



PROJECT NAME: W² MANAGEMENT SYSTEM

Sponsor Name: Altech Card Solutions

GROUP SUPERVISOR: Mr. R. Spijkerman

Team Number: 34

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Informatics 3 Year Project

Academy of Computer Science and Software Engineering

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Problem Statement

Our sponsor's organisations wants to develop an application that will improve their production time, handling of calls which are essentially issues an employee logs and keep track of operations.

Sponsor Background

Altech Card Solutions was created in the year 1993 and now is one of the leading players in the secure of transactions markets, Public transport Solutions, Mobile forms, Crypto Services and Information Security Services under the CyberTech division. CyberTech is a managed cyber security service provider with over 15 years' experience providing services in many African countries as well as Europe.

Our sponsor's current system only provides means to only track tickets and not enforce them not to be closed without a reason and they do not get notifications when the ticket is almost due has still providing the same problem of not meeting project deadlines and seeing where the company is lacking which our system will provide and try to maintain.

Use Cases

Task management Subsystem

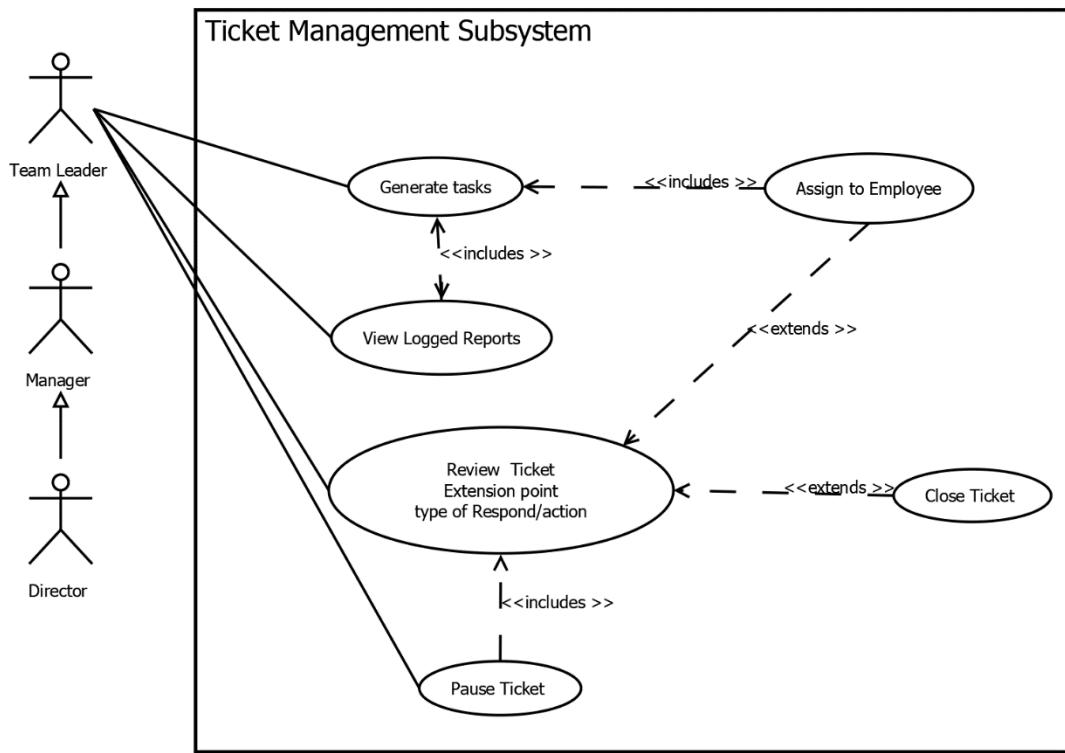


Figure 1: Generate Task

Use Case: Generate Task

1. Enter Ticket title
2. Enter Description
3. Enter Priority Level
4. Enter Start Time
5. Enter Deadline

Extension

- 1a. Empty fields Ticket title, Start Time, Priority Level or Deadline

Inform user to not to leave empty fields

- 4a. Start Time before current time

Inform user to enter valid date

- 5a. Deadline too far based on business rule

Inform user to enter valid date

Use Case: Assign to Employee

1. View Employees currently working on tickets
2. Display tickets that are assigned to an employee
3. Select & Assign Employee
4. Display: Ticket Opened

