I-Hack Portal

Dissertation Submitted in Partial fulfillment of the
Requirement for the Award of the Degree of

Master of Information Technology in Information Technology
Semester X

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International Institute of Professional Studies
Devi Ahilya Vishwavidyalaya, Indore, M.P.
2023

DECLARATION

I hereby declare that the project entitled **I-Hack Portal** which is submitted by me for the partial fulfillment of requirement for the award of **Masters of Technology(IT) (5 Years) Semester X** to International Institute of Professional Studies, Devi Ahilya Vishwavidyalaya, Indore, is authentic record of my own work carried out under the supervision of **Mrs. Poonam Mangwani,** Assistant Professor, IIPS-DAVV, Indore.

The matter embodied in this dissertation work is authenticated and is genuinely done by me and has not been submitted to this university or any other university or Institute. Thus I solely own the responsibility for the originality of the entire content.

I also declared that the content of project report does not violate the copyright, Trademarks, infringes on the patent, statutory right or propriety right of others.

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Date:

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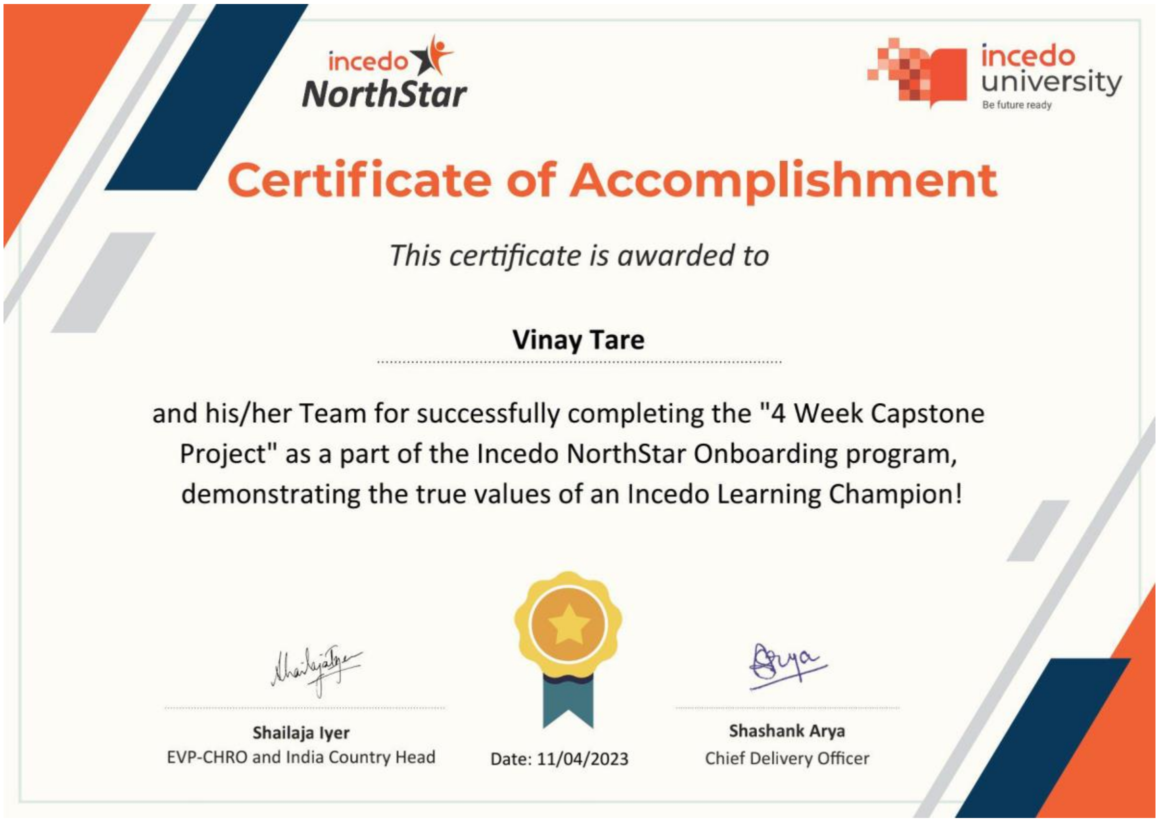
It is to certify that dissertation on “I-Hack Portal”, submitted by Mr. Vinay Tare to the International Institute of Professional Studies, DAVV, Indore has been completed under my supervision and the work is carried out and presented in a manner required for its acceptance in partial fulfillment for the award of the degree of “Master of Technology (IT) (5 Years) Semester X”.

Project Guide
Signature:

Name:
Date:



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and his/her Team for successfully completing the "4 Week Capstone Project" as a part of the Incedo NorthStar Onboarding program, demonstrating the true values of an Incedo Learning Champion!

Arya

Shailaja Iyer
EVP-CHRO and India Country Head

Date: 11/04/2023

Shashank Arya
Chief Delivery Officer

CERTIFICATE

It is to certify that we have examined the dissertation on “I-Hack Portal”, submitted by Mr. Vinay Tare to the International Institute of Professional Studies, DAVV, Indore and hereby accord our approval of it as a study carried out and presented in a manner required for its acceptance in partial fulfillment for the award of the degree of “Master of Technology (IT) (5 Years) Semester X”.

Internal Examiner

Signature**:** _________________

Name **:** _________________

Date **:** _________________

External Examiner

Signature**:** _________________

Name **:** _________________

Date **:** _________________

ACKNOWLEDGEMENT

I am highly indebted to my project guide, Mrs. Poonam Mangwani, for her guidance, Prof. Manju Suchdeo (Program Incharge of M.Tech.), and Dr. B. K. Tripathi (Director of IIPS) for their supervision and support in completing the project.

It would not have been possible without the kind support and help from my family and peers too. I would like to extend my sincere thanks to all of them.

My thanks and appreciations also go to my colleague in developing the project and people who have helped me.

Date:

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Abstract

The aim of this initiative is to create an advanced online system for submitting and evaluating ideas during Incedo's annual Hack-a-thon event. The web application will streamline the entire process from idea submission to the selection of the top three winning concepts, enhancing efficiency and user experience. The suggested solution includes role management, idea submission and editing capabilities, user interfaces for panelists and judges, and synchronized evaluation with timers.

A technical stack composed of popular technologies will be utilized to develop an application that will serve as a centralized platform for overseeing the Hack-a-thon event. This will simplify idea submissions and facilitate a smooth evaluation and selection procedure. The anticipated result is a fully functional, intuitive web application that automates the event process from start to finish, delivering an improved user experience for participants, panelists, and judges. Additionally, this platform will support future events and act as a foundation for ongoing innovation within the organization.

Chapter 1
Introduction

1.1 Introduction

The primary goal of the "I-Hack Portal" project is to develop an innovative online platform for Incedo's annual Hack-a-thon event. The platform will streamline the entire process, from submitting ideas to selecting the top three winning concepts. To achieve this, the project will leverage state-of-the-art technologies such as Java 11, React JS, GitHub, Spring Boot Framework, MySQL, and REST API, which will significantly enhance operational efficiency and user satisfaction.

1.2 Objectives

- Creating an innovative web-based portal specifically designed for the submission and evaluation of ideas during Incedo's annual Hack-a-thon event.
- Streamlining the entire process, ensuring a seamless flow from idea submissions to the identification of the top three winning concepts.
- Employing cutting-edge technologies like Java 11, React JS, GitHub, Spring Boot Framework, MySQL, and REST API to optimize performance and enhance the overall user experience.
- Automating the complete idea submission and selection process, eliminating manual intervention.
- Implementing features such as role management, idea submission and editing functionalities, user interfaces for panelists and judges, and synchronized evaluation mechanisms.
- Enhancing the user experience for all participants, including contestants, panelists, and judges, by providing a user-friendly and intuitive platform.
- Creating a flexible and scalable solution that can accommodate future events and foster ongoing innovation within the organization.

1.3 Company Profile

Incedo Inc. is a technology solutions and services company headquartered in Santa Clara, California, United States. Its core expertise lies in data analytics, machine learning, artificial intelligence, and software development. Incedo's mission is to empower businesses by delivering innovative, data-driven solutions that drive growth, efficiency, and value creation. The company values exceptional service, long-term partnerships, innovation, and continuous improvement.

Incedo offers a comprehensive range of services and solutions that include data analytics and business intelligence, machine learning and artificial intelligence, software development and engineering, enterprise mobility and cloud solutions, and quality assurance and testing. The company's target market includes businesses across various industries such as financial services, healthcare, telecommunications, and technology, seeking data-driven solutions and technology services to improve their operations, enhance customer experience, and drive growth.

Incedo's key competitors in the technology solutions and services industry are Accenture, IBM, Deloitte, Capgemini, and TCS (Tata Consultancy Services). In recent news, Incedo has announced strategic partnerships with leading technology companies to further enhance their offerings and expand their reach in the global market. The company has also been recognized as one of the fastest-growing technology companies in various industry reports and awards.

In conclusion, Incedo is a technology company that provides innovative, data-driven solutions to help businesses grow and succeed in today's competitive market. With a wide range of services and expertise, Incedo is well-positioned to be a trusted partner for businesses looking to leverage the power of data and technology to drive value and growth.

Chapter 2
Analysis

2.1 Background

2.1.1 Existing System and Its Limitations

In the context of the I-Hack Portal Application project, it is important to understand the existing systems and their limitations. The existing manual process for idea submission, evaluation, and selection in the Hack-a-thon event is time-consuming and prone to errors. The current system's reliance on Excel and email contributes to inefficiencies and delays. Currently, there are many online platforms that host hackathons, but most of them have limited functionalities and features. These platforms provide a basic interface for users to participate in the hackathon, but they do not offer much in terms of collaboration, communication, and project management.

Moreover, the existing systems lack customization options, making it difficult for organizers to tailor the platform to their specific needs. They also do not provide data analytics or reporting features, which makes it hard for organizers to track the progress of participants and evaluate the success of the hackathon.

2.2 Software and Hardware Requirement Analysis

Software Requirements Analysis is the process of defining the expectations and granule of the end users for an application that is to be built or modified. Therefore, requirements analysis means to analyze, document, validate and manage software requirements.

Requirement analysis process:

- Eliciting requirement: The process of gathering requirements by communicating with the customers is known as eliciting requirements.

- Analyzing requirement: This step helps to determine the quality of the requirements. It involves identifying whether the requirements are unclear, incomplete, ambiguous, and contradictory. These issues resolved before moving to the next step.
- Requirement modeling: In Requirements modeling, the requirements are usually documented in different formats such as use cases, user stories, natural-language documents, or process specification.
- Review and retrospective: This step is conducted to reflect on the previous iterations of requirements gathering in a bid to make improvements in the process going forward.

For the I-Hack Portal Application project, the software requirements include a robust and scalable web application that can handle a large number of users and provide them with a seamless experience. The application should be built using modern technologies and frameworks that offer flexibility and customization options.

2.2.1 Software Requirement

Development Environment: A system with the following minimum configurations is needed for the project to be built and with no constraints from hardware:

- Source Code Editor: Visual Studio Code (Text Editor) & Eclipse IDE.
- Version Control System: Git
- UI/UX or Frontend Layer: React.js, HTML, CSS and JavaScript.
- Unit Testing Tool: Jest & React Testing Library, JUnit.
- Backend Layer: Java, Spring Boot.
- Database: MySQL.

Security: The application should be secure and protect user data from any unauthorized access or attacks. It should implement proper security measures such as encryption, authentication, and authorization.

Integration: The application should be integrated with popular third-party tools and services such as email providers, and notification services platforms. It should also provide APIs for integration with other systems.

