Group6

Clocking App, Release 1.0

Requirements Functional Specification

Revision 1

Specification Version: 1.0

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***Document Revision Chart***

|  |  |  |  |
| --- | --- | --- | --- |
| 1.0 | Section Modified and Revision Description | Date | Author |
|  | Initial Draft | October 3, 2015 | Dhara Shah |
|  | Site map | October 4, 2015 | Thi Mai |
|  | Use case diagram | October 4, 2015 | Chyeeka Brown |
|  | Security, System metrics | October 4, 2015 | Sheldon Gray |
|  | Final revision | October 4, 2015 | Chyeeka Brown |

**clockingapp, Release 1.0**

# Business Objective

# Our company needs a way to speed up our clocking in and clocking out process. Our employees waste a lot of time getting started on their work due to the time it takes to clock in and out so we want a mobile app that clocks them in automatically when they enter the building and then clocks them out automatically when they leave the building. This app should also clock them out for lunch if they leave the building or allow them to manually clock out if they are staying in the building for lunch. It should keep a record of all the in and out time punches for each employee with accrual calculations for the day, week, and pay period. When the employee is automatically clocked in/out by the app they should receive a notification alerting them of their clock in/out time punch. Each employee should be able to login and view their accruals and can also set alarms for how soon they would like to be alerted before their shift starts. We would also like a web based application where 1) we as managers can input what each employee’s work day start/end times should be for the week, 2) where employees themselves can manually clock in or out if they left their phone at home, and 3) where we as managers can view the time stamps for the week and reports on specific employees time stamps and hours.

# Out of Scope/Assumptions

Not applicable.

# Summary of All Actors

| **Actor #** | **Actor** | **Human or System?** | **Description of Actor** |
| --- | --- | --- | --- |
| 1 | Employee | H | Any employee with access and authorization to use the app. |
| 2 | Manager | H | An employee with manager position. He is privileged to some additional functionalities of the system. |
| 3 | System | S | System that initializes actions in app based on geographical location |

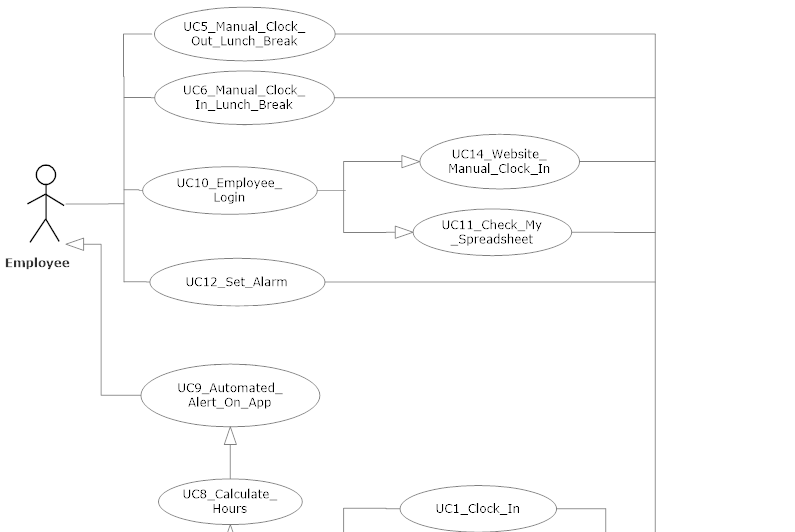
# Summary of All Use Cases

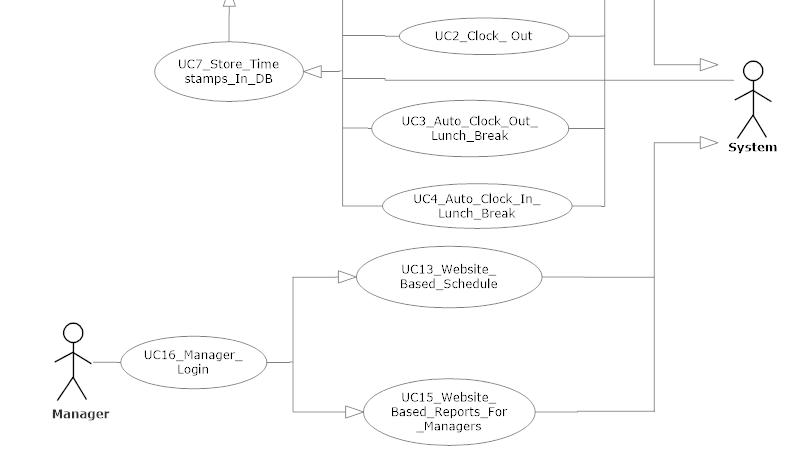
## Use Case Descriptions

|  |  |  |
| --- | --- | --- |
| **Requirement #** | **Use Case Description** | **UC Rank (Priority)** |
| Req 1.0.1 | Automated clock in when an employee arrives to their workplace shall be produced by the application. | 4 |
| Req 1.0.2 | Automated clock out when an employee leaves their workplace shall be produced by the application. | 5 |
| Req 1.0.3 | Employee shall be automatically clocked out when leaving the building for their lunch break. | 6 |
| Req 1.0.4 | Employee shall be automatically clocked in when entering the building from their lunch break. | 10 |
| Req 1.0.5 | Employee shall manually clock out for their lunch break. | 8 |
| Req 1.0.6 | Employee shall manually clock in from their lunch break. | 9 |
| Req 1.0.7 | The application shall record all punch in and punch out times of employees and store into a database. | 2 |
| Req 1.0.8 | The application shall calculate hours worked for each employee for each day, week, and pay period. | 11 |
| Req 1.0.9 | Upon clock in and clock out of their timesheet, the employee shall be automatically notified by the mobile application installed on their mobile device. The alert shall contain the time they have clocked in/out. | 1 |
| Req 1.0.10 | The employees shall have a login into the system. | 3 |
| Req 1.0.11 | An employee shall login and see a web based spreadsheet of his logged hours. | 7 |
| Req 1.0.12 | An employee shall be able to set an alarm notification in the app, notifying him his desired number of minutes before the shift starts. | 12 |

