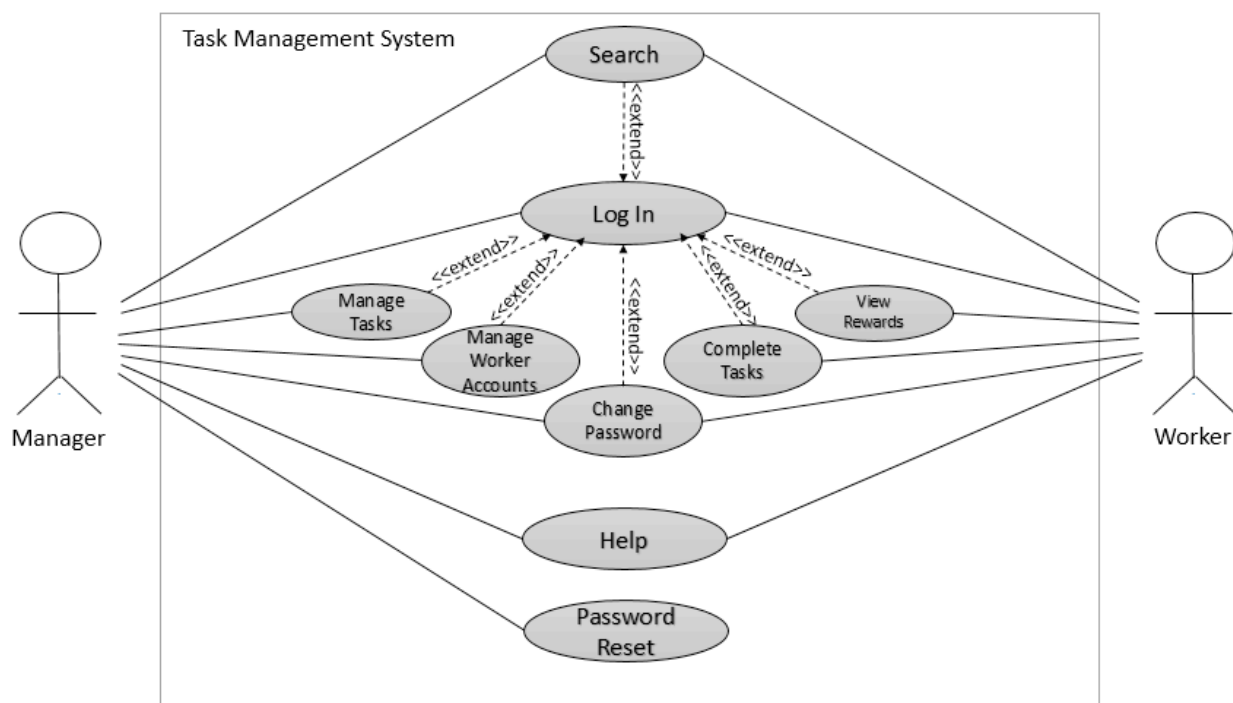


Figure 7-Use-case diagram for Task Management System

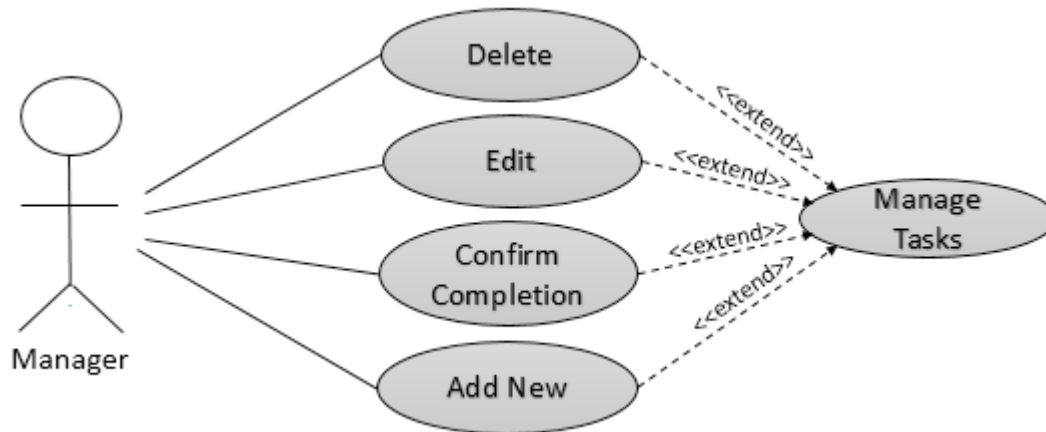


Figure 8-Use Case diagram depicting the extension of additional Use-cases upon Manage Task Selection.

The users are the actors of the Task Management System and they are either a worker or a manager.

**Log-on** use case will generate additional use-cases, which will be grouped in separate GUIs based on the user who has logged on to the system.

- A manager user will generate: Manage tasks, change password, manage worker accounts, and search use cases
  - **Manage Tasks** use-case that will extend the log-on, this will generate four additional use cases: delete, edit, confirm completion, and add new.
- A worker user will generate: view rewards, change password, complete tasks, and search use cases

**Help** use case includes instructions for use of basic system functions

**Password Reset** use case is accessible to all users but will be only completed by a manager and will require matching of security question for execution.

## 4 Other Non-functional Requirements

### 4.1 Performance Requirements

The system shall perform basic operations in less than 2 seconds. While navigating the system, user interfaces should update quickly, this is not an issue and doesn't need to be addressed. The system shall run on a Windows 8 platform and a Mac X operating system. The System shall communicate between the Java application and the SQL database. The SQL database needs to have the capacity to grow.

### 4.2 Safety and Security Requirements

The level of security for this product is refined mostly to the privacy needs between users. Because the manager is responsible for generating and distributing rewards, improper entry into the manager's profile may result in malicious activities leading to false payouts. Privacy between workers is also important to the client because siblings, peers, or other workers using the product may utilize the ability to enter another worker's profile with negative intent.

- User account names will be associated with a password which will be chosen by the user upon first use.
- Manager passwords will be associated with one secret question to assist in password reset.
- Worker password reset will be performed by the manager
- If the manager enters an incorrect password 3 times, they will be locked out
- If the worker enters an incorrect password 3 times, they will be locked out.

### 4.3 Software Quality Attributes

#### 4.3.1 Usability

The interfaces of the system will be designed in a user-friendly manner such that the user will need no training to perform operations within the system. The interfaces will be easily navigable, clearly labeled, and a help menu will be provided with instructions for performing basic tasks.

#### 4.3.2 Maintainability

The system code should be written to allow for future possible upgrades. Code will be documented, including version updates and authors. Code will be fully commented. Each method will include a description of its function and any additional information needed to help in future additions.

### **4.3.3 Portability**

The system is portable due to being able to operate it on a Mac X or Windows 8 operating system; although effects of using previous versions of Windows are unknown at this time and require future testing.

## **5 Other Requirements**

There are no other requirements for this system.



## **Appendix A – Data Dictionary**

There is no data for this section.

## Appendix B - Group Log

Kathrynn Gonzalez.....10 hours total

Tina Roper.....10 hours total