Scalability: The application should be designed to handle a large number of users and traffic. It should be scalable and able to handle spikes in traffic without any downtime.

2.2.2 Hardware Requirement

The hardware requirements for the I-Hack Portal Application project are minimal as the application will be hosted on the cloud. The following are the hardware requirements for development:

- Processor: Intel Core i5 or above
- Primary Memory (RAM): 8 GB or Above
- Secondary Memory (Hard disk): 50 GB or Above
- Monitor: COLOR, 15inch or above
- Display card: SVGA
- Mouse & Keyboard: Any Company

2.3 Feasibility Study

2.3.1 Economic Feasibility Study

The I-Hack Portal Application project is economically feasible as it has the potential to attract a large number of users and generate revenue through various means such as sponsorships, ads, and premium features. The cost of development, hosting, and maintenance can be offset by the revenue generated by the application. The project will be used for conducting internal hackathon, so it will help in making the work environment more enthusiastic, allowing employees to express their talents, which eventually will help in resource planning as well.

2.3.2 Technical Feasibility Study

The proposed system is technically feasible as it uses modern technologies and frameworks such as Spring Boot and React that are widely supported and can be easily integrated with other systems. The use of cloud hosting makes it scalable and cost-effective. The system can handle a large number of users and traffic without any downtime with the help and support of the Spring Boot Framework which balances load using Java’s Multithreading concepts and provides batch processing features also.

2.3.3 Behavioral Feasibility Study

The proposed system is user-friendly and easy to use. It provides a seamless experience to participants and offers features such as collaboration, communication, and project management that are missing in the existing systems. The system is designed to cater to the needs of both organizers and participants and offers customization options for organizers to tailor the platform to their specific needs. The proposed system also takes into consideration the behavior of the target audience, which includes tech enthusiasts, developers, and students. It is designed to be user-friendly and easy to use, with intuitive navigation and clear instructions. The system offers a seamless experience to participants, ensuring that they can focus on their projects without any distractions.

2.4 Analysis of the Proposed System

The proposed I-Hack Portal Application is a technically and economically feasible solution that addresses the limitations of existing hackathon platforms. It is built with modern technologies and frameworks that offer flexibility, scalability, and integration with third-party tools and services. The system is user-friendly, secure, and provides participants with seamless communication, collaboration, and project management features. The application has the potential to attract a large number of users and generate revenue through various means such as sponsorships, ads, and premium features. Overall, the I-Hack Portal Application is a robust and efficient solution that meets the needs of organizers and participants alike.

Chapter 3
Project Planning

The Employee Management System has gone through several phases of development, testing and Integration as follows:

- **Statement of Work**

  A statement of work (SOW) is a document routinely employed in the field of project management. In this project the SOW is prepared which defines the various aspects of project management such as schedule, scope and cost of the project being developed.

- **Project on-boarding**

  Once the SOW work is completed we start exploring and analyzing the technical aspects of the project such as hardware requirement, software requirement and start working on resource onboarding.

- **Resource on-boarding**

  In resource on-boarding we are concerned with the hardware requirement, software requirement and human resources needed to complete the project within stipulated time-stamp.

- **Development planning**

  In development planning, we split our problem into various epics and user stories and provide a brief overview and assign user stories to the developer.

- **Development**

  In this phase we are primarily focused on the tools and their respective services to develop our project. The Git tool is used in our project for version control of the software project and to keep track of credits for code written by the developer and checking progress of the work.

- **Testing**

  Here, the main aim is to check whether the actual software product matches expected requirements and to ensure that software product is defect free.

The planning for this project includes various steps taken before designing and development of the project to make sure that the project is developed properly with all the functionalities & features for the software project to be efficient and reliable for the users' point of view and it doesn't have any risk which is not taken care of in advance, and if any such risk is present then it must be taken into consideration.

Chapter 4

System Design

The system design process constituted of designing various views of the system that represent its structure, flow of data, interaction between components and sequence of events that happen while execution of the system. Some of the diagrams representing the above mentioned views are as follows:

4.1 Data Flow Diagram

A data flow diagram (DFD) maps out the flow of information for any process or system.

4.1.1 Level – 0 Data Flow Diagram

A Level-0 Data Flow Diagram (DFD) is also known as a context diagram, which represents the entire system as a single process and highlights its relationship with external entities checkykey.com. It provides an abstraction view of the system and helps to understand the system's scope and boundaries.

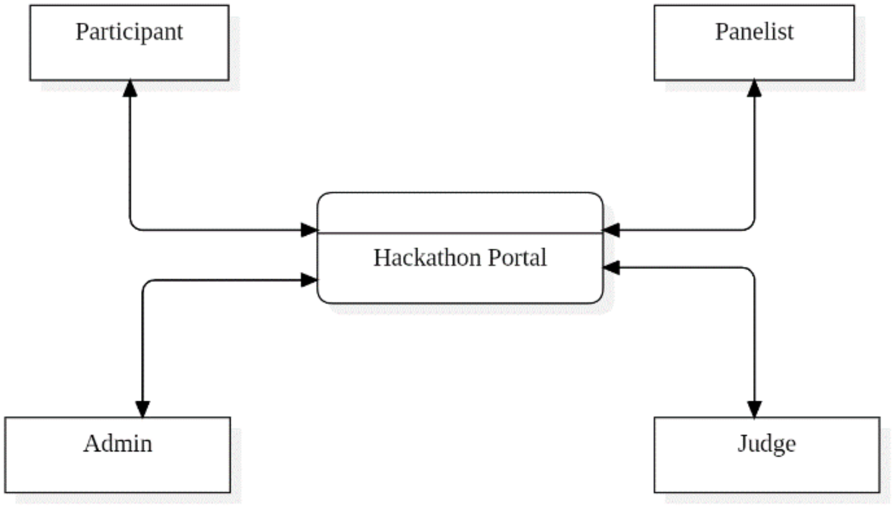


Figure 4.1 Level – 0 DFD (Context Diagram)

4.1.2 Level – 1 Data Flow Diagram

Level-1 DFDs decompose the context diagram into multiple processes, focusing on the main functions of the system and breaking down the high-level processes checkykey.com. This level further details the data flows and interactions between processes, offering a more specific representation of the system's functionality.

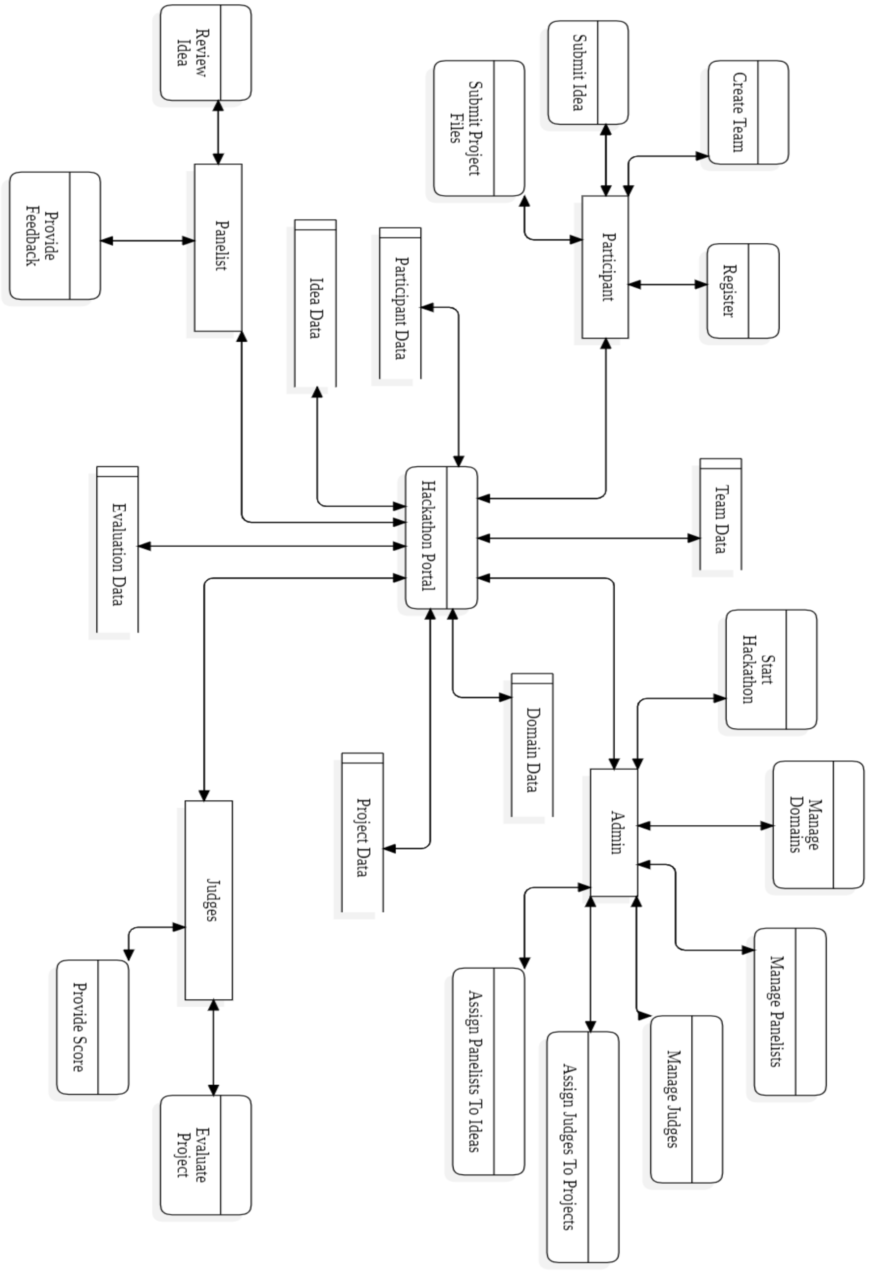


Figure 4.2 Level – 1 DFD

4.2 Use Case Diagram

Use case diagrams are used to depict the context of the system to be built and the functionality provided by that system. They depict who (or what) interacts with the system. They show what the outside world wants the system to do.

