5ThePeople

Project Plan

Version 1.0

Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version** | **Description** | **Author** |
| 09/23/2021 | 1.0 | Abstract Generation | 5ThePeople |
| 09/29/2021 | 1.1 | Login module implementation | 5ThePeople |
| 10/05/2021 | 1.2 | Employee manager relationship module | 5ThePeople |
| 10/15/2021 | 1.3 | Integration of tools and security module using Cognito | 5ThePeople |
| 10/24/2021 | 1.4 | Admin management module | 5ThePeople |
| 10/30/2021 | 1.5 | Organization level management module | 5ThePeople |
| 11/05/2021 | 1.6 | Project management module and Leave Manangement module | 5ThePeople |
| 11/25/2021 | 1.7 | Testing and further Changes | 5ThePeople |
| 11/28/2021 | 1.8 | Jenkins and SonarCloud Integration | 5ThePeople |
| 12/02/2021 | 1.9 | Deployment |  |

Table of Contents

1. Introduction 4

1.1 Purpose of this document 4

1.2 Intended Audience 4

1.3 Scope 4

1.4 Definitions and acronyms 4

1.4.1 Definitions 4

1.4.2 Acronyms and abbreviations 5

1.5 References 5

2. Background and Objectives 5

3. Organization 5

*3.1* Project group 5

3.2 Customer 6

4. Development process 6

*5.* Deliverables 6

6. Project risks 6

7. Communication 7

7.1 Canvas 7

7.2 Git 7

8. Project plan 7

8.1 Time schedule 7

8.1.1 Remarks 7

8.2 Test plan 9

8.2.1 Testing Remarks 10

9. References 10

# Introduction

## Purpose of this document

The purpose of this document is to provide a detailed project description of the application called Omega an employee management system, which is designed to help people get easy access to company portal using a dashboard driven experience to all the authorized users. This document includes details about organization, roles, deliverables, project risks, time plans and financial plans.

## Intended Audience

This document shall be used in all phases of the project as a guideline. Intended audiences of this project are all project stakeholders:

* Project supervisor
* Project leader
* Team members

## Scope

This document defines the project plan of the Omega application. The overview includes objectives of the project, organization of the project team, development process that is going to be used during the project, assessment of possible risks, communication used between project stakeholders and project plan that includes time schedule and activity plan.

## Definitions and acronyms

### Definitions

|  |  |
| --- | --- |
| **Keyword** | **Definitions** |
| Omega | The name of the project |
| Professor Andrew Bond | A person in charge of supervising the project |
| Swathi Anandram | A person in charge of organizing the team and communicating with the project supervisor |
| Aryan Jadon, Shreya Nimbhorkar, Harika Nalam, Supreetha M A | All active members of the team responsible for making the job done |
| 11/28/2021 | A time in a project that marks the end of a project phase or the completion of an important deliverable. |
| Git | Version control system that will be used in this project |
| Scrum | An iterative and incremental agile software development method for managing software projects and product or application development |
| Trello | Web-based tool for integrated agile project management and collaboration based on Scrum |
| Scrum sprint – 10 days | The basic unit of development in Scrum |
| Scrum master – Shreya Nimbhorkar | Ensures the smooth working of the Scrum team and enforces Scrum practices |
| Product owner – 5ThePeople | Responsible for product management and its quality |

### Acronyms and abbreviations

|  |  |
| --- | --- |
| **Acronym or**  **abbreviation** | **Definitions** |
| EMS | Employee Management System |
| QA | Quality Assurance |

## References

1. <http://www.scrum.org/>
2. <https://trello.com/en-US>

# Background and Objectives

In this world of growing technologies, everything has become easier to access. Likewise, every company needs a portal for easy access of all the modules and users in company. Thus, there is a need for a system which provides various dashboards for all the users of a company. This project provides such an employee management system called Omega which serves the purpose.

The objective of this project is to provide an excellent approach towards management of company’s data. This will be done by designing and implementing a dashboard driven experience for the users that will bring a major paradigm shift in how the employee and company information is handled. The system will provide a web design for Omega to fulfill requirements such as Project Management System, Leave Management System, Trainings Management System, Admin Management System, to develop a well-designed database to maintain all the necessary information, and to develop a user-friendly interface for smooth interaction with the system.

# Architecture & High Level Design

Diagram, schematic

Description automatically generated

Figure 1: The figure shows the high-level design of the system. The main modules are of admin and the employee which has further subdivisions as managers, employees and omega users. A module is present for authentication and security which is used for authorized login to access the corresponding dashboard according to the role which calls RestAPIs to access the data from the database. The whole flow is facilitated in the opposite direction as well.

# Organization

Our organization is created and managed by the the team members to provide deliverables to the project users.

