Environmental Survey Portal

A PROJECT REPORT
for
Major Project (KCA451)
Session (2023-24)

Submitted by

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Under the Supervision of
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DECLARATION

I hereby declare that the work presented in report entitled "Environmental Survey Portal" was carried out by me. I have not submitted the matter embodied in this report for the award of any other degree or diploma of any other University of Institute. I have given due credit to the original authors/sources for all the words, ideas, diagrams, graphics, computer programs, that are not my original contribution. I have used quotation marks to identify verbatim sentences and give credit to the original authors/sources. I affirm that no portion of my work is plagiarized, and the experiments and results reported in the report are not manipulated. In the event of a complaint of plagiarism and the manipulation of the experiments and results, I shall be fully responsible and answerable.

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CERTIFICATE

Certified that **Oorja Rajoria 220029014060042** have carried out the project work having "**Environmental Survey Portal**" (**Project-KCA451**) for **Master of Computer Application** from Dr. A.P.J. Abdul Kalam Technical University (AKTU) (formerly UPTU), Lucknow under my supervision. The project report embodies original work, and studies are carried out by the students themselves and the contents of the project report do not form the basis for the award of any other degree to the candidate or to anybody else from this or any other University/Institution.

Date:

Oorja Rajoria 2200290140103

This is to certify that the above statement made by the candidate is correct to the best of my knowledge.

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Environmental Survey Portal

Oorja Rajoria

ABSTRACT

The Environment Survey Portal is a Java-based web application developed to digitize and streamline the process of conducting environmental surveys, thereby significantly reducing paper consumption. This innovative platform offers a comprehensive, user-friendly interface for creating, distributing, and managing surveys online, eliminating the need for manual record-keeping. By transitioning to a fully digital system, the portal enhances efficiency, accuracy, and accessibility of environmental data collection. Users can design surveys tailored to specific environmental parameters, such as air and water quality, soil health, and biodiversity, and gather real-time responses. Advanced data management and analytical tools are integrated into the portal to facilitate thorough analysis and interpretation of survey results. The Environment Survey Portal not only contributes to environmental conservation by reducing paper waste but also empowers researchers, policymakers, and the public with valuable insights for informed decision-making and sustainable development.

ACKNOWLEDGEMENTS

Success in life is never attained single-handedly. My deepest gratitude goes to my thesis supervisor, **Dr. Amit Kumar** (Assistant Professor) for her guidance, help and encouragement throughout my project work. Their enlightening ideas, comments, and suggestions have guided me a lot in completing this project successfully.

Words are not enough to express my gratitude to **Dr. Arun Kumar Tripathi**, Professor and Head, Department of Computer Applications, for his insightful comments and administrative help at various occasions. Fortunately, I have many understanding friends, who have helped me a lot on many critical conditions.

Finally, my sincere thanks go to my family members and all those who have directly and indirectly provided me moral support and other kind of help. Without their support, completion of this work would not have been possible in time. They keep my life filled with enjoyment and happiness.

Oorja Rajoria (2200290140103)

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CHAPTER 1

INTRODUCTION

1.1 Overview

Environment Survey Portal project in java is a web application where a we wanted to reduce the paper consumption for conducting the surveys and want to provide a survey portal where the surveys will be held. The complete process of Environment Survey Portal will be managed online. There is no need to maintain record manually.

The Environment Survey Portal is a sophisticated web application developed in Java, designed to revolutionize the way environmental surveys are conducted. The primary objective of this project is to significantly reduce paper consumption traditionally associated with survey processes by providing a fully digital platform for survey creation, distribution, and management. This transition to an online system aims to streamline the entire process, eliminating the need for manual record-keeping and thereby enhancing efficiency and accuracy.

1.2 Problem Statement

The current system for conducting environmental surveys is fraught with several inefficiencies and challenges that hinder its effectiveness. Primarily, the existing system is not user-friendly, making it cumbersome for users to navigate and complete surveys efficiently. Handling multiple users simultaneously presents significant difficulties, leading to delays and potential data inconsistencies. Furthermore, the traditional method is costly, as it relies heavily on paper-based processes, which involve expenses for printing, distribution, and storage. Additionally, the manual nature of the system is incredibly time-consuming, requiring substantial effort for data entry, record maintenance, and analysis. These drawbacks collectively underscore the need for a more streamlined, cost-effective, and user-centric solution to improve the efficiency and accuracy of environmental data collection and management.

1.2 Objectives

The Environment Survey Portal is a web application developed in Java with the primary goal of creating a seamless and efficient platform for conducting environmental surveys. The objectives of this project are to provide a reliable and bug-free portal accessible to students, faculty, and administrators, and to facilitate user participation in surveys through an intuitive online interface. By transitioning from traditional paper-based surveys to a digital platform, the Environment Survey Portal aims to streamline the survey process, reduce paper consumption, and enhance data accuracy and management. This portal offers a user-friendly environment where users can easily create, distribute, and respond to surveys, ensuring that the entire process is managed online without the need for manual record-keeping. Through this application, users can engage in environmental data collection and analysis more effectively, supporting research and informed decision-making in environmental conservation efforts.

1.3 Feature

- Finding a reliable system which can user by multiple user in a same time.
- Maintain the record of Student Participants so it will be easy to access any time 24*4.
- Facility of administer to maintain the data of student and faculty.
- This Web Application provides facility to add competition information also.
- It saves time also reduce paper consumption for conducting surveys.

1.4 Hardware / Software Requirement

S. N.	Description
1	Hard disk 80 GB
2	RAM.1 GB or Higher
3	i3 core or above processor.

Table 1.1 Hardware Requirements

1. PC with 80 GB or more Hard disk:

This specifies the storage requirement for the PC. It should have a hard disk with a capacity of 80 gigabytes (GB) or more. This is where you store your operating system, software applications, and data.

2. PC with 1 GB RAM:

This sets the minimum random-access memory (RAM) requirement for the PC. It should have at least 1 gigabytes of RAM. RAM is essential for running applications and the operating system efficiently**.**

3. PC with core i3 or above processor:

This specifies the processor requirement for the PC. It should have an Intel Core i3 processor or a more powerful one. The processor is a crucial component that determines the computer's overall speed and performance.

S. N.	Description	Type
1	Operating System	Windows 10 or 11 or Ubuntu 18.04 or above
2	Front End	JSP
3	Back End	Servlet, MySQL
4	IDE	Eclipse
5	Browser	Chrome, Firefox, Edge

Table 1.2 Software Requirements

Operating System:

Windows 10 or 11
Ubuntu 18.04 or above
These are the supported operating systems for the development environment. You can use either Windows 10 or 11, or Ubuntu 18.04 or a newer version.

Front End:

JSP
It is the technologies for the front end of a web application.

Back End:

Servlet

A servlet is a Java programming language class that is used to extend the capabilities of servers that host applications accessed by means of a request-response programming model. Although servlets can respond to any type of request, they are commonly used to extend the applications hosted by web servers.

