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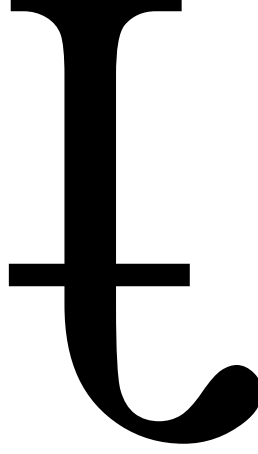
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It is to certify that the final year project of BS (SE) “Intelligent Project Alliance” was developed by “ _____ , “ _____ and “ _____ under the supervision of “Mr. Zeeshan Javed” and that in their opinion; it is fully adequate, in scope and quality for the degree of Bachelor of Science in Software Engineering.



To effectively manage different projects

All praise is to Almighty Allah who bestowed upon us a minute portion of His boundless knowledge by virtue of which we were able to accomplish this challenging task.

We are greatly indebted to our project supervisor “Mr. Zeeshan Javed” for personal supervision, advice, valuable guidance, and completion of this project. We are deeply indebted to him/them for encouragement and continual help during this work.

And we are also thankful to our parents and family who have been a constant source of encouragement for us and brought us the values of honesty & hard work.

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The is a cross-platform desktop application. And it is a project management tool to manage projects. It is a platform that users and management communities can use to set up their routine tasks on a daily, weekly, or monthly basis and also can do a complete scope management and cost management in it. This application will help them to estimate their project cost according to their schedule and work packages. Intelligent Project Alliance will assist a team in organizing and managing their projects and tasks effectively. These tools will allow you to plan and delegate work in one place with tasks, sub-tasks, folders, templates, workflows, and calendars. User can build a better way of working with your team assign tasks, add comments and organize work.

The user can track and assess productivity and growth through resource management and reporting. It will take advanced features to track projects at a higher level like Flexible work views, Dashboards, Reportings and Gantt charts representations. Gantt charts will be used to show calendar time task assignments in days, weeks or months. The tool uses graphic representations to show start, elapsed, and completion times of each task within a project. Gantt charts are ideal for tracking progress. The number of days actually required to complete a task that reaches a milestone can be compared with the planned or estimated number. The actual workdays, from actual start to actual finish, are plotted below the scheduled days. This information helps target potential timeline slippage.

It will also generate the report that will provide the overview of the project in which include the complete schedule and cost of the project. It will also help users to track and analyze your team's work throughout a project. In cost management it allows the use to estimate for forming and monitoring a project's budget summary.

The Software Project Management course taught us Organizing, scheduling, allocating resources, executing, monitoring, and delivering software and web projects. IT-related projects are usually handled in an Agile manner so that they can keep pace with the accelerating pace of business and iterate on existing products.

The course modules and their relevant knowledge used in our project are as follows:

Window, Mac and Linux application development
JavaScript programming and Database handling
SRS documentation, SDLC, UML diagrams e.g. Use case,
ERD, Sequence, Component, Class diagrams etc.
Requirement gathering techniques e.g. elicitation,
validation, verification etc.
User-friendly UI Designing
Managing and Leading Software Projects

The purpose of this project is to provide a system for users to manage their work on a daily routine. The activities that are managed include Schedule Management, Scope Management, Requirements Management, and Design Management. Users can access all project management features through a applications. Although users may not be able to grasp the complex tool, they can use this application without difficulty. As a result, the users are only be able to select the project and plan their tasks accordingly with a limited functionality[1].

A cost estimate can be made after the setup task. All schedule management features are available in design view through which the user can do a limited estimation. Furthermore, the administration can check their employees' daily schedules and track their tasks. Using the Task Management feature, User are able to organize and assign tasks to members of your team, in addition to owning and storing them. Everyone is kept informed about the progress and upcoming steps. But the design is very complex, everyone cannot be use it without getting some training[2].

Project management tools are the project manager's answer to manage projects. Simple projects require nothing more than a checklist while other complex ones require proper planning, assigning tasks, setting deadlines, making sure that everyone sticks to them, and tracking the time spent. The need to quantify, objectify, segregate and delegate tasks properly and proportionately is of high importance and that's where the use of modern tools comes in. There's a lot of project management software tools out there, and if you're new to project management, it can be hard to identify what's essential, what's beneficial, and what's not worth your time.

The number of project management tools are developed and available in desktop and web versions. However, many currently available management tools lack features that would greatly improve their functionality, or have features that are not fully optimized. These tools provide a

used

for is SUBURF system management to ecd
multitude of features including Task Management, Team Collaboration and Release Planning.
But the main problem of these tool is usage and the understandably of these complex interfaces.
All the user must have some level of expertise's to use them according to their needs. These are
the reasons that are not allowed the non-technical users to use these complex systems. We wi

OpenProject app is very difficult to configure. All the configurations are pre-defined but very difficult to configure it. Non-technical users are not able to configure on their machines. It provide the limited functionality in free trail version.

is the leading platform for today's complex product and software development. ELM extends the functionality of standard ALM tools, providing an integrated, end-to-end solution that offers full transparency and traceability across all engineering data. It integrates your product development tools to manage requirements, modeling, simulation, testing, and collaborative workflow allows planning.[\[3\]](#)

These are the following module that the IBM ELM provide to its users:-

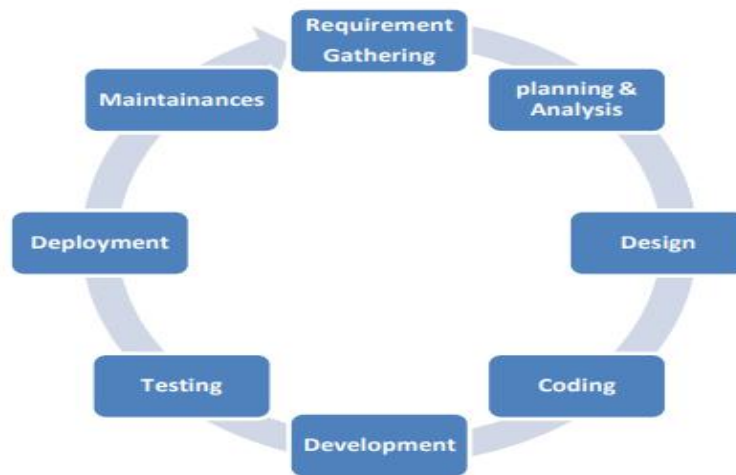
- This tool capture, trace, analyze and manage changes to requirements with a scalable solution that optimizes communication across your development team and stakeholders.
- It also helps user to Increase efficiency and quality of systems and software delivery with test planning, workflow control, tracking and metrics reporting. Available on premises and on the cloud.
- All the users can use one tool to collaborate across teams, manage code, run standup meetings, plan sprints and track work. Available on premises and on the cloud.

IBM Engineering life-cycle management system app is very difficult to configure in the system. For configuration, we have to follow a complete configuration guideline. Every user must need a specific level of expertise's to use it.

The analysis from literature review shows that the existing project management tools have important gaps that must be addressed to provide the easiness to the user that want to use the systems in their daily routines. These tools provide the functionalities but mostly in a paid mood or in a trial version and all of our information saved on their database. These tools help the user to manage their routines. The user interface of these tools is very complex and not easily understandable for the users. The non-technical person did not even use it for its work. Their configuration is also a major issue in this tool. These tools have their predefined configuration requirements that must be fulfilled while installing the setup on the system otherwise it is impossible to configure on local machines.

The software methodology used in is agile method. The development of this software originated from the previous platform and came up with the solutions for Management. We are using this technique because Agile methods and it will help us to delivering highest quality product within the constraint of time limit.

SDLC (Software Development Lifecycle) Agile.



With Agile methodologies we aim to deliver the right product, incrementally and continuously, through small, self-organizing teams, so that we can get frequent feedback from customers and subsequently make changes as necessary. As stated in the Agile Manifesto, the four core values of Agile software development are interaction and collaboration over processes and tools, working software over comprehensive documentation, customer collaboration over contract negotiation and Sprint Reviews are held to inspect the result of the Sprint and to determine future adaptations.

Following are some benefits that Agile Process Model will offer:

- Generates working software quickly and early during the software life cycle.
- An extensive selection of agile development methodologies.

- Fixed scheduling and predictable task delivery.
- Improved final product quality and user experience.
- Greater transparency and visibility for key stakeholders.

The purpose of our project is to help the management communities and large-scale organizations to manage their projects. In the context of the present age, we don't want to waste our money and time. Every organization needs to manage their projects to prevent failure rate and increase success rate. According to report in 2019 almost 1.9 trillion-dollar money lost just due software errors because those software are not develop by using with proper management. We want to save this money by providing software that helps in management and planning of software development. Our aim is to provide a system that helps run on the local server of organization and provide a desktop application and website. That can help the employees and administration to plan, manage projects, and assign resources to the team.

The associate goal of this project is to provides users easiness through which they can track and assess productivity and growth through resource management and reporting. They will take advanced features to track projects at a higher level like Flexible work views, Dashboards, Reportings and Gantt charts representations. Gantt charts will be used to show calendar time task assignments in days, weeks or months. The tool uses graphic representations to show start, elapsed, and completion times of each task within a project. Gantt charts are ideal for tracking progress. The number of days actually required to complete a task that reaches a milestone can be compared with the planned or estimated number. The actual workdays, from actual start to actual finish, are plotted below the scheduled days. This information helps target potential timeline slippage.

The product functions are listed below:

Work-Flow Management

Task Management

Requirement Management

Cost Management

Report Generating

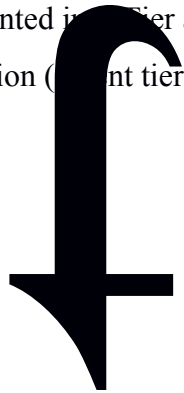
Communication with team members

User Management

Our project is implemented in 3-tier architecture. It has three layers as follows:

Client Application (Presentation tier)

Database (Data



The operating environment of our project is as follows:

Desktop OS (Window, Linux, Mac)

The desktop application developed from this technique is more efficient than others.

These are the following dependencies that we are used in our application.


```

"dependencies": {
  "@electron/remote": "^2.0.8",
  "@emotion/react": "^11.7.1",
  "@emotion/styled": "^11.6.0",
  "@hookform/error-message": "^2.0.0",
  "@mui/icons-material": "^5.3.1",
  "@mui/material": "^5.3.1",
  "@mui/styles": "^5.3.1",
  "@mui/x-data-grid": "^5.3.1",
  "axios": "^1.1.2",
  "bcryptjs": "^2.4.3",
  "bootstrap": "^5.1.3",
  "electron-debug": "^3.2.0",
  "electron-log": "^4.4.0",
  "electron-updater": "^4.3.5",
  "frappe-gantt": "^0.1.0",
  "generate-password": "^1.7.0",
  "history": "^5.2.0",
  "lodash-jq": "^3.1.0",
  "link": "^2.2.0",
  "moment": "^2.29.1",
  "react": "^17.0.2",
  "react-avoider-wrap": "^1.0.2",
  "react-bootstrap": "^2.0.2",
  "react-datepicker": "^4.9.0",
  "react-datepicker-form": "^7.10.0",
  "react-dom": "^17.0.2",
  "react-dom-notification-component": "^3.0.0",
  "react-dom-linkout-side": "^4.12.0",
  "react-gantt-input-3": "^7.10.0",
  "react-redux": "^7.2.0",
  "react-router-dom": "^5.2.0",
  "react-select": "^3.2.0",
  "react-trailer": "^2.0.11",
  "react-web-vector-icons": "^1.0.2",
  "redux": "^4.1.2",
  "redux-thunk": "^2.4.0",
  "redux-saga": "^10.0.0",
  "stream": "^0.0.2",
  "victory": "^36.1.1"
}

```

In this chapter we will define all the requirements of the proposed system that include functional and non-functional requirements. We will also discuss use cases of the system and see how our system will respond to various use cases.

A number of functional requirements are necessary to make our system work and facilitate the user's experience. Since all of these functional specifications are interface-less, they can also be assumed to be interface requirements.

- FR-1: The system shall allow the user sign up using a valid email address.
- FR-2: The system shall allow the user to sign in with valid email and password.
- FR-3: The system shall verify if the given email is already registered or not. If registered, the system shall reject it.
- FR-4: The system shall allow the user to change login password.
- FR-5: The system shall allow the user to update their member profile information.
- FR-6: The system will display the all member of the organization.
- FR-7: The system will display all the project.
- FR-8: The system will allow user to add the project in the system.
- FR-9: The system will allow the users to manage the access of the members.
- FR-10: The system will allow the admin to add members.
- FR-11: The system will allow the admin to assign project to other member.
- FR-12: The system will show the complete schedule management of the system.
- FR-13: The system will allow the user to change the schedule according to need of the projects.
- FR-14: The system will generate the complete reports of the products activities.
- FR-15: The system will allow to admin to edit and delete the report.

- FR-16: The system will allow the user to upload the documents in the system.
- FR-17: The system will allow the user to edit and delete the document.
- FR-18: The system will allow us to collaborate the team members using communication.
- FR-19: The system will only allow to admin to change the access on a specific project.
- FR-20: The system will allow the users to manage the requirements in the system.
- FR-21: The system will allow the employees to only view the task.
- FR-22: The system will restrict the employees to change the schedule of the project.

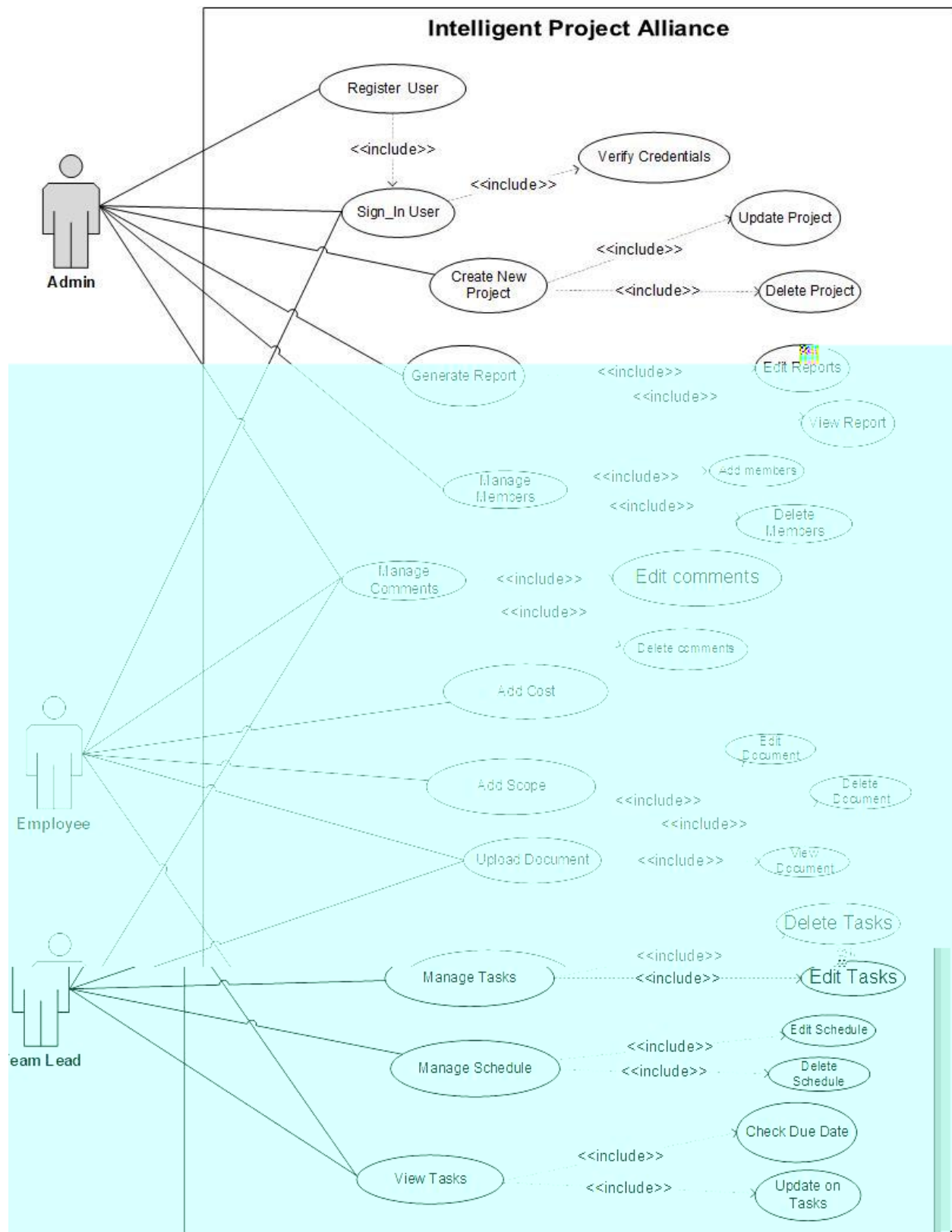
3.2.