Use Case: View logged reports

1. View query.
2. Acknowledge Issue.
3. Proceed to generate task

Use Case: Review Ticket

1. View Ticket
2. Modify Ticket Information Such as (Priority, Description, Deadline)
3. Re-assign the task if it is not done properly

Use Case: Close Ticket

1. Set ticket to solved
2. Set actual complete time
3. Store in the database
4. Send Notification to employee

Use Case: Pause Ticket

1. Display ticket type
2. Display ticket priority
3. Display Ticket deadline
4. Display reason or cause for a pause
5. If employee requested for a pause either accept or decline the pause & notify assigner

Task Management Ticket Subsystem

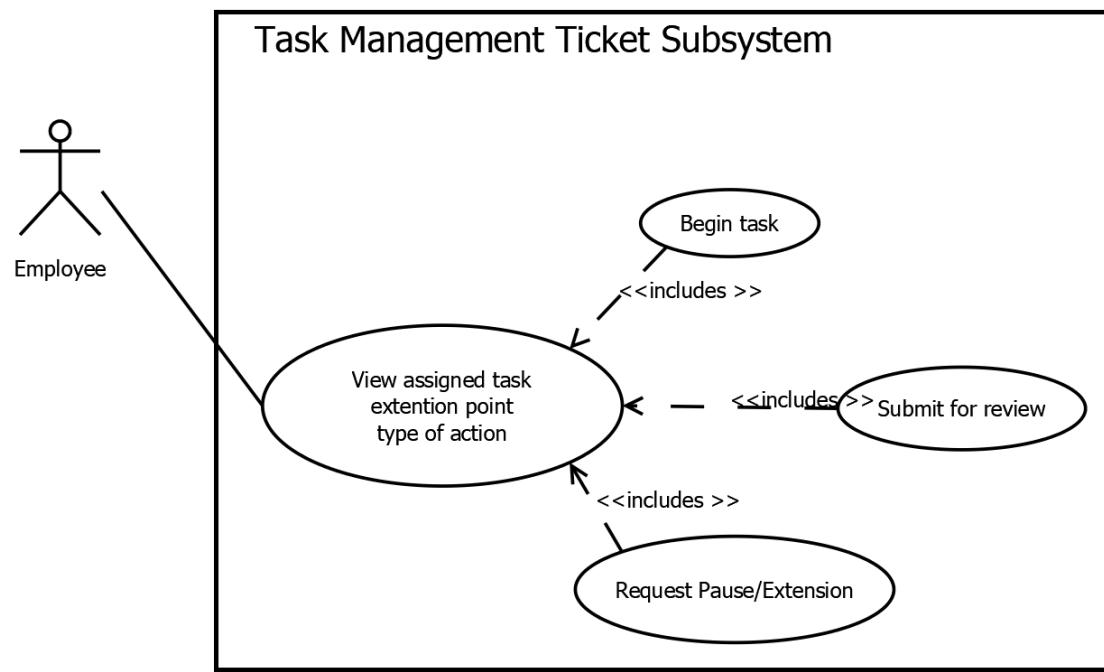


Figure 2: View Assign Task

Use Case: View assigned Task

1. View received ticket
2. Display ticket priority level, assigner, assignee, deadline, type of problem and description

Use Case: Begin Task

1. The system notifies assigner of commencement of ticket