IDE (Integrated Development Environment):

Eclipse J2EE

The enterprise version of Eclipse enables developers to use Servlet, Java Server Pages (JSP), and similar tools for the development of enterprise-grade solutions. It is best-suited with the Java Enterprise Edition version, which is specially designed to build web and enterprise apps.

Browser:

Chrome
Firefox
Edge

CHAPTER 2

FEASIBILITY STUDY

After doing the project Environmental Survey Portal, study and analyzing all the existing or required functionalities of the system, the next task is to do the feasibility study for the project. All projects are feasible - given unlimited resources and infinite time. Feasibility study includes consideration of all the possible ways to provide a solution to the given problem. The proposed solution should satisfy all the user requirements and should be flexible enough so that future changes can be easily done based on the future upcoming requirements.

2.1 Technical Feasibility

- Infrastructure: The technical requirements, such as servers, databases, and web development, should be feasible within the available resources.
- Technology Stack: The chosen technology stack should be appropriate for developing a scalable and user-friendly platform.

2.2 Operational Feasibility

- Team Competency: Ensure that the development team possesses the necessary skills and expertise.
- User Training: Assess the ease with which users can navigate the platform and understand its features**.**

2.3 Economical Feasibility

- Budget: The project budget should cover development, maintenance, marketing, and potential scalability costs.
- Revenue Model: A clear revenue model, such as subscription plans, advertisements, or partnerships, should be in place to sustain the project.

2.4 Behavioral Feasibility

- Evaluate students' willingness to adopt the Environmental Survey Portal, considering their readiness for behavioral changes in study habits and preparation routines.
- Implement strategies to foster user engagement, community collaboration, and inclusivity, ensuring that the platform caters to a diverse user base and overcomes potential adoption barriers

CHAPTER 3

SYSTEM REQUIREMENTS

3.1 Functional requirements

- **User Authentication**
  - Users (Students, Faculty, Admin) must be able to register and log in securely.
  - Implement role-based access control to manage permissions for different user types.

- **Survey Creation and Management**
  - Admins must be able to create, edit, and delete surveys.
  - Admins must be able to schedule surveys and set time limits.

- **Survey Participation**
  - Students and Faculty should be able to participate in surveys.
  - Users should be able to view available surveys and submit their responses.

- **Data Management**
  - The system must maintain records of student participants.
  - Admins should be able to manage (add, edit, delete) student and faculty data.

- **Competition Information Management**
  - The application should provide functionality to add and manage competition information.

- **Real-Time Data Access**
  - Users should have access to their data and survey results in real-time.

3.2 Non-Functional Requirements

- **Performance**
  - The system should support concurrent access by multiple users without performance degradation.

- Response time for any user action should be under 2 seconds.

- **Scalability**
- The application should be scalable to handle increasing numbers of users and surveys.

- **Reliability**
- The system should ensure data integrity and availability with minimal downtime.
- Regular backups of the database should be performed to prevent data loss.

- **Usability**
- The user interface should be intuitive and easy to navigate.
- Provide user guides and support documentation to assist users.

- **Security**
- Implement robust security measures to protect user data, including encryption and secure communication protocols.
- Regular security audits should be conducted to identify and mitigate vulnerabilities.

- **Compatibility**
- The application should be compatible with major web browsers (Chrome, Firefox, Safari, Edge).
- The system should be responsive and accessible on various devices, including desktops, tablets, and smartphones.

- **Maintainability**
- The codebase should follow best practices and be well-documented to facilitate maintenance and updates.
- Use version control systems (e.g., Git) to manage code changes and collaborate effectively.

- **Availability**
- The application should be available 24/7 with minimal downtime for maintenance.
- Implement a robust monitoring system to detect and address issues promptly.

CHAPTER 4

Design

Software design sits at the technical kernel of the software engineering process and is applied regardless of the development paradigm and area of application. Design is the first step in the development phase for any engineered product or system. The designer's goal is to produce a model or representation of an entity that will later be built. Beginning, once system requirement have been specified and analyzed, system design is the first of the three technical activities - design, code and test that is required to build and verify software. The importance can be stated with a single word "Quality".

Design is the place where quality is fostered in software development. Design provides us with representations of software that can assess for quality. Design is the only way that we can accurately translate a customer's view into a finished software product or system. Software design serves as a foundation for all the software engineering steps that follow. Without a strong design we risk building an unstable system – one that will be difficult to test, one whose quality cannot be assessed until the last stage.

During design, progressive refinement of data structure, program structure, and procedural details are developed reviewed and documented. System design can be viewed from either technical or project management perspective. From the technical point of view, design is comprised of four activities – architectural design, data structure design, interface design and procedural design. System Design is the process of designing the architecture, components, and interfaces for a system so that it meets the end-user requirements.

4.1 Use Case Diagram

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. To build one, you'll use a set of specialized symbols and connectors. A use case diagram doesn't go into a lot of detail—for example, don't expect it to model the order in which steps are performed. Instead, a proper use case diagram depicts a high-level overview of the relationship between use cases, actors, and systems. Experts recommend that use case

diagrams be used to supplement a more descriptive textual use case. UML is the modeling toolkit that you can use to build your diagrams. Use cases are represented with a labeled oval shape. Stick figures represent actors in the process, and the actor's participation in the system is modeled with a line between the actor and use case. To depict the system boundary, draw a box around the use case itself. These diagrams are used at a very high level of design.

This high level design is refined again and again to get a complete and practical picture of the system. A well-structured use case also describes the pre-condition, post condition, and exceptions. These extra elements are used to make test cases when performing the testing. Although use case is not a good candidate for forward and reverse engineering, still they are used in a slightly different way to make forward and reverse engineering. The same is true for reverse engineering. Use case diagram is used differently to make it suitable for reverse engineering.

Use case diagrams can be used for –

• Requirement analysis and high level design

. • Model the context of a system.

• Reverse engineering.

• Forward engineering.