- FR-1: All the specifications designed in this manner to ensure that our system will easy to use.
- FR-2: It supports a range of user actions and only shows an error in genuine erroneous situations.
- FR-3: New users can accomplish goals even more easily without any training.

- FR-1: The response time is minimal on every activity.
- FR-2: The user requests will be processed within five seconds.
- FR-3: The system will have no issue about its workload.

- FR-1: It is cross-plate form application that can be run on multiple operating systems.
- FR-2: The system can easily be moved and executed on new systems without any difficulty.

In the Unified Modeling Language (UML), a use case diagram can summarize the details of your system's users (also known as actors) and their interactions with the system. Following are the use cases of the Intelligent Project Alliance.



Admin will be the primary actor which will directly interact with the application. Admin can register, Sign-in, create new Project, can manage project access, Can Add Project, Edit Projects, Edit Projects Schedule, Adding Requirements, Add Accounts, Edit Admin Info and Manage Cost of Projects. Admin will give access to other persons that will be in the organization. He will manage all project activities.

Employees will be those people who will perform assigned projects that are assigned by the admin. They are able to develop the schedule of the project and divide the project into more manageable tasks and modules.

One of the employees will lead all the other employees. He will be working as team lead in the project. He will manage the project schedule and task distribution process in the project.

	ID-01
	Register User
	Admin
	Users will register and authenticate by the system through the database.
	When the user clicks on the register then the database will verify its credentials.

	Username, Email and password must be provided by the users.
	Users will register successfully.
	<p>Credentials will be entered by users</p> <p>Credentials will be authenticated from database of the system</p> <p>User will be successfully login</p>
	<p>If user is not already registered, then user will first sign up</p> <p>User will then provide credentials</p> <p>User will again be authenticated through database</p>
	Users can retry again and again until the account successfully registered. If the user faced any issue he should wait until the system reactive.

	ID-02
	Sign In User
	Admin, Employee
	System will verify the password and then the user will be able to use it according to their needs.
	When individuals login to their system or employees will login to the system.
	Users should be authenticating. users should register their account before login into the system.
	The user can use the app according to their needs.
	Users will first give their own registered user Name and Password.

	System will verify it if the details are correct then the user will login successfully.
	<ul style="list-style-type: none"> • Users can not login without a registration account. • If the password is incorrect, user can forget his password. • If the user is not registered, first he/she will register then will be able to use it.
	N/A

	ID-03
	Create New Project
	Admin
	Users will create new projects according to their needs.
	Users will be pressed on the create project then they will be given details about the project.
	User Must be Login First to create the project. Without the login in the system, he will not be able to create a project.
	<ul style="list-style-type: none"> • Users will use the project to manage their work routines. • After the project is created, user can update the project. • Users will be able to Delete the project.
	Admin will create a project Then, he will give access to the employees Employees will do the tasks according to their requirements
	Users can add the existing project in the system.
	N/A

	ID-04
	Manage Tasks
	Team Lead
	Team Lead will assign tasks to every member in the project.
	When a user clicks on an add task it will show the members and then he will assign tasks to them.
	The admin must create a project and employees are added by the admin. Then they can create new tasks.
	Team Lead can edit the tasks. Team Lead can remove tasks from every individual.
	Admin will create the project Assign Team Members to a project. Team Lead can edit projects. Team Lead can delete the tasks
	N/A
	If the user will not create a project, then tasks will not be assigned to them.

	ID-05
	Manage Comments
	Admin, Employee team Lead
	Admin, Employees and Team Lead will be able to add comments regarding their managed tasks.

	When the user clicks on the Add Comment button.
	It will provide the facility to add comments on their tasks.
	They will successfully change user comments.
	Admin will be able to add new comments over there. Employee and Team Lead will also have an ability to add new comments
	If they want to change their comments, then they can also change comments over there.
	N/A

	ID-06
	Update Project

Admin

Admin have access to edit different projects.

When a user clicks on an edit project.

Projects must be created for editing.

Admin will successfully edit and delete different projects.

Admin will check the projects

Admin will check the required changes

Then admin will make the changes in the project

	ID-7
	Manage Schedule
	Team Lead
	Team Lead will manage the tasks and edit project schedules and also manage their schedule in the project.
	When a team lead wants to add a project schedule.
	Project must be created before updating it.
	Team Lead can successfully edit project schedules.
	Team Lead will click on the update button for editing
	If there is a problem regarding editing, the Employees will have a chance to change the time limit of the project.
	None.

	ID-08
	Manage Members
	Admin
	Admin will be able to add new members in the project. Also, will be able to remove them from the project.
	When the user clicks on login then the actor will give them an account for signing in the project.
	Admin should enter members accounts in the system.
	When User will login successfully then a new account will be added to the database.

	<p>First admin will add the members Credentials</p> <p>Credentials will be authenticated from the database of the system.</p> <p>User will successfully login and then new account data will be added into the database.</p>
	<p>If the user is not already registered, then the user will first sign up.</p> <p>User will then provide credentials and then a new account will be generated.</p>
	N/A

	ID-09
	Add Cost
	Employee
	Employees will also add the cost of the tasks that are assigned to the employee.
	Employees will add it individually.
	Project must be created and assigned to the user.
	Employee will accurately estimate the project cost.
	<p>Employees will add the tasks in the project.</p> <p>Then create the task list</p> <p>After admin will add the cost of tasks individually</p>
	Employees can also edit or delete different documents.
	None

	ID-10
	Add Scope
	Employee
	Employees will also add the requirements of the tasks that are assigned to the employees.
	Employees will add it individually.
	Projects must be created and assigned to the employees.
	Employees will accurately estimate the project scope.
	<p>Employees will add the tasks in the project.</p> <p>Then create the task list</p> <p>Afterwards, employees will add the scope of tasks individually.</p>
	Employees can also edit or delete different documents.
	None

	ID-11
	Update on Tasks
	Employee
	The Employees will be able to submit tasks that he knows he will be able to solve himself.
	When the user clicks on Submit Tasks.
	Tasks must be resolved before submitting.
	Employees will submit tasks successfully.
	Employees will easily submit those tasks that can be

	resolved.
	Employees can submit different tasks before resolving them.
	Employees must complete their tasks before submitting.

	ID-12
	Upload Document
	Team Lead
	Team lead will also be able to add documents for the scope management. When user will add the document then all the employees will add the requirements one by one then admin will finalize the document
	When a user clicks on Add Document.
	Team lead must be added to the project.
	Team lead will Add requirements according to the need of the project.
	Team lead can easily upload the document in the project then all the employees will add the requirements in the project.
	If the team lead did not have access to upload documents, first the admin will add them in the project. Document may have already been finalized.
	N/A

	ID-13
	Generate Report
	Admin
	Whenever the admin wants to generate the report, the system will generate the reports that will give a detailed view of the tasks and the entire cost of the project.
	When an Admin clicks on generate report.
	Employees must be working on the project. All the tasks must be assigned to them to generate reports.
	Admin will successfully view the generated report.
	Admin will click on the button to generate a report. All the task and the cost will be in creating in XML and PDF form.
	If the report did not generate, then the admin must see they have any data to generate.
	None

	ID-14
	Edit Reports
	Admin
	Admin can also edit the report according to their needs.
	When an Admin clicks on edit report.
	Report must be generated before editing.

	Updated Report will be generated after the editing.
	<p>Admin will click check the report which changes required in the generated report.</p> <p>After this admin will change the required changes in the report</p> <p>And finally, the report will be generated.</p>
	If system did not have any data in the system, then no report will be shown for editing
	None

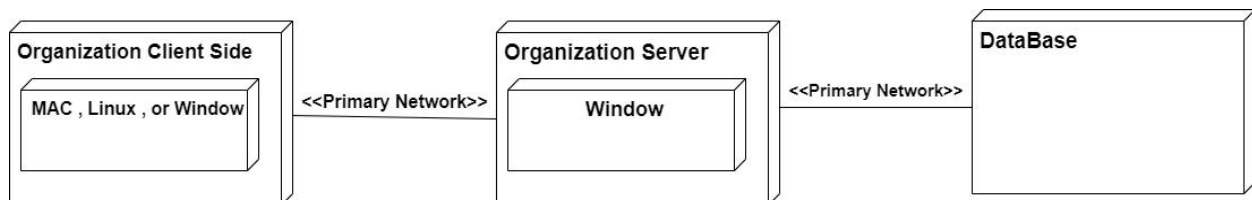
	ID-15
	View Reports
	Admin
	Once the report is generated, the admin can view it and download it.
	When an Admin clicks on a view report.
	Reports must be available in the system.
	All the tasks and cost of the tasks and the employees will be in the generated report.
	<p>Admin will check the availability of the report.</p> <p>When the report is available then the admin can view it.</p>
	Reports must be available in the system.
	None

In this chapter we will discuss the design and architecture of our system.

As system design varies from system to system, therefore user need to have the architecture view of the whole system.

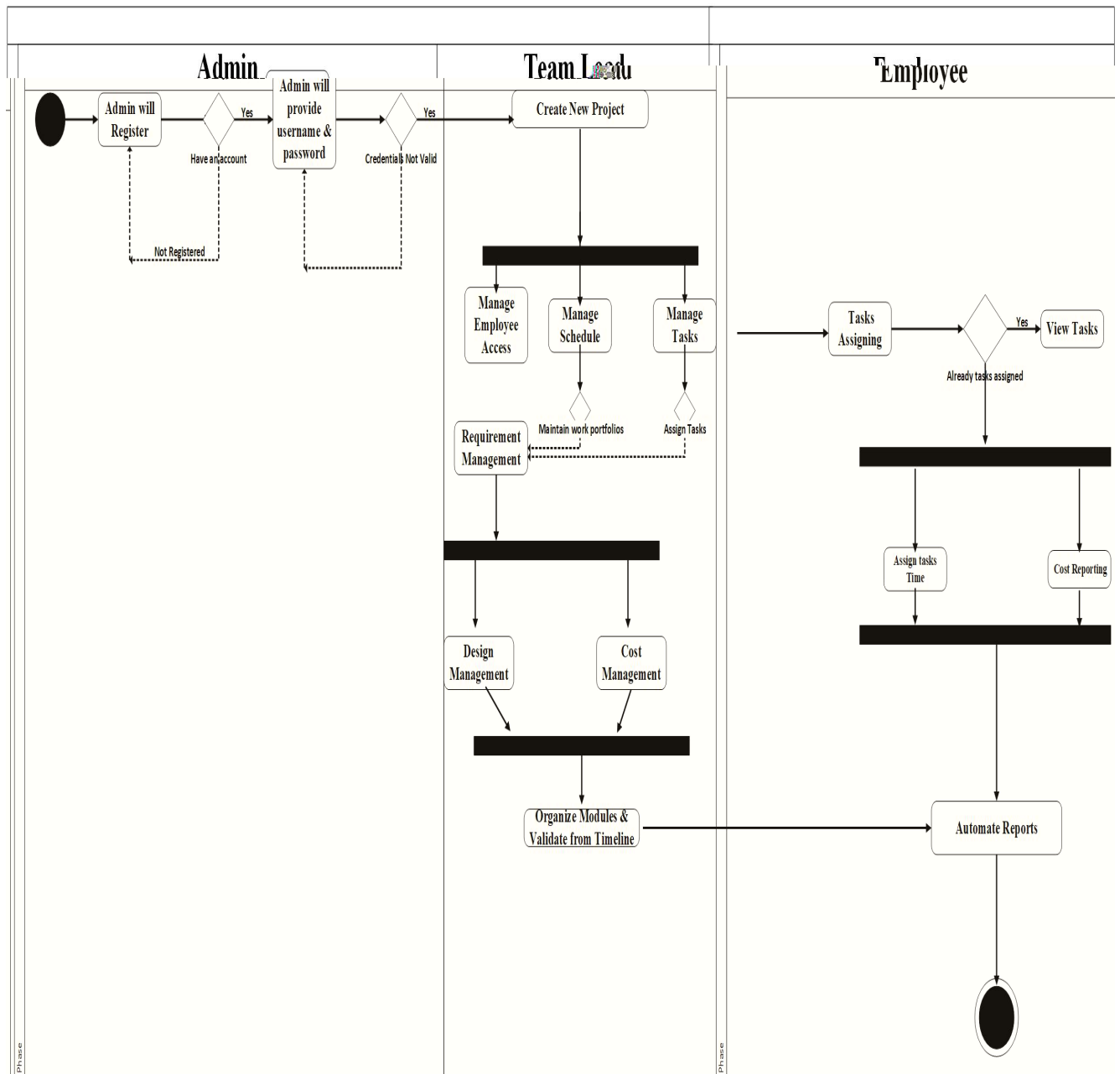
Systems design is the process of defining elements of a system like components, modules, architecture and their interfaces and data for a system based on the specified requirements. The purpose of the System Design process is to provide sufficient detailed data and information about the system. Following is the system design of Intelligent Project Alliance.

Following are the UML structural diagrams of our system:

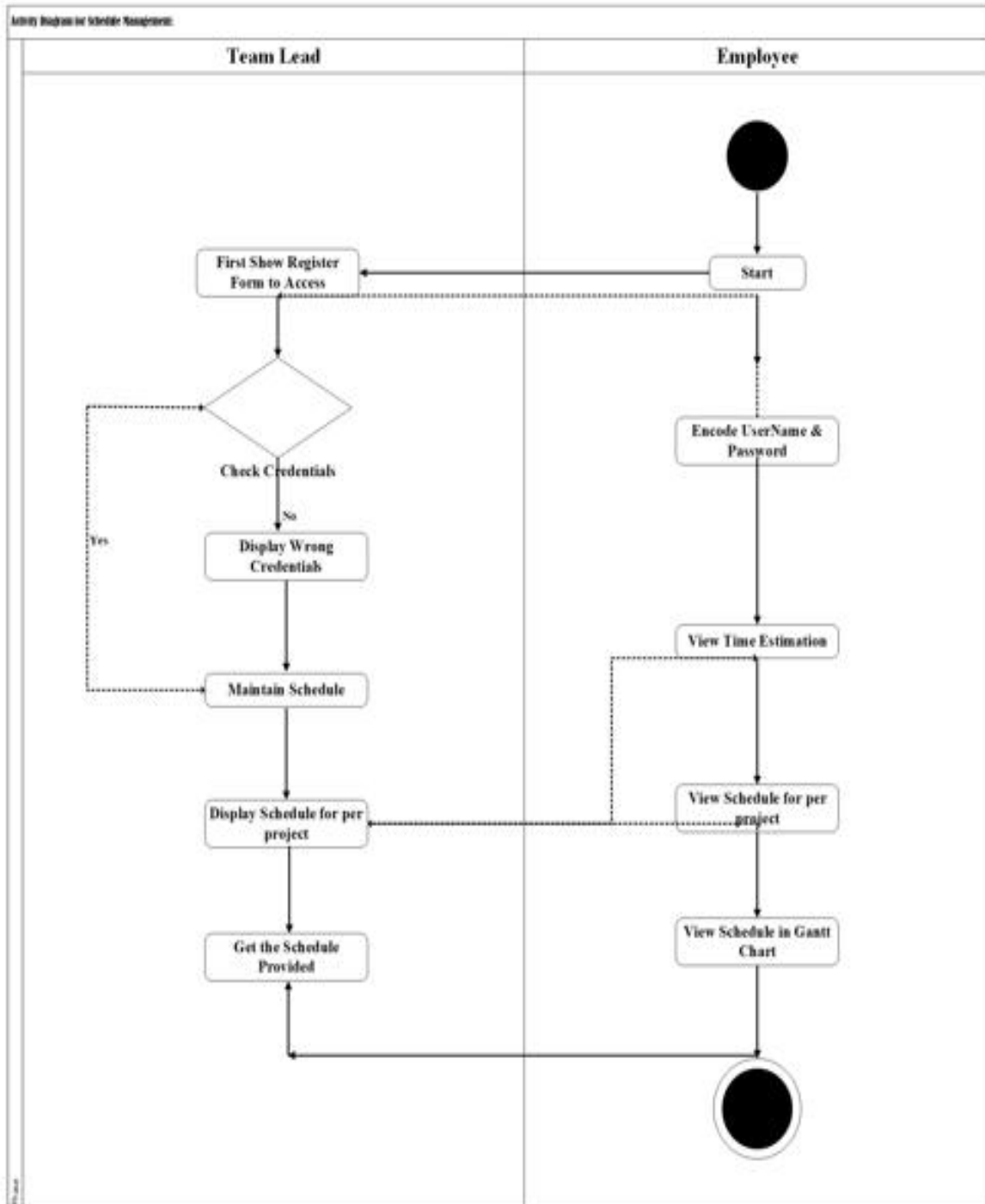


Following are the behavioral diagrams of our system:

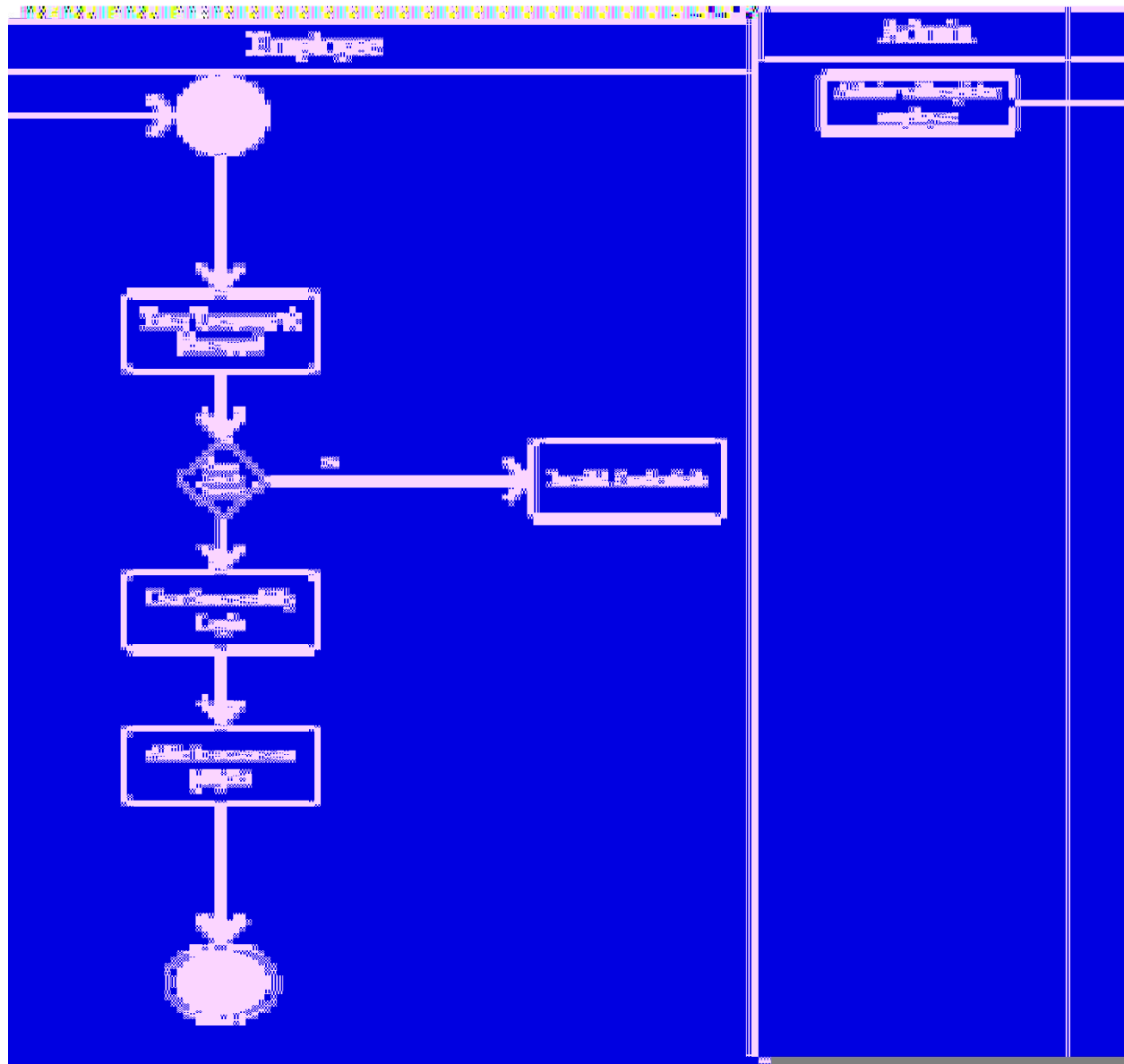
Activity Diagram of Intelligent Project Alliance



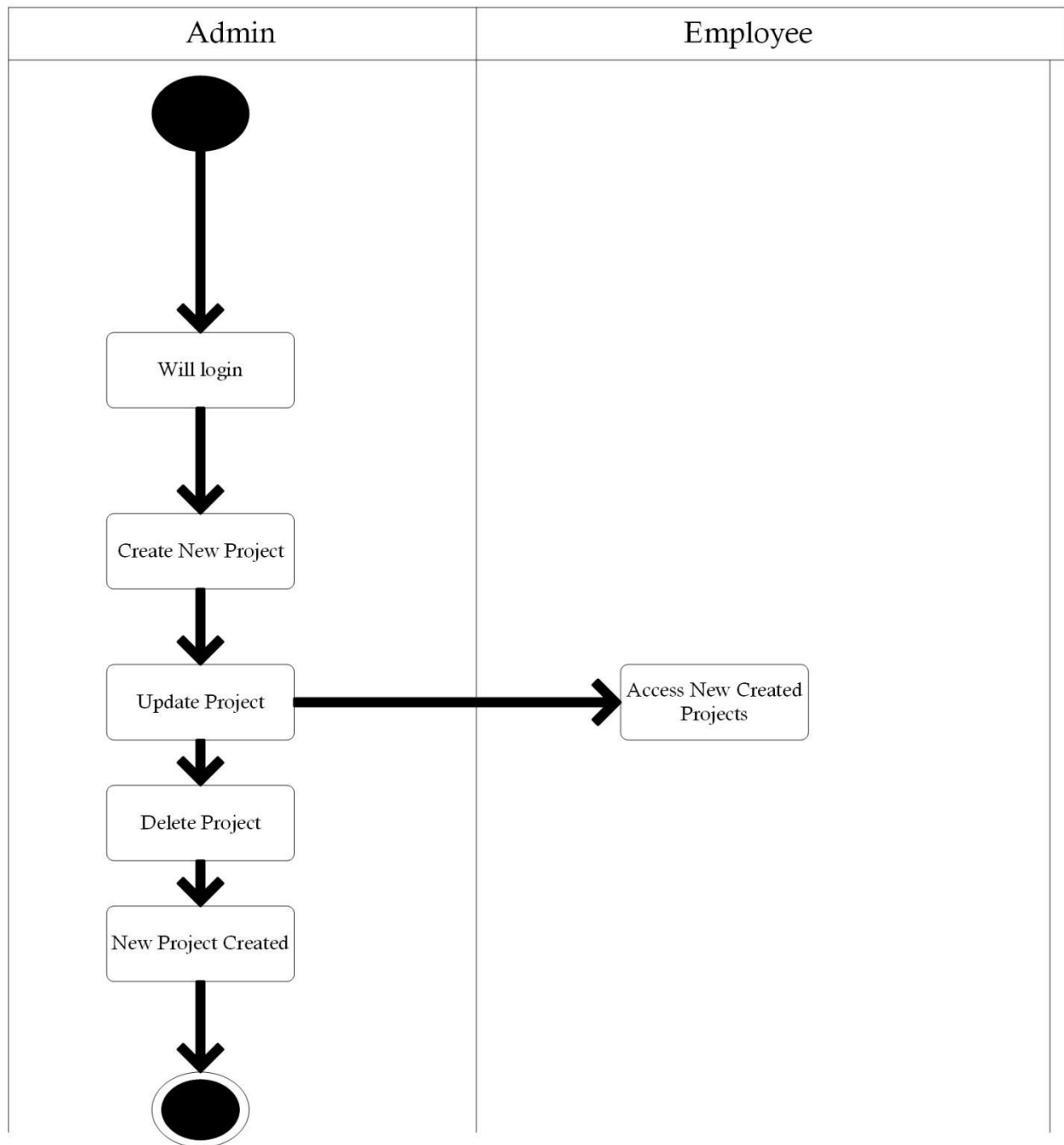
Activity Diagram For Schedule Management