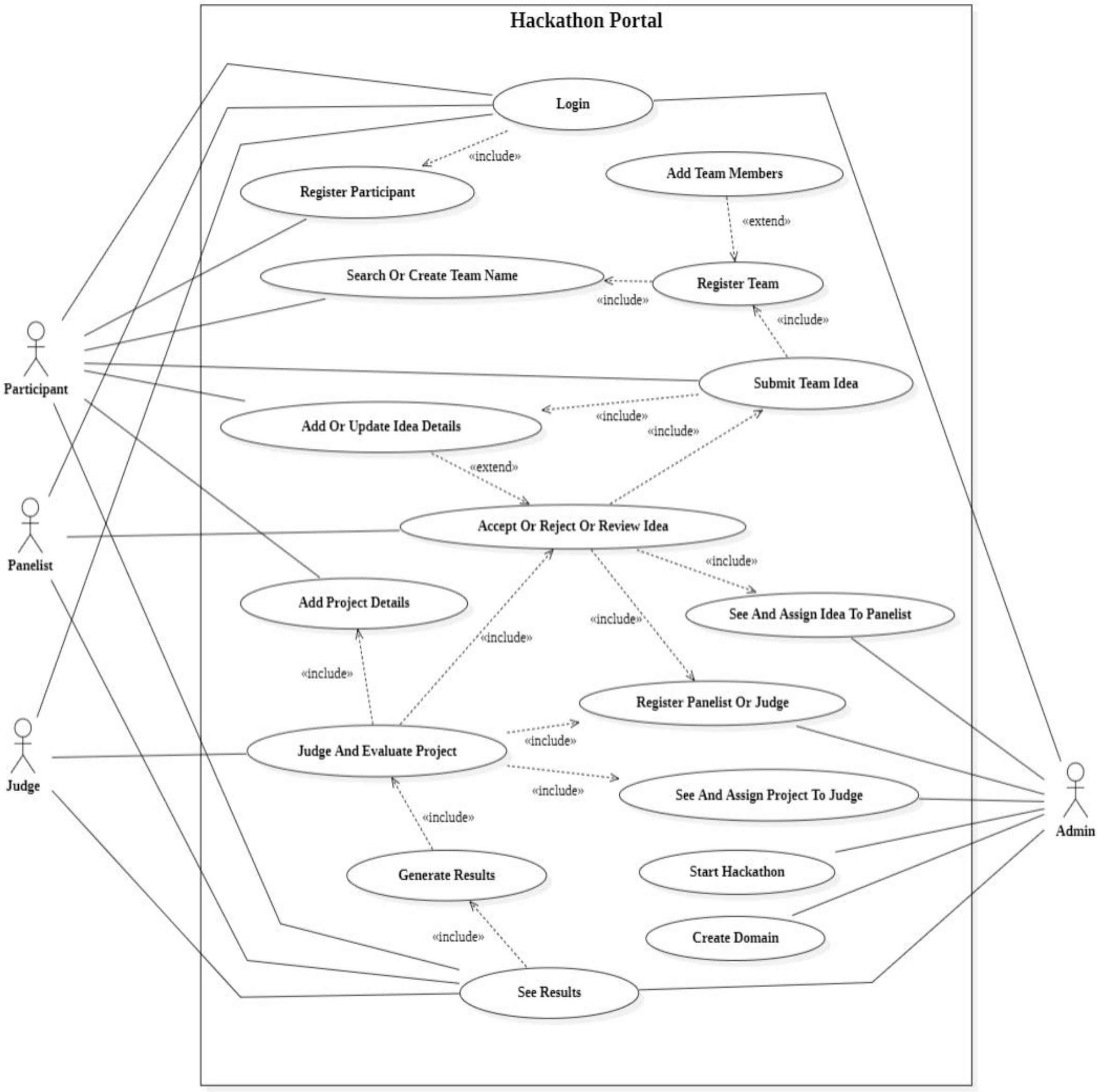


Figure 4.3 Use Case Diagram

4.3 Sequence Diagram

A sequence diagram traces the execution of a scenario in the same context as an object diagram. To a large degree, a sequence diagram is simply another way to represent an object diagram.

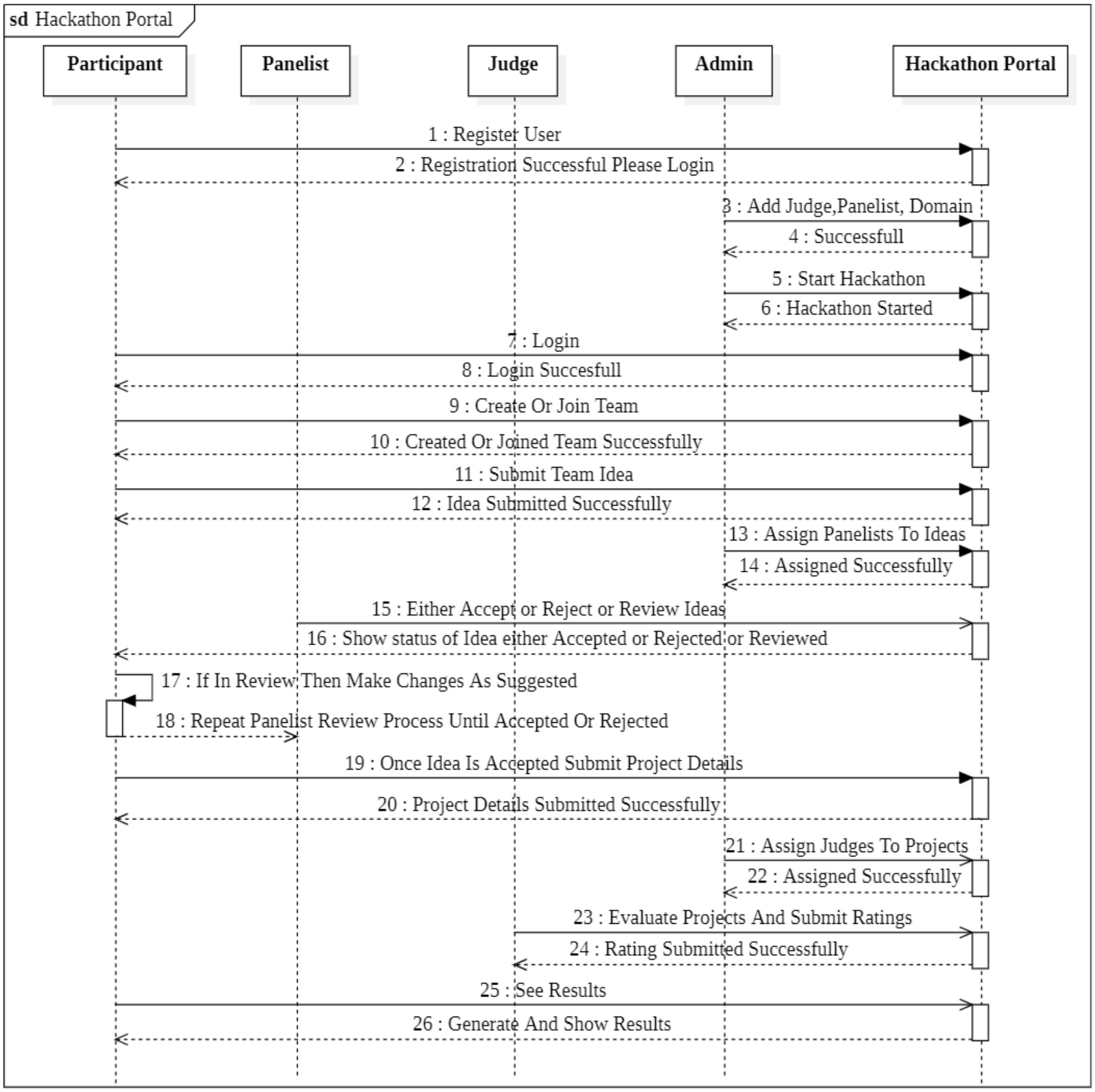

sd Hackathon Portal
Participant
Panelist
Judge
Admin
Hackathon Portal
1 : Register User
2 : Registration Successful Please Login
3 : Add Judge,Panelist, Domain
4 : Successfull
5 : Start Hackathon
6 : Hackathon Started
7 : Login
8 : Login Succesfull
9 : Create Or Join Team
10 : Created Or Joined Team Successfully
11 : Submit Team Idea
12 : Idea Submitted Successfully
13 : Assign Panelists To Ideas
14 : Assigned Successfully
15 : Either Accept or Reject or Review Ideas
16 : Show status of Idea either Accepted or Rejected or Reviewed
17 : If In Review Then Make Changes As Suggested
18 : Repeat Panelist Review Process Until Accepted Or Rejected
19 : Once Idea Is Accepted Submit Project Details
20 : Project Details Submitted Successfully
21 : Assign Judges To Projects
22 : Assigned Successfully
23 : Evaluate Projects And Submit Ratings
24 : Rating Submitted Successfully
25 : See Results
26 : Generate And Show Results

Figure 1.4 Sequence Diagram

4.4 Class Diagram

A class diagram shows the existence of classes and their relationships in the logical design of a system. During analysis, class diagrams indicate the common roles and responsibilities of the entities that provide the system's behavior. During design, class diagrams capture the structure of the classes that form the system's architecture.

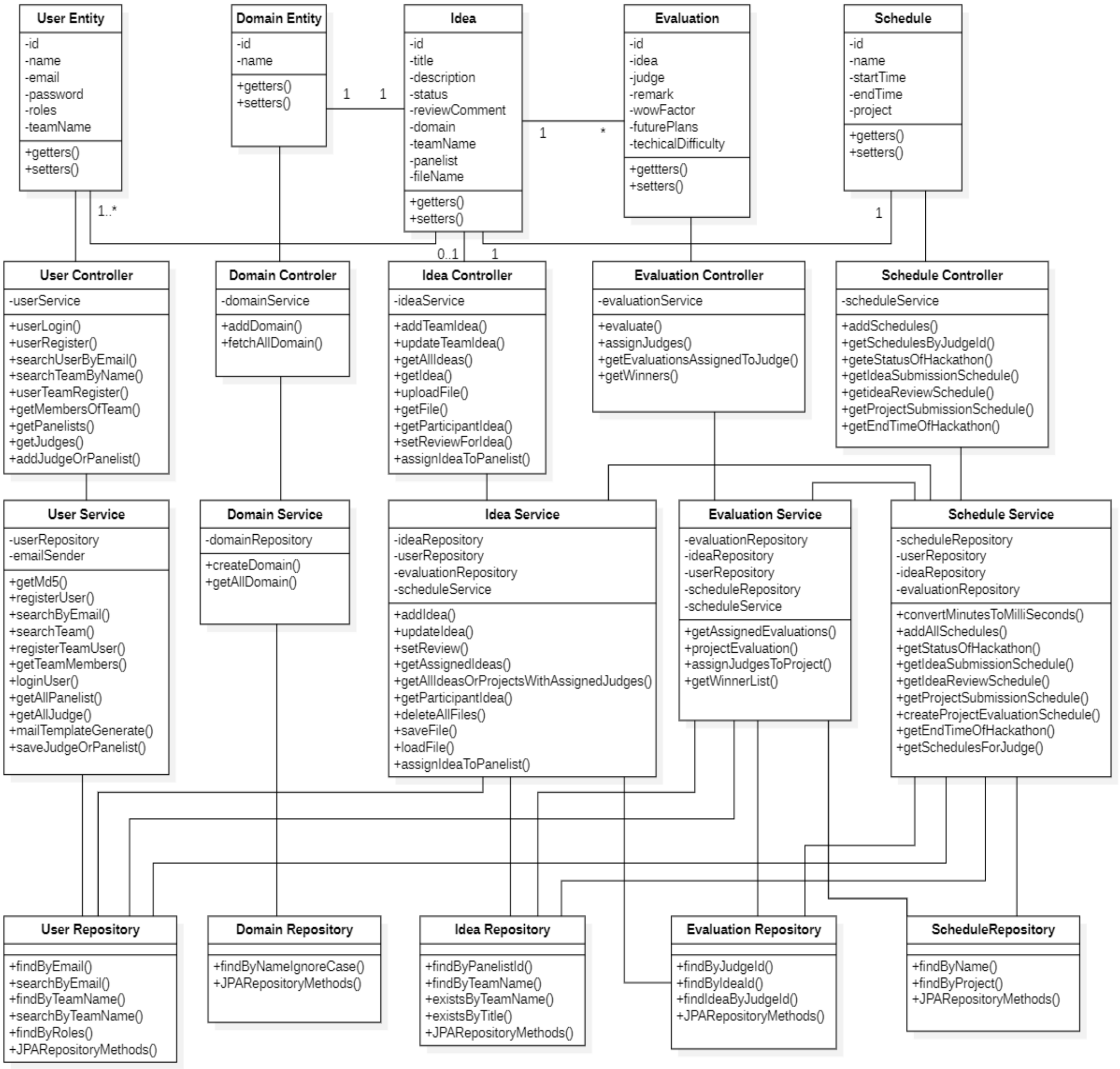
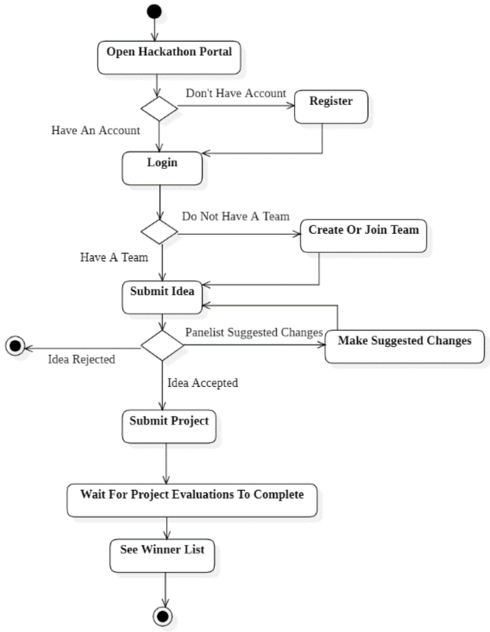


Figure 4.5 Class Diagram

4.5 Activity Diagram

An activity diagram provides the visual depiction of the flow of activities, whether in a system, business, workflow, or other process. These diagrams focus on the activities performed and who (or what) is responsible for the performance of those activities.