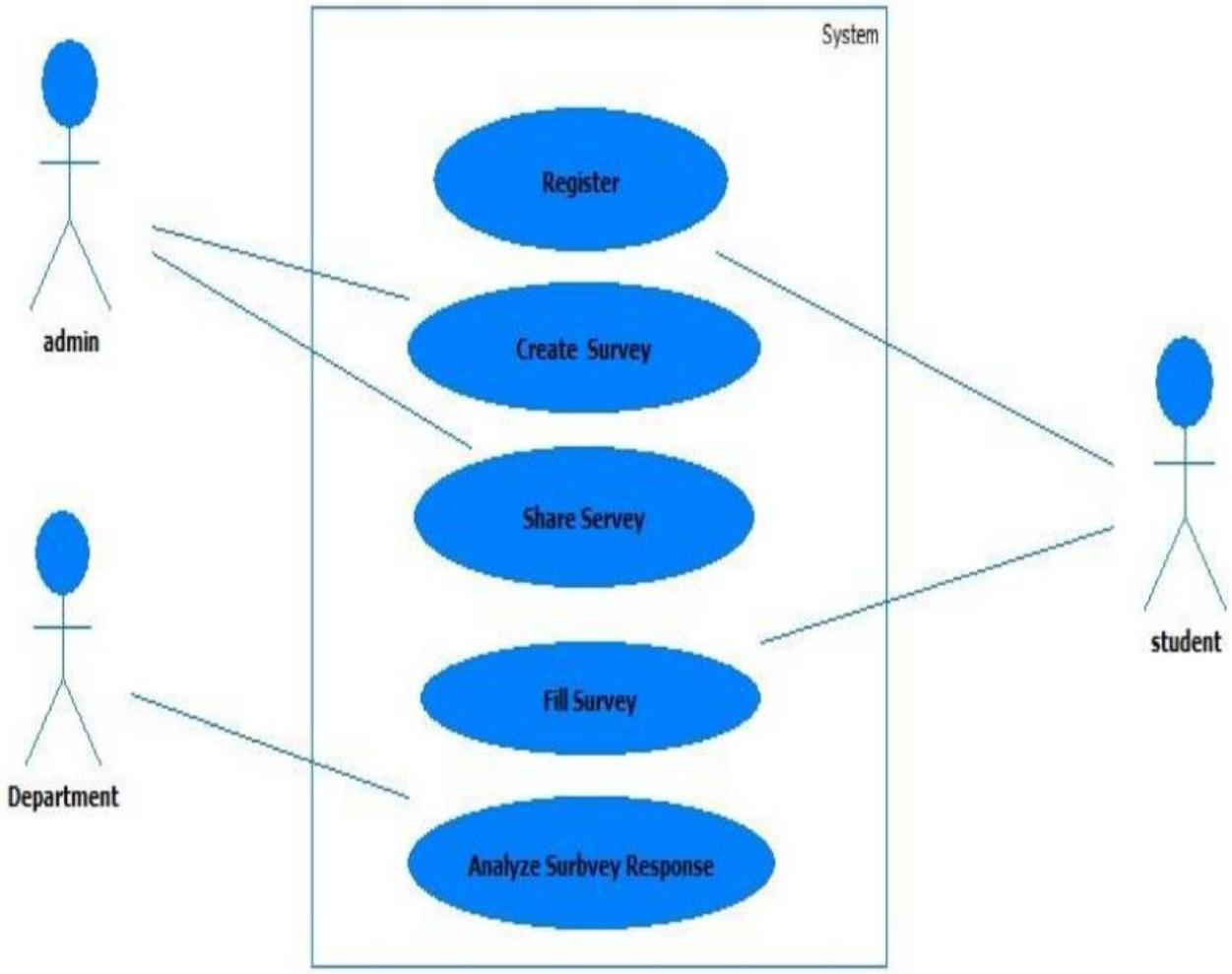

Fig 4.1 Use Case Diagram

4.2 ER Diagram

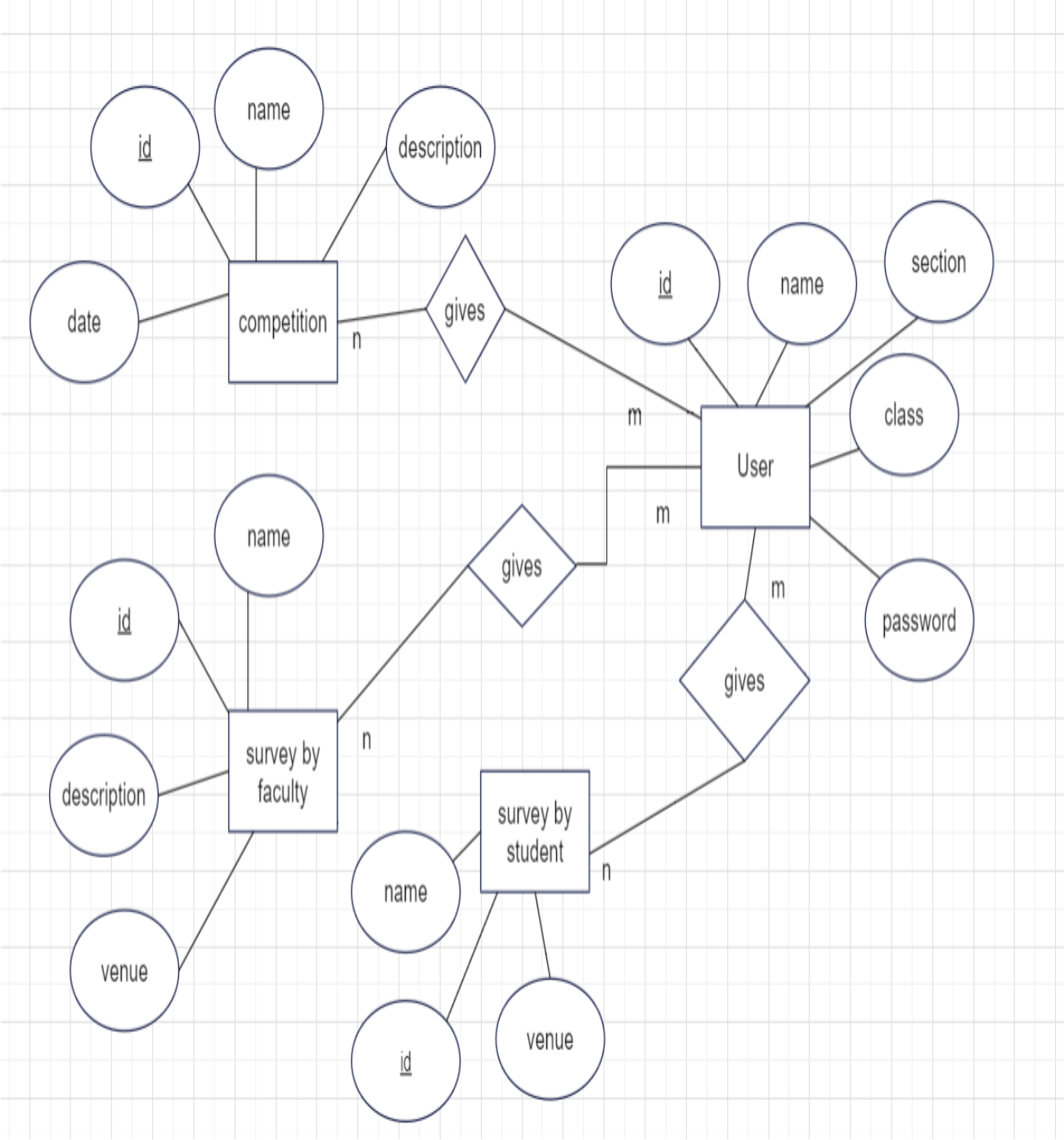

Fig 4.2 ER Diagram

4.2.1 Database tables

4.2.1.1 Add Survey By Faculty

Field	**Constraints**
Survey Name	-
Description	-
Volunteer	-
Date	-
Venue	-
Id	Primary Key

Table 1.3 Add Survey By Faculty

4.2.1.2 Add Competition By Faculty

Field	**Constraints**
Competition Name	-
Description	-
Volunteer	-
Date	-
Venue	-
Id	Primary Key