2. Set Ticket status to in progress

Use Case: Request Pause/Extension

1. Write a reason for pause

Extension

- 1a. Empty fields

Inform user to enter a reason

Use Case: Submit for review

1. Submit a ticket to the assigner

Log Reports Subsystem

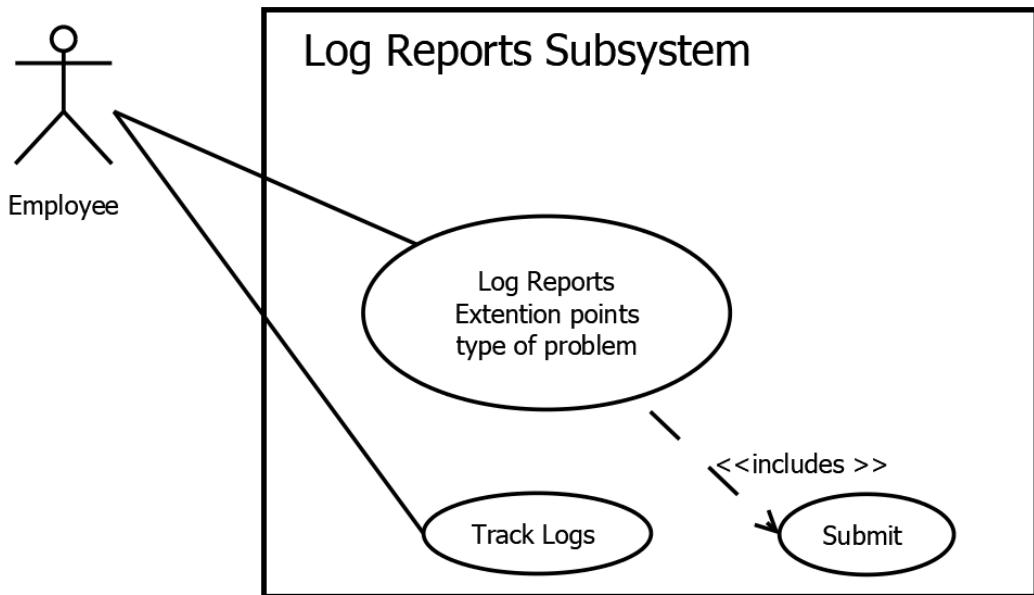


Figure 3 : Log Report

Use Case: Log Reports

1. Enter Logger automatically
2. Select Problem Category: Hardware, Software, Database or Network
3. Enter Problem Description

Extension

- 1a. nothing selected

Inform user to select a category

- 2b. Empty field

Inform user to enter a description

Use Case: Track Logs

1. Display log ID, problem category, log status

Assigner Track Ticket Subsystem

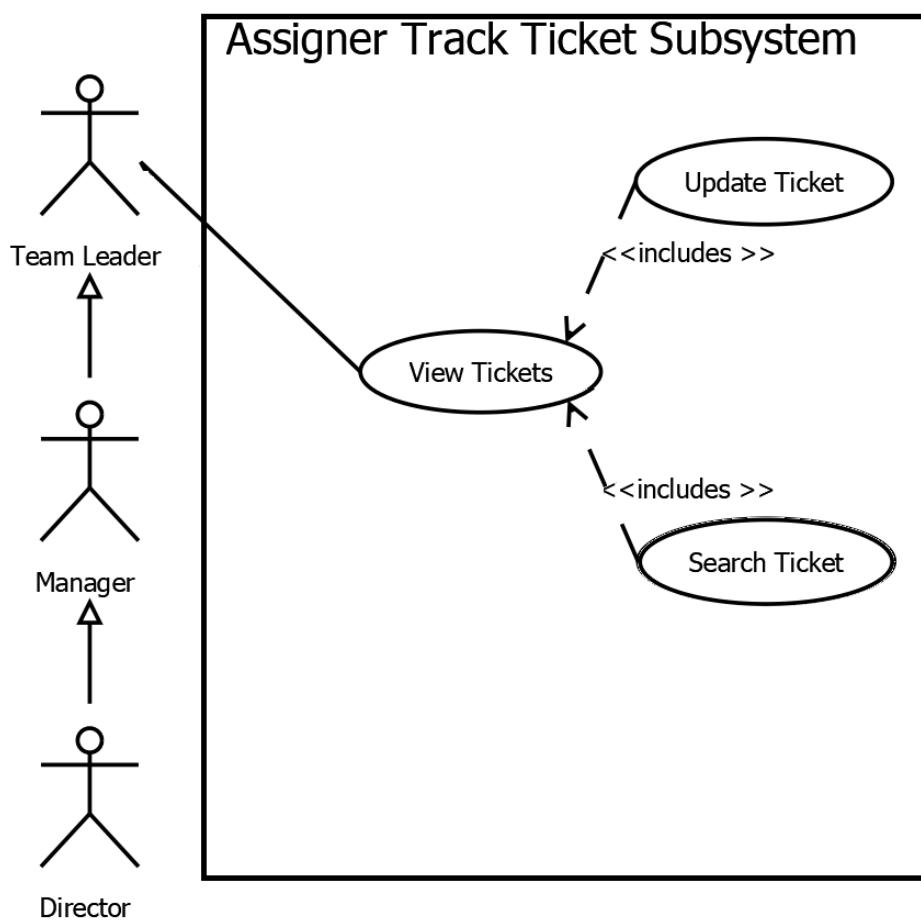


Figure 4: View Tickets

Use Case: View tickets

1. Display list of tickets
2. Filter tickets to display active, completed, expired tickets and show tickets of a particular employee