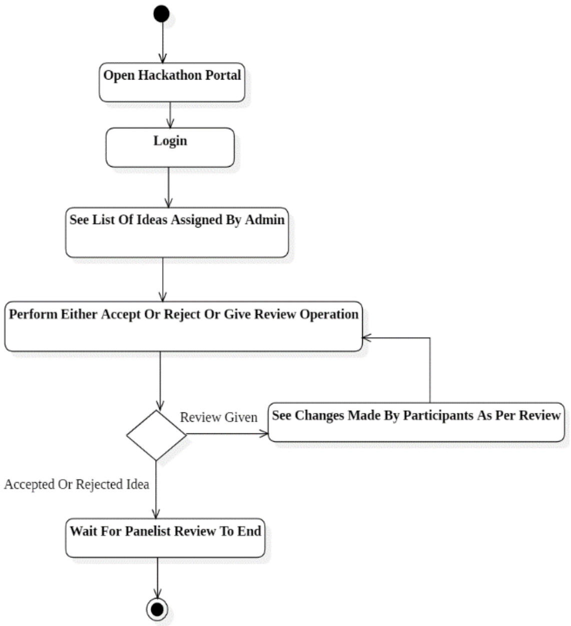
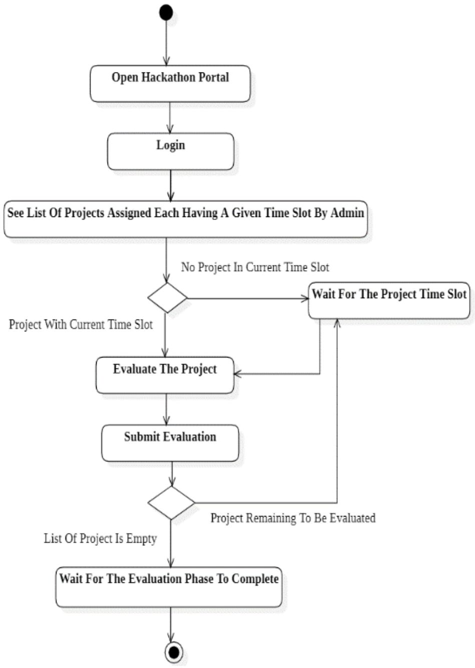

Open Hackathon Portal
Login
See List Of Ideas Assigned By Admin
Perform Either Accept Or Reject Or Give Review Operation
Review Given
See Changes Made By Participants As Per Review
Accepted Or Rejected Idea
Wait For Panelist Review To End

Figure 4.6 Participant Activity Diagram

Figure 4.2 Panelist Activity Diagram


Open Hackathon Portal
Login
See List Of Projects Assigned Each Having A Given Time Slot By Admin
No Project In Current Time Slot
Wait For The Project Time Slot
Project With Current Time Slot
Evaluate The Project
Submit Evaluation
Project Remaining To Be Evaluated
List Of Project Is Empty
Wait For The Evaluation Phase To Complete

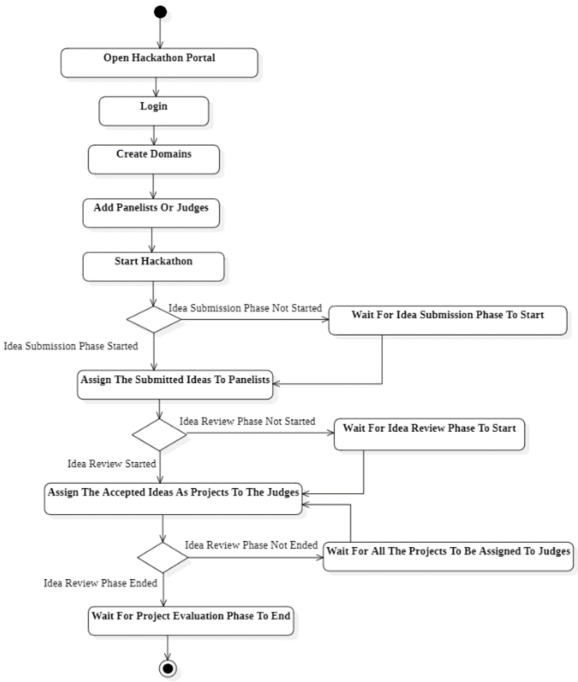

Open Hackathon Portal
Login
Create Domains
Add Panelists Or Judges
Start Hackathon
Idea Submission Phase Not Started
Wait For Idea Submission Phase To Start
Idea Submission Phase Started
Assign The Submitted Ideas To Panelists
Idea Review Phase Not Started
Wait For Idea Review Phase To Start
Idea Review Started
Assign The Accepted Ideas As Projects To The Judges
Idea Review Phase Not Ended
Wait For All The Projects To Be Assigned To Judges
Idea Review Phase Ended
Wait For Project Evaluation Phase To End

Figure 4.8 Judge Activity Diagram

Figure 4.9 Admin Activity Diagram

4.6 Component Diagram

A component diagram shows the internal structure of components and their dependencies with other components. This diagram provides the representation of components, collaborating through well-defined interfaces, to provide system functionality.

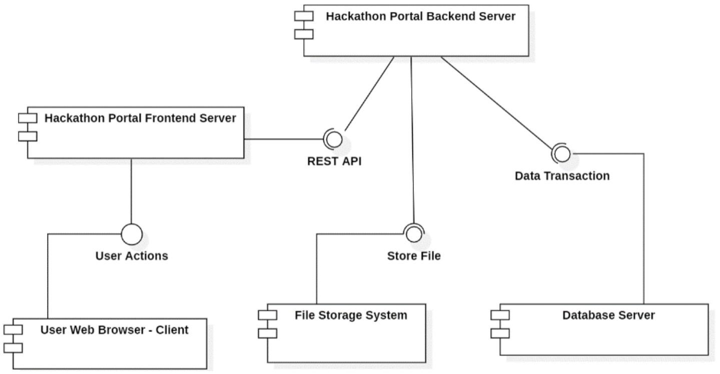

Hackathon Portal Backend Server
Hackathon Portal Frontend Server
REST API
Data Transaction
User Actions
Store File
User Web Browser - Client
File Storage System
Database Server

Figure 4.10 Component Diagram

4.7 Deployment Diagram

A deployment diagram shows the allocation of artifacts to nodes in the physical design of a system. A single deployment diagram represents a view into the artifact structure of a system. During development, we use deployment diagrams to indicate the physical collection of nodes that serve as the platform for execution of our system.

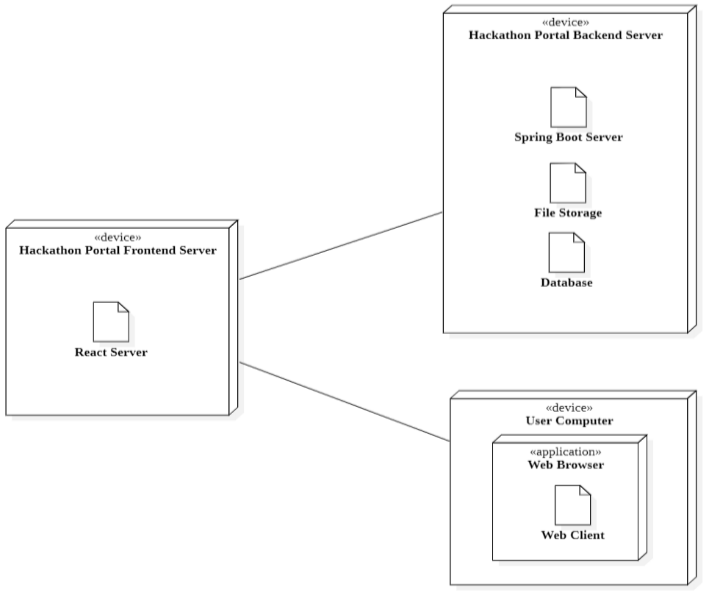


Figure 4.11 Deployment Diagram

4.8 Entity Relationship (ER) Diagram

An Entity Relationship Diagram (ERD) is a visual representation of the major entities within a system, along with their relationships and attributes. ERDs are essential for database design, aiding in the identification of tables, fields, and relationships between entities.

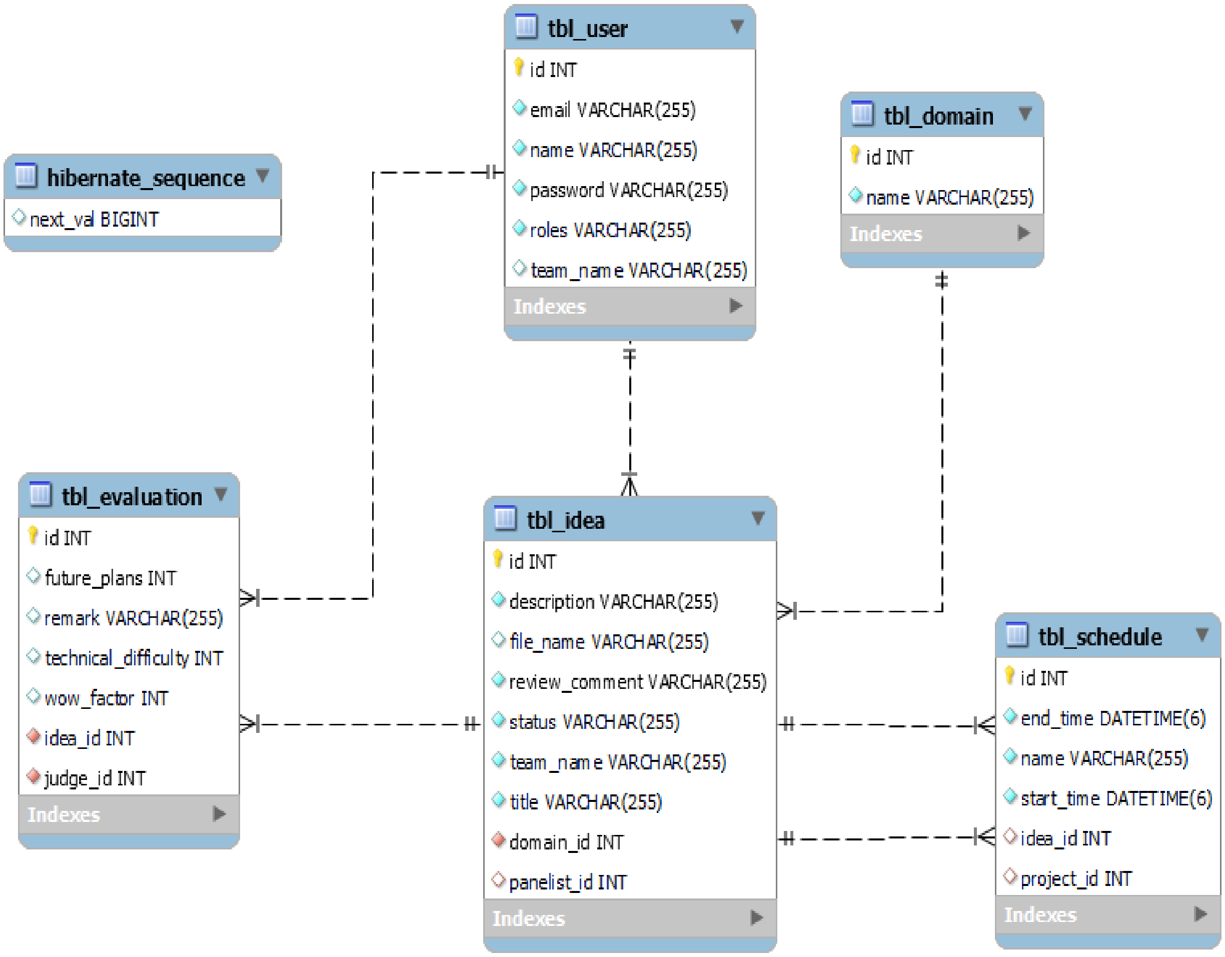


Figure 4.12 Entity Relationship (ER) Diagram

Chapter 5
Software Development Methodology

5.1 Agile Methodology

Agile is a software development approach where a self-sufficient and cross functional team works on making continuous deliveries through iterations and evolves throughout the process by gathering feedback from the end users.