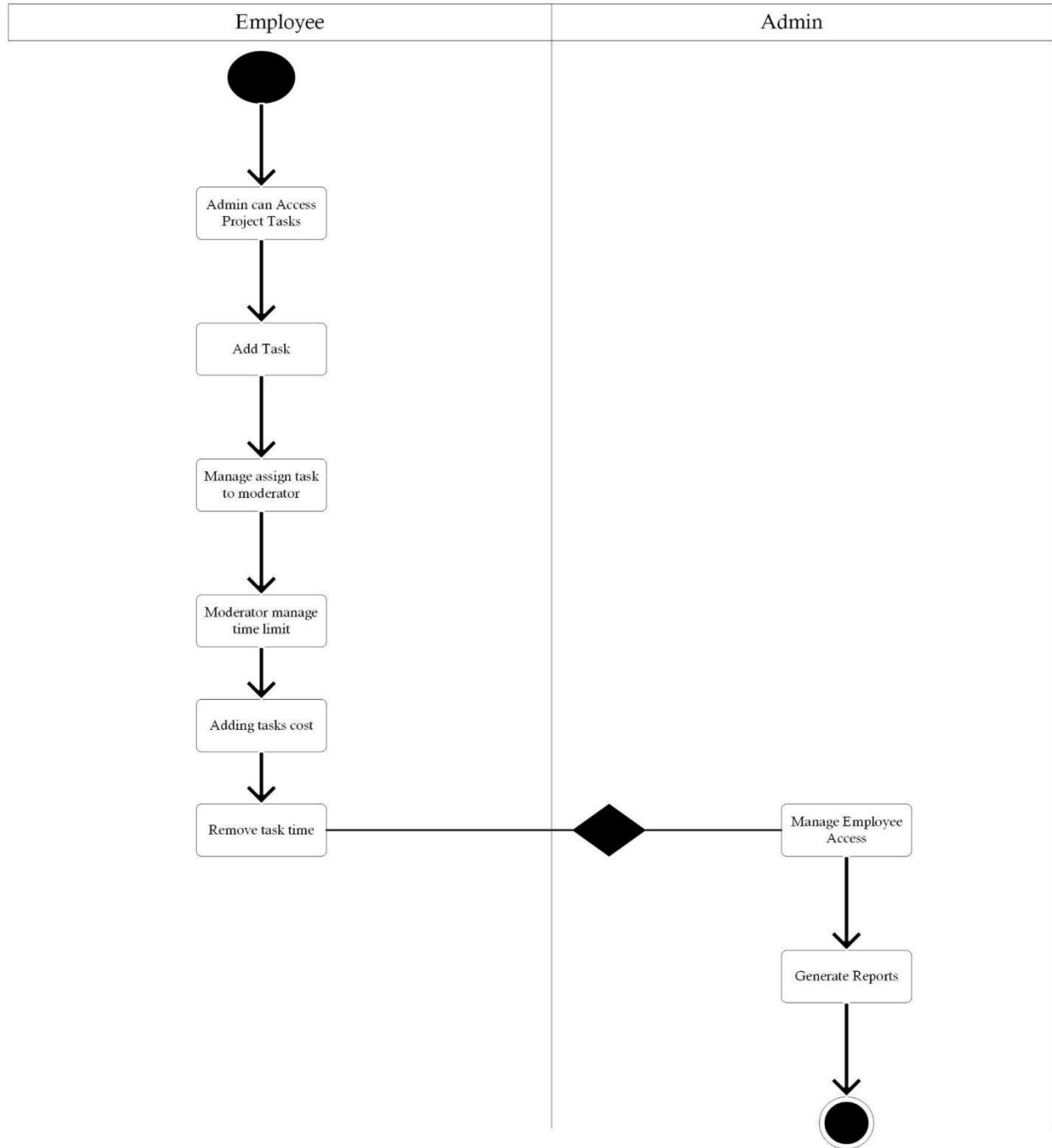
Activity Diagram for Registration

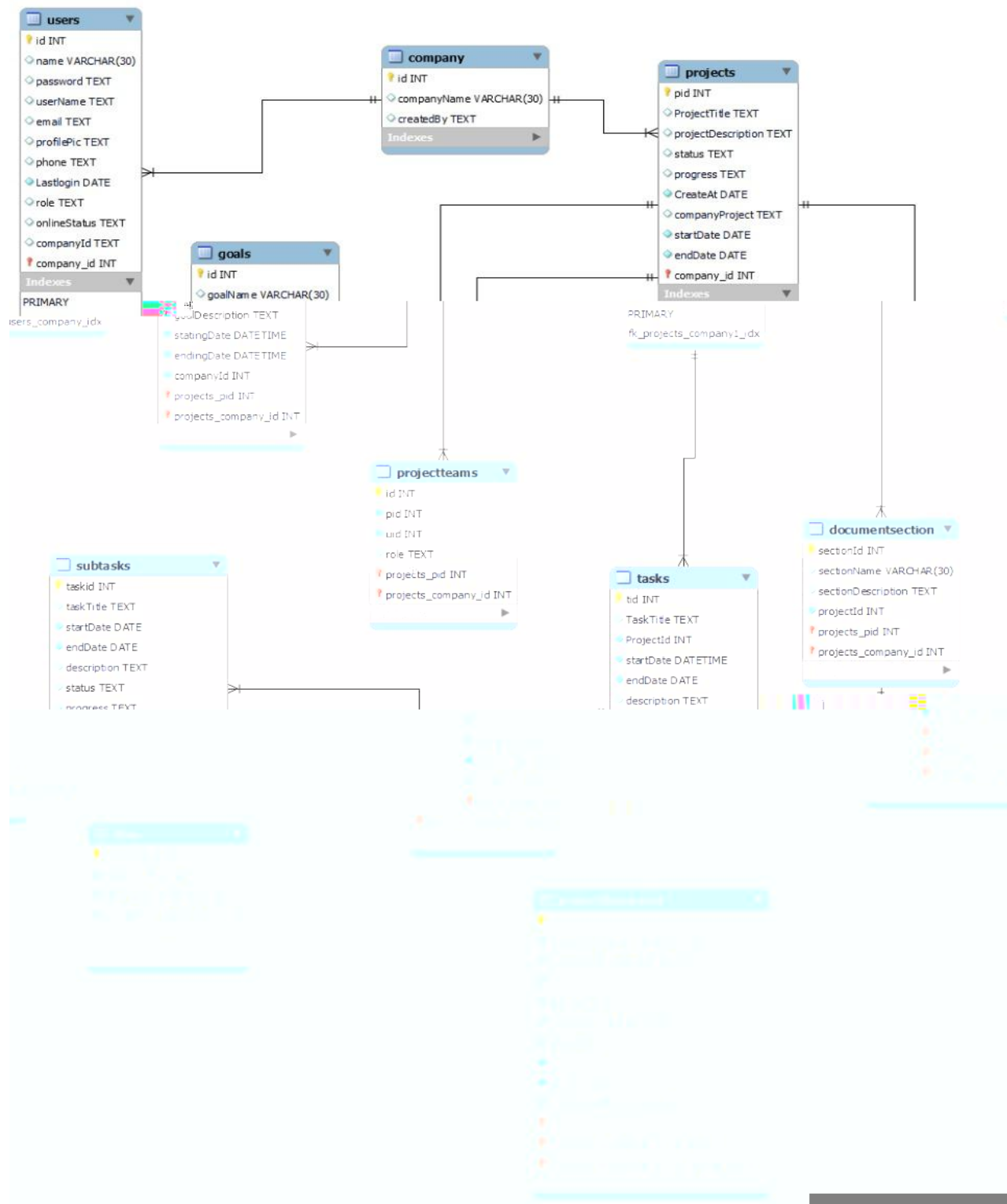


Activity Diagram for Create New Project



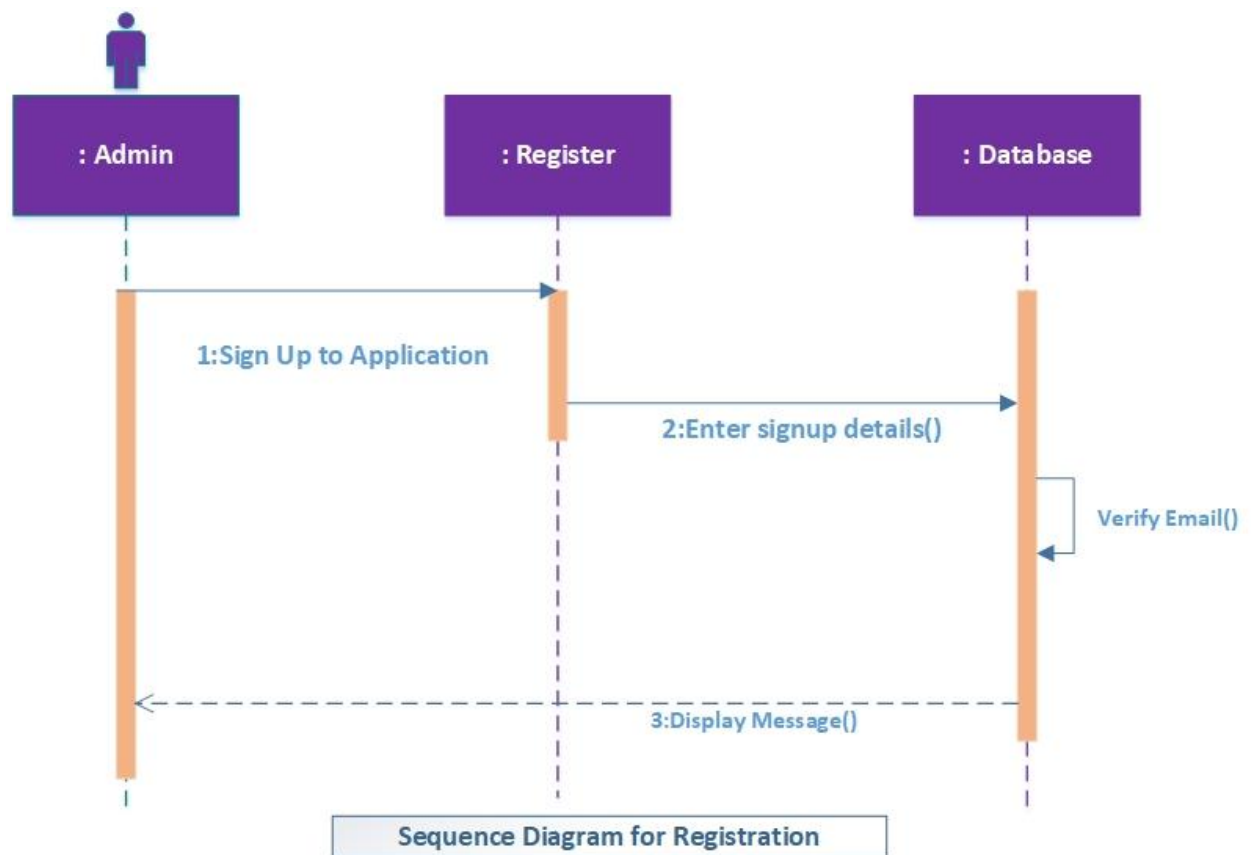
Activity Diagram for Task Management

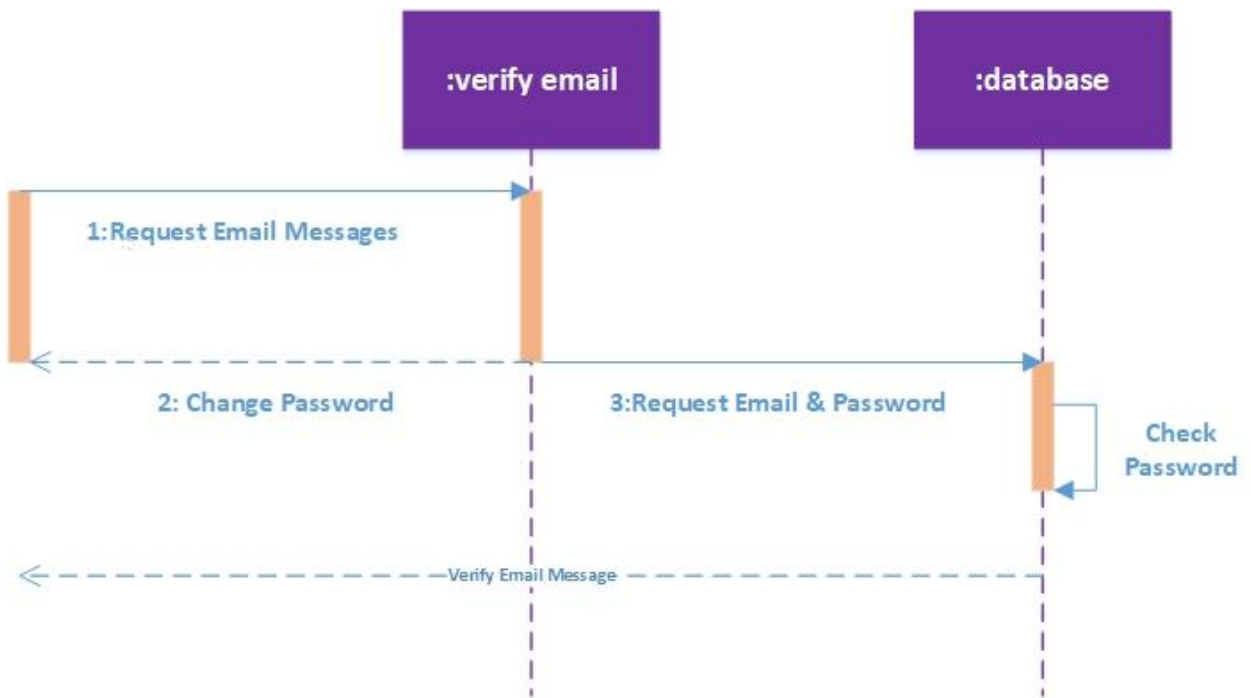




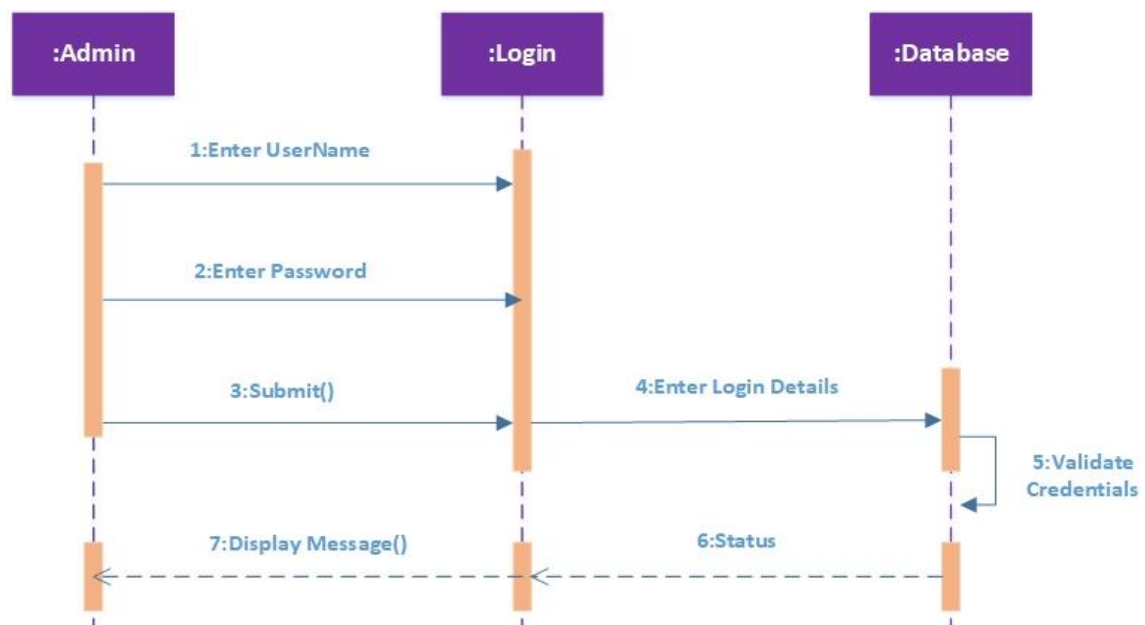
Following are the UML interaction diagrams of our system:

A sequence diagram is a type of interaction diagram because it describes how and in what order a group of objects works together.

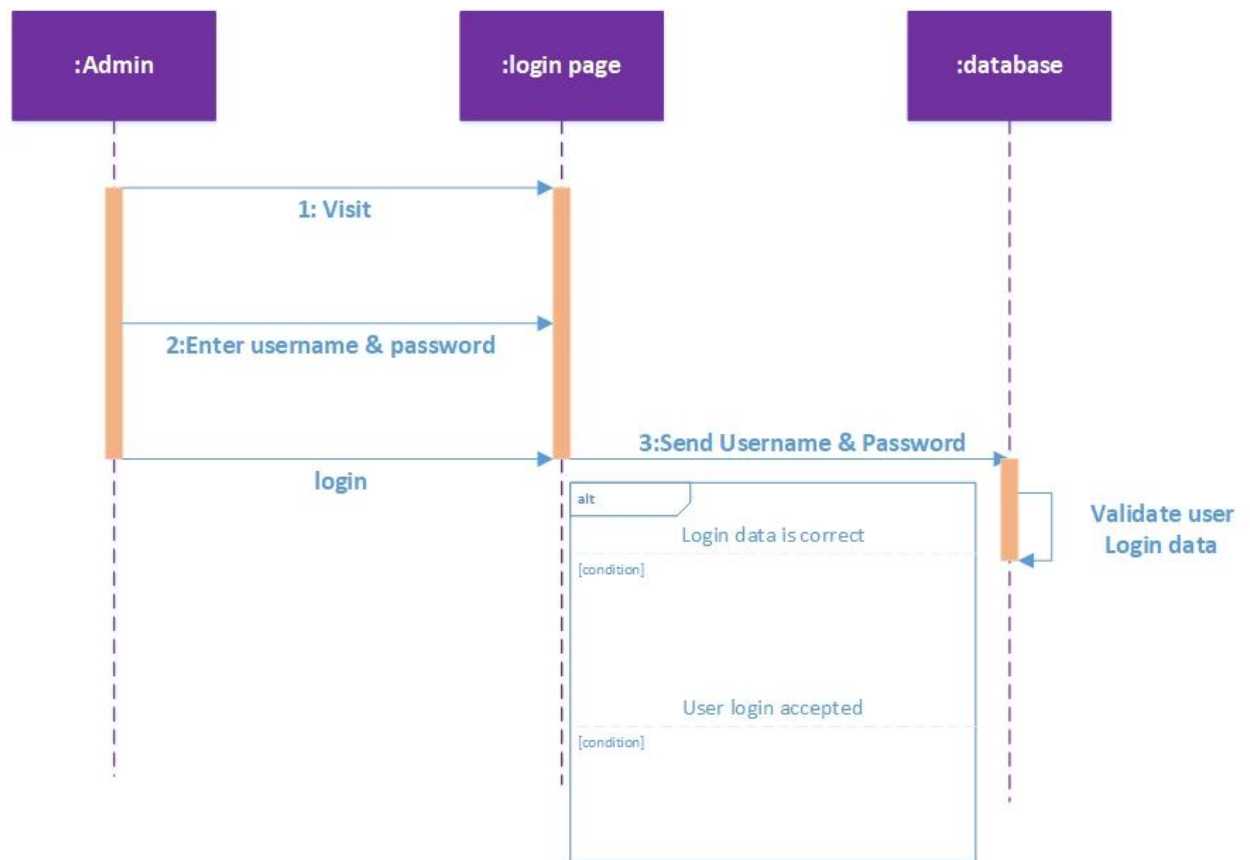




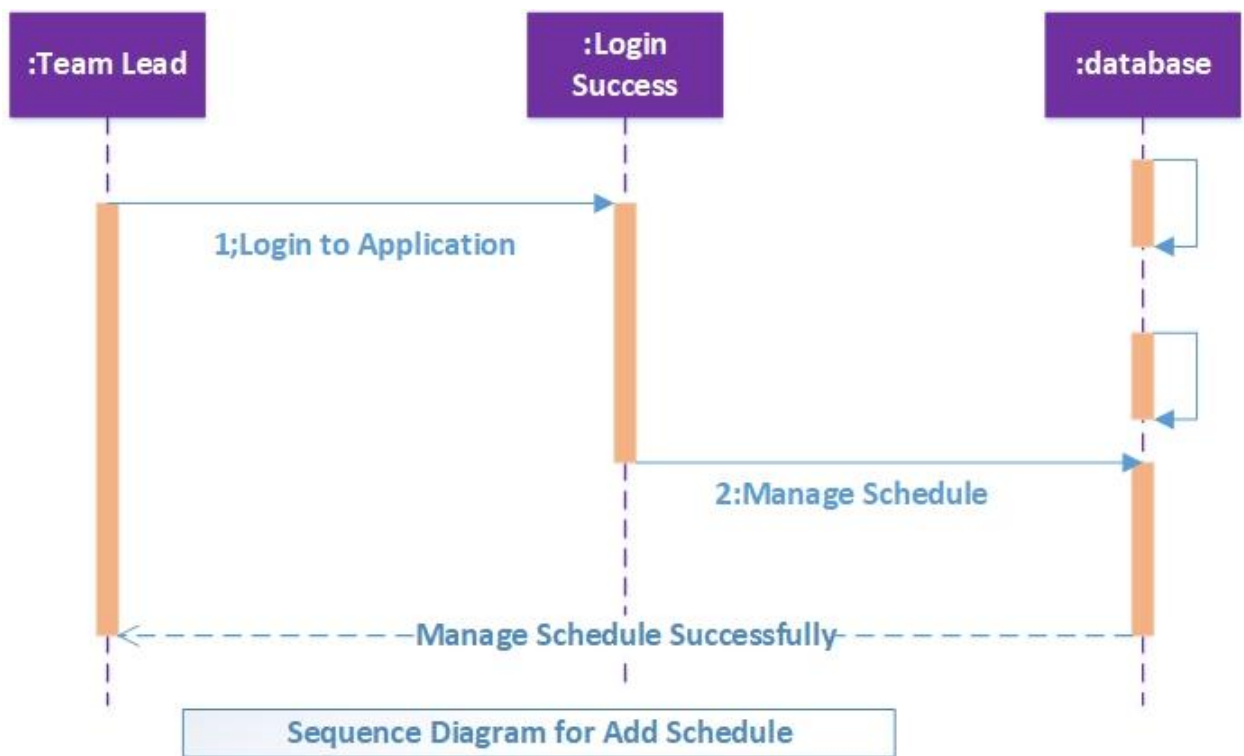
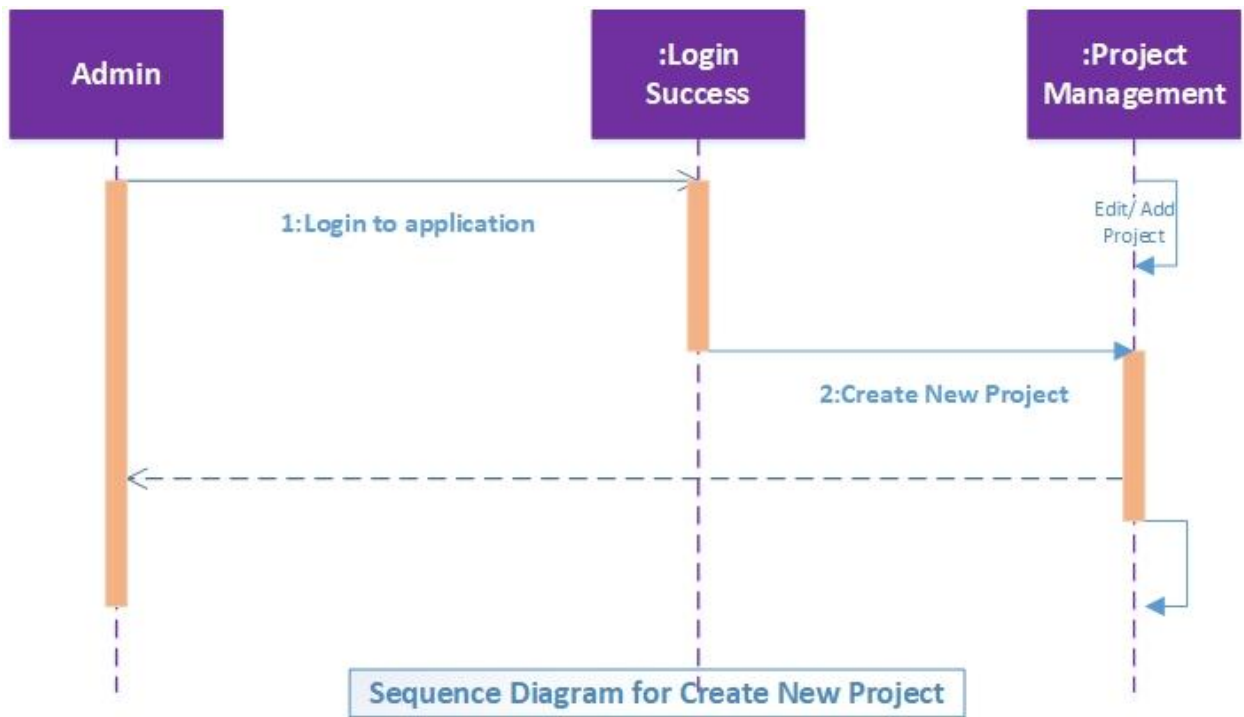
Sequence Diagram of Verify Email