Use Case: Update ticket

1. Display current ticket info
2. Modify Ticket title, Start Time, Priority Level, Deadline or Assigned to
3. Proceed to update ticket info

Extension

- 2a. Empty fields Ticket title, Start Time, Priority Level or Deadline

Inform user to not to leave empty fields

- 2b. Start Time before current time

Inform user to enter valid date.

Use Case: Search ticket

1. Display tickets based on search query

Employee Track Ticket Subsystem

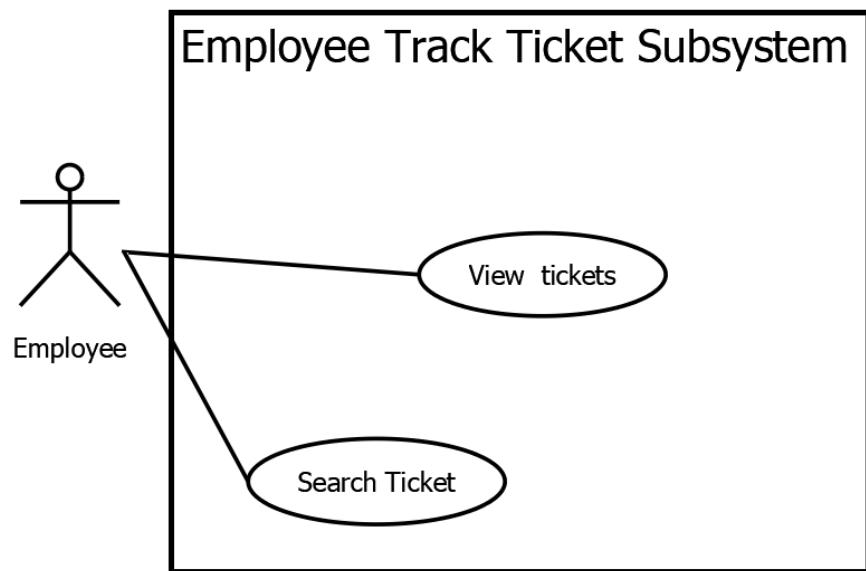


Figure 5

Use Case: View tickets

1. Display list of tickets of current employee