## Project group

|  |  |  |
| --- | --- | --- |
| **Name** | **Initials** | **Responsibility (roles)** |
| Swathi Anandram | SA | Team Leader and Frontend Developer |
| Aryan Jadon | AJ | Backend Developer |
| Shreya Nimbhorkar | SN | Integration Manager and Backend Developer |
| Harika Nalam | HN | Backend Developer and Tester |
| Supreetha M A | SMA | Frontend Developer |

## Customer

The target customers are listed below:

* Omega company employees
* Omega company managers
* Omega organization managers
* Omega Admins

# Development process

The project will use various technologies to complete the end-to-end flow of the system. The development process will take place in an iterative manner with each segment completed on the assigned milestone. The development of the application will take place in a continuous process where all the team members will be working on different modules simultaneously. The process also includes continuous testing of various completed modules to ensure the accurate working of the system and QA.

# Deliverables

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **To** | **Output** | **Planned week** | **Promised week** | **Late +/-** | **Delivered week** | **Notes** |
| **Develop a project abstract** | **To develop an abstract report which mentions the necessary primary requirements and description of project** | **09/19/2021 – 09/25/2021** | **09/19/2021 – 09/25/2021** | **0** | **09/19/2021 – 09/25/2021** | **Completed the report and provided a demo to the project stakeholder for approval** |
| **Develop Login Module** | **To develop a login module for various roles in the system** | **09/26/2021 – 10/02/2021** | **09/26/2021 – 10/02/2021** | **0** | **09/26/2021 – 10/02/2021** | **Completed the sign in module for admin, employee, manager and organizational level login** |
| **Employee Manager Relationship Module** | **To develop an employee and manager relationship module which interacts with each other** | **10/03/2021 – 10/09/2021** | **10/03/2021 – 10/09/2021** | **2 days** | **10/10/2021 – 10/16/2021** | **Completed the employee and manager module and provide interaction** |
| **Security Implementation** | **To provide security for authentication** | **10/10/2021 – 10/16/2021** | **10/10/2021 – 10/16/2021** | **0** | **10/10/2021 – 10/16/2021** | **Developed a Single Sign On feature using AWS Cognito for implementation of authentication in the system** |
| **Admin Management Module** | **To develop admin module** | **10/17/2021 – 10/23/2021** | **10/17/2021 – 10/23/2021** | **0** | **10/17/2021 – 10/23/2021** | **Developed an admin module who will assign various roles to user and also takes care of adding the employee to the system** |
| **Organization level management** | **To develop organization module** | **10/24/2021 – 10/30/2021** | **10/24/2021 – 10/30/2021** | **0** | **10/24/2021 – 10/30/2021** | **Developed an organization module who is responsible for various organizational level notification tasks** |
| **Project Management and Leave Management Module** | **To develop modules for management of projects and leaves** | **10/24/2021 – 10/31/2021** | **10/24/2021 – 10/31/2021** | **5 days** | **11/07/2021 – 11/13/2021** | **Developed modules for project and leave management dashboards for employees** |
| **Testing** | **To perform rigorous testing of application** | **11/14/2021 – 11/20/2021** | **11/14/2021 – 11/20/2021** | **0** | **11/14/2021 – 11/20/2021** | **Conducted a rigorous testing to make any necessary changes** |
| Jenkins and SonarCloud Integration | **To integrate Jenkins and sonarcloud** | **11/21/2021 – 11/27/2021** | **11/21/2021 – 11/27/2021** | **0** | **11/21/2021 – 11/27/2021** | **Integrated Jenkins and SonarCloud for QA and to get information about code smells** |
| Deployment | **Deploy the application** | **12/02/2021** | **12/02/2021** | **0** | **12/02/2021** | **Deployed the application on Heroku** |

# Project risks

|  |  |  |
| --- | --- | --- |
| **Possibility** | **Risk** | **Preventive action** |
| Inappropriate role assignments may lead to data mismanagement | Incorrect Dashboard visible to unconcerned user | Implementation of role-based access to prevent a particular type of user to access any other dashboard using SSO using AWS Cognito and Auth Guards using Angular which will prevent users to navigate directly from changing the URLs, and a no access page be displayed |
| When SSO is down, access to all connected sites is stopped | The SSO authentication might not work | An error page for maintenance upon unsuccessful SSO authentication and the application will be restarted once SSO is up |

# Communication

All the communications between the project supervisor and project team members were carried out through Zoom and Webex meetings. The communication amongst the team members were carried out majorly through Slack.

## Collaboration

## Git

All source code and finished documentation will be uploaded to GitHub repository which serves as our version control