Agile methodology is a practice that promotes continuous iteration of development and testing throughout the software development life-cycle of the project.

The agile software development emphasizes on four core values:

- Individual and team interactions over processes and tools.
- Working software over comprehensive documentation.
- Customer collaboration over contract negotiation.
- Responding to change over following a plan.

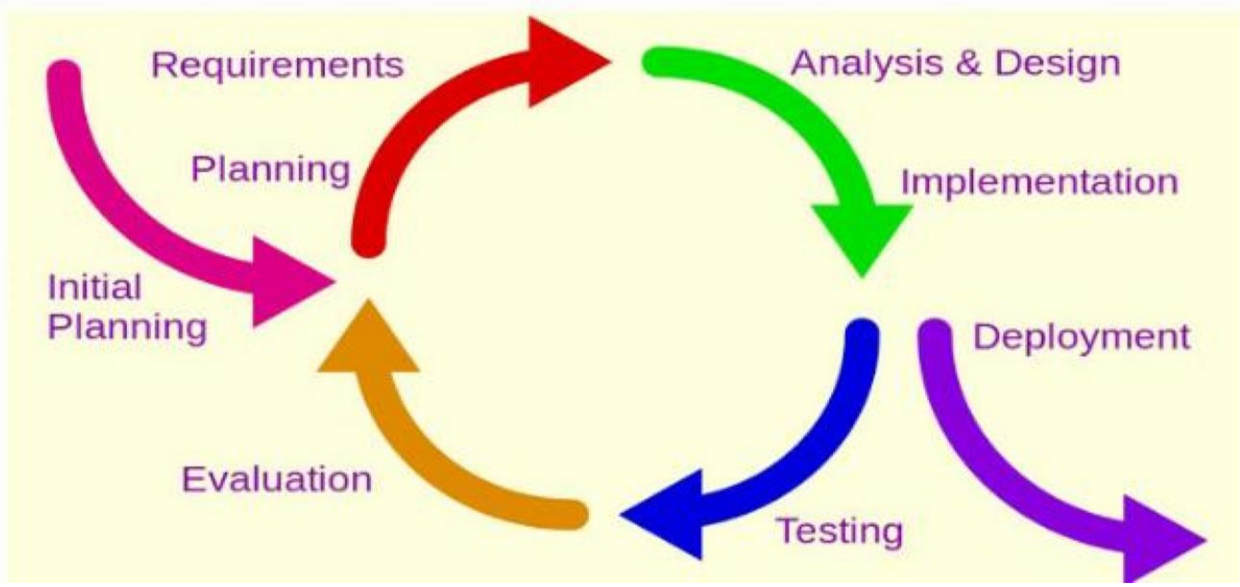


Figure 5.1 Agile Methodology Explained

5.2 Scrum Methodology

In our project Scrum Agile Methodology is used. Scrum is an agile development method which concentrates specifically on how to manage tasks within a team-based development environment. Basically, Scrum is derived from activity that occurs during a rugby match. Scrum believes in empowering the development team and advocates working in small teams (say- 7 to 9 members).

It consists of three roles, and their responsibilities are explained as follows:

Product Owner: The Product owner provides specification and requirement of the project and also provide the time stamp in which the project must be completed. The review of project is taken care by product owner end when the project is ready to serve and brought out for demo.

Scrum Master: Master is responsible for setting up the team, sprint meeting and removes obstacles to progress and take the status of the task assigned to each individual of development team on daily basis.

Development Team: Team manages its own work and organizes the work to complete the sprint or cycle. Development team consists of UI/UX Developer, service layer developer, database management team, tester, architecture.

One of the key strengths of Scrum is its emphasis on collaboration and communication. The Scrum team, consisting of the product owner, Scrum Master, and development team, work together to define and prioritize the product backlog, plan and execute sprints, and continuously improve the product. The product owner acts as a bridge between the development team and stakeholders, ensuring that the product meets their needs.

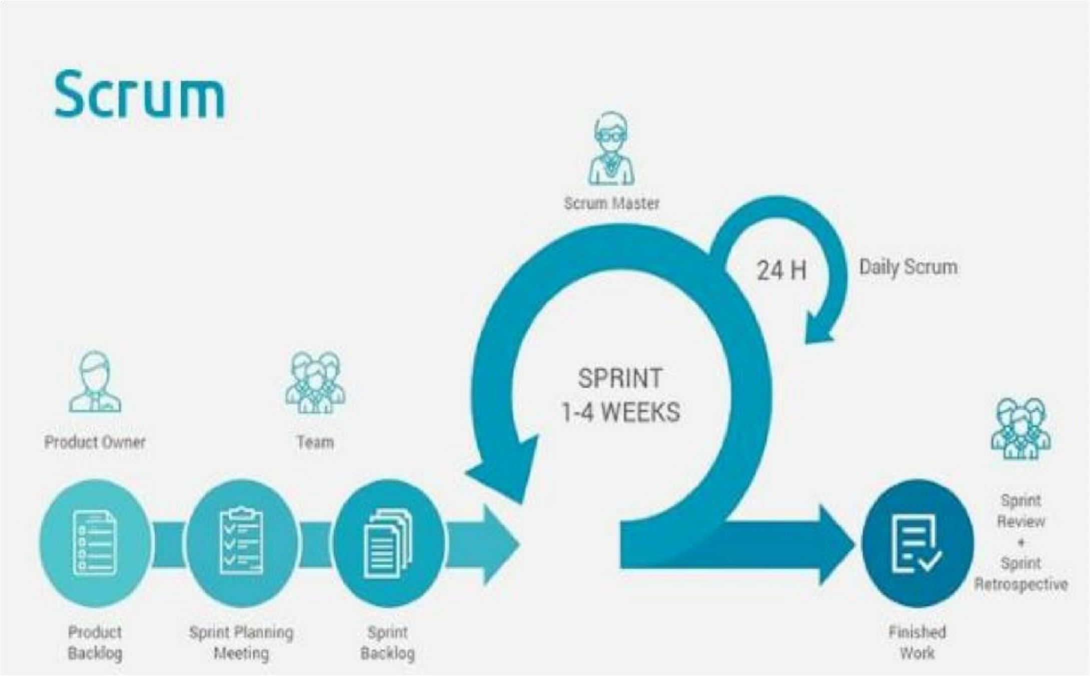


Figure 5.2 Scrum Framework Explained

Process flow of the Scrum Methodology:

- Each iteration of a scrum is known as Sprint.
- Product backlog is a list where all details are entered to get end product.
- During each Sprint, top items of Product backlog are selected and turned into Sprint backlog.
- Team works on the defined sprint backlog.
- Team checks for the daily work.
- At the end of the sprint, team delivers product functionality.

By following the Scrum framework and embracing its values and principles, teams can achieve greater collaboration, transparency, and productivity. This can lead to better results for their customers and stakeholders, as well as a more fulfilling and rewarding work experience for the team members.

Chapter 6

System Implementation

The implementation phase is a critical aspect of the hackathon project, where the actual construction of the web application is carried out using selected technologies and frameworks. During this phase, the team writes code, configures the required databases and servers, integrates different modules, and performs various tests to ensure that the application is fully functional. The development team employed agile methodologies and collaborated using tools such as GitHub to ensure that the project remained on track and any issues were addressed promptly. The application is currently hosted on a cloud-based platform, and the deployment process included configuring necessary resources, setting up monitoring and logging, and ensuring the application's security and accessibility from different environments and devices.

6.1 System Implementation and Architecture

The hackathon project's system architecture aims to ensure that the application is efficient, scalable, and maintainable. The architecture comprises several layers, including the presentation layer, the business logic layer, and the data access layer. The presentation layer is implemented using React JS, a flexible and popular front-end library that is known for its performance in building user interfaces. The business logic layer utilizes the Spring Boot framework, which provides a scalable environment for developing enterprise applications and support for REST APIs. The data access layer is implemented using popular and scalable databases like MySQL which efficiently store and retrieve data.

Overall, the system architecture of the hackathon project is designed to provide a reliable and scalable environment for developing and deploying web applications. The architecture is flexible and adaptable to different requirements and environments, making it an ideal choice for organizations that need a reliable and scalable solution to manage their business processes.

The Architecture of the software system can be explained through this diagram:

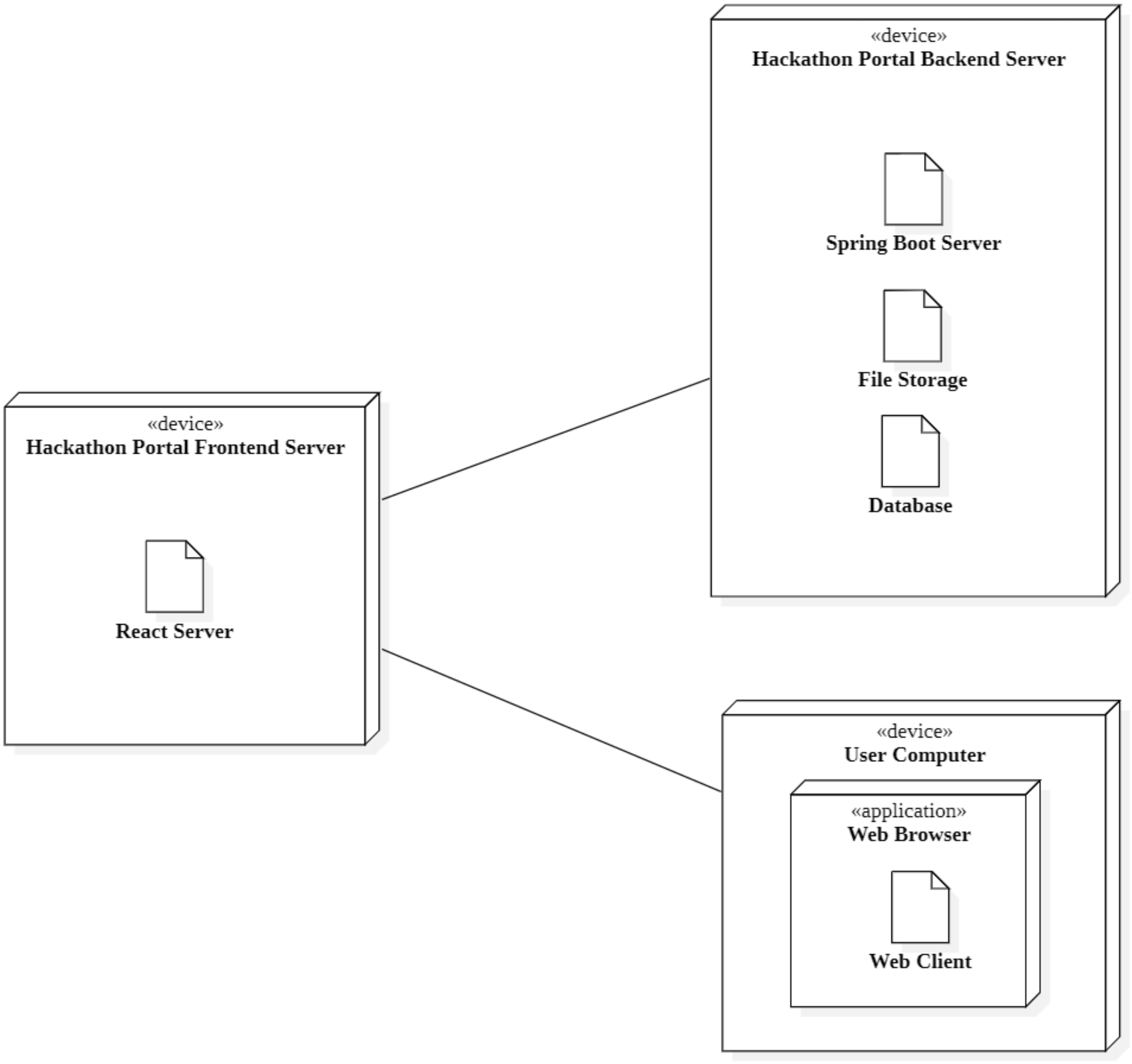
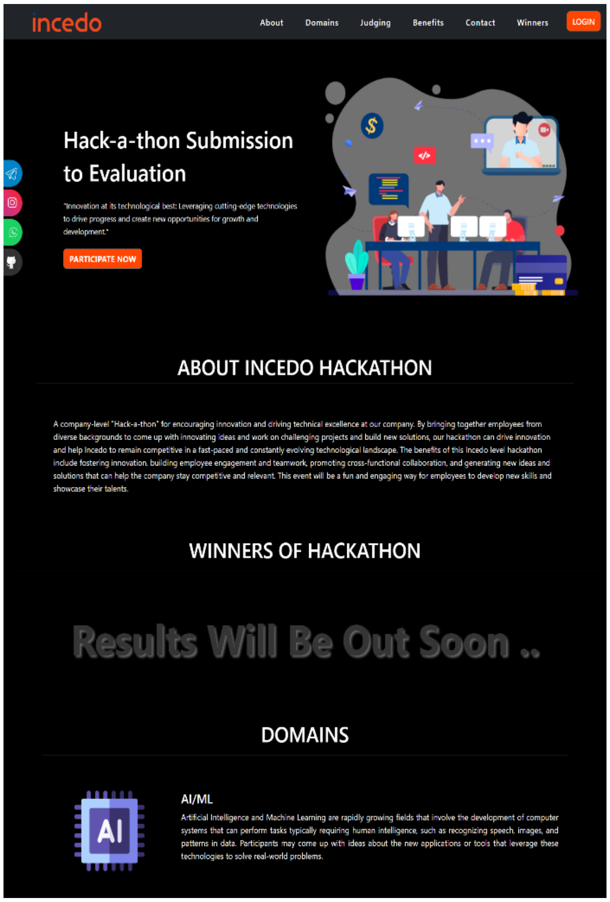


Figure 6.1 Architecture Diagram Explained

The system is implemented using the software libraries & tools mentioned in the analysis section of this project report.

6.2 User Interface Screenshots



Hack-a-thon Submission to Evaluation

"Innovation at its technological best: Leveraging cutting-edge technologies to drive progress and create new opportunities for growth and development."

ABOUT INCEDO HACKATHON

A company-level "Hack-a-thon" for encouraging innovation and driving technical excellence at our company. By bringing together employees from diverse backgrounds to come up with innovating ideas and work on challenging projects and build new solutions, our hackathon can drive innovation and help Incedo to remain competitive in a fast-paced and constantly evolving technological landscape. The benefits of this Incedo level hackathon include fostering innovation, building employee engagement and teamwork, promoting cross-functional collaboration, and generating new ideas and solutions that can help the company stay competitive and relevant. This event will be a fun and engaging way for employees to develop new skills and showcase their talents.

WINNERS OF HACKATHON

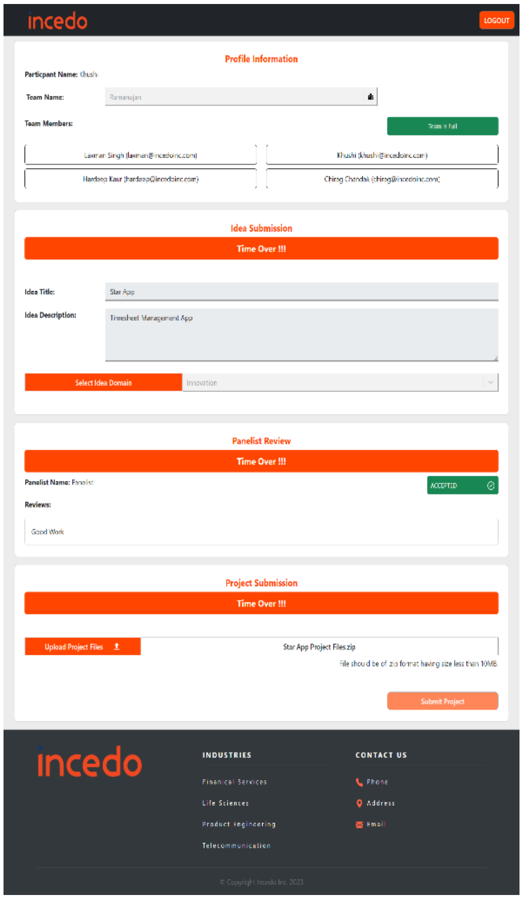
Results Will Be Out Soon ..

DOMAINS

AI/ML

Artificial Intelligence and Machine Learning are rapidly growing fields that involve the development of computer systems that can perform tasks typically requiring human intelligence, such as recognizing speech, images, and patterns in data. Participants may come up with ideas about the new applications or tools that leverage these technologies to solve real-world problems.

Figure 6.2 Home Screen



Profile Information

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Team Name: Ramanujan

Team Members:

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Khushi (khushi@incedoinc.com)

Hardeep Kaur (hardeep@incedoinc.com)

Chirag Chandak (chirag@incedoinc.com)

Idea Submission

Time Over !!!

Idea Title: Star App

Idea Description: Timesheet Management App

Select Idea Domain: Innovation

Panelist Review

Time Over !!!

Panelist Name: Panelist

ACCEPTED

Reviews:

Good Work

Project Submission

Time Over !!!

Star App Project Files.zip

File should be of zip format having size less than 10MB.

INDUSTRIES

Financial Services

Life Sciences

Product Engineering

Telecommunication

CONTACT US

Phone

Address

Email

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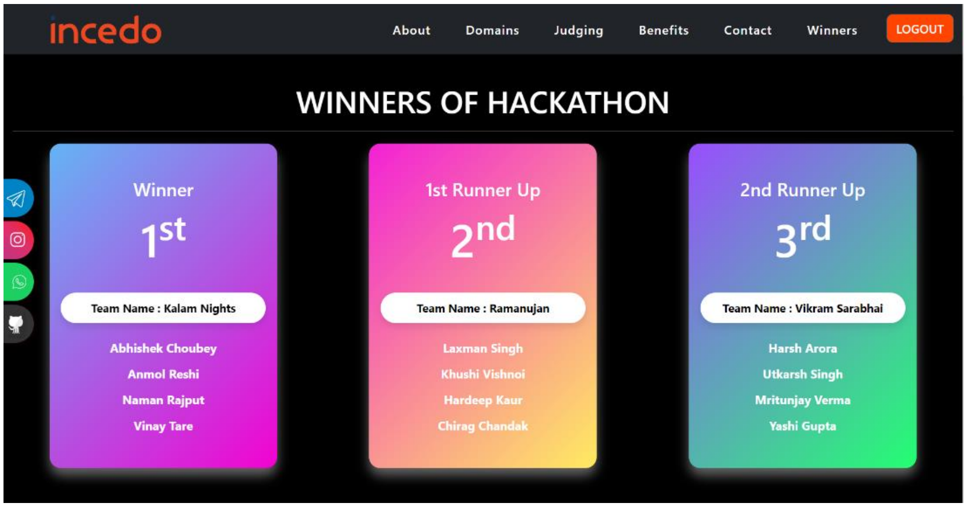
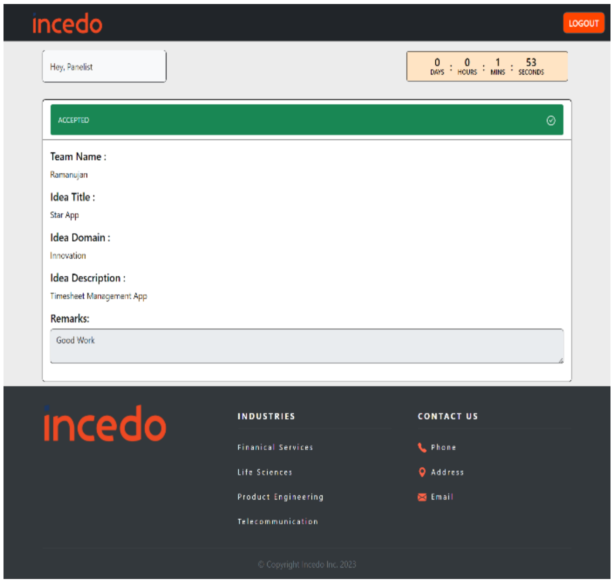
Figure 6.33 Participant Screen



WINNERS OF HACKATHON

Winner	1st Runner Up	2nd Runner Up
1st	2nd	3rd
Team Name : Kalam Nights	Team Name : Ramanujan	Team Name : Vikram Sarabhai
Abhishek Choubey	Laxman Singh	Harsh Arora
Anmol Reshi	Khushi Vishnoi	Utkarsh Singh
Naman Rajput	Hardeep Kaur	Mritunjay Verma
Vinay Tare	Chirag Chandak	Yashi Gupta