Table 1.4 Add Competition By Faculty

4.2.1.3 FAQ Table

Field	Constraints
Id	-
Question	-
Answer	-

Table 1.5 FAQ Table

4.2.1.4 Participation Table

Field	Constraints
Seminar Name	-
Description	-

Volunteer	-
Date	-
Venue	-
Id	Primary Key

Table 1.6 Participation Table

4.2.1.5 Submission Table

Field	**Constraints**
Id	Primary Key
Name	-
Total Survey	-

Table 1.7 Submission Table

4.2.1.6 Support Table

Field	**Constraints**
Id	Primary Key
Fname	Not Null
Lname	Not Null
Role	Not Null
Subject	Not Null

Table 1.8 Support Table

4.2.1.7 User Table

Field	**Constraints**
Id	Primary Key
Name	Not Null
Roll No	Not Null
Class	Not Null
Specification	Not Null
Section	Not Null
Password	Not Null
Status	Not Null
Date Of Admission	Not Null

Table 1.9 User Table

4.3 Flowchart

Flowcharts are nothing but the graphical representation of the data or the algorithm for a better understanding of the code visually. It displays step-by-step solutions to a problem, algorithm, or process. It is a pictorial way of representing steps that are preferred by most beginner-level programmers to understand algorithms of computer science, thus it contributes to troubleshooting the issues in the algorithm.

A flowchart is a picture of boxes that indicates the process flow in a sequential manner. Since a flowchart is a pictorial representation of a process or algorithm, it's easy to interpret and understand the process. To draw a flowchart, certain rules need to be followed which are followed by all professionals to draw a flowchart and is widely accepted all over the countries.

Process flowchart: This type of flowchart shows all the activities that are involved in making a product. It basically provides a pathway to analyze the product to be built. A process flowchart is most commonly used in process engineering to illustrate the relation between the major as well as minor components present in the product. It is used in business product modeling to help understand employees about the project requirements and gain some insight about the project.

Data flowchart: As the name suggests, the data flowchart is used to analyze the data, specifically it helps in analyzing the structural details related to the project. Using this flowchart, one can easily understand the data inflow and outflow from the system. It is most commonly used to manage data or to analyze information to and fro from the system.

Business Process Modeling Diagram: Using this flowchart or diagram, one can analytically represent the business process and help simplify the concepts needed to understand business activities and the flow of information. This flowchart illustrates the business process and models graphically which paves a way for process improvement.

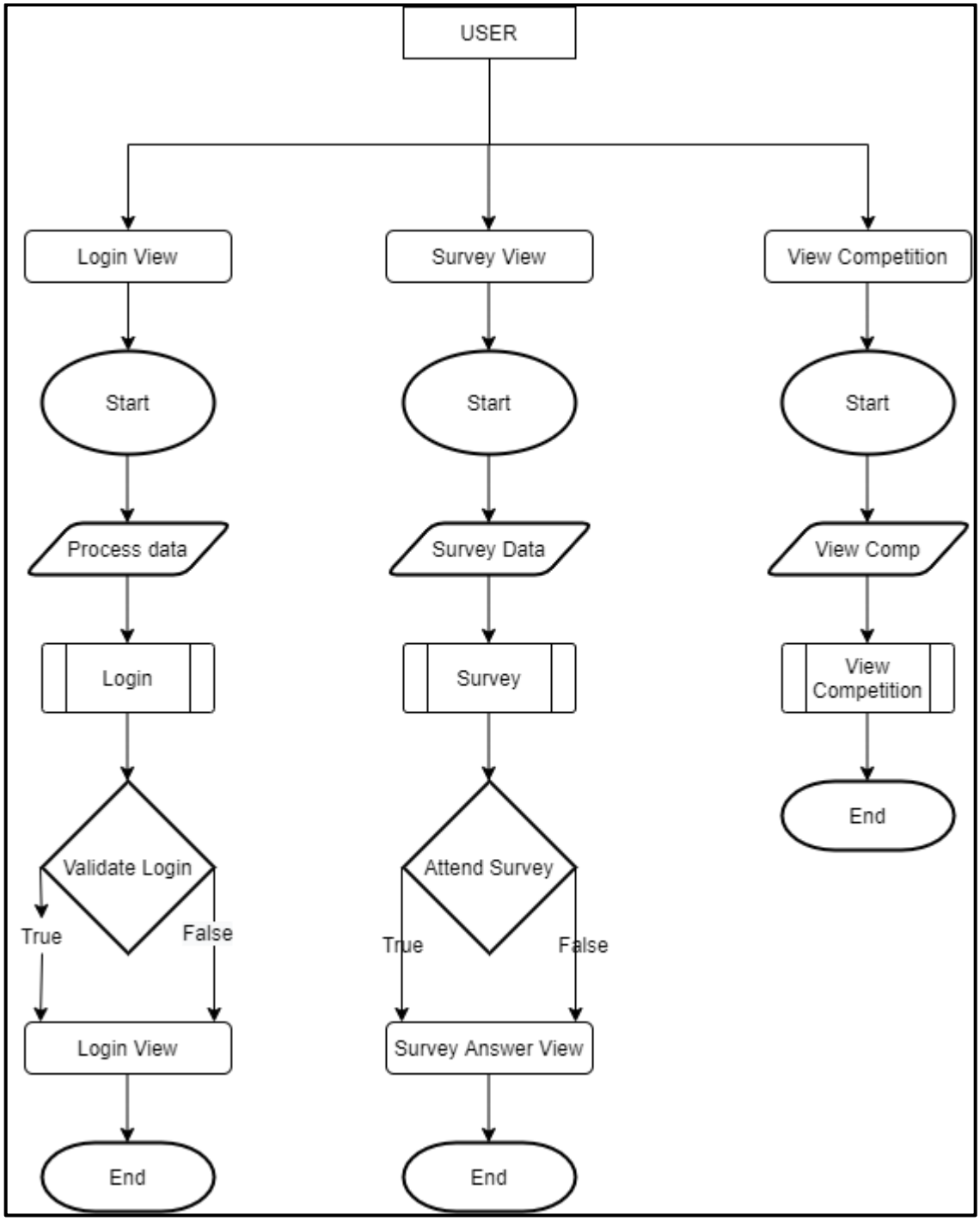

Fig 4.3 Flowchart

4.4 DFD

DFD is the abbreviation for Data Flow Diagram. The flow of data of a system or a process is represented by DFD. It also gives insight into the inputs and outputs of each entity and the process itself. DFD does not have control flow and no loops or decision rules are present. Specific operations depending on the type of data can be explained by a flowchart. It is a graphical tool, useful for communicating with users , managers and other personnel. it is useful for analyzing existing as well as proposed system. It provides an overview of

- What data is system processes.
- What transformation are performed.
- What data are stored.
- What results are produced , etc.

Data Flow Diagram can be represented in several ways. The DFD belongs to structured-analysis modeling tools. Data Flow diagrams are very popular because they help us to visualize the major steps and data involved in software-system processes.