|  |  |  |
| --- | --- | --- |
| Req 1.0.13 | Managers will be able to setup a schedule for each employee via a website for the hours the employee should work each week. | 14 |
| Req 1.0.14 | Employees will be able to manually clock into the system via a web interface. | 15 |
| Req 1.0.15 | Managers will be able to view the timestamps on a weekly basis and generate reports on specific employees. | 16 |
| Req 1.0.16 | The managers shall have a login into the system. | 13 |

## Diagram of All Use Cases





## Individual Use Cases

### Use Case: Requirement 1.0.1: Employee auto clock in

#### Use Case Details

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID | | Requirement 1.0.1: Employee auto clock in | |
| Preconditions | | Account has already been created, app signed into and in vicinity of workplace. | |
| Successful Post Conditions | | Automated clock in is logged and viewable | |
| Failed Post Conditions | | Clock in is not logged and gives error message | |
| Primary Actors | | Employee, System | |
| Secondary Actors | | - | |
| Related Use Cases | | Req 1.0.7 | |
| Primary Scenario | | | |
| Step | Scenario Action | | Expected Behavior |
| 1 | Arrived to workplace | | Program will detect that you are at your workplace and will automatically clock in |
| 2 | Confirmation pop up - click accept | | A notification pop up will appear for you to accept to verify that you have successfully clocked in |
| 3 | End use case | |  |
| Related Information | | | |
| Systems Impacted | | Database | |
| Error or Email Messages | | Error message shows if punch was not saved to database | |
| Special Requirements | | App must be running on device and have a network connection | |

### Use Case: Requirement 1.0.2: Employee auto clock out

#### Use Case Details

|  |  |
| --- | --- |
| Use Case ID | Requirement 1.0.2: Employee auto clock out |
| Preconditions | Account has already been created, app signed into and at the workplace. |
| Successful Post Conditions | Automated clock out is logged and viewable |
| Failed Post Conditions | Clock out is not logged and gives error message |
| Primary Actors | Employee, System |
| Secondary Actors | - |
| Related Use Cases | Req 1.0.7 |

|  |  |  |  |
| --- | --- | --- | --- |
| Primary Scenario | | | |
| Step | Scenario Action | | Expected Behavior |
| 1 | Leave workplace | | Program will detect that you are no longer at your workplace and will automatically clock out |
| 2 | Confirmation pop up - click accept | | A notification pop up will appear for you to accept to verify that you have successfully clocked out. |
| 3 | End use case | |  |
| Related Information | | | |
| Systems Impacted | | Database | |
| Error or Email Messages | | Error message shows if punch was not saved to database | |
| Special Requirements | | App must be running on device and have a network connection | |

### Use Case: Requirement 1.0.3: Lunch break auto clock out

#### Use Case Details

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID | | Requirement 1.0.3: Lunch break auto clock out | |
| Preconditions | | Account has already been created, app signed into and at the workplace. | |
| Successful Post Conditions | | Automated clock out is logged and viewable | |
| Failed Post Conditions | | Clock out is not logged and gives error message | |
| Primary Actors | | Employee, System | |
| Secondary Actors | | - | |
| Related Use Cases | | Req 1.0.7 | |
| Primary Scenario | | | |
| Step | Scenario Action | | Expected Behavior |
| 1 | Leave workplace during lunch period | | Program will detect that you are no longer at your workplace and will automatically clock out |
| 2 | Confirmation pop up - click accept | | A notification pop up will appear for you to accept to verify that you have successfully clocked out. |
| 3 | End use case | |  |
| Related Information | | | |
| Systems Impacted | | Database | |
| Error or Email Messages | | Error message shows if punch was not saved to database | |
| Special Requirements | | App must be running on device and have a network connection | |

### Use Case: Requirement 1.0.4: Lunch break auto clock in

#### Use Case Details

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID | | Requirement 1.0.4: Lunch break auto clock in | |
| Preconditions | | Account has already been created, app signed into and in vicinity of workplace. | |
| Successful Post Conditions | | Automated clock in is logged and viewable | |
| Failed Post Conditions | | Clock in is not logged and gives error message | |
| Primary Actors | | Employee, System | |
| Secondary Actors | | - | |
| Related Use Cases | | Req 1.0.7 | |
| Primary Scenario | | | |
| Step | Scenario Action | | Expected Behavior |
| 1 | Arrive to workplace after lunch break | | Program will detect that you have arrived to your workplace and will automatically clock in |
| 2 | Confirmation pop up - click accept | | A notification pop up will appear for you to accept to verify that you have successfully clocked in. |
| 3 | End use case | |  |
| Related Information | | | |
| Systems Impacted | | Database | |
| Error or Email Messages | | Error message shows if punch was not saved to database | |
| Special Requirements | | App must be running on device and have a network connection | |