Figure 6.4 Winner Screen



Hey, Panelist

0 DAYS : 0 HOURS : 1 MINS : 53 SECONDS

ACCEPTED

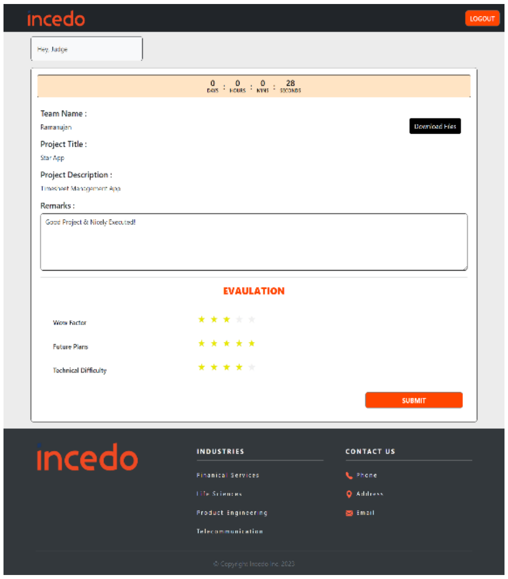
Team Name :
Ramanujan

Idea Title :
Star App

Idea Domain :
Innovation

Idea Description :
Timesheet Management App

Remarks:
Good Work



Hey, Judge

0 DAYS : 0 HOURS : 0 MINS : 28 SECONDS

Team Name :
Ramanujan

Project Title :
Star App

Project Description :
Timesheet Management App

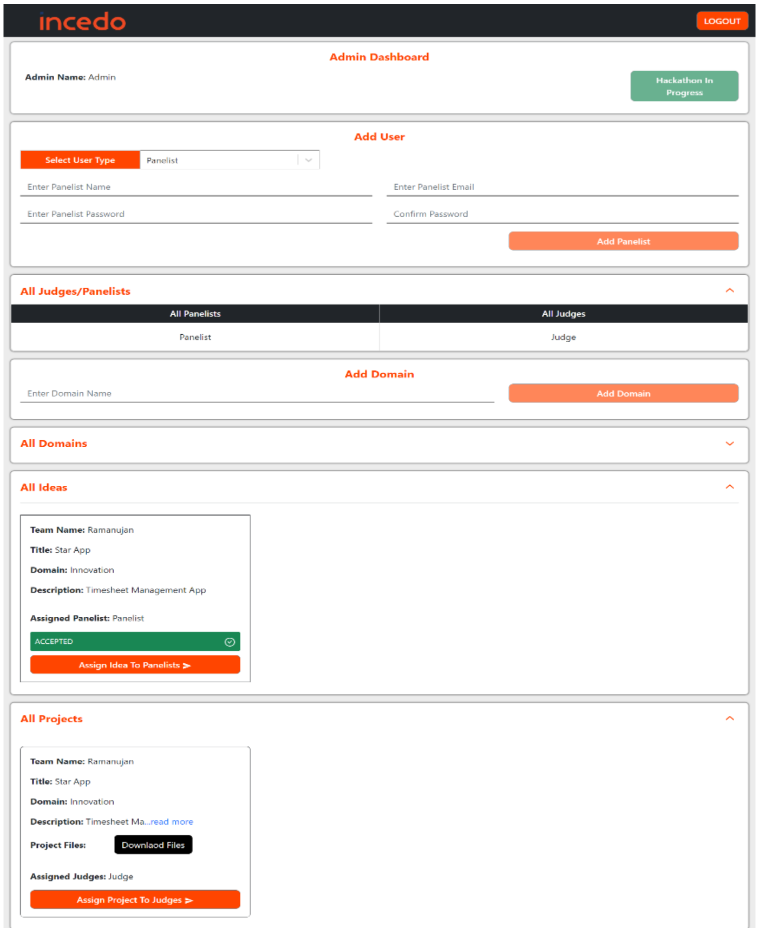
Remarks :
Good Project & Nicely Executed!

EVAULATION

Wow Factor	★★★☆☆
Future Plans	★★★★★
Technical Difficulty	★★★★☆

Figure 6.5 Panelist Screen

Figure 6.6 Judge Screen



Admin Dashboard

Admin Name: Admin

Hackathon In Progress

Add User

Select User Type: Panelist

Enter Panelist Name
Enter Panelist Email
Enter Panelist Password
Confirm Password

All Judges/Panelists

All Panelists	All Judges
Panelist	Judge

Add Domain

Enter Domain Name

All Domains

All Ideas

Team Name: Ramanujan
Title: Star App
Domain: Innovation
Description: Timesheet Management App
Assigned Panelist: Panelist

ACCEPTED

All Projects

Team Name: Ramanujan
Title: Star App
Domain: Innovation
Description: Timesheet Ma...read more
Project Files: Download Files
Assigned Judges: Judge

Figure 6.7 Admin Screen

Chapter 7

System Testing

The system testing phase is a crucial part of the project, which ensures that the developed system meets the requirements and functions as intended. The testing phase involves various testing techniques, including functional testing and structural testing. The testing phase is conducted to validate and verify the functionality of the system and ensure its reliability and performance.

7.1 Functional Testing

Functional testing, also known as black-box testing, is performed to ensure that the system or system component adheres to the specification that defines its requirements. It involves creating a set of input/output relationships that verify each specification requirement's correct implementation. Test cases are created for each entry in the specification document, preferably testing the various boundary conditions for each entry. Once the test suite is ready, test cases are executed, and correct outcomes are verified. In our project, functional testing was performed by running the project on various web browsers such as Safari, Chrome, and Internet Explorer. Compatibility among multiple environments was also tested.

7.2 Structural Testing

Structural testing, also known as white-box or clear-box testing, is performed to understand what is happening inside the system or application. Testers are required to have knowledge of the internal implementations of the code. It checks or tests all the coding portions of every module and debugs and compiles the code while the project is prompted to run on a web browser. If there is an error, that particular line of code that contains the error is highlighted. In our project, we used structural testing to highlight bugs associated with the ground level.

7.3 Levels of Testing

There are four types of testing that can be implemented to test a system, namely, Unit Testing, Integration Testing, System Testing, and Acceptance Testing.

- **Unit Testing**

  In Unit Testing, individual components are tested, such as each control for their validations, to ensure that they operate correctly.

- **Integration Testing**

  In Integration Testing, many unit-tested modules are combined into subsystems, which are then tested. The goal here is to see if the modules can be integrated correctly. This testing activity can be considered testing the design.

- **System Testing**

  In System Testing, we test whether system elements have been correctly integrated and perform allocated functions to detect errors that may result from unanticipated interactions between subsystem and system components.

- **Acceptance Testing**

  In Acceptance Testing, we test whether the system is accepted for operational use or not.

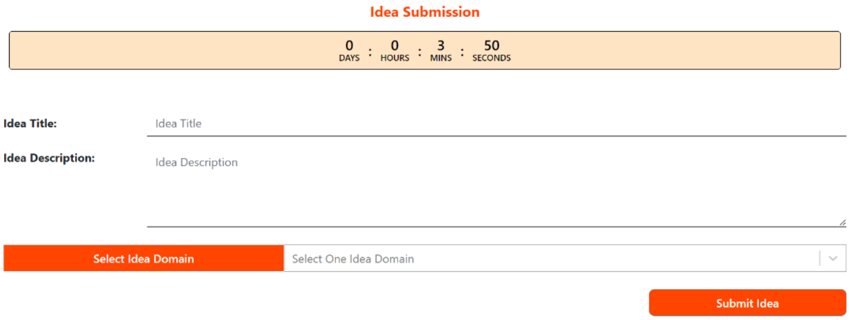
In our project, all four levels of testing were implemented to ensure that the developed system is reliable, performs well, and meets the client's requirements. The testing phase was essential to ensure that the project meets its objective of creating an innovative online idea submission and evaluation portal for Incedo's annual Hack-a-thon event.

Chapter 8

Output Forms & Reports

Output forms and reports are an essential component of the Hackathon project as they provide valuable insights and metrics for the event organizers and participants. The web application is designed to generate several reports and forms to streamline the entire Hackathon event process.

One of the primary output forms is the idea submission form. This form allows participants to submit their ideas, which are then recorded in the system. The form captures the essential information required for idea evaluation, such as the idea title, description, and category.



Idea Submission

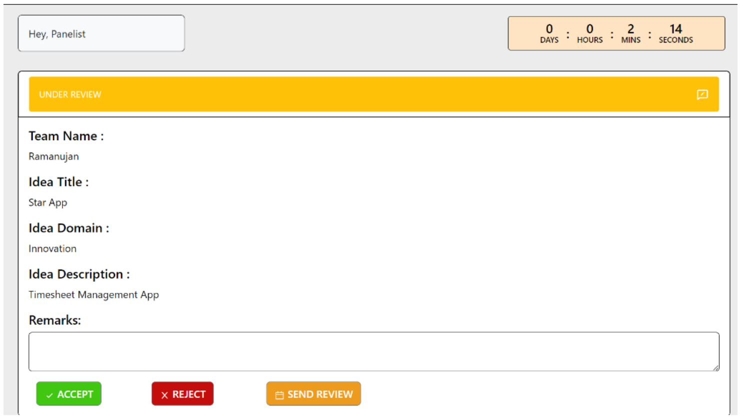
Idea Title: Idea Title

Idea Description: Idea Description

Select Idea Domain: Select One Idea Domain

Figure 8.1 Idea Submission Form

Another output form is the panelist feedback form. Panelists can provide feedback on each idea submitted through this form.



Hey, Panelist

UNDER REVIEW

Team Name : Ramanujan

Idea Title : Star App

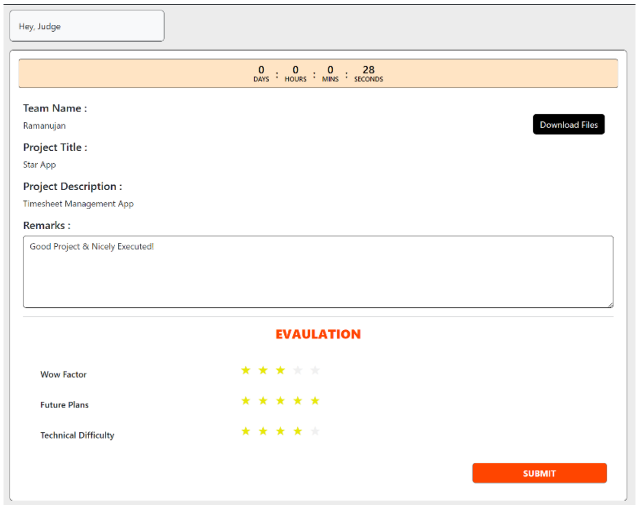
Idea Domain : Innovation

Idea Description : Timesheet Management App

Remarks:

Figure 8.2 Panelist Review Form

The judge evaluation form includes a remark and rating criteria such as technical difficulty, wow factor, and future plans. The rating criteria may vary based on the specific requirements of the Hackathon event.



Team Name :
Ramanujan

Project Title :
Star App

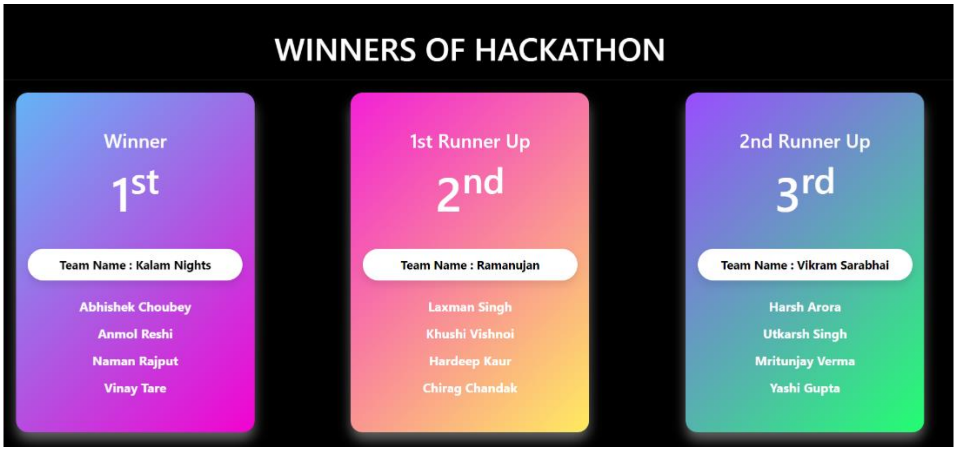
Project Description :
Timesheet Management App

Remarks :
Good Project & Nicely Executed!