The Data Flow Diagram has 4 components:

- Process Input to output transformation in a system takes place because of process function. The symbols of a process are rectangular with rounded corners, oval, rectangle or a circle. The process is named a short sentence, in one word or a phrase to express its essence

- Data Flow Data flow describes the information transferring between different parts of the systems. The arrow symbol is the symbol of data flow. A relatable name should be given to the flow to determine the information which is being moved. Data flow also represents material along with information that is being moved. Material shifts are modeled in systems that are not merely informative. A given flow should only transfer a single type of information. The direction of flow is represented by the arrow which can also be bi-directional.

- Warehouse The data is stored in the warehouse for later use. Two horizontal lines represent the symbol of the store. The warehouse is simply not restricted to being a data file rather it can be anything like a folder with documents, an optical disc, a filing cabinet. The data warehouse can be viewed independent of its implementation. When the data flow from the warehouse it is considered as data reading and when data flows to the warehouse it is called data entry or data updating.

- Terminator The Terminator is an external entity that stands outside of the system and

communicates with the system. It can be, for example, organizations like banks, groups of people like customers or different departments of the same organization, which is not a part of the model system and is an external entity. Modeled systems also communicate with terminator.

4.4.1 0 Level Diagram

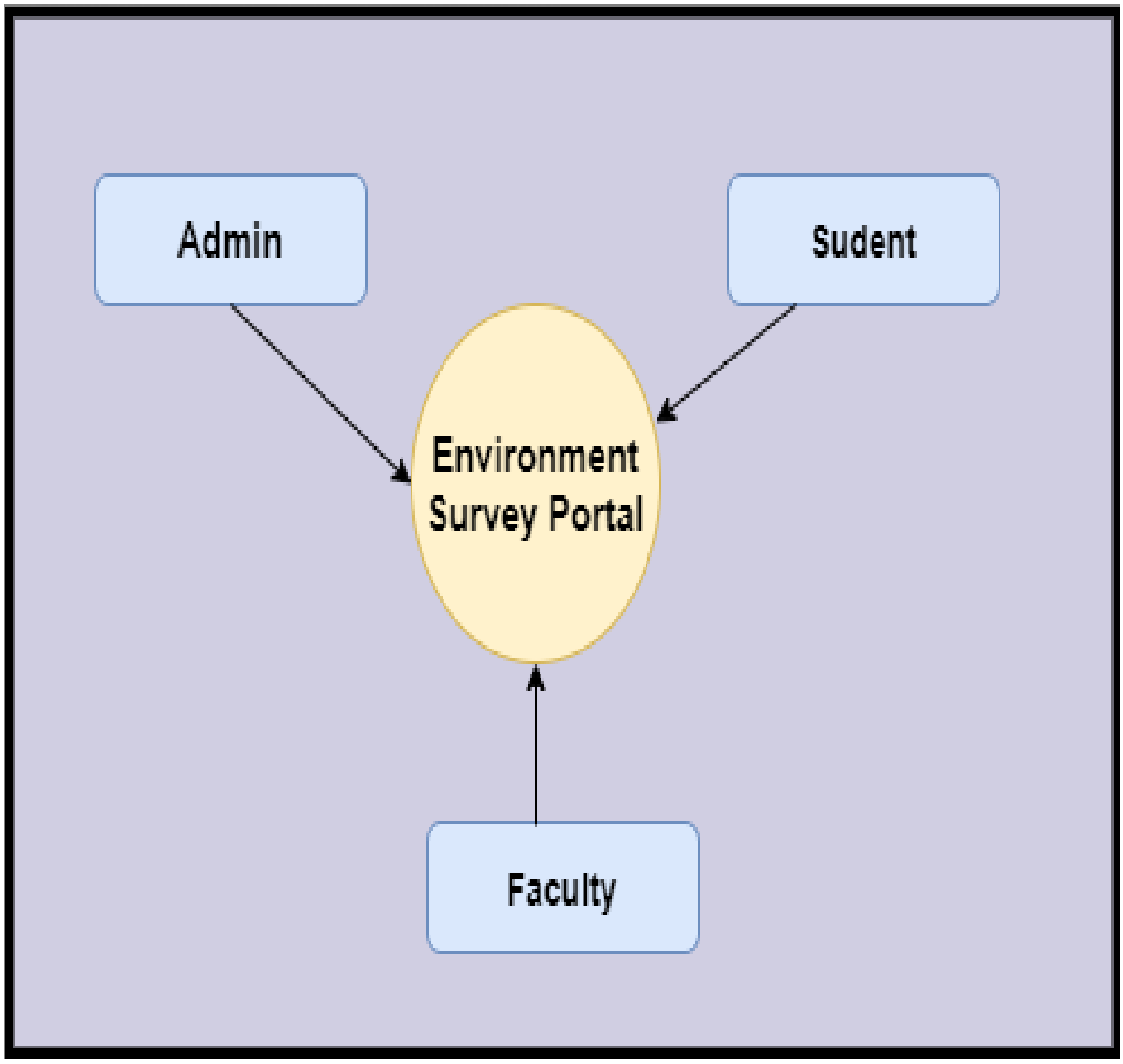

Fig. 4.4.1 0 Level DFD

4.4.2 1.Level Diagram

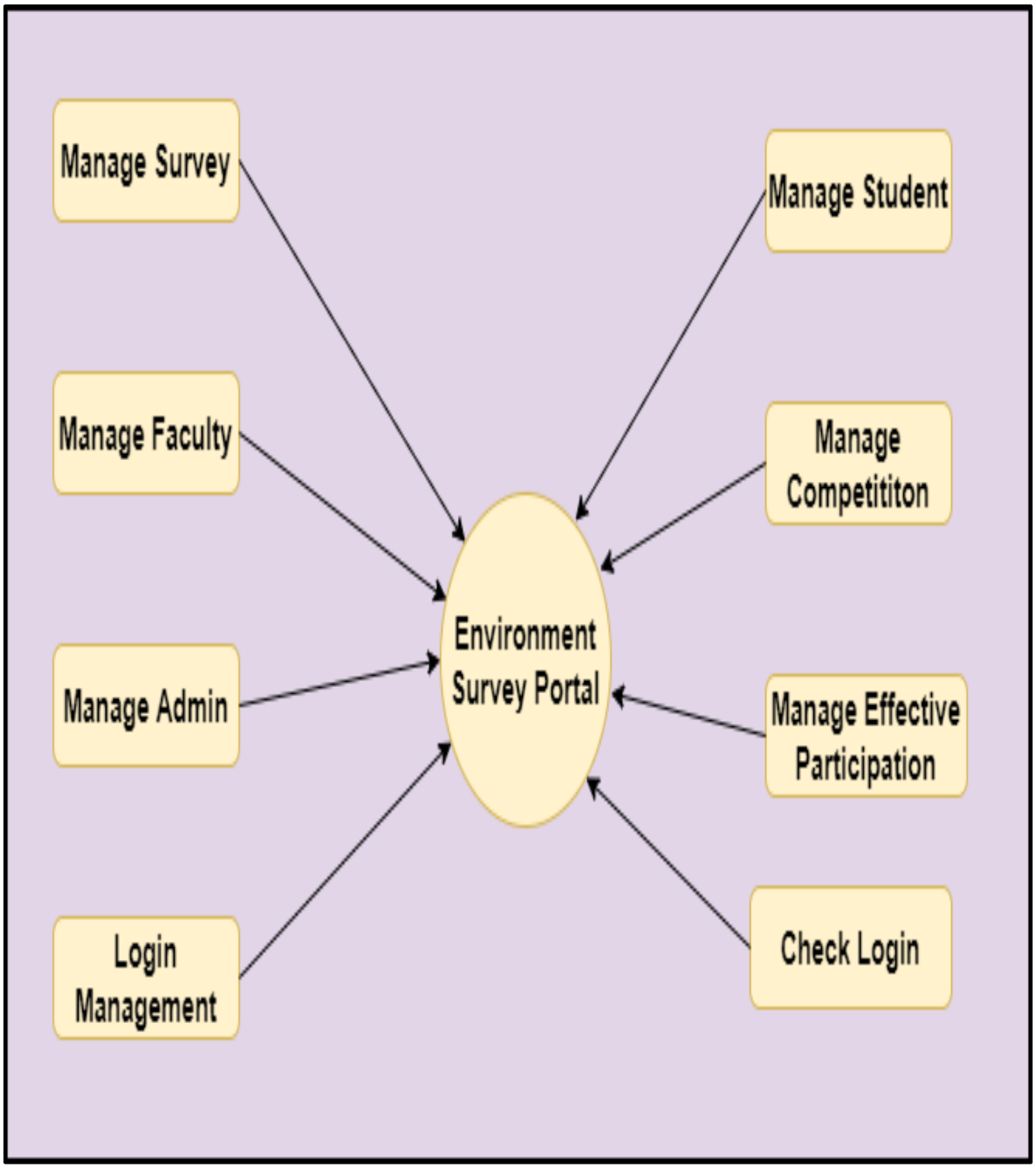

Fig. 4.4.2 1 Level DFD

4.4.3 2 Level Diagram

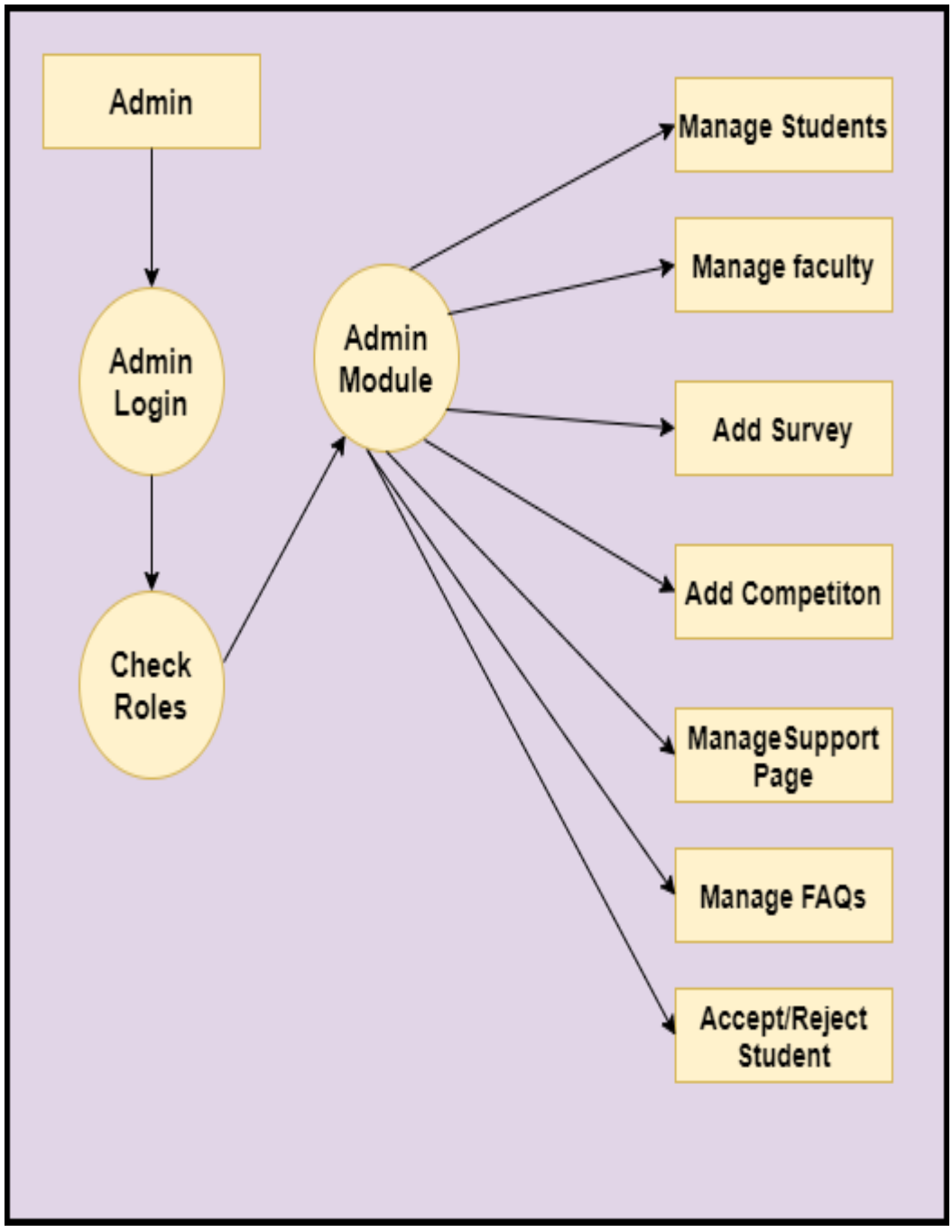

Fig.4.4.3 2 Level DFD

CHAPTER 5

PROJECT SCREENSHOT

5.1 HOME PAGE

The home page serves as the entry point to the platform, presenting users with three key modules: Login, Register, and Admin. Its clean and intuitive design ensures ease of navigation for users of all levels.