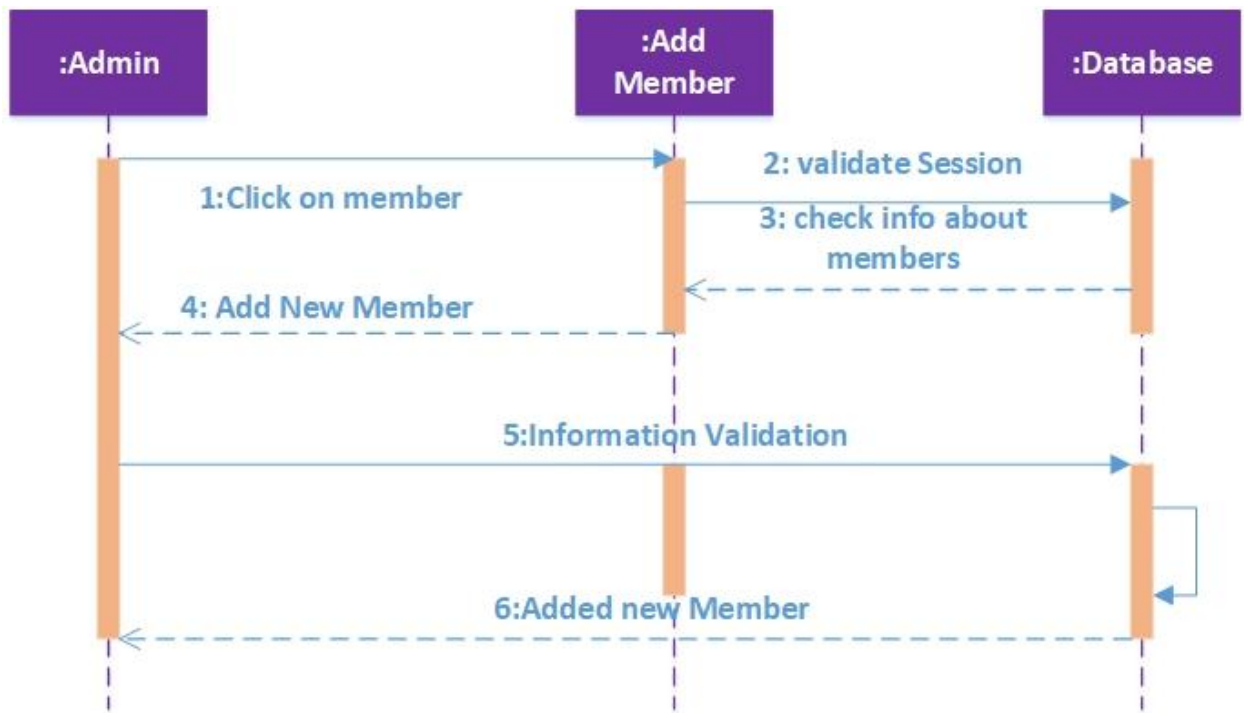


Sequence Diagram for Login

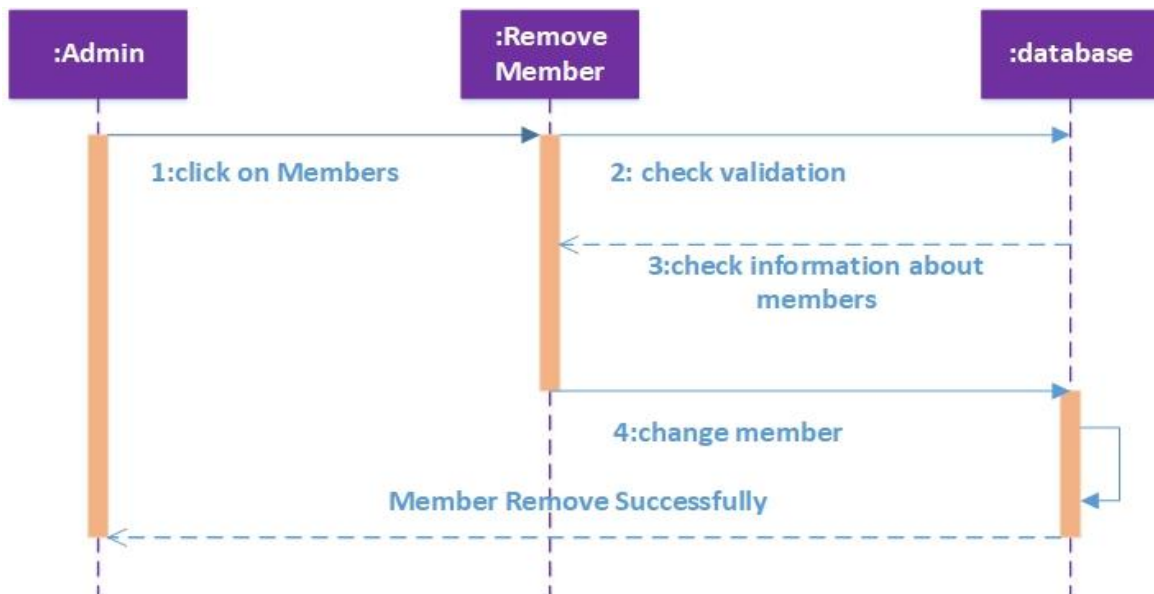


Sequence Diagram of Verify Username & Password

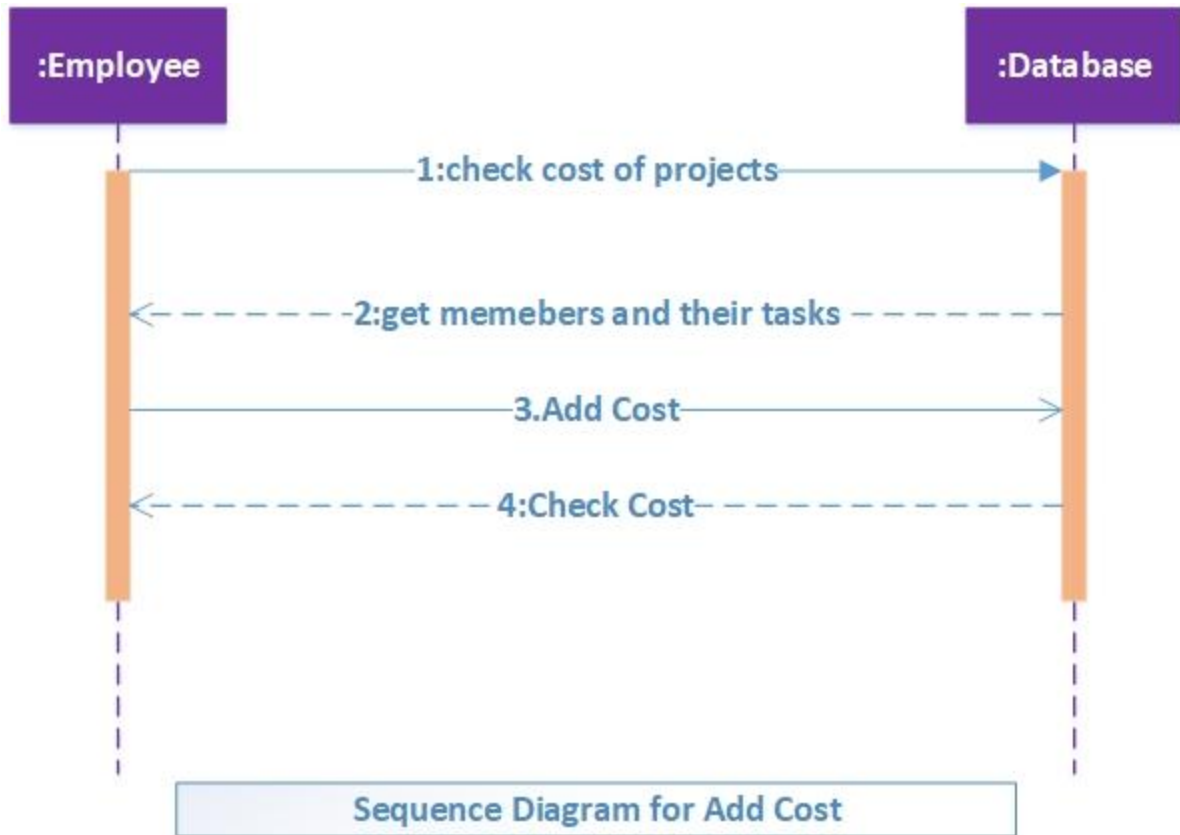


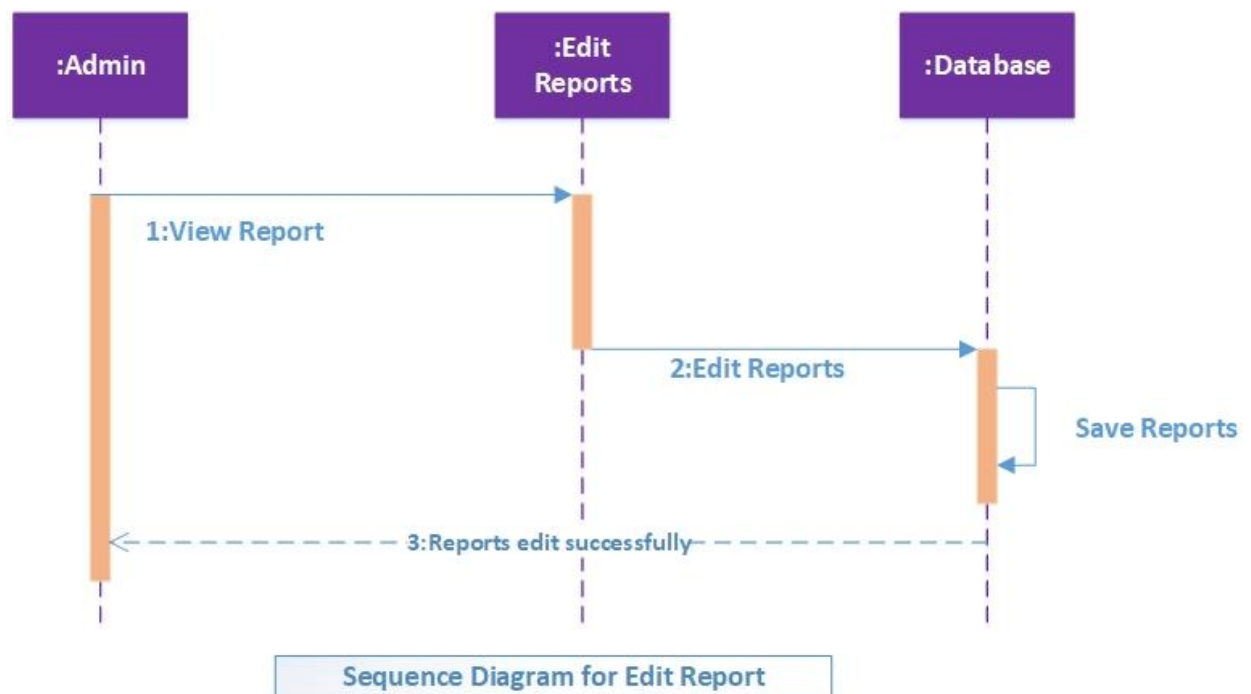
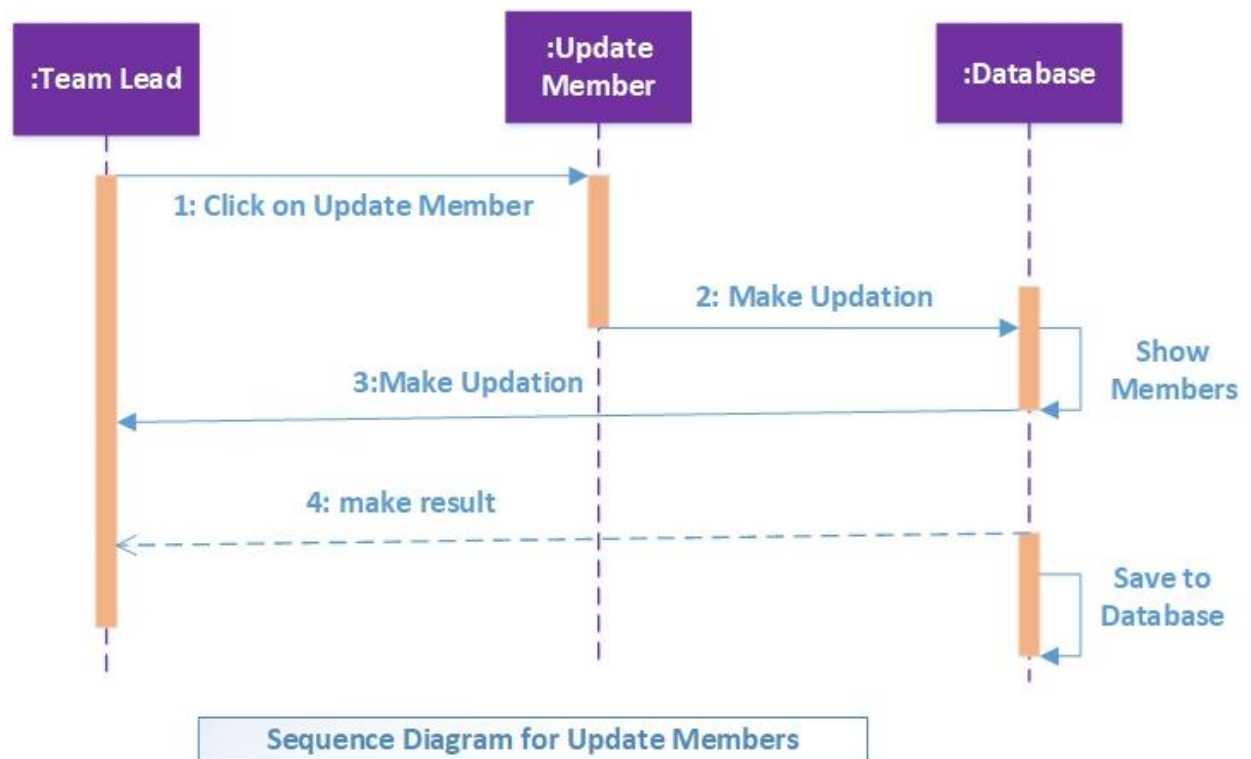