Wow Factor	★★★☆☆
Future Plans	★★★★★
Technical Difficulty	★★★★☆

Figure 8.3 Judge Evaluation Report

The web application generates several reports that provide valuable insights into the Hackathon event process. For instance, the system generates a report that highlights the top three winning ideas based on the panelist feedback. This report includes details such as the idea title, description, category, and scores awarded by panelists. This report provides valuable insights to event organizers and participants and can be used for further analysis and decision-making.



WINNERS OF HACKATHON

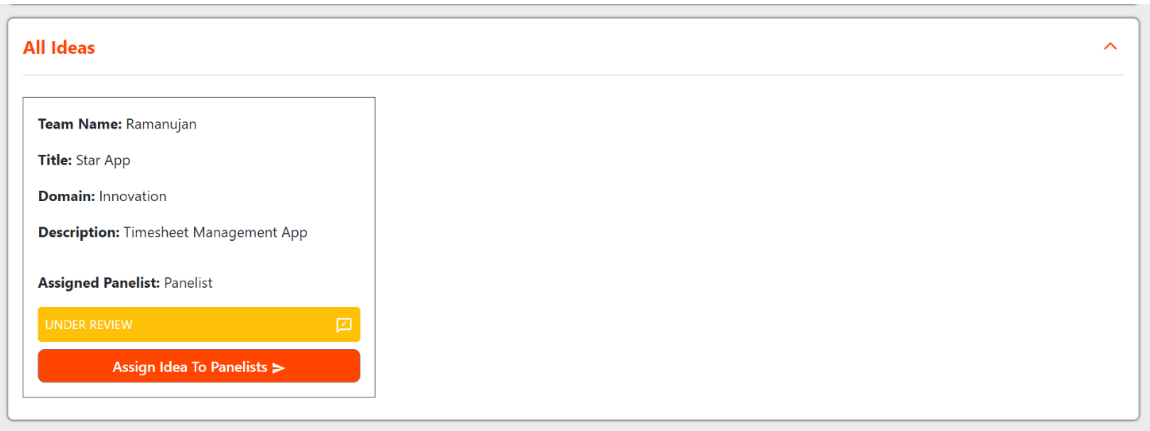
Winner
1st
Team Name : Kalam Nights
Abhishek Choubey
Anmol Reshi
Naman Rajput
Vinay Tare

1st Runner Up
2nd
Team Name : Ramanujan
Laxman Singh
Khushi Vishnoi
Hardeep Kaur
Chirag Chandak

2nd Runner Up
3rd
Team Name : Vikram Sarabhai
Harsh Arora
Utkarsh Singh
Mritunjay Verma
Yashi Gupta

Figure 8.4 Winner Report

Moreover, the system generates a report that provides a summary of all ideas submitted for the Hackathon event. The summary report includes the idea title, description, category, and the status of the idea (submitted, accepted, rejected). This report provides event organizers with an overview of all ideas submitted and their status, enabling them to manage the entire process efficiently.



All Ideas

Team Name: Ramanujan

Title: Star App

Domain: Innovation

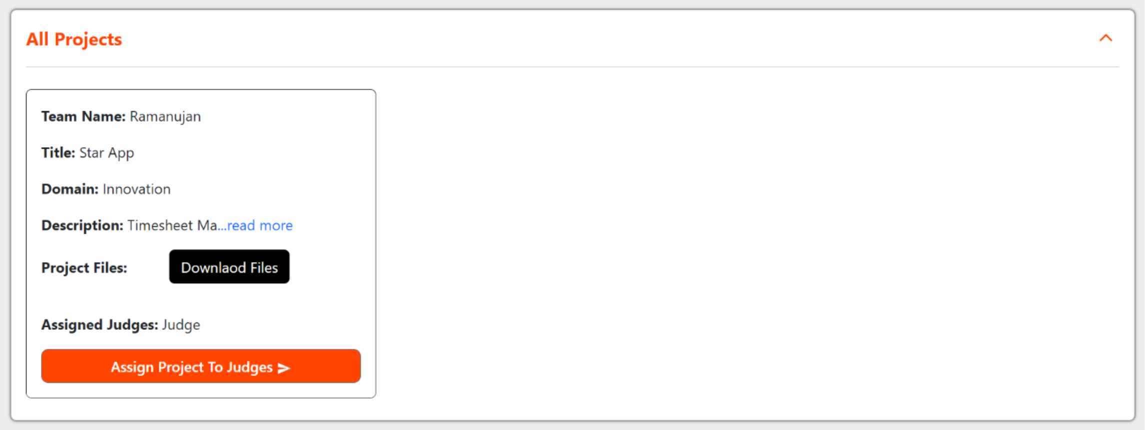
Description: Timesheet Management App

Assigned Panelist: Panelist

UNDER REVIEW

Figure 8.5 All Submitted Ideas Report

Additionally, the system generates a report that provides a summary of projects that are submitted by each team. This report includes the project title, description, domain & the assigned judge. This report provides valuable insights into the evaluation process and highlights any discrepancies in the project evaluation.



All Projects

Team Name: Ramanujan

Title: Star App

Domain: Innovation

Description: Timesheet Ma...read more

Project Files: Downlaod Files

Assigned Judges: Judge

Figure 8.6 All Submitted Project Report

The registration screen form is a crucial component of the Hackathon project, enabling participants to sign up for the event. The form should capture essential participant information such as participant's name, email address, password, confirm password field.

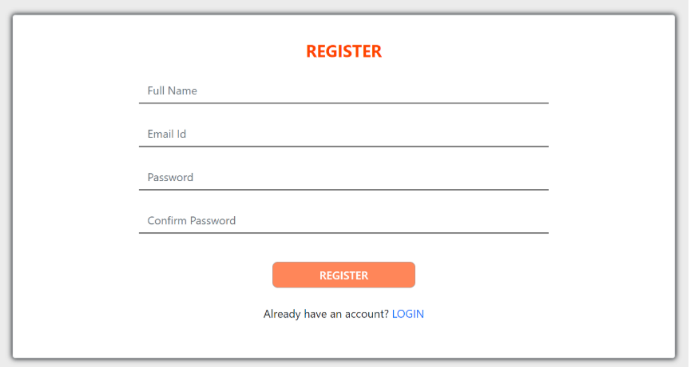


Figure 8.7 Registration Form

The login screen form is another crucial component of the web application, enabling participants to access their accounts. The login form should capture essential login information, such as the participant's email address and password. It should be designed to ensure the security of the participant's account.

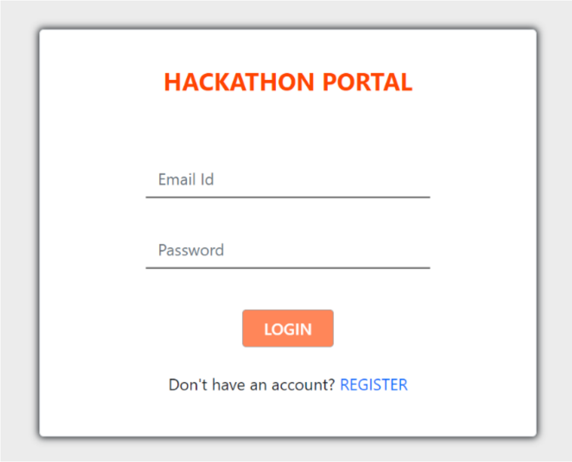


Figure 8.8 Login Form

Overall, the output forms and reports generated by the web application provide valuable insights and metrics for the Hackathon event organizers and participants. These reports and forms streamline the entire process, making it efficient and error-free.

Chapter 9

Limitations

Online hackathons have become popular in recent years due to their ability to reach a wider audience and reduce the cost of organizing a hackathon. However, there are several limitations to consider when conducting an online hackathon. Some of these limitations include:

- **Limited Access To Physical Resources:** Online hackathons may not provide participants with access to physical resources such as hardware, tools, and materials that are available in-person. This can limit the creativity and innovation of the participants.
- **Technical Issues:** Online hackathons are dependent on technology, and technical issues such as internet connectivity, server downtime, or software glitches can disrupt the hackathon, causing delays and frustration among participants.
- **Limited Networking Opportunities:** Online hackathons may not provide the same level of networking opportunities as in-person hackathons. Participants may find it harder to connect with potential collaborators or mentors, which can limit their overall experience.
- **Time Zone Differences:** Participants from different time zones may have difficulty participating in live events such as team meetings or presentations, which can limit their ability to collaborate effectively.
- **Limited Social Interaction:** Online hackathons lack the social interaction and atmosphere of an in-person hackathon, which can reduce the overall experience and motivation for participants.
- **Limited learning opportunities:** Participants may miss out on valuable learning opportunities such as workshops, demos, and mentorship sessions that are often available in-person.
- **Cheating:** With the online hackathon system, it may be easier for participants to cheat and take advantage of the online environment to gain an unfair advantage. This can undermine the fairness and credibility of the hackathon.

Chapter 10
Conclusion

10.1 Conclusion

In conclusion, the online hackathon platform has proven to be a successful tool for fostering innovation and collaboration. Through a comprehensive post-implementation review, it was found to be accessible, convenient, and provided a seamless user experience for participants to collaborate, network, and showcase their skills and ideas. With overwhelmingly positive feedback from participants, it is recommended that the platform be continued and improved upon in future iterations to further support and enhance innovation and collaboration within the tech industry.

10.2 Future Scope

The I-Hack Portal project holds great potential for future enhancements and expansions. Here are some of the areas that can be improved:

- **Adaptability to accommodate other events:** The portal can be modified to manage other events within the organization or could even be provided as a service to external organizations.
- **Integration with third-party services:** The portal can be extended to integrate with third-party services like project management tools, communication platforms, and other relevant services to streamline the hackathon process further.
- **Advanced analytics and reporting:** The Portal can be improved with advanced analytics and reporting features that provide insights into event participation, idea submission trends, and other valuable metrics.
- **Continuous improvement based on user feedback:** As the portal is used for multiple events, user feedback can be implemented to continuously improve the platform, ensuring that it remains relevant and effective in meeting the needs of the organization and its participants.

Bibliography

- A detailed study of Software Development Life Cycle (SDLC) Models, International Journal of Engineering and Computer Science ISSN:2319-7242, Volume 6 Issue 7 July 2017, Page No. 22097-22100, Index Copernicus value (2015): 58.10 DOI: 10.18535/ijecs/v6i7.32
- Booch, Grady. The Unified Modeling Language User Guide (Addison-Wesley Object Technology Series (Old Edition)).
- Git Documentation. https://git-scm.com/docs [accessed Feb 2023]
- Haverbeke, M. (2011). Eloquent JavaScript: A Modern Introduction to Programming. United States: No Starch Press.
- Role of Agile Methodology in Software Development, IJCSMC, Vol. 2, Issue. 10, October 2013, pg.86 – 90
- React.js Documentation. https://reactjs.org/docs/getting-started.html [accessed Feb 2023]
- Scrum Mastery: From Good to Great Servant-Leadership by Geoff Watts
- Spring Boot Documentation https://spring.io/projects/spring-boot [accessed Feb 2023]
- The JavaScript Tutorial. https://javascript.info/ [accessed March 2023]
- Word MVPs. The Word MVP Site. http:/word.mvps.org/ [accessed April 2023].

Appendix

Abbreviations

- API: Application Programming Interface
- VS Code: Visual Studio Code
- CSS: Cascading Styles Sheets
- UI: User Interface
- UX: User Experience
- GUI: Abbreviation of Graphic User Interface.
- AJAX: Abbreviation of Asynchronous JavaScript And XML
- HTML: Abbreviation of Hyper Text Markup Language
- XML: Abbreviation of Extensible Markup Language
- HTTP: Hyper Text Transfer Protocol