### Use Case: Requirement 1.0.5: Lunch break manual clock out

#### Use Case Details

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID | | Requirement 1.0.5: Lunch break manual clock out | |
| Preconditions | | Account has already been created and app signed into  Must already be clocked in for the day | |
| Successful Post Conditions | | Clock out is logged and viewable | |
| Failed Post Conditions | | Clock out is not logged and gives error message | |
| Primary Actors | | Employee | |
| Secondary Actors | | − | |
| Related Use Cases | | Req 1.0.7 | |
| Primary Scenario | | | |
| Step | Scenario Action | | Expected Behavior |
| 1 | Click program icon | | Program opens and displays main page with options to view hours worked, set alarms, or clock in/out |
| 2 | Click "Clock In/Out” option | | Employee is taken to page with options to clock in from or out for lunch |
| 3 | Click "Clock Out Lunch" button | | Alert box pops up with time and date of clock punch that you have to accept or cancel |
| 4 | Press "OK" | | Alert box disappears and newly clocked time is viewable on weekly calendar |
| 5 | End use case | |  |
| Related Information | | | |
| Systems Impacted | | Database | |
| Error or Email Messages | | Error message shows if punch was not saved to database | |
| Special Requirements | | App must be running on device and have a network connection | |

### Use Case: Requirement 1.0.6: Lunch break manual clock in

## Use Case Details

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID | | Requirement 1.0.6: Lunch break manual clock in | |
| Preconditions | | Account has already been created and app signed into  Must already be clocked out for lunch for the day | |
| Successful Post Conditions | | Clock in is logged and viewable | |
| Failed Post Conditions | | Clock in is not logged and gives error message | |
| Primary Actors | | Employee | |
| Secondary Actors | | − | |
| Related Use Cases | | Req 1.0.7 | |
| Primary Scenario | | | |
| Step | Scenario Action | | Expected Behavior |
| 1 | Click program icon | | Program opens and displays main page with options to view hours worked, set alarms, or clock in/out |
| 2 | Click "Clock In/Out” option | | Employee is taken to page with options to clock in from or out for lunch |
| 3 | Click "Clock In From Lunch" button | | Alert box pops up with time and date of clock punch that you have to accept or cancel |
| 4 | Press "OK" | | Alert box disappears and newly clocked time is viewable on weekly calendar |
| 5 | End use case | |  |
| Related Information | | | |
| Systems Impacted | | Database | |
| Error or Email Messages | | Error message shows if punch was not saved to database | |
| Special Requirements | | App must be running on device and have a network connection | |

### Use Case: Requirement 1.0.7: System store timestamp

## Use Case Details

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID | | Requirement 1.0.7: System store timestamp | |
| Preconditions | | Account has already been created and app signed into | |
| Successful Post Conditions | | User is alerted of timestamp save | |
| Failed Post Conditions | | User is not alerted timestamp is saved | |
| Primary Actors | | Employee, System | |
| Secondary Actors | | - | |
| Related Use Cases | | Req 1.0.8 | |
| Primary Scenario-Automatic Time Punch | | | |
| Step | Scenario Action | | Expected Behavior |
| 1 | User walks into/out of building | | App sends time and date info to database, database saves information, user is alerted of saved timestamp |
| 2 | End use case | |  |
| Secondary Scenario-Manual Time Punch | | | |
| Step | Scenario Action | | Expected Behavior |
| 1 | Click program icon | | Program opens and displays main page with options to view hours worked, set alarms, or clock in/out |
| 2 | Click "Clock In/Out” option | | Employee is taken to page with options to clock in from or out for lunch |
| 3 | Choose "Clock In/Out Lunch" | | App sends time and date info to database, database saves information, user is alerted of saved timestamp |
| 4 | End Use Case | |  |
| Related Information | | | |
| Systems Impacted | | Database | |
| Error or Email Messages | | Error message shows if punch was not saved to database | |
| Special Requirements | | App must be running on device and have a network connection | |

### Use Case: Requirement 1.0.8: System Calculates Hours

## Use Case Details

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID | | Requirement 1.0.8: System Calculates Hours | |
| Preconditions | | Account has already been created and app signed into | |
| Successful Post Conditions | | Values are updated in database | |
| Failed Post Conditions | | Values are not updated in database | |
| Primary Actors | | Employee, System | |
| Secondary Actors | | - | |
| Related Use Cases | | Req 1.0.7 | |
| Primary Scenario-Auto Clock Punch | | | |
| Step | Scenario Action | | Expected Behavior |
| 1 | User walks into/out of building | | App sends time and date info to database, database saves information, app recalculates day, week, and pay period hours and saves info to database |
| 2 | End use case | |  |
| Secondary Scenario-Manual Time Punch | | | |
| Step | Scenario Action | | Expected Behavior |
| 1 | Click program icon | | Program opens and displays main page with options to view hours worked, set alarms, or clock in/out |
| 2 | Click "Clock In/Out” option | | Employee is taken to page with options to clock in from or out for lunch |
| 3 | Choose "Clock In/Out Lunch" | | App sends time and date info to database, database saves information, app recalculates day, week, and pay period hours and saves info to database, new values are viewable on app |
| 4 | End Use Case | |  |
| Related Information | | | |
| Systems Impacted | | Database | |
| Error or Email Messages | | − | |
| Special Requirements | | App must be running on device and have a network connection | |