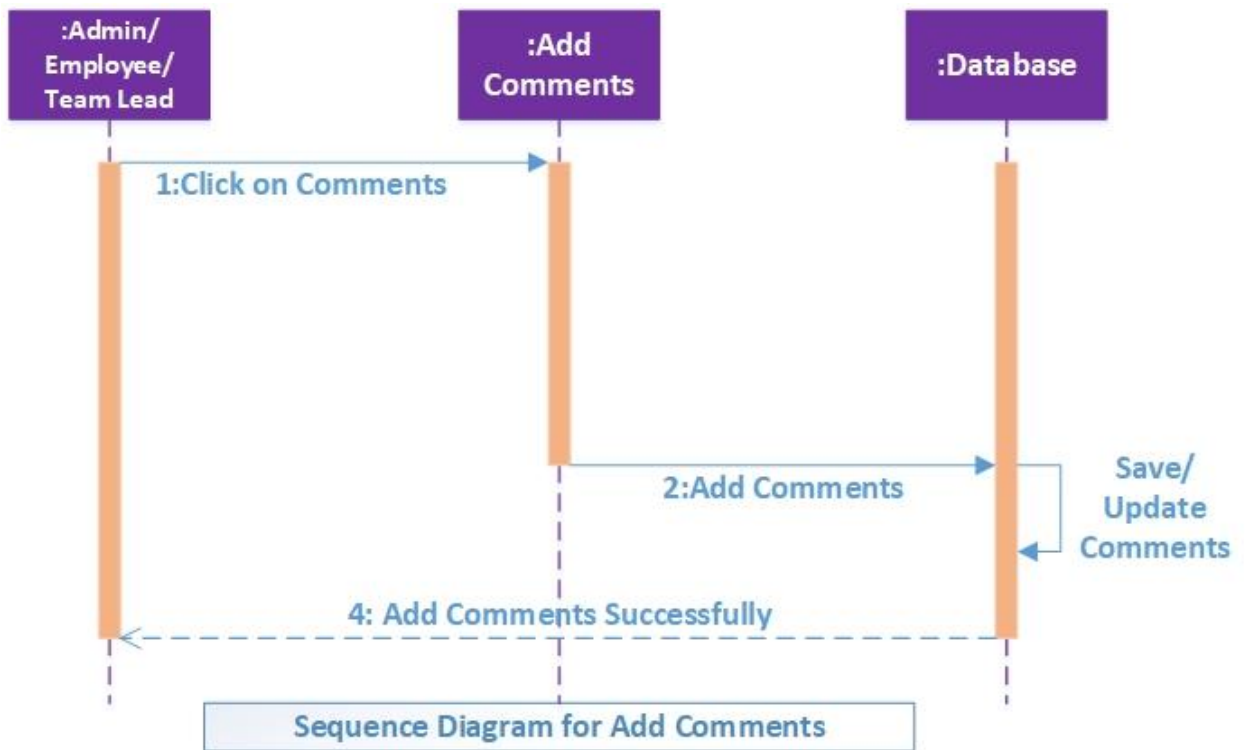
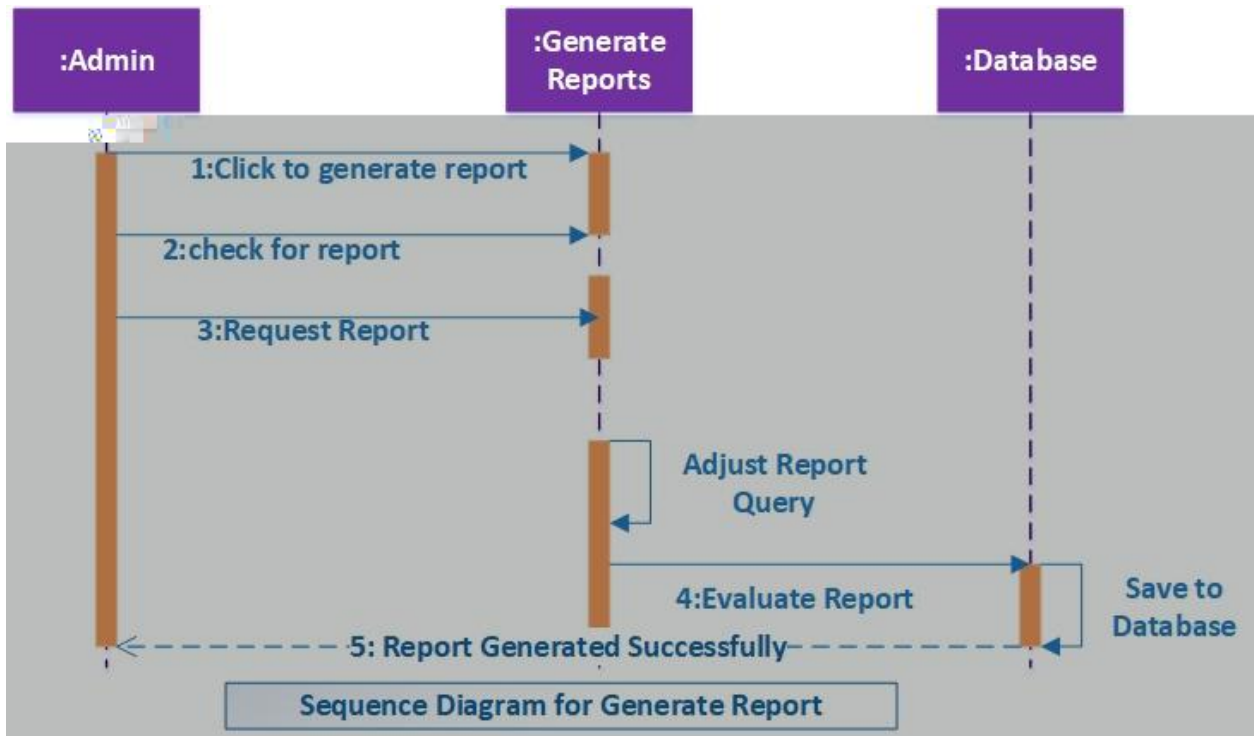
Sequence Diagram for Add Member

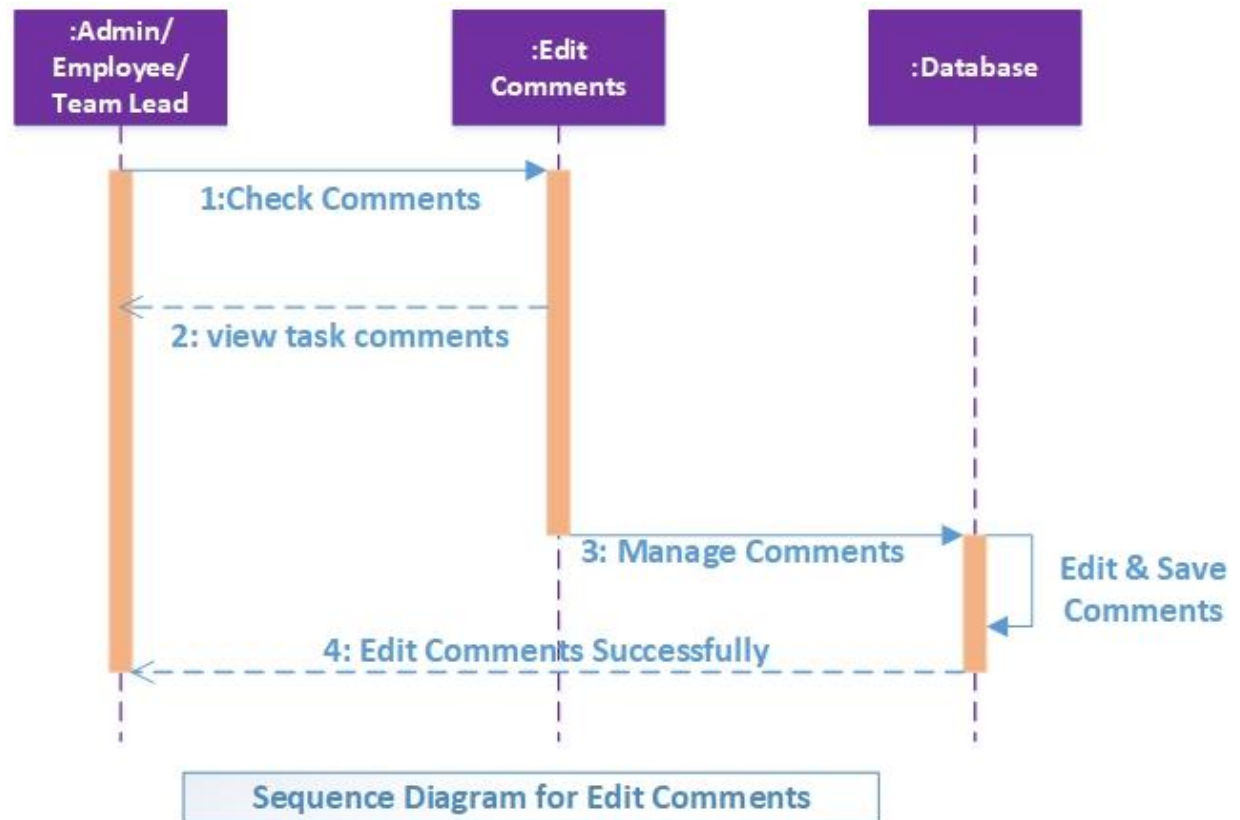


Sequence Diagram for Remove Members



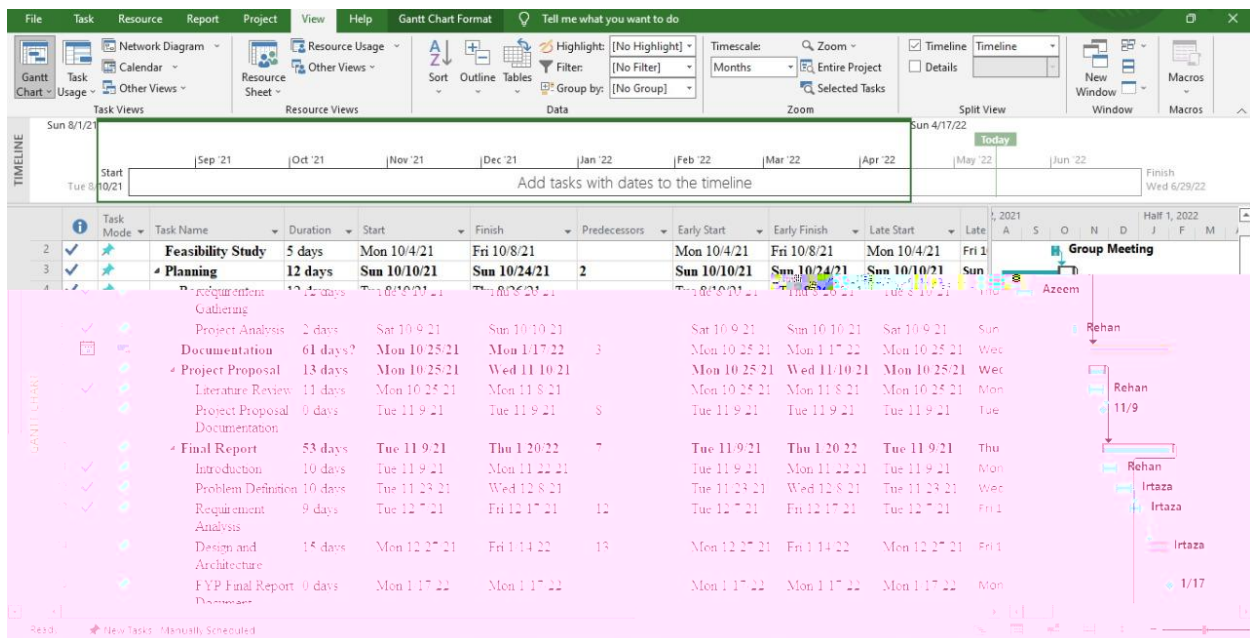
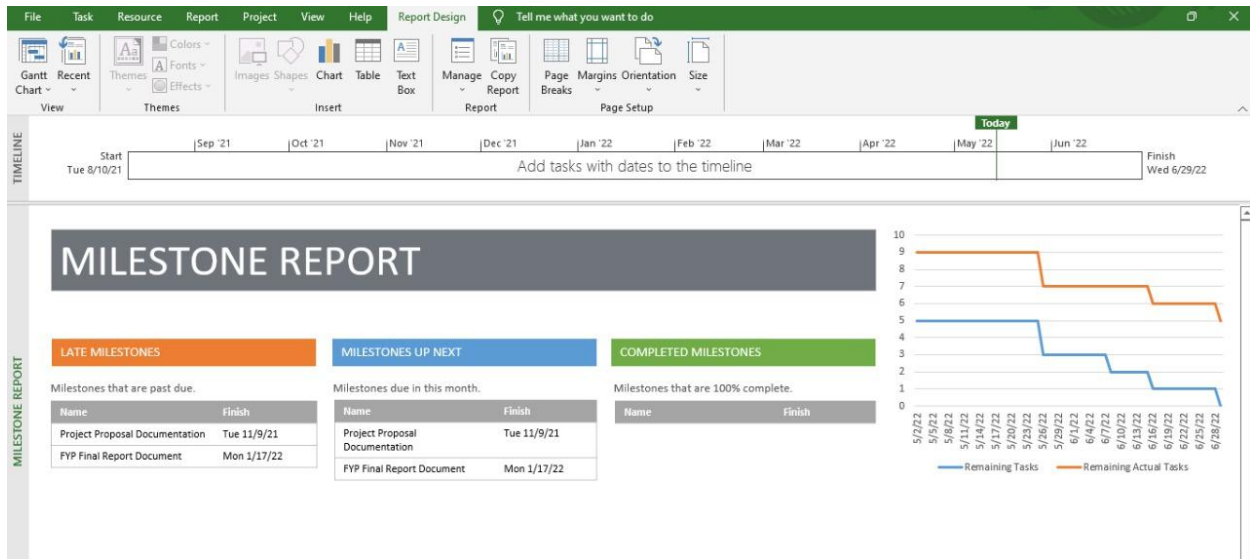


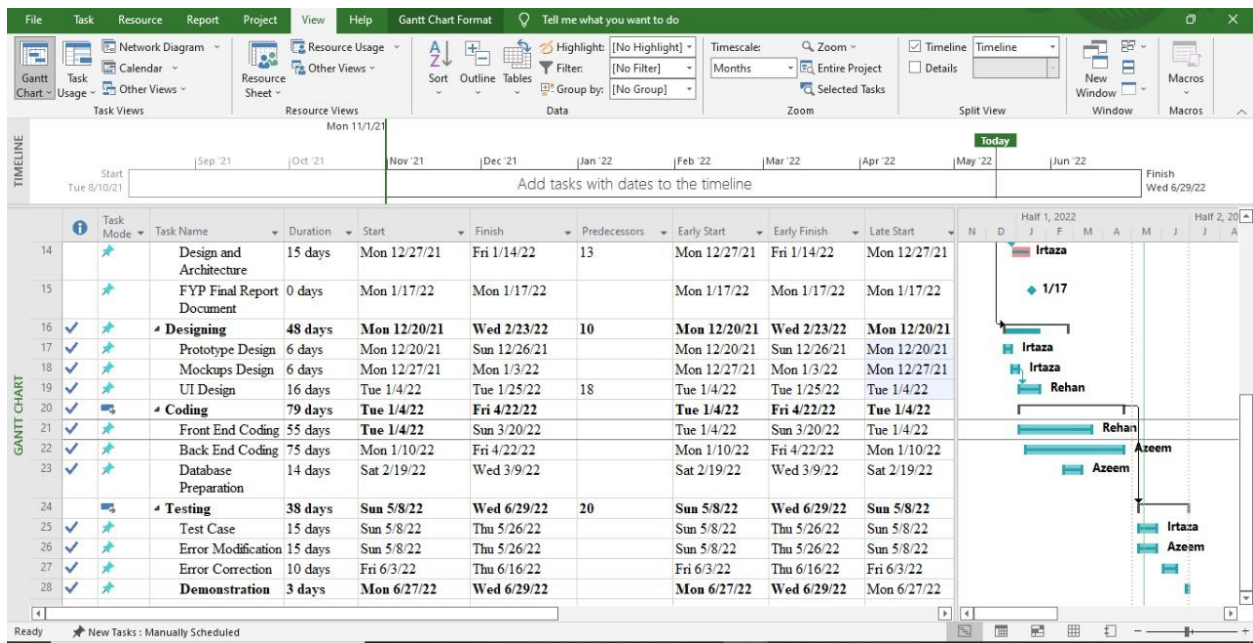




Here is the class Diagram of our FYP project:





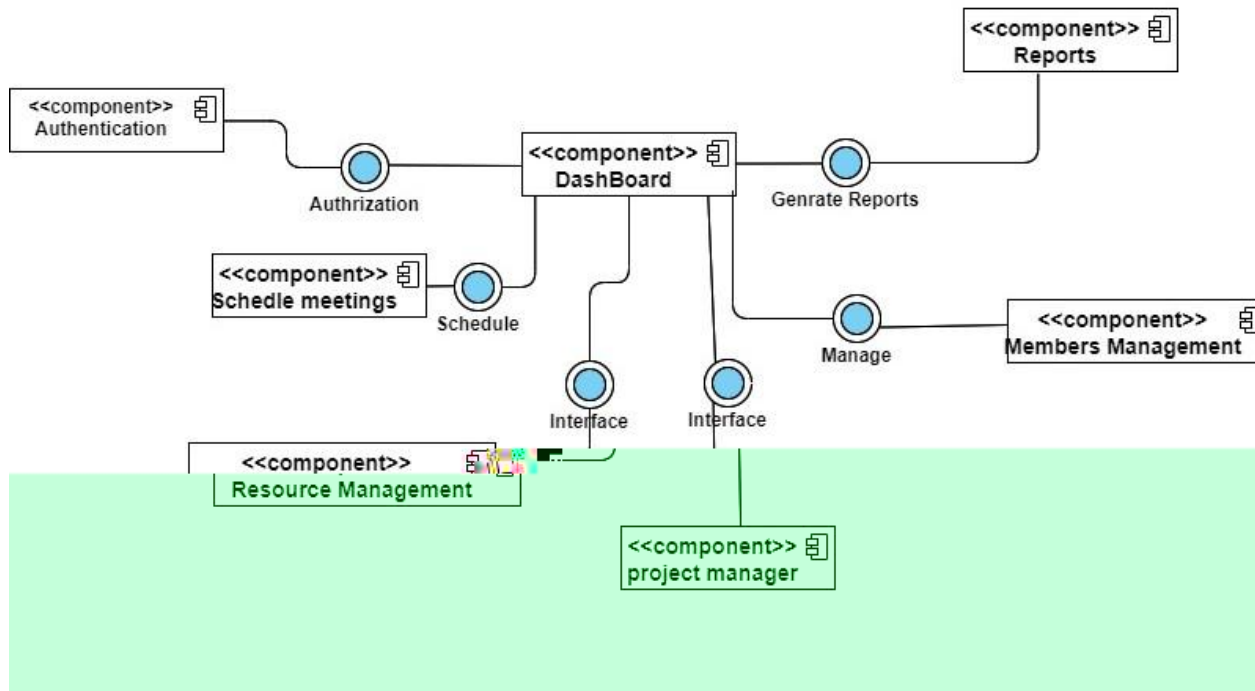


File	Task	Resource	Report	Project	View	Help	Resource Sheet Format	Tell me what you want to do		
Sanit	Task	Resource Usage	Calendar	Other Views	Resource Sheet	Sort	Outline	Tables	Highlight: [No Highlight]	Timescale: [Months]
hart	Usage	Other Views				Filter: [No Filter]				Zoom: [Entire Project]
						Group by: [No Group]				Split View: [Timeline]
										Window: [New Window]
										Macros: [Macros]

Resource Name	Type	Material	Initials	Group	Max.	Std. Rate	Ovt.	Cost/Use	Accrue	Base	Code	Add New Column
1	Group Meeting	Work	G		100%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
2	Azeem	Work	A		100%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
1an	Work	R		100%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard			
za	Work	I		100%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard			

Chapter 5: Implementation

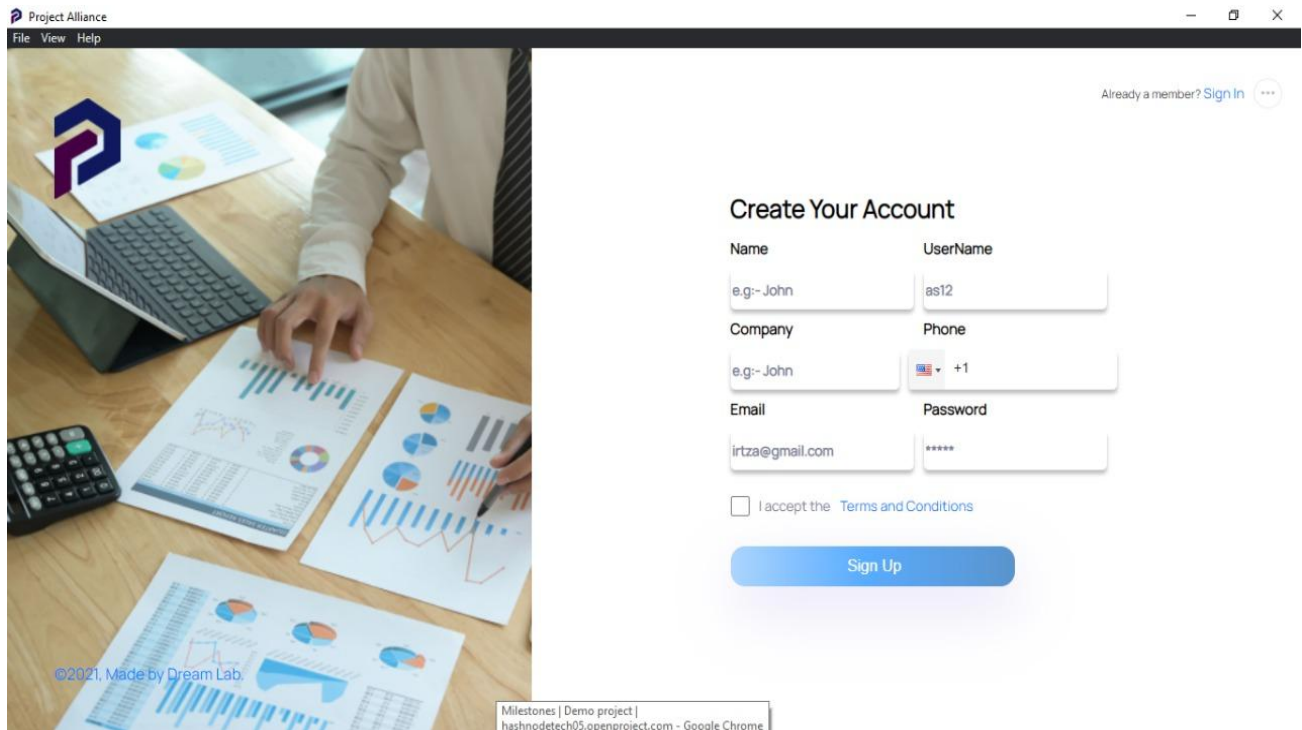
This chapter will discuss implementation details supported by UML diagrams of Intelligent Project Alliance.



In component diagram it has been shown that the admin register and manage the dashboard. They can check Schedule Meetings, Manage Members, and then generate reports in an efficient way.



This is a splash screen, and it will be shown at the start of the application for 3 seconds.

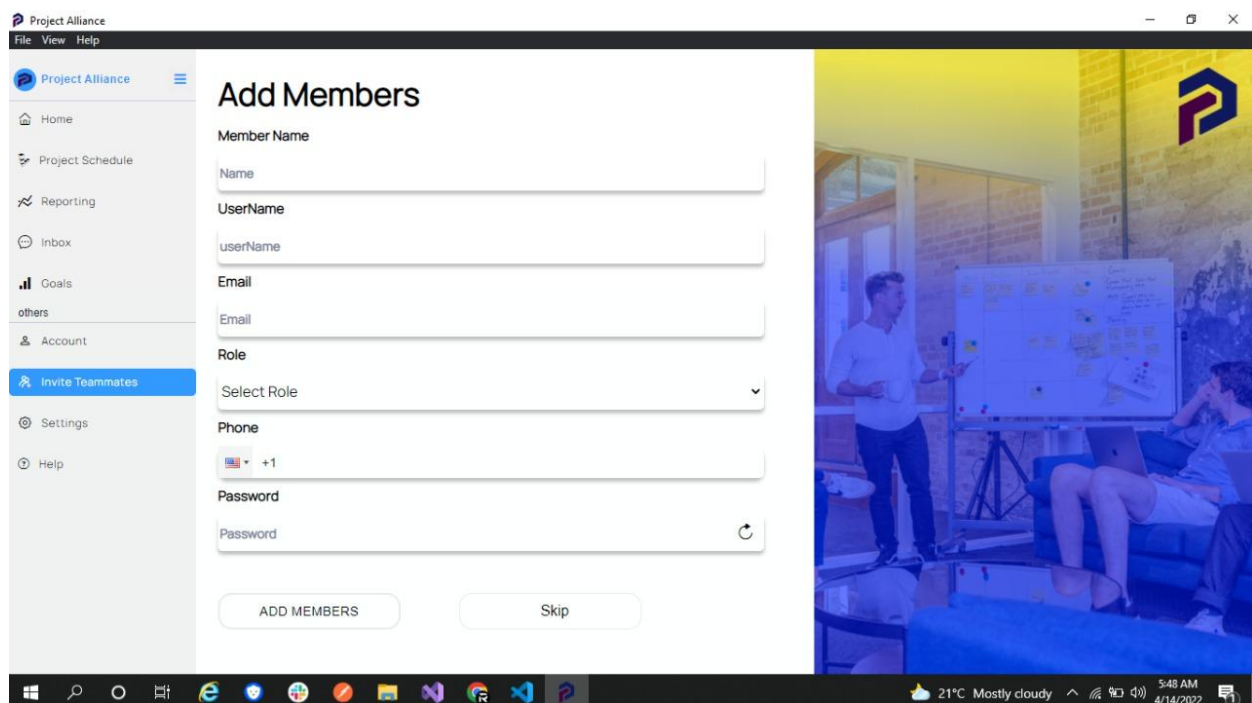
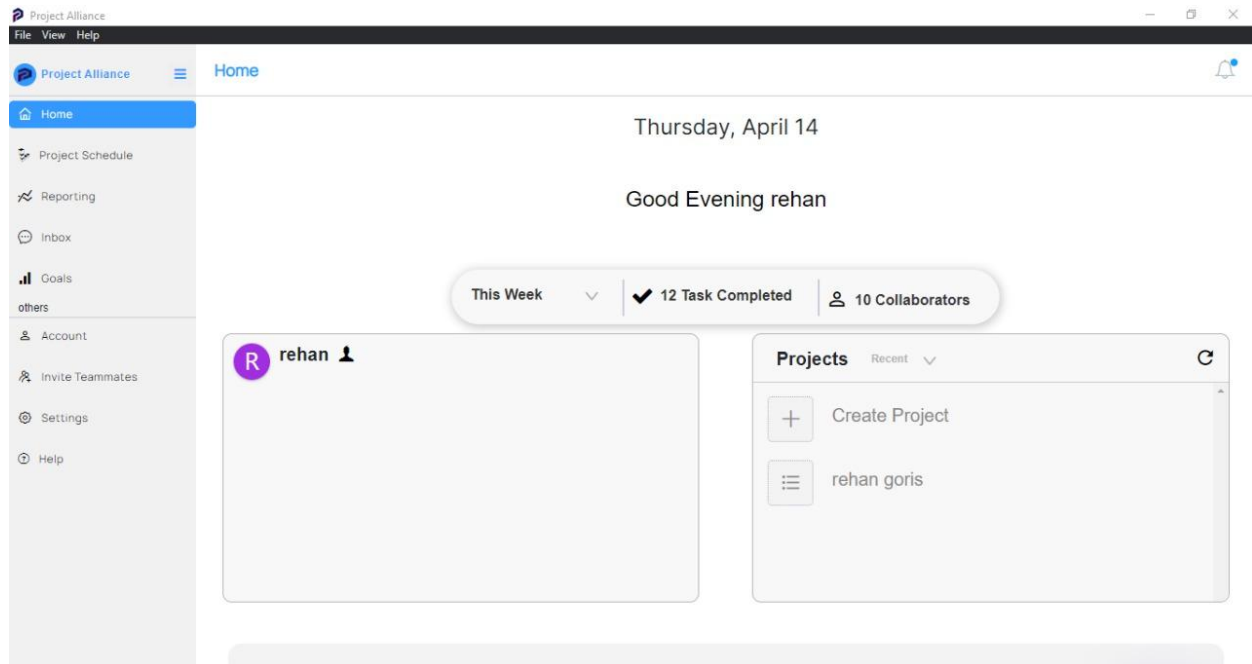


The user will enter the data for account creation. The validations applied on Signup page are given below:

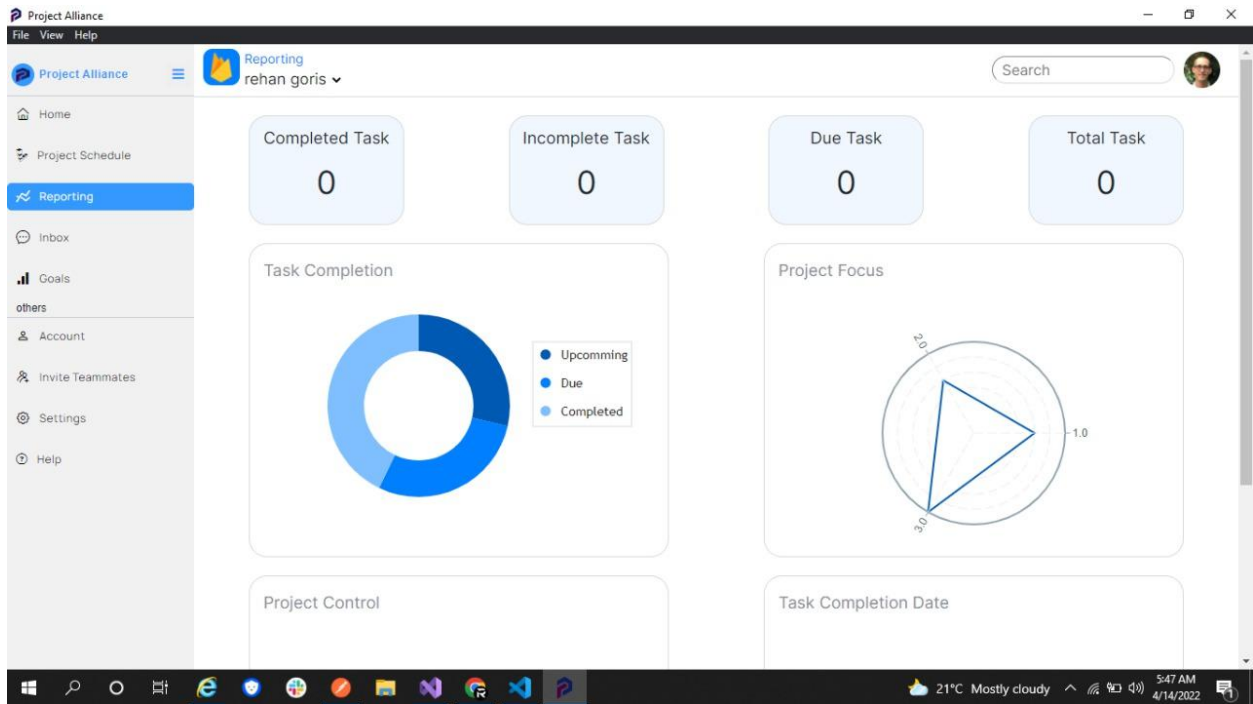
1. Email should be valid.
2. Username should contain number and alphabets.
3. Name should only contain alphabets.
4. CNIC should be valid.
5. Password must be more than 5 digits.

After checking the given validations and when user press “Signup” button, the user account will be created successfully.