Repository URL: <https://github.com/CMPE-272-5ThePeople/Enterprise-SW-Platforms>

# Project plan

## Time schedule

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Id** | **Milestone**  **Description** | **Responsible Dept./Initials** | **Finished week Plan** | **Forecast Week** | +/- | **Actual** | **Metr.** | **Rem.** |
| 1 | **Develop a project abstract** | AJ | **09/19/2021 – 09/25/2021** | **09/19/2021 – 09/25/2021** | 0 | **09/19/2021 – 09/25/2021** | Document | - |
| 2 | **Develop Login Module** | SA, SN | **09/26/2021 – 10/02/2021** | **09/26/2021 – 10/02/2021** | 0 | **09/26/2021 – 10/02/2021** | Code push to Git | - |
| 3 | **Employee Manager Relationship Module** | SA, AJ, HN | **10/03/2021 – 10/09/2021** | **10/03/2021 – 10/09/2021** | 2 days | **10/10/2021 – 10/16/2021** | Code push to Git | - |
| 4 | **Security Implementation** | SA, SN | **10/10/2021 – 10/16/2021** | **10/10/2021 – 10/16/2021** | 0 | **10/10/2021 – 10/16/2021** | Code push to Git | - |
| 5 | **Admin Management Module** | SA, AJ, HN | **10/17/2021 – 10/23/2021** | **10/17/2021 – 10/23/2021** | 0 | **10/17/2021 – 10/23/2021** | Code push to Git | - |
| 6 | **Organization level management** | SMA, AJ | **10/24/2021 – 10/30/2021** | **10/24/2021 – 10/30/2021** | 0 | **10/24/2021 – 10/30/2021** | Code push to Git | - |
| 7 | **Project Management and Leave Management Module** | AJ, HN | **10/24/2021 – 10/31/2021** | **10/24/2021 – 10/31/2021** | 5 | **11/07/2021 – 11/13/2021** | Code push to Git | - |
| 8 | **Testing** | HN | **11/14/2021 – 11/20/2021** | **11/14/2021 – 11/20/2021** | 0 | **11/14/2021 – 11/20/2021** | Conduct testing | - |
| 9 | Jenkins and SonarCloud Integration | SN | **11/21/2021 – 11/27/2021** | **11/21/2021 – 11/27/2021** | 0 | **11/21/2021 – 11/27/2021** | Integrate Jenkins and SonarCloud | - |
| 10 | Deployment | SA, AJ | **12/02/2021** | **12/02/2021** | 0 | **12/02/2021** | Deployed the application on Heroku | - |

### Remarks

|  |  |
| --- | --- |
| **Remark Id** | **Description** |
| 1 | All the modules are developed on time |
| 2 | All the necessary interfaces for successful interaction of modules are also carried out |

## Test plan

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Test No.** | 001 | **Phase:** | 1 | **Author:** | Harika | Date: 11/17/2021 |
| **Test Category:** | | **Backend Features** | | |  |  |
| **Software Product:** | | Omega | | | |  |
| **Test Title:** | | Testing APIs - Local Environment | | | | |
| **Test Purpose:** | | New Release | | | | |
| **Test Setup:** | | Django Test View | | | | |
| **Prerequisites:** | | None | | | | |
| **Procedure:** | | To write the automated test views in the Django framework to verify the developed features | | | | |
| **Checks:** | | **To check the database connection to the application and performance of APIs** | | | | |
| **Expected Results:** | | 1. Add employee details - Add the new employee details to the DB 2. Fetch employee details - get employee details for given id from DB 3. Organization new notification - post new notification 4. Get all the recent notifications - get all the notifications posted by the organization 5. Apply leaves - Apply for leaves 6. Approve leaves - leaves are approved by the admin | | | | |
| **Result:** | | All the API gave expected results when tested. | | | | |
| **Reason for Failure:** | | No failure | | | | |
| **Remarks:** | | Handled all the edge cases | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Test No.** | 002 | **Phase:** | 2 | **Author:** | Harika | Date:11/20/2021 |
| **Test Category:** | | **Backend Features** | | |  |  |
| **Software Product:** | | Omega | | | |  |
| **Test Title:** | | Testing APIs - Production Environment | | | | |
| **Test Purpose:** | | New Release | | | | |
| **Test Setup:** | | Django Test View | | | | |
| **Prerequisites:** | | None | | | | |
| **Procedure:** | | To write the automated test views in the Django framework to verify the developed features | | | | |
| **Checks:** | | **To check the database connection to the application and performance of APIs** | | | | |
| **Expected Results:** | | 1. Add employee details - Add the new employee details to the DB 2. Fetch employee details - get employee details for given id from DB 3. Organization new notification - post new notification 4. Get all the recent notifications - get all the notifications posted by the organization 5. Apply leaves - Apply for leaves 6. Approve leaves - leaves are approved by the admin | | | | |
| **Result:** | | All the API gave expected results in the production environment when tested. | | | | |
| **Reason for Failure:** | | No Failure | | | | |
| **Remarks:** | | All the features are in place and the application is ready to release. | | | | |

### Testing Remarks

|  |  |
| --- | --- |
| **Remark Id** | **Description** |
|  | All the features developed for the Omega application are working as expected |
|  | Developers handled all the edge cases in the application. |
|  | The application is tested in both local and production environments and is working as expected. |

# References

[1] <https://www.researchgate.net/publication/347615091_Employee_Management_System>

[2] <https://www.researchgate.net/publication/338216184_Challenges_of_Implementing_an_Employee_Management_System_for_Improving_Workplace_Management_Effectiveness>

[3] <https://journals.sagepub.com/doi/10.1177/2158244020969383>

[4] <https://devcenter.heroku.com/>

[5] <https://aws.amazon.com/>

[6] <https://sonarcloud.io/>