### Use Case: Requirement 1.0.9: Employee alerted of timestamp

## Use Case Details

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID | | Requirement 1.0.9: Employee alerted of timestamp | |
| Preconditions | | App is running on device. Network Connection | |
| Successful Post Condition | | App displays a notification on device | |
| Failed Post Conditions | | App displays error on device | |
| Primary Actors | | Employee, System | |
| Secondary Actors | | - | |
| Related Use Cases | | Req 1.0.7 | |
| Primary Scenario | | | |
| Step | Scenario Action | | Expected Behavior |
| 1 | User leaves/arrives at work place | | Employee is automatically clocked in/out and notification displays on device alerting employee their clock in/out time. |
| 2 | End use case | |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Secondary Scenario 1 – Manual Clock Punch | | | |
| Step | Scenario Action | | Expected Behavior |
| 1 | Click program icon | | Program opens and displays main page with options to view hours worked, set alarms, or clock in/out |
| 2 | Click "Clock In/Out” option | | Employee is taken to page with options to clock in from or out for lunch |
| 3 | Choose "Clock In/Out Lunch" | | Notification displays on device alerting employee their clock in/out time. |
| 4 | End Use Case | |  |
| Related Information | | | |
| Systems Impacted | | Database | |
| Error or E-mail Messages | | Error recording to/accessing database | |
| Special Requirements | | App must be running on device and have a network connection. | |

### Use Case: Requirement 1.0.10: Employee logs in

## Use Case Details

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | | Requirement 1.0.10: Employee logs in | | |
| Preconditions | | Employee is at Login Kiosk at workplace.  Network Connection | | |
| Successful Post Condition | | Employee gains access to the App and is brought to the Home Screen | | |
| Failed Post Conditions | | App displays error on screen that login was unsuccessful | | |
| Primary Actors | | Employee | | |
| Secondary Actors | | - | | |
| Related Use Cases | | - | | |
| Primary Scenario | | | | |
| Step | Scenario Action | | | Expected Behavior |
| 1 | Employee launches App | | | Login Screen appears |
| 2 | Employee enters Employee login | | | Employee login is shown |
| 3 | Employee enters Password | | | Password is hidden with \* marks |
| 4 | Employee clicks Submit | | | Home Screen appears |
| 5 | End use case | | |  |
| Secondary Scenario 1 – Wrong Employee name | | | | |
| Step | Scenario Action | | | Expected Behavior |
| 1 | Employee launches App | | | Login Screen appears |
| 2 | Employee enters Employee login | | | Employee login is shown |
| 3 | Employee enters Password | | | Password is hidden with \* marks |
| 4 | Employee clicks Submit | | | Invalid Employee login/password alert message is displayed. Allows Employee to re-enter Employee login and password. |
| 5 | End use case | | |  |
| Secondary Scenario 2 – Wrong Password | | | | |
| Step | Scenario Action | | | Expected Behavior |
| 1 | Employee launches App | | | Login Screen appears. |
| 2 | Employee enters Employee login | | | Employee login is shown |
| 3 | Employee enters Password | | | Password is hidden with \* marks |
| 4 | Employee clicks Submit | | | Invalid Employee login/password alert message is displayed. Allows Employee to re-enter Employee login and password. |
| 5 | End use case | | |  |
| Related Information | | | | |
| Systems Impacted | | | Database | |
| Error or E-mail Messages | | | Error recording to/accessing database and/or network | |
| Special Requirements | | | App must have a network connection. | |

### Use Case: Requirement 1.0.11: Employee checks his spreadsheet

## Use Case Details

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | | Requirement 1.0.11: Employee checks his spreadsheet | | |
| Preconditions | | Account has already been created and app signed into | | |
| Successful Post Condition | | Employee’s history of time punches are displayed | | |
| Failed Post Conditions | | App displays error on device. App returns to Home Screen | | |
| Primary Actors | | Employee | | |
| Secondary Actors | | - | | |
| Related Use Cases | | Req 1.0.10 | | |
| Primary Scenario | | | | |
| Step | Scenario Action | | | Expected Behavior |
| 1 | Employee launches App | | | Home Screen appears |
| 2 | Employee clicks on My Timesheet | | | Timesheet Screen appears |
| 3 | Employee selects date range | | | Date range selected is shown |
| 4 | Employee clicks View | | | App displays history of time punches |
| 5 | End use case | | |  |
| Secondary Scenario 1 – No History | | | | |
| Step | Scenario Action | | | Expected Behavior |
| 1 | Employee launches App | | | Home Screen appears |
| 2 | Employee clicks on My Timesheet | | | Timesheet Screen appears |
| 3 | Employee selects date range | | | Date range selected is shown |
| 4 | Employee clicks View | | | No history alert message is displayed. Allows Employee to re-select date range. |
| 5 | End use case | | |  |
| Secondary Scenario 2 – Database/Server Error | | | | |
| Step | Scenario Action | | | Expected Behavior |
| 1 | Employee launches App | | | Home Screen appears |
| 2 | Employee clicks on My Timesheet | | | Timesheet Screen appears |
| 3 | Employee selects date range | | | Date range selected is shown |
| 4 | Employee clicks View | | | Error alert message is displayed. Re-directs Employee back to Home Screen. |
| 5 | End use case | | |  |
| Related Information | | | | |
| Systems Impacted | | | Database | |
| Error or E-mail Messages | | | Error accessing database and/or network | |
| Special Requirements | | | App must have a network connection. | |

