**Employee Management System**

Group 4

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**Table of Contents**

[1. Problem Definition 3](#_Toc120833223)

[2. Project Objective 3](#_Toc120833224)

[3. Stakeholders List 3](#_Toc120833225)

[4. Success /Acceptance Criteria for each Stakeholder 3](#_Toc120833226)

[5. Use Case Diagram 4](#_Toc120833227)

[6. Selected Use case Descriptions 5](#_Toc120833228)

[7. Sequence Diagrams 6](#_Toc120833229)

[8. System Architecture 7](#_Toc120833230)

[9. Detailed Class Diagram 7](#_Toc120833231)

[10. State-machine Diagram 8](#_Toc120833232)

[11. ER-Diagram 8](#_Toc120833233)

[12. GitHub Link 9](#_Toc120833234)

[13. Conclusion 9](#_Toc120833235)

[14. Reference 9](#_Toc120833236)

[15. Appendix 9](#_Toc120833237)

[Appendix 15.1 Project WBS 9](#_Toc120833238)

[Appendix 15.2 Gantt Chart 9](#_Toc120833239)

[Appendix 15.3 Network 9](#_Toc120833240)

[Appendix 15.4 Task Assignment Matrix 10](#_Toc120833241)

[Appendix 15.5 Sample of Commits 10](#_Toc120833242)

# Problem Definition

Regarding our Employee Management System, it is a distributed application, developed to maintain the details of employees working in any organization. It maintains the information about the personal details of their employees. The application is actually a suite of application developed using Python. Additionally, within our project, we have added two more roles which are managers and system administers. The managers are responsible to manage employee’s teams and projects related information, make sure team members are working in progress. The system administers are mainly creating or deactivate accounts in their organization, and assign different permission level based on their position.

# Project Objective

The project of our group is designing and implementing an Employee Management System for small/middle-sized companies to better manage their employees and projects. Within our product, employees could log their work time, work types, personal information, tasks they have done, etc. Based on the position of employees, we have implemented different features regarding different roles such as managers can view details of the project, and the team they managed, and follow the information of each team member. The employee could also view work-related statistics of their teams in order to see the progress of their current projects, and other teammates’ information. Considering the size and difficulty of our project, we decided to implement using the incremental development process to better deliver the product.

# Stakeholders List

* Software Development Company
* Small/Middle-sized Company (Local Company)
* Companies work with cases

# Success /Acceptance Criteria for each Stakeholder

|  |  |  |
| --- | --- | --- |
| Software Development Company | Small/Middle-sized Company (Local Company) | Companies work with cases |
| * List team members * List projects of each team | * Record information of each employee * Label employees by their position | * Assign each case to a team, and display their progress |

# Use Case Diagram

Diagram

Description automatically generated

# Selected Use case Descriptions

Table

Description automatically generated

Table

Description automatically generated

# Sequence Diagrams

Diagram

Description automatically generated

Diagram

Description automatically generated

# System Architecture

Diagram

Description automatically generated

# Detailed Class Diagram

Diagram

Description automatically generated

# State-machine Diagram

Diagram

Description automatically generated

# ER-Diagram

Diagram, schematic

Description automatically generated

# GitHub Link

<https://github.com/blueappleee/EmployeeManagementSystem>

# Conclusion

During this entire project development, we have been tried several new software tools, technologies and applied the knowledges learnt in class into this development experiences. First off, we implemented using the incremental development process which makes sure we could deliver working software in a short period. And this development process also allows us to develop in parallel so that we could boost our efficiency. Additionally, the layered architecture is suitable for our project structure, and we decided to have four layers: UI, Controllers, Persistence, and Database. Fortunately, each of our team members could work on one layer at the same time which also increase the development efficiency. Furthermore, the utilizing of GitHub version control makes our team members more familiar with branch, pull request, push and commits etc. Since this tool is one of the most common and useful software development tool, this development experience would help us better understand how the software engineers cooperates together. Moreover, during the implementation stage, we have used unfamiliar APIs such as MySQL connector, tabulate, sys, pyfiglet, etc. Our team are open to learn new things so that it was a plenty of enjoyment of us to develop the management system. Finally, our team members are actively to communicate about any issues and plan of next steps during the entire development process.

# Reference

<https://stackoverflow.com/questions/9314353/set-value-to-null-in-mysql>

<https://www.w3schools.com/python/python_mysql_select.asp>

<https://pynative.com/python-cursor-fetchall-fetchmany-fetchone-to-read-rows-from-table/>

<https://stackoverflow.com/questions/45523908/how-to-store-results-from-sql-query-and-use-it>

# Appendix

## Appendix 15.1 Project WBS

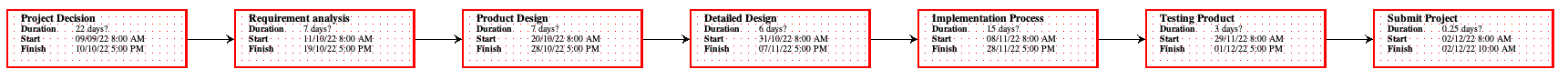


## Appendix 15.2 Gantt Chart

Timeline

Description automatically generated

## Appendix 15.3 Network



## Appendix 15.4 Task Assignment Matrix

Table

Description automatically generated

## Appendix 15.5 Sample of Commits

A screenshot of a computer

Description automatically generated with medium confidence