2. Filter tickets to display active, completed, expired tickets

Use Case: Search ticket

1. Display tickets based on search query

Administration Subsystem

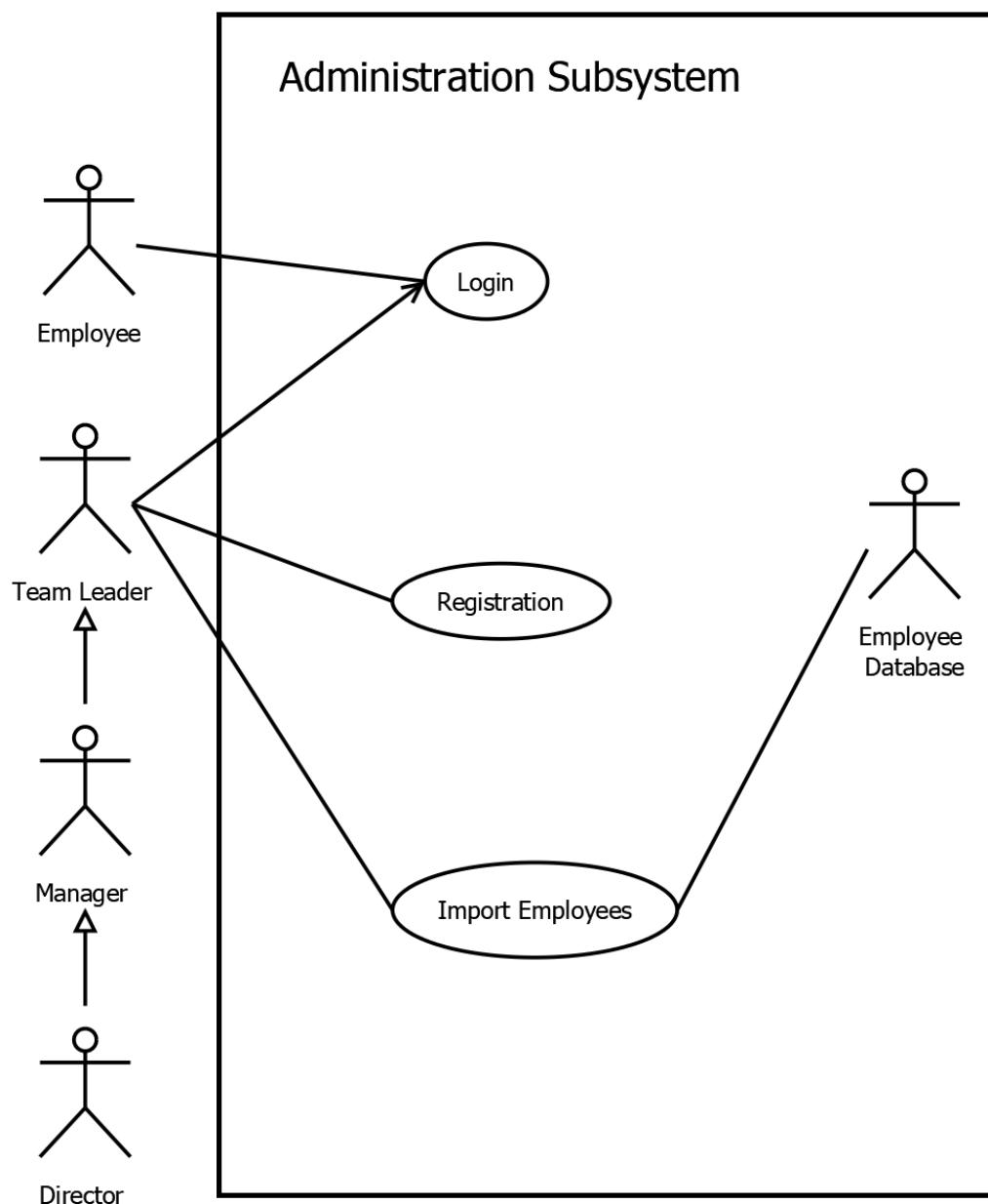


Figure 6

Use Case: View tickets

1. Enter username
2. Enter Password
3. Login

Extension

- 4a. if a user doesn't exist

Respond: Invalid user or user doesn't exist

4b. if the user exists but inputs wrong password or username

Respond: Invalid username or password

Use Case: Registration

1. Enter the First name
2. Enter the Last name
3. Enter position
4. Enter username (Company email)
5. Enter Password
6. Confirm Password
7. Store User