### Use Case: Requirement 1.0.12: Employee sets alarms

## Use Case Details

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | | Requirement 1.0.12: Employee sets alarms | | |
| Preconditions | | Account has already been created and app signed into  Manager has already input schedule into system | | |
| Successful Post Condition | | Alarm is set and ready to alert when the specified time occurs | | |
| Failed Post Conditions | | App displays error on device. App returns to Home Screen | | |
| Primary Actors | | Employee | | |
| Secondary Actors | | - | | |
| Related Use Cases | | Req 1.0.10 | | |
| Primary Scenario | | | | |
| Step | Scenario Action | | | Expected Behavior |
| 1 | Employee launches App | | | Home Screen appears |
| 2 | Employee clicks on Alarms | | | Alarm Screen appears |
| 3 | Employee clicks Set Alarm | | | Set Alarm Screen appears |
| 4 | Employee selects desired hours/minutes for the alarm to go off prior to scheduled work time | | | Selected hours/minutes are displayed |
| 5 | Employee clicks Set | | | Alarm is set. App displays message confirming the selected alarm settings |
| 6 | End use case | | |  |
| Secondary Scenario 1 – Error | | | | |
| Step | Scenario Action | | | Expected Behavior |
| 1 | Employee launches App | | | Home Screen appears |
| 2 | Employee clicks on Alarms | | | Timesheet Screen appears |
| 3 | Employee clicks Set Alarm | | | Date range selected is shown |
| 4 | Employee selects desired hours/minutes for the alarm to go off prior to scheduled work time | | | No history alert message is displayed. Allows Employee to re-select date range. |
| 5 | Employee clicks Set | | | App displays error message. Employee is re-directed to the Home Screen |
| 6 | End use case | | |  |
| Related Information | | | | |
| Systems Impacted | | | Database | |
| Error or E-mail Messages | | | Error accessing database and/or network. Error setting alarm. | |
| Special Requirements | | | App must have a network connection. | |

### Use Case: Requirement 1.0.13: Manager enters employee schedule into system

## Use Case Details

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | | Requirement 1.0.13: Manager enters employee schedule into system | | |
| Preconditions | | Employees must be created in the system | | |
| Successful Post Condition | | Schedule is updated successfully for employee | | |
| Failed Post Conditions | | Schedule is not saved | | |
| Primary Actors | | Manager | | |
| Secondary Actors | | - | | |
| Related Use Cases | | Req 1.0.16 | | |
| Primary Scenario | | | | |
| Step | Scenario Action | | | Expected Behavior |
| 1 | User logs into the system | | | User is directed to management page |
| 2 | User clicks on “Schedule” link | | | User is directed to the schedule management page |
| 3 | User selects an employee via a link | | | User is directed to the schedule for that employee |
| 4 | User updates or created times to be at work and clicks “submit” | | | User is notified of a successful update to the system |
| 5 | End use case | | |  |
| Related Information | | | | |
| Systems Impacted | | | Database | |
| Error or E-mail Messages | | | Error message - presented if the systems is not updated | |
| Special Requirements | | | App must have a network connection | |

### Use Case: Requirement 1.0.14 Employee clock in/out through web interface

## Use Case Details

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | | Requirement 1.0.14 Employee clock in/out through web interface | | |
| Preconditions | | Employee is created in the system | | |
| Successful Post Condition | | Employee clock in/out time is recorded | | |
| Failed Post Conditions | | Clock-in/out is not logged into the system | | |
| Primary Actors | | Employee | | |
| Secondary Actors | | - | | |
| Related Use Cases | | Req 1.0.10 | | |
| Primary Scenario | | | | |
| Step | Scenario Action | | | Expected Behavior |
| 1 | User (Employee) logs into the system | | | User is presented with the dashboard |
| 2 | User click on “Clock In/Out” | | | User is clocked in and timestamp is saved. User is alerted of saved time punch |
| 3 | End use case | | |  |
| Related Information | | | | |
| Systems Impacted | | | Database, website | |
| Error or E-mail Messages | | | Error message if the time can’t be saved | |
| Special Requirements | | |  | |

### Use Case: Requirement 1.0.15 Manager accesses web based report

## Use Case Details

|  |  |
| --- | --- |
| Use Case ID | Requirement 1.0.15 Manager accesses web based report |
| Preconditions | Employees and managers setup in the system |
| Successful Post Condition | Manager will be presented with clock in/out times for employee(s) |
| Failed Post Conditions | Managers are not presented with log in/out times |
| Primary Actors | Manager |
| Secondary Actors | - |
| Related Use Cases | Req 1.0.16 |

|  |  |  |  |
| --- | --- | --- | --- |
| Primary Scenario | | | |
| Step | Scenario Action | | Expected Behavior |
| 1 | User (manager) logs into the system | | User is presented with a dashboard |
| 2 | User selects “View Employee Timestamps” | | User is presented with a listing of employees and timestamps for the past seven (7) days |
| 3 | End use case | |  |
| Related Information | | | |
| Systems Impacted | | Database (ready only) | |
| Error or E-mail Messages | | Error message if the system is unable to pull timestamp information for one or more employees | |
| Special Requirements | | - | |