At login page the user will enter his valid email and password. If the email or password is invalid/empty the user will not be able to Log In to his/her account, and if the user does not have any account, then user should first create his/her account on clicking “Sign up” button.



In Add Member page the user will enter his member's name, username and valid email and then enter the role of that member. If the credentials are invalid/empty the user will not be able to add members over there , if they don't want then they will be able to skip that step.



Project Alliance

File View Help

Project Alliance

Goals Rehan

Search

Home

Project Schedule

Reporting

Inbox

Goals

others

Account

Invite Teammates

Settings

Help

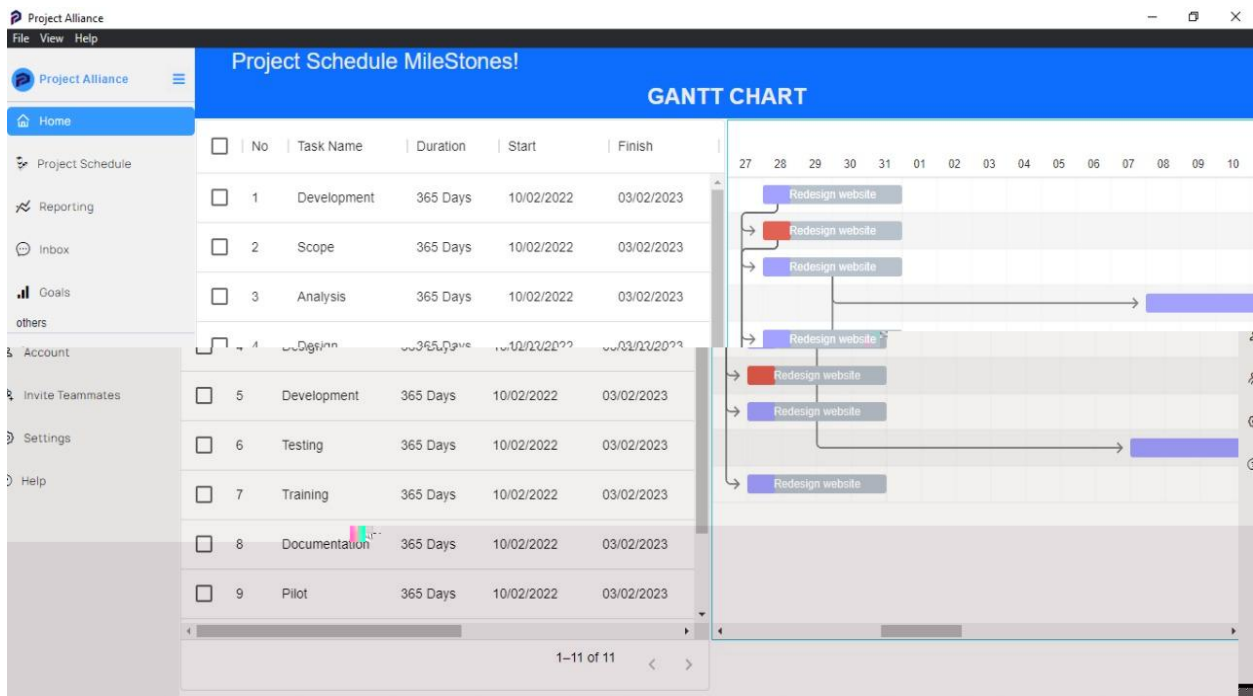
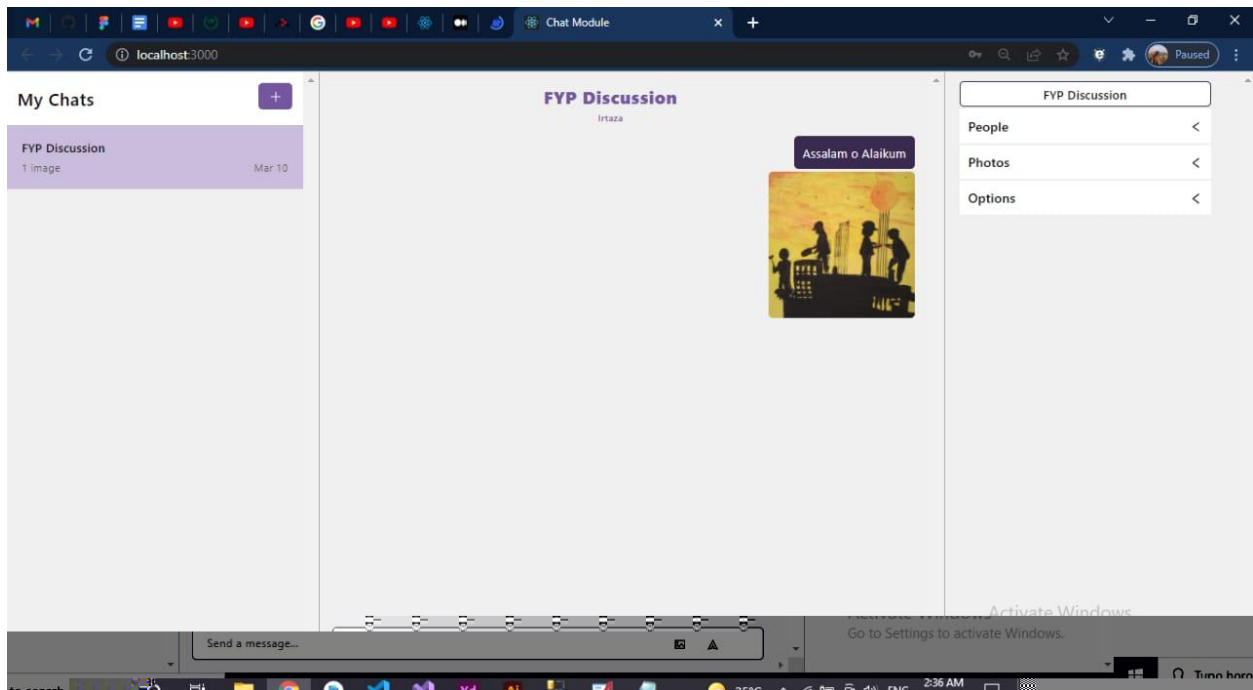
Project Alliance

Add your company mission to align your work and stay inspired. Only members with full access can edit.

Goals +

Complete your Project	2022-04-05T00:00:00
Fyp Completeion	2022-04-05T00:00:00
Complete your Project	2022-04-05T00:00:00
Fyp Completeion	2022-04-05T00:00:00
Complete your Project	2022-04-05T00:00:00
Fyp Completeion	2022-04-05T00:00:00
sss	0001-01-01T00:00:00
sas	0001-01-01T00:00:00

At this page the user will check the project goals according to his/her need. The records related to slot are given at this interface which helps the user to get know how many projects will be completed.



Gantt-Chart are given at this interface which helps the user to get know the project schedule. Gantt-Chat is basically visualizing schedule, that monitoring specific tasks and resources in the project.

Project Schedule help teams to plan work around deadlines and properly allocate resources. They depict, among other things, the relationship between the of the tasks, milestones, and dependent tasks.

The main benefit of Gant-Chart is easy to understand, clear and visual representation of time frames. An easy to add dependencies and predecessors, creatively showing project plans.

Chapter 6: Testing and Evaluation

Verification is the process of checking that a software achieves its goal without any bugs. It is the process to ensure whether the product that is developed is right or not. It verifies whether the developed product fulfills the requirements that we have.

Functional Testing is a type of black box testing whereby each part of the system is tested against functional specification/requirements.

After giving right credentials we are able to login in our desktop application.

Our system gives error message when user enter incorrect fields.

Our system successfully shows the record in database of registered users.

IPA_01						
High						
Test Register User						
User click on button ” ” in App the user will be add into the database.						
User must have application.						
Admin will have the right to create account.						
1	User click on button ” ” in App the user will be add into the database.					
	Admin Name	Rehan Asghar				

	User name	Rehan05				
	CompanyName	Codistan				
	PhoneNo	+923167829691				
	email	Rehangoraya05@gmail.com				
	password	*****				
	User click on “Sign Up” button		All input values must be entered	User will save to DB successfully.	Pass	

IPA_02						
High						
Test Sign In User						
User click on button ” ” then user will authorize into the App.						
The user must have register his account before signin into the database.						
Admin will have the right to create account.						
1	User click on button ” ” in App the user will be add into the database.					
	Admin Name	Rehan Asghar				
	User name	Rehan05				

	email	Rehangoraya05@gmail.com				
	password	*****				
	User click on “Sign Up” button		All input values must be entered	User will save to DB successfully.	Pass	

IPA_03						
High						
Test Create New Project						
Users will create new projects according to their needs.						
User Must be Login First to create the project. Without the login in the system, he will not be able to create a project.						
Users will be pressed on the create project then they will be given details about the project.						
1	User click on button ” Create New Project” in App the new project will be add into the database.					
	User Name	Irtaza Zulfiqar				
	Email	Irtazazulfiqar6tn@gmail.com				

	User click on “Create New		All fields must be	New Project		

	Project ”button		filled.	will save to DB success fully.		
--	-----------------	--	---------	--	--	--

IPA_04						
High						
Test Manage Tasks						
Team Lead will assign tasks to every member in the project.						
The admin must create a project and employees are added by the admin. Then they can create new tasks.						
When a user clicks on an add task it will show the members and then he will assign tasks to them.						
1	User click on “Manage Tasks ”button			Changes will save to DB successfully.	Pass	

IPA_05						
High						
Test Manage Comments						
Admin, Employees and Team Lead will be able to add comments regarding their managed tasks.						
It will provide the facility to change comments regarding their tasks.						
When the user clicks on the Add Comment button.						
1	User click on "Manage Comments" button			Comments will be save to DB Successfully.	Pass	

IPA_06						
High						
Test Update Project						
Admin have an access to edit different projects.						
Project must be created.						
Admin will check the required changes and will make changes in that project.						

1	Admin click on button ” ” in App that changes will add into the database.			Project will be updated into the DB successfully.		

IPA_07

High

Test Manage Schedule

Team Lead will manage and edit the tasks or schedule of the project.

Schedule must be created for that specific tasks

Team Lead will click on the update button for editing.

1 User click on button ”

” in App and changes will be added into the DB.
User click on “Manage Schedule ” button

IPA_08						
High						
Test Manage Members						
This test case will check admin accessibility to add new members in the project.						
Firstly, Admin will must be add the member's credentials.						
Credentials will be authenticated from the DB						
1	User click on button ” ” in App the member will be add into the database.					
	User click on “Manage Members ”button			Member will be added to DB successfully.	Pass	

IPA_09						
High						
Test Add Cost						
This test case check cost of the tasks that are assigned to the employee.						
Task must be assigned to the employee.						
Admin will add the cost of the tasks individually.						

1	User click on button ” ” in App the Cost will be add into the database.					
	User click on “Add Cost”button			Changes will save to DB successfully.	Pass	

IPA_10

High

Test Add Scope

Employee will be able to add requirements of the tasks that are assigned to the employee.

Tasks list must be created.

IPA_11						
High						
Test Update on Tasks						
Employee will be able to submit tasks that they know will be able to solve himself/ herself.						
Tasks must be solved						
Employee must be registered for submitting tasks that can be easily solved.						
1	User click on button ” ” in App changes will be add into the database.					
	User click on “Update Tasks”button			Changes will save to DB successfully.	Pass	

IPA_12	
High	
Test Add Document	
Test Case will define the role of team lead as they will be able to add documents for the scope management.	

Team Lead must have an access to upload documents.						
If team lead didn't have an access then firstly, Admin will add them in the project.						
1	User click on button "					
	" in App the changes will be add into the database.					
	User click on "Upload Document " button			Document will save to DB successfully.	Pass	

IPA_13						
High						
Test Generate Report						
Specify the role of the admin as admin will wants to generate reports then system will give the detailed view of that report.						
Admin will click on the button to generate a report.						
If report didn't generate then admin will check the data to generate reports.						
1	User click on button "					
	" in App the admin					

	will generate report into the database.					
	User click on “Generate Report”button			Generated Report will save to DB successfully.	Pass	

IPA_14						
High						
Test Edit Reports						
Admin will edit reports according to their needs.						
Admin will check reports that required some changes to do so.						
Editable reports must be available over there.						
1	User click on button ” ” in App the editable reports will be add into the database.					
	User click on “Edit Reports”button			Changes will save to DB successfully.	Pass	

IPA_15						
High						
Test View Report						
Test Case will define once the report is generated, the admin can view and then download it.						
Admin will check the availability of the reports.						
Reports must be available in the system.						
1	User click on button ” ” in App and the changes will be add into the database.					
	User click on “View Report”button			Changes will save to DB successfully.	Pass	

Static test techniques provide a great way to improve the quality and productivity of software development. It includes the reviews and provides the overview of how they are conducted.

Validation is the process of checking whether the software product is up to the mark or in other words product has high level requirements. It is the process of checking the validation of product i.e., it checks what we are developing is the right product. it is validation of actual and

expected product. Validation involves white box testing is software testing technique in which internal structure, design and coding of software are tested to verify flow of input-output and to improve design, usability, and security. E.g., Scope and Cost module.

also known as User Experience (UX) Testing, is a testing method for measuring how easy and user-friendly a software application is. A small set of target end-users, use software application to expose usability defects. Usability testing mainly focuses on user's ease of using application, flexibility of application to handle controls and ability of application to meet its objectives. In our project some users test our system, and they all are successfully registered. One user finds the defect in our Schedule module that you should add some other ways to check through Gantt Chart.

Unit testing is a confusing part of the software development process. Unit testing involves individually testing unit of code separately to make sure that it works on its own, independent of the other units. Unit testing is essentially a set of paths, test performed to examine the several different paths through the modules. Unit testing is remarkably done by programmers with the help of Unit framework. Unit testing is usually an automated process and performed within the programmers IDE. Unit testing is an action used to validate that separate units of source code remains working properly. In our project we test the Scope and Goal modules individually for better results.

is defined as a type of testing where software modules are integrated logically and tested as a group. A typical software project consists of multiple software modules, coded by different programmers. The purpose of this level of testing is to expose defects in the interaction between these software modules when they are integrated. In our project, we integrate Chat modules, and they show results successfully.

System Testing is carried out on the whole system in the context of either system requirement specifications or functional requirement specifications or in the context of both. System testing tests the design and behavior of the system and also the expectations of the user. It is performed to test the system beyond the bounds mentioned in the software requirements specification (SRS). In our project we give different inputs as user required from our system initially and get ninety percent accuracy in it.

Acceptance Testing is a method of software testing where a system is tested for acceptability. The major aim of this test is to evaluate the compliance of the system with the business requirements and assess whether it is acceptable for delivery or not. Acceptance Testing is the

last phase of software testing performed after System Testing and before making the system available for actual use. In our system user check all details, initially face some defects but after negotiating and resolving some defects they accept our system.

is a type of software testing that verifies stability & reliability of software application. The goal of Stress testing is measuring software on its robustness and error handling capabilities under extremely heavy load conditions and ensuring that software doesn't crash under crunch situations. It even tests beyond normal operating points and evaluates how software works under extreme conditions.

Evaluation was done as we completed our project by correctly evaluated things and completed them on time.

Our project deploys in real time environment, and it works accurate. There is proper exchange of information between system and application, hence deployment was also done.

Maintenance was done as we fulfilled all the objectives of the project and maintained all the detection and correction of errors in the system.

Chapter 7: Conclusion and Future Work

This chapter concludes the project and highlights future work.

This project Intelligent Project Alliance is a desktop application for cross platform like windows, Mac and linux which has two main users, Admin and Team Lead. An organization can completely control and run their platform and have full control over its data. We will overcome all the problems that were present in previous management tools like ELM, etc.

It will be easy to configure Project Alliance and there will be no need to follow predefined steps. No certification is required to use our tool, and all of its features will be free.

We are planning to do following advancements in our project in future.

- Our future step will be to set the calling preferences and privacy preferences.

- Control and optimize your project budget.

- Project Management software support and facilitate the project team in collaboration and to deliver the project as efficiently as possible to maximize the output of meetings.

- Improvements in the designing and performance of software.

Link and Reference are as under:

1. <https://openProject.com/>
2. <https://www.atlassian.com/software/jira>
<https://www.ibm.com/products/engineering-lifecycle-management>