Extension

1a. Empty field first name

Inform user to enter the first name

2a. Empty field

Inform user to enter the Last name

3a. Empty field

Inform user to enter Position

4a. Empty field

Inform user to enter a username

4b. Empty field

Inform user to insert email

5a. Empty field

Inform user to enter password

6a. Empty field

Inform user to confirm password

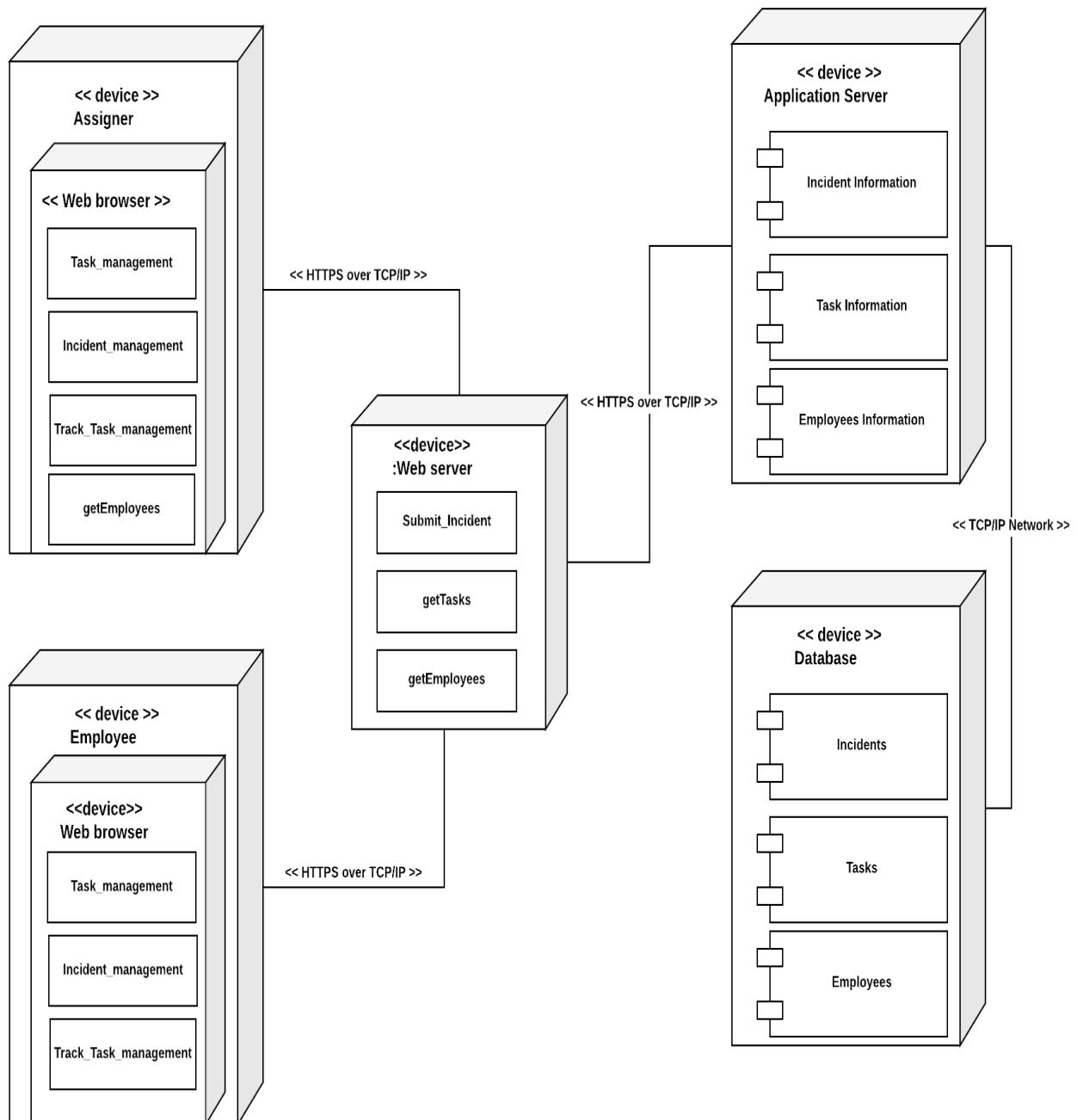
6b. Passwords don't match

Inform user that passwords don't match

Use Case: Import Employees

1. Import Employees to an internal database

Component & Deployment Diagram



Verification and Validation Plan

Login

Scope: Test valid and invalid login attempts to the User dashboard.

Action: User submits Login Form.

Test Notes and Preconditions: Open the user login page.

Verification Steps: Verify the user has given the correct details.

Scenario: Test User's password and username

#	Test Name	Input	Conditions / Test	Expected Output
1	Login	Username Password	Username correct, password correct	Verify user. Continue to dashboard
2			Password incorrect	Show Error message, Incorrect password or username
3			Username incorrect	
4			User does not exist	Error message, Please make sure you have registered before you log in
5			Verify if username and password fields are blank when the login button is clicked	Error message, Password or Username fields cannot be left blank

Registration

Scope: Test various field input on the Registration Request Form.

Action: User Submit Registration Form.

Test Notes and Preconditions: Open the user registration request form from the website home page.

Verification Steps: Verify the user has been registered with the given details.