### Use Case: Requirement 1.0.16: Manager logs in

## Use Case Details

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID | | Requirement 1.0.16: Manager logs in | |
| Preconditions | | Network Connection | |
| Successful Post Condition | | Manager gains access to the website and is brought to the Home Screen | |
| Failed Post Conditions | | Website displays error on screen that login was unsuccessful | |
| Primary Actors | | Manager | |
| Secondary Actors | | - | |
| Related Use Cases | | - | |
| Primary Scenario | | | |
| Step | Scenario Action | | Expected Behavior |
| 1 | Manager launches App | | Login Screen appears |
| 2 | Manager enters Employee login | | Manager login is shown |
| 3 | Manager enters Password | | Password is hidden with \* marks |
| 4 | Manager clicks Submit | | Home Screen appears |
| 5 | End use case | |  |
| Secondary Scenario 1 – Wrong Employee name | | | |
| Step | Scenario Action | | Expected Behavior |
| 1 | Manager launches App | | Login Screen appears |
| 2 | Manager enters login | | Manager login is shown |
| 3 | Manager enters Password | | Password is hidden with \* marks |
| 4 | Manager clicks Submit | | Invalid Manager login/password alert message is displayed. Allows Manager to re-enter login and password. |
| 5 | End use case | |  |
| Secondary Scenario 2 – Wrong Password | | | |
| Step | Scenario Action | | Expected Behavior |
| 1 | Manager launches App | | Login Screen appears. |
| 2 | Manager enters login | | Manager login is shown |
| 3 | Manager enters Password | | Password is hidden with \* marks |

## 

|  |  |  |  |
| --- | --- | --- | --- |
| 4 | Manager clicks Submit | | Invalid Manager login/password alert message is displayed. Allows Manager to re-enter login and password. |
| 5 | End use case | |  |
| Related Information | | | |
| Systems Impacted | | Database | |
| Error or E-mail Messages | | Error recording to/accessing database and/or network | |
| Special Requirements | | App must have a network connection. | |

## 

# Proposed Site Map

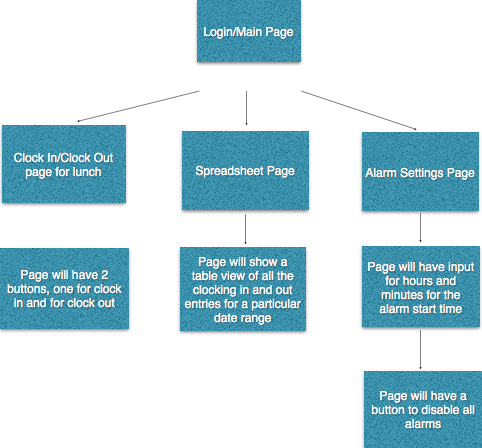
This proposed site map is used for discussion purposes. The final site map will be specified in the User Interface sections of the Technical Design Specification.

Main pages:

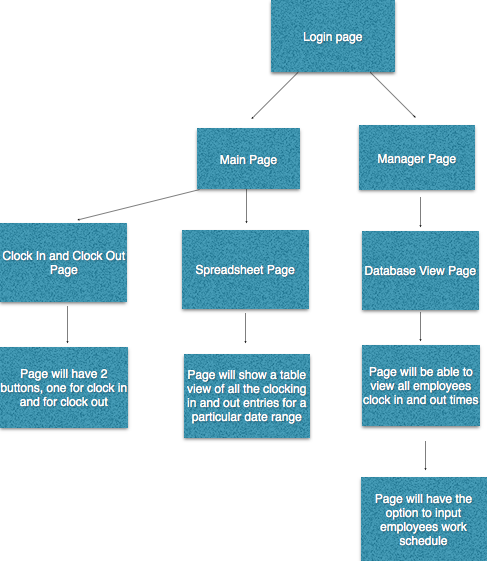
1. login page(App only for employee) – main page ( lunch clock in/out page, spreadsheet, alarm settings)
2. lunch clock in/out page – button saying “clock in/out”
3. spreadsheet page (Employee) - starting date / ending date – produces the list of all entries of in/out log for that employee
4. Alarm setting – input min/hrs/secs for the alarm starting time, has a no alarm button as well

Login page (Web)- main page (two main pages, one for employees – default, other for managers) Assumption: This page can only be excessed from company network, cant do it from home or any were else

1. Default main page: a. clock in/out button, b. link to spread sheet page
2. Manager main page: complete database view and excess (who came what time and when), put in the employee schedule based on which the employees would get alerts
3. Spreadsheet page for employee - - starting date / ending date – produces the list of all entries of in/out log for that employee



Web Site Map:



# Security

## Security Requirements

### System Security

Each user must have their own username and password.

### Security Approach

Not applicable.

### Third Party Software Security

Not applicable.

### Interface Security

Not applicable.

### Metrics

All users will be registered. All users’ history will be logged for later usage analysis.

### User Authentication

Users will be required to have a system generated username and the user will create a password that is at least 8-characters in length and includes at least one capital letter, and 1 numeric digits.

## Encryption Requirements

### Full Encryption Areas

Not applicable.

### Application Data

Not applicable.

### Encryption Business Policy

Not applicable.

### Encryption in Transit

Not applicable.

### Encryption in Storage

Not applicable.

### Other Encryption Info

Not applicable.