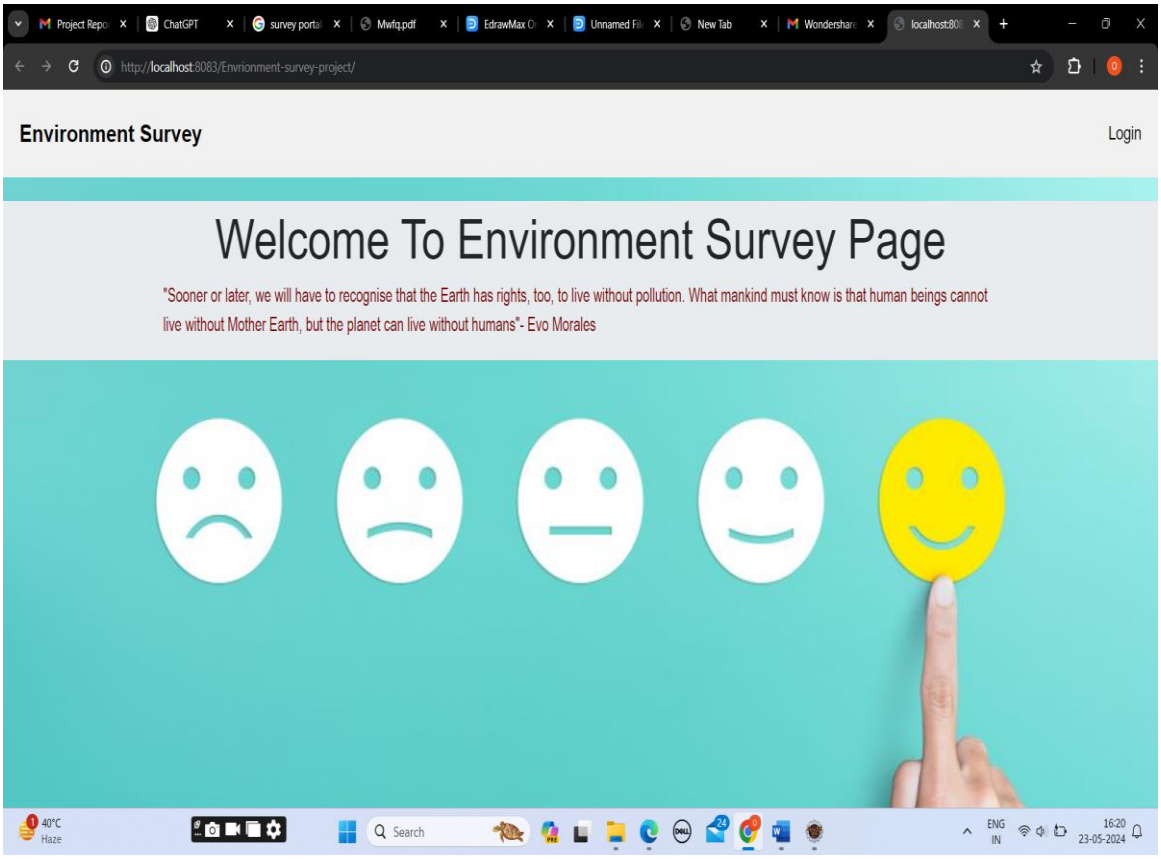

Fig 5.1 Home Page

5.2USER SIGN-UP PAGE

The User Sign-Up Page is dedicated to new users aiming to join the platform. It prompts users to enter essential information such as their name, email, college name, and password, streamlining the registration process.

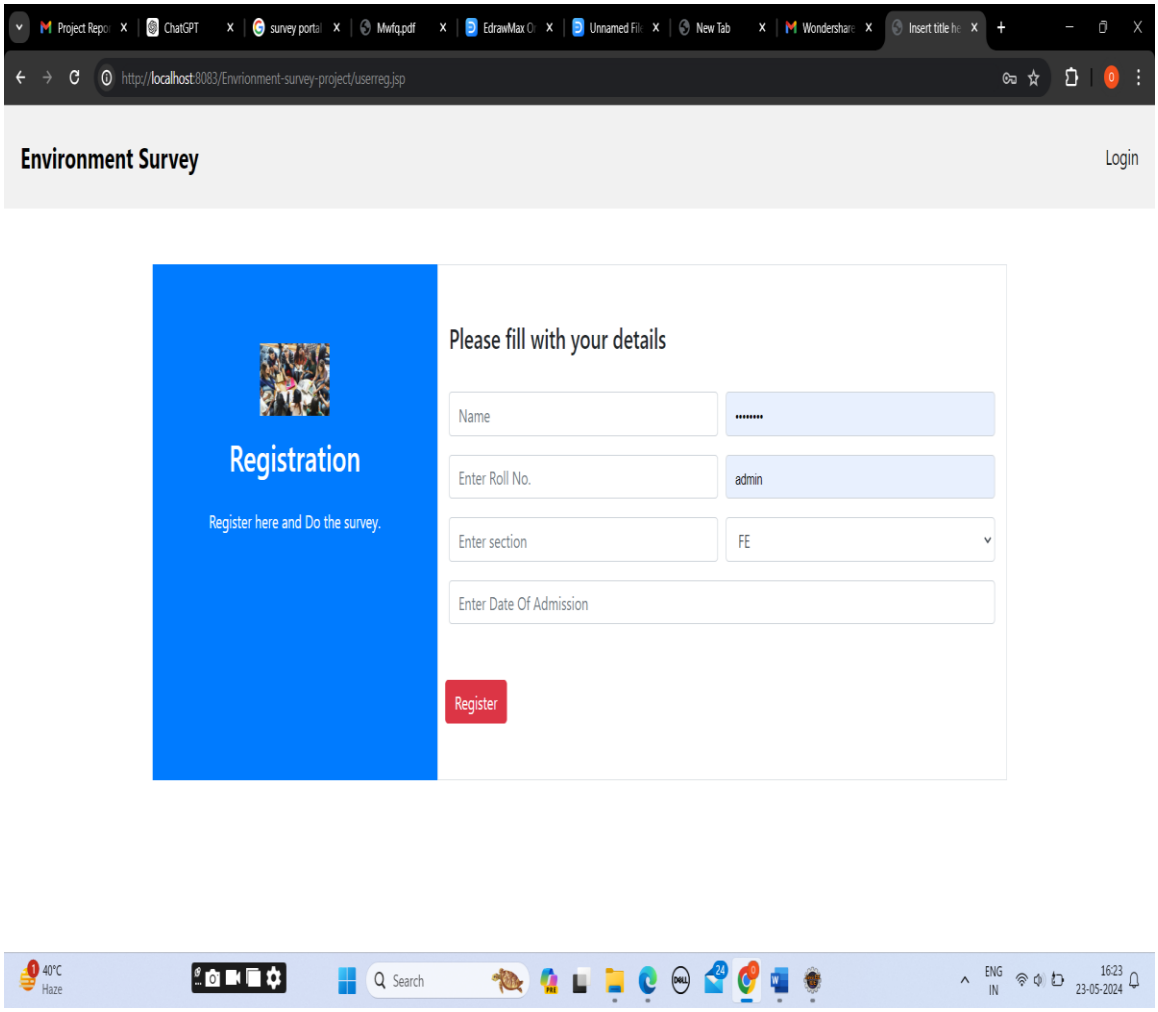

Fig 5.2 User Signup Page

5.3 USER LOGIN PAGE

The User Login Page provides a secure gateway for existing users to access their accounts. Users are required to input their username and password to log in successfully.