Scenario: Test leaving a required field blank or with invalid entry on the new user registration

#	Test Name	Input	Conditions / Test	Expected Output
1	Registration	Full name	Full Name	Show tick next to the relevant field
2			Full Name that contains invalid char	Show Error message, Name contains an invalid char
3		Last Name	Last Name	Show tick next to the relevant field

4			Last Name is correct but contains invalid char	Show Error message, Last Name contains an invalid char
5		Position	Position is correct	Show tick next to the relevant field
6		Username (Company email address)	Username is correct	
7		Password	Password strength, length	Show error message, Either one of the following, Password is too weak or Password is strong. Password is too short
8		Confirm Password	Password matches or not	Show Error message, either Password matches or not
9	Submit the Registration Form	Full Name, Last Name, Email, Position, Username, Password, Confirm Password	Checking if there are fields that are left empty	Mandatory fields cannot be left blank
10		Full Name, Last Name, Email, Position, Username, Password, Confirm Password	Checking if maximum chars have been reached	If maximum chars have been reached show error message. Maximum chars have been reached

Creating a Task

Scope: Test valid and invalid creation of a task

Action: Manager or authorized person submits Task.

Test Notes and Preconditions: Open the Team Leader or Managers dashboard page.

Verification Steps: Verify the user and direct them to the relevant dashboard.

Scenario: Testing whether the user who is creating task has met the requirements for creating a task.

#	Test Name	Input	Conditions / Test	Expected Output
1	Create a task	Title, Description	Title and description filled in correct	After creating a task show task created successfully
2		Priority Level	Priority Level is chosen	
3		Checking if Start Time is within	Time is correct	If start time is before business

		business working hours		hours, Error message. Start time is before business operating hours or after operating hours
4		Check if the Deadline is not too far in the future or before start date	Deadline is specified	If the deadline is too far from current date or it's before. Error message shown, deadline is far or it's before the current date
5		Title, Description, Priority Level, Start Time, Deadline	Fields are left blank	Mandatory fields cannot be blank

Request for extension or Pause

Scope: Test valid and invalid request for pause.

Action: Employee requests for extension.

Test Notes and Preconditions: Open the task page to begin task or request an extension.

Verification Steps: Verify if the employee has met the conditions for requesting for a pause or extension.

Scenario: Testing if the employee has left the mandatory field empty

#	Test Name	Input	Conditions / Test	Expected Output
1	Request pause or extension	Pause or extension	Reason for pause is entered	After clicking the submit button show message saying your request is under review
2		Reason for pause or extension	Request for pause field is blank, Starts with a non-char	Mandatory field cannot be empty or mandatory field cannot start with a non-char

Log Incidents

Scope: Test valid and invalid inputs for logged incidents.

Action: Employee submits an incident.