## 

## Access Control

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **UC #** | **UC Name** | **Employee** | **Manager** | **System** |
| Req 1.0.1 | UC1\_Clock\_In |  |  | X |
| Req 1.0.2 | UC2\_Clock\_Out |  |  | X |
| Req 1.0.3 | UC3\_Auto\_Clock\_Out\_Lunch\_  Break |  |  | X |
| Req 1.0.4 | UC4\_Auto\_Clock\_In\_Lunch\_ Break |  |  | X |
| Req 1.0.5 | UC5\_Manual\_Clock\_Out\_Lunch\_  Break | X |  | X |
| Req 1.0.6 | UC6\_Manual\_Clock\_In\_Lunch\_  Break | X |  | X |
| Req 1.0.7 | UC7\_Store\_Timestamps\_In\_DB |  |  | X |
| Req 1.0.8 | UC8\_Calulate\_Hours |  |  | X |
| Req 1.0.9 | UC9\_Automated\_Alert\_On\_App |  |  | X |
| Req 1.0.10 | UC10\_Employee\_Login | X |  | X |
| Req 1.0.11 | UC11\_Check\_My\_Spreadsheet | X |  | X |
| Req 1.0.12 | UC12\_Set\_Alarm | X |  | X |
| Req 1.0.13 | UC13\_Website\_Based\_Schedule |  | X | X |
| Req 1.0.14 | UC14\_Website\_Manual\_ClockIn | X |  | X |
| Req 1.0.15 | UC15\_Website\_Based\_Reports\_  For\_Managers |  | X | X |
| Req 1.0.16 | UC16\_Manager\_Login |  | X | X |

# System Metrics

## Performance and Availability

### Performance Metric

The application should respond to user’s command instantly (In a reasonable amount of time in seconds)

### Availability Metric

100% Availability. Always running.

### Other Metrics

Not applicable.

### Volume of Users

Volume will be based on the business’s initial number of employees.

### User Growth

Volume growth will be based on the business’s growth of employees.

### Most Traffic- Functionality

UC1\_Clock\_In, UC2\_Clock\_Out, UC7\_Store\_Timestamps\_In\_DB, UC9\_Automated\_Alert\_On\_App

### Most Traffic- Time Periods

Beginning of business hours, lunch hours, end of business hours. Determined by the business.

### Error Logging

4 weeks of error logging for all application errors.

### Connection Types

All users will be able to connect to the application from any location.

### User Locations

The physical location of all users will be domestic USA.

# Platform Requirements

| Platform Requirements | | |
| --- | --- | --- |
| Supported Platforms | Description of Platform | Platform Support Required |
| Internet Explorer | Internet Explorer Browser | Application must run on Internet Explorer, version 9.0 or higher. |
| Chrome | Chrome Browser | All versions of Chrome supported |
| Safari | Safari Browser | All versions of Safari supported |
| Firefox | Firefox Browser | All versions of Firefox supported |
| Android | Android Opp System | Versions 4.1 and above supported |

# Risks

| **UC#** | **UC Name** | **Type of Risk** | **Risk Description** |
| --- | --- | --- | --- |
| 1 | UC1\_Clock\_In | data integrity | if system fails to detect the devise in network |
| 2 | UC2\_Clock\_Out | data integrity |
| 3 | UC3\_Auto\_Clock\_Out\_Lunch\_Break | data integrity |
| 4 | UC4\_Auto\_Clock\_In\_Lunch\_Break | data integrity |
| 5 | UC5\_Manual\_Clock\_Out\_Lunch\_Break | N/A |  |
| 6 | UC6\_Manual\_Clock\_In\_Lunch\_Break | N/A |  |
| 7 | UC7\_Store\_Timestamps\_In\_DB | N/A |  |
| 8 | UC8\_Calculate\_Huurs | N/A |  |
| 9 | UC9\_Automated\_Alert\_On\_App | N/A |  |
| 10 | UC10\_Login | N/A |  |
| 11 | UC11\_Check\_My\_Spreadsheet | N/A |  |
| 12 | UC12\_Set\_Alarm | N/A |  |
| 13 | UC13\_Website\_Based\_Schedule | N/A |  |
| 14 | UC14\_Website\_Manual\_Login | N/A |  |
| 15 | UC15\_Website\_Based\_Reports\_For\_Managers | N/A |  |

# 

# Sign-off

| **Signature** | **Name & Title** | **Date** | **Comments** |
| --- | --- | --- | --- |
| Dhara Shah | Business Initiative Leader | 10-3-2015 | All authorities are responsible for all aspects of the project. |
| Chyeeka Brown | Business Project Leader | 10-3-2015 |
| David Gibbs | IT Project Manager | 10-3-2015 |
| Sheldon Gray | IT Executive Sponsor | 10-3-2015 |
| Thi Mai | Business Executive Sponsor | 10-3-2015 |

# Glossary

Not applicable

# Appendices

Not applicable.

# Functional Specifications Checklist

The goal is to ensure a quality design process and eliminate defects in this project phase by having well-defined and well-documented functional specifications based on the business requirements with the correct use of requirements standards. The objectives are to eliminate potential risks associated with poorly-collected or poorly-defined specifications and requirements. To this end, below are listed the key quality categories: each requirement should be Unambiguous, Complete, Verifiable, Consistent, Modifiable, Traceable and Correct.

#### Unambiguous

* Is it easy to read (formatted properly, appropriate functional and requirements hierarchy, spelling, grammar, index, table of contents)?
* Is it easily understood (is it too technical)?
* Does it use a uniform glossary (all key terms and acronyms defined)?

