**Project: Time Management System**

**Software Requirement Specification**

**Revision:** Final

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| **REVISION** | **DATE** | **CHANGES** |
| A | 02/11/2020 | Initial Proposal |
| B | 02/16/2020 | Modified Logo |
| C | 02/17/2020 | Finalized All Requirements Based On User Story |

# Purpose: Not Applicable

## Scope:

**Objective:** This proposed scope of requirements seeks to achieve the clear definition of the HR Time Management System as well as define the development team’s reasonability’s. The goal of the final product is to produce the following:

* Create a web-based GUI for intuitive access.
* Develop a simple database for data storage and retrieval.
* Modularize software to allow requirement changes/amendments.
* Ensure software is compatible on both Windows and MacOS.
* Make the workflow as automatized as possible for the user.
* Make the application very scalable, additional modules such as pay slips, tax documents, and others can be added in the future.
* If time allows, iOS mobile and Android compatibility will be added.

**IP Rights:** All software source code, GUI design and graphics developed during the project will be open source.

**Materials:** Materials needed for the completion of this project are the following:

* Laptops/PC with both Windows 10 and MacOS

**Dev Software:**  Software to be used for development:

* Eclipse IDE for Java based project requirement
* Spring framework for web security and integration
* SQL database hosted on Microsoft Azure
* JSP generated HTML with JSTL embedded
* Github as the repository

**Deliverables:** The following represent the primary deliverables:

1. Create a Web-Based GUI which will be HTML and JSP based
   1. Employees shall have the ability to clock into and out of work at any time.
   2. Managers shall have the ability to query employee information for scheduling and payroll purposes.
   3. Employees can access a calendar to request time off, managers can approve or reject the request.
   4. Employees can see coworker’s time off to ensure proper coverage.
2. Create java-based backend interface
   1. Shall link the front-end GUI inputs/outputs to SQL Database.
   2. All data exchange, analysis and necessary logic will be done at this level.
3. Create a SQL database
   1. All employee information shall be stored, retrieved and modified from the SQL database.
   2. There shall be different privileges based on user identification. A security check will ensure employees can only access pertinent information.
4. Web based application
   1. This will be a web-based application accessible through any Internet browser.
   2. Database will be hosted on a dedicated server or cloud-based server depending on feasibility and cost.

## Acronyms:

GUI: General User Interface

HR: Human Resources

IDE: Integrated Development Environment

OTA: Over the Air

SRS: Software Requirement Specification

# General Requirements:

## Product Justification

The purpose of this product is to achieve an easy to use interface for employees and managers.

Companies that wish to have a simple application for tracking useful information for both, day to

day operations and long-term analytics will find use of it. The ability to store and retrieve

employee information on multiple platforms will serve companies in any given industry well.

Most importantly is the security and quality of the software, which marketing finds to be

company’s strongest requirement.

## Product Functions

The end product shall have a simple GUI that takes user inputs and makes decisions based off

of what is collected. Ultimately all information that is entered will be evaluated and stored in

A database. This information will be accessible to the users based on their privileges, and can be

modified if needed.

## User Characteristics

This product shall have a simple GUI that the user can enter in their employee ID, name and

password. Once logged in, they have a small portal space to either clock in or out of work, and

put in a request for vacation. Managers and HR will have the ability to pull basic employee

information for scheduling, payroll and time management. It will also serve as an archive for

older records to be used at HR and managements discretion.

## General Constraints

The software will only allow for database modification through the web application. No direct

database entries or queries will be provided. There also must be a network connection at all

times to access the application and database.

## Assumptions and Dependencies

This web application is entirely cloud based. Users can utilize this application with any browser on any operating system. However, the

# Functional Requirements:

## Security

1.0.0 The information stored and access can be very sensitive, security is of the highest importance.

1.1.0 To access any information, the user must be authenticated with an employee ID and password. Password should be securely stored in the database.