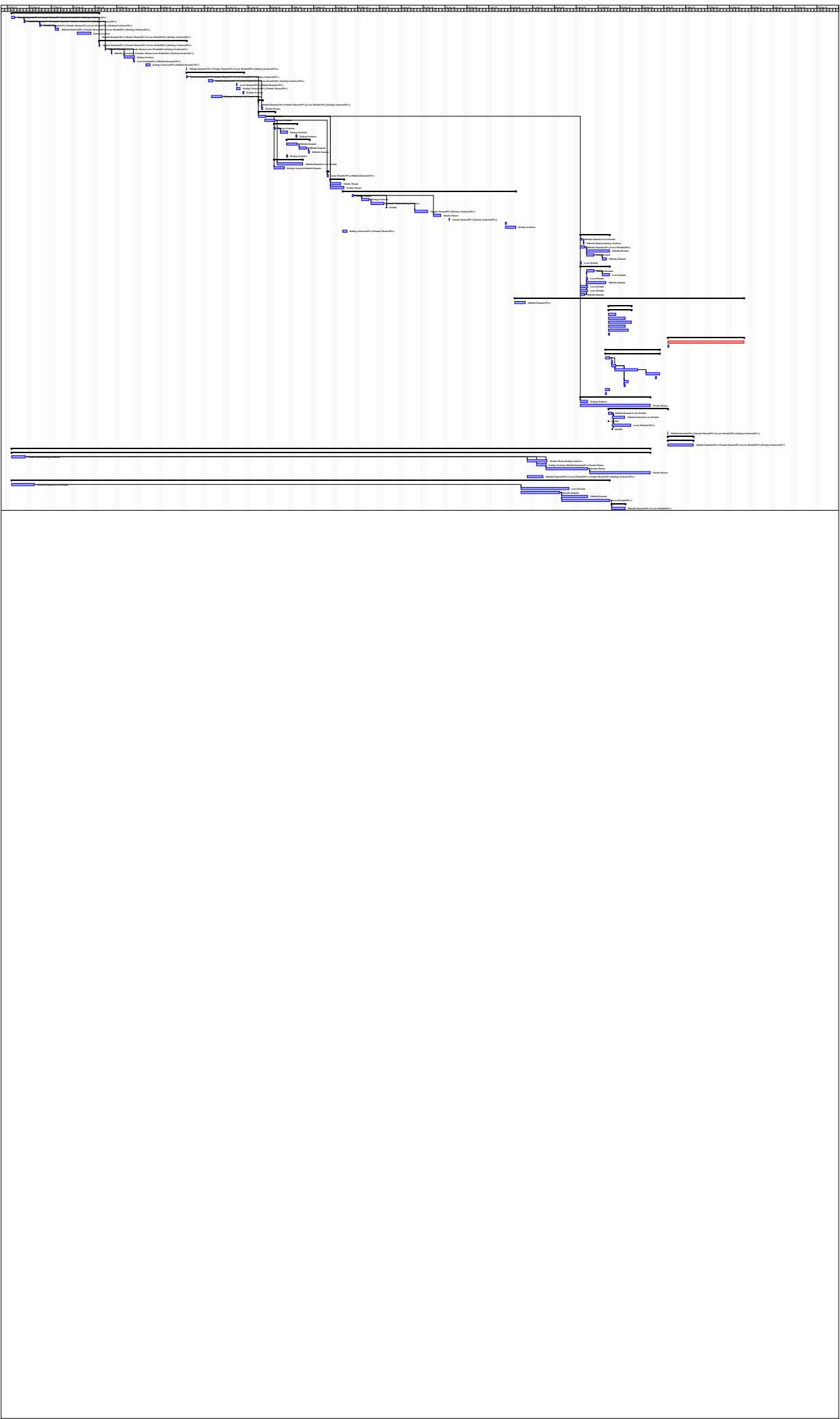
Verification Steps: Verify the employee has correctly filled the log incident form correctly

Scenario: Testing whether the employee who is logging an incident has left mandatory fields blank.

#	Test Name	Input	Conditions / Test	Expected Output
1	Log incidents	Problem category and Description	A category is selected, and Description is correct	Should be able to log an incident
2		Description	The description field is blank, Starts with a non-char	Mandatory fields cannot be left empty or they cannot start with a non-char

Gantt Chart and Resource Breakdown.

With the Gantt Chart for this Task Management System we used the Project deliverable(s) guideline as a guide to the task breakdown. The time estimation where an approximation of the estimation we thought it will take us to complete the tasks and With regards to the Project Cost, as for this project we do not require any other resources than the four resources that are the four junior web developers(Software engineers) therefore the project cost is only for covering the work that will be done by the four team members. According to the payscale a junior Software Engineer earns R68.38 per hour. (www.payscale.com/research/ZA/Industry=Software_Development/Hourly_rate)



Gantt Chart for Team 34 WhiteWalkers

Dates			
Start	2019/02/04 8:00 AM	Finish	2019/09/26 5:00 PM
Baseline Start		Baseline Finish	
Actual Start		Actual Finish	

Duration			
Scheduled	169 days	Remaining	169 days
Baseline	0 days	Actual	0 days
		Percent Complete	0%

Work			
Scheduled	2,811.933 hours	Remaining	2,811.933 hours
Baseline	0 hours	Actual	0 hours

Costs			
Scheduled	R 113796.65	Remaining	R 113796.65
Baseline	R 0.00	Actual	R 0.00
		Variance	R 0.00

Notes			

Mthulisi Kumalo

Cost R 29666.67

Budget R 0.00

Ntando Nkomo

Cost R 32529.99

Budget R 0.00

Lesta Mvimbni

Cost R 28400.00

Budget R 0.00

Katlego Seoketsa

Cost R 23200.00

Budget R 0.00