#### Complete

* Are strategic business objectives identified?
* Have all critical assumptions been identified?
* Have constraints and dependencies been identifed?
* Have out of scope items been identified?
* Have in scope items been identified?
* Has the current situation been documented?
* Have new enhancements or requirements been clearly identified?
* Have new practices or procedures been clearly identified?
* Has language support and personalization been addressed?
* Has security been addressed?
* Have performance measurements been identified?
* Have key success factors been identified?

#### Verifiable

* Are assertions backed up by quantifiable data?
* Proper sequencing of information (logical flow of Functional Groupings and Requirements)?
* Is it easily understood (is it too technical)?

#### Consistent

* Does the document identify the same elements (terms, requirement naming format, etc.) uniformly across all sections?
* Validity checks for inputs/outputs?
* The business requirement has a single and coherent business framework / domain?

#### Modifiable

* Does it have a review section and signoff section?
* Are appropriate team members reviewing?
* Have all changes been reflected in documents (tracking numbers)?
* Validity checks for inputs/outputs?

#### Traceable

* Is information transferred correctly from the parent documents to children documents?
* Are the parent documents listed in the Glossary Section?
* Are requirement names formatted to be traceable as project elements?

#### Correct

* Does it correctly describe the stakeholders/systems intent?
* Has the document been approved?
* Is there measurements set-up to verify business success?

# Functional Requirements Frequently Asked Questions (and Answers)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **What is the purpose of this document and who “owns” its content?** | | | | |
| **Purpose of Document** | | The functional specification provides the detail necessary to design, implement, and test the resulting system. | | |
| **Document Owner** | | The Business Initiative or Project Leader | | |
| **Time-Saving Tip** | | Copy and paste the Problem Statement, Business Case, and Mission Statement from the Business Requirements Document into the table. | | |
| **Who is the Audience of this Document?** | | | | |
| **Audience** | | **Usage** | | |
| *Initiative Leader* | | Review and approve that the specification accurately describes what is desired. | | |
| *Business Project Manager* | | Review and approve that the specification accurately describes what is desired. | | |
| *IT Project Manager* | | Review and approve, confirming that the system can be built to this specification | | |
| *Quality Assurance* | | Review and use as primary input, along with the Bus Reqs, to the System Test Plan | | |
| *Business Process Owners* | | Review to understand impacts of the new system on business processes. | | |
| *Software Architects* | | Review as input to the Architecture and Technical Design specifications to ensure completeness, accuracy and consistency between all three specs. | | |
| *Technical Lead / DBA* | | Review as input to the Technical Design Specification. | | |
| *Infrastructure* | | Review to become familiar with the system. | | |
| *Technical Writers and Usability Analysts* | | To design the user assistance and information plan and begin developing information deliverables (user, technical, training). | | |
| **Frequently Asked Questions about Completing this Document** | | | | |
| # | Question | | Answer | |
| 1 | How do I attach another doc as an object in this doc? | | (In this Word Doc) click Insert🡪 Object🡪 Create From File tab🡪Check-off “Display as Icon” 🡪 Browse for file🡪 click “ok”. File should now be on the document, but may not be fully visible. If not fully visible: click on the object🡪 one right click🡪 “Format Object” 🡪 click layout tab🡪 select “Tight”🡪 hit “ok”. | |
| 2 | How do I provide a hyperlink in this doc to another doc? | | (In this Word Doc)🡪 Insert🡪Hyperlink🡪Enter hyperlink | |
| 3 | How do I update the Table of Contents? | | Go to the Table of Contents page 🡪Position cursor to the left of the table (not over the table) 🡪Left click mouse button. The entire table should be hi-lited 🡪Click the F9 key on keyboard. | |
| **Definitions for Use Case Tables** | | | | | |
| **Use Case ID** | | | | | ID for the use case. Should be the same as in Section 4.1 |
| **Preconditions** | | | | | The conditions or prerequisites that must be true before a use case can begin. This may be issues such as the user has logged in, the user has already established an Internet connection, some other transactions have already occurred, and so on. |
| **Successful Post Condition** | | | | | The conditions or statuses that will be true when a use case finishes successfully. |
| **Failed Post Conditions** | | | | | The conditions or statuses that will be true when a use case finishes in an error state. |
| **Primary Actors** | | | | | Primary Actors for the Use Case |
| **Secondary Actors** | | | | | Secondary Actors for the Use Case |
| **Related Use Cases** | | | | | All the other use cases that are related to the given use case (either coming before, coming after, or used within this use case). |
| **Systems Impacted** | | | | | Indicate any legacy systems that may be impacted or interaction with other systems, such as security. |
| **Error or E-mail Messages** | | | | | Error or Email Messages generated by the activities in the Use Case |
| **Special Requirements** | | | | | Special Requirements are often used for complex algorithms, common business rules across scenarios or use cases, and should be referenced within the scenarios. It can be a useful place to put larger sets of information that won’t fit in the scenario form but they should always be referenced within the scenario item that needs them. Business rules can be included. These should be rare, because most business rules can and should be documented in the scenario. |
| **Primary Scenario** | | | | | Standard Use Case description (20 word or less description of the Use Case functionality) |
| **Secondary Scenario** | | | | | Exceptions from the primary scenario, including additional functionality for certain actors and error conditions/messages |