1.1.1 The user should see two text boxes log in screen. One text box to input the employee ID and the other to input password.

1.1.2 The user should see two buttons, one to log in, the other to clear the text boxes.

1.2.0 User should not be access any module by typing in the URL, the user should be redirected to the login screen.

1.3.0 If the user is an employee, the user should not be allowed to access any manager modules, when they try so, they should be denied access.

1.4.0 After the user provides valid log in information, the application should redirect the user to the correct page based on the provided authentication.

## Employee

2.0.0 After the user logs in, the user should see four buttons.

2.1.0 The first button is to clock in or clock out, based on if the user has clocked in already or not.

2.1.1 When the user clicks the clock in or clock out button, a time clock event should be registered in the database.

2.1.2 Then the user would be redirected to another page, where a confirmation message is displayed for five seconds.

2.1.3 Then the user should be automatically logged out, and redirected to the log in page.

2.2.0 The second button is to view time clock events.

2.2.1 When the user clicks the button, the user is redirected to another page with a drop down calendar and the user can choose a date, which defaults to today.

2.2.2 The user then can press confirm, then all the time clock events from the chosen date are displayed in a table.

2.2.3 The user can press the back button to go back to the first page after log in.

2.3.0 The third button is to view all time off requests

2.3.1 The user is shown all the existing time off requests in a table, including all approved, rejected, and pending requests from this year.

2.3.2 The user can press a button to make new time off request. By pressing this button, the user is directed to a new page where the number of available time off hours are shown. Including PTO, sick, and floater hours.

2.3.3 There should also be two drop down calendar (or one that can be used to pick a range) and three text boxes. Allowing the user to enter the desired date range and how many hours of each type to use.

2.3.4 After all the information is corrected entered, the user can press confirm to make a new time off request in the database.

2.3.5 The user is then redirected back to the view time off request page and the new request should be shown in the table as a requested time off.

2.3.6 The user can press the back button to go back to the first page after log in.

2.4.0 The fourth button is a log out button.

2.4.1 Once the button is clicked, the user should be redirected to the log in page and the current session including authentication information ended.

## Manager

3.0.0 After the user logs in, the user should see three buttons.

3.1.0 The first button should be to view time clock events.

3.1.1 The user should be shown all submitted time clock events that is pending approval. Only time clock events made by employees under the user should be shown.

3.1.2 The user has the option to approve these time clock events or to view more time clock events.

3.1.3 When the user chooses to view more time clock events, the user should be redirected to a page where there are three drop down boxes. One for employee name (default to all), and only employee under this manager should be available.

3.1.4 The other two drop down boxes should be date (default to today) and the status of time clock (default to all).

3.1.5 After the user clicks the confirm button, all time clock events that satisfy the three constraints should be shown in a table.

3.1.6 If the user approved time clock events, then the user is shown the same table with the approved time clock events.

3.1.7 Whenever the user clicks the back button, the user should be directed to the first page after log in.

3.2.0 The second button should be to view time off requests.

3.2.1 The user should be shown all time off requests pending approval. Only time off requests made by employees under the user should be shown.

3.2.2 The user has the option to approve, reject these requests, or to view more time off requests.

3.2.3 If the user chooses to vie more time off requests, the user should be redirected to a page where there are two drop down boxes. One for the employee (default to all), and only employee under this manager should be available.

3.2.4 The other drop down box is for the status (default to all)

3.2.5 After the user clicks the confirm button, all time off requests that satisfy both constraints should be shown in a table.

3.2.6 If the user approved or rejected a number of time off requests, then the approved or rejected time off requests should be shown.

3.2.7 Whenever the user clicks the back button, the user should be directed to the first page after log in.

3.3.0 The third button is a log out button.

3.3.1 Once the button is clicked, the user should be redirected to the log in page and the current session including authentication information ended.

# Appendices:

## User Story

A user story document should be used as a reference on overall requirement. All graphics are for illustration purposes only and will not match the final product.