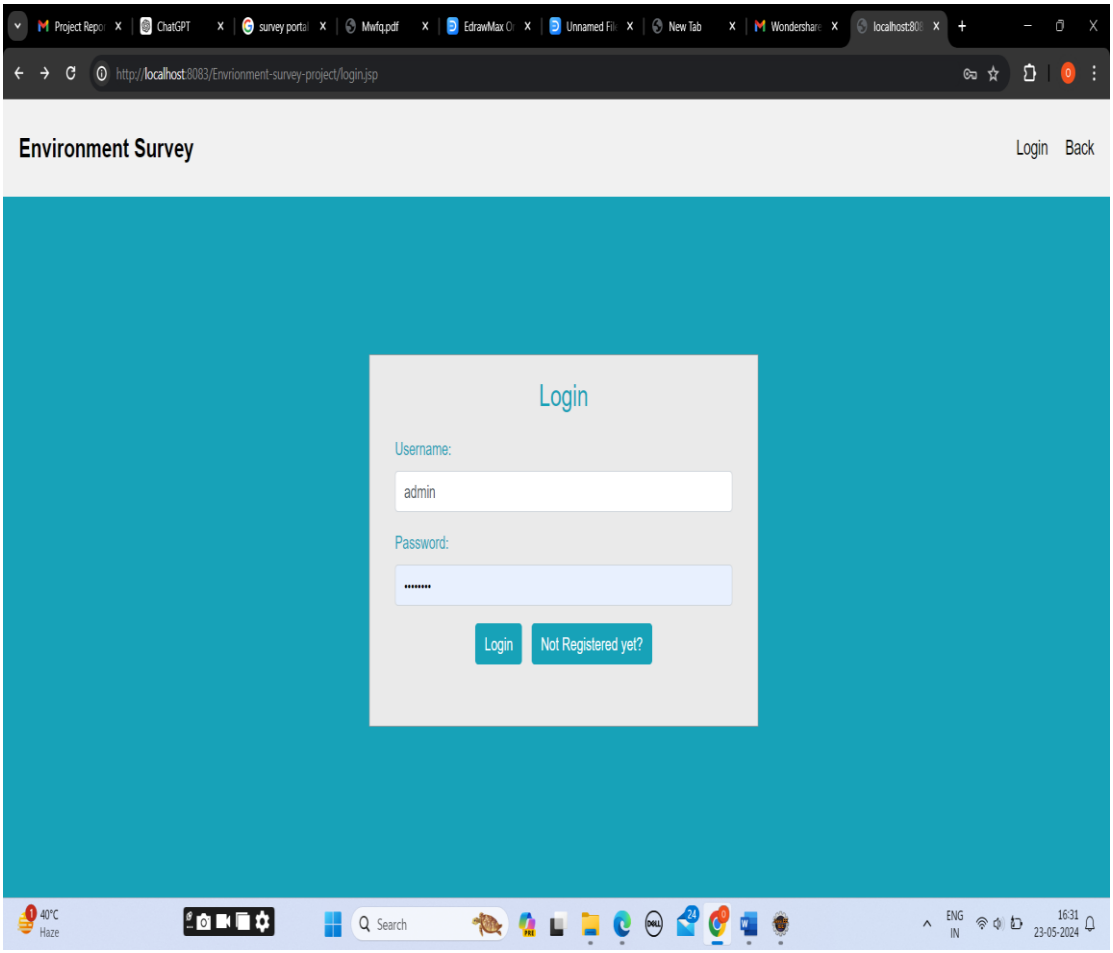

Fig 5.3 User Login Page

5.4 USER DASHBOARD

Upon successful login, users are directed to the User Dashboard. This centralized hub serves as the starting point for test attempts, providing a user-friendly interface for navigating through various features.

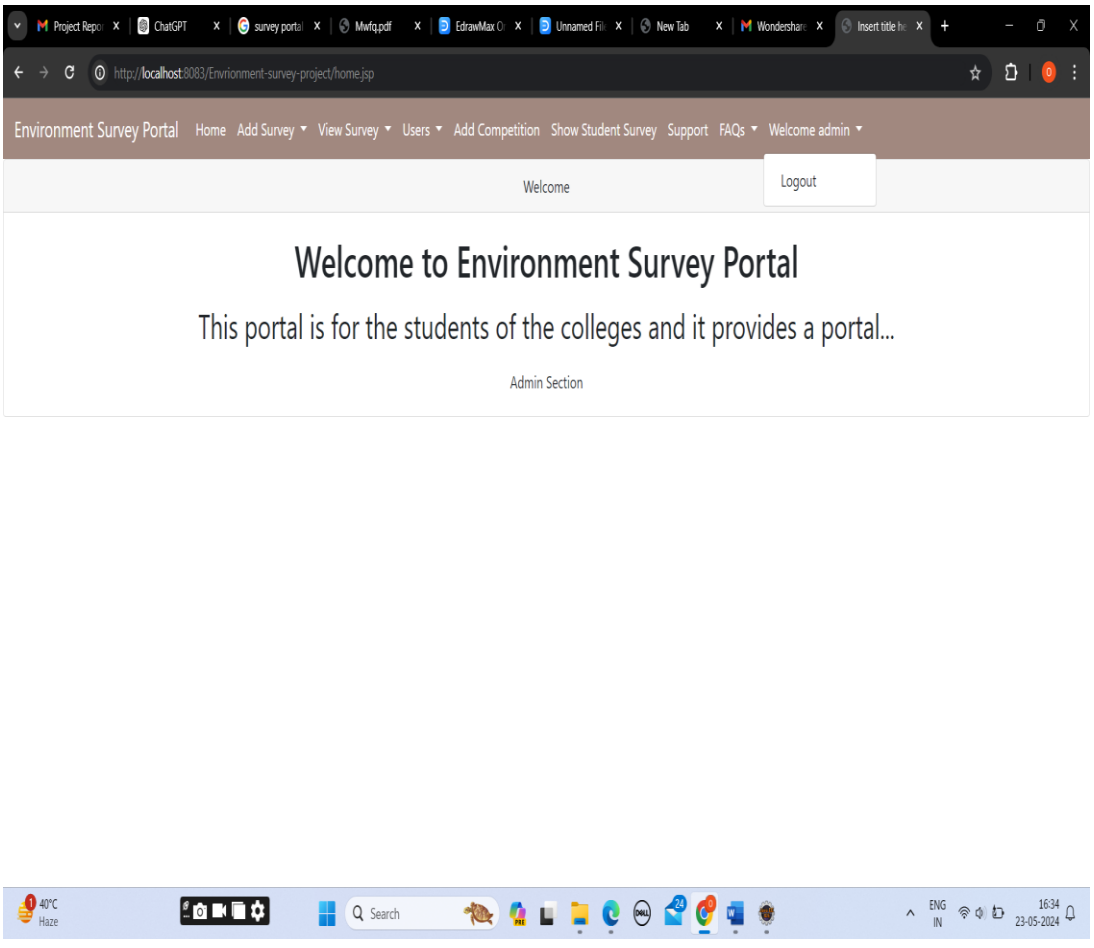

Fig.5.4 User Dashboard

5.5 STUDENT SURVEY PAGE

The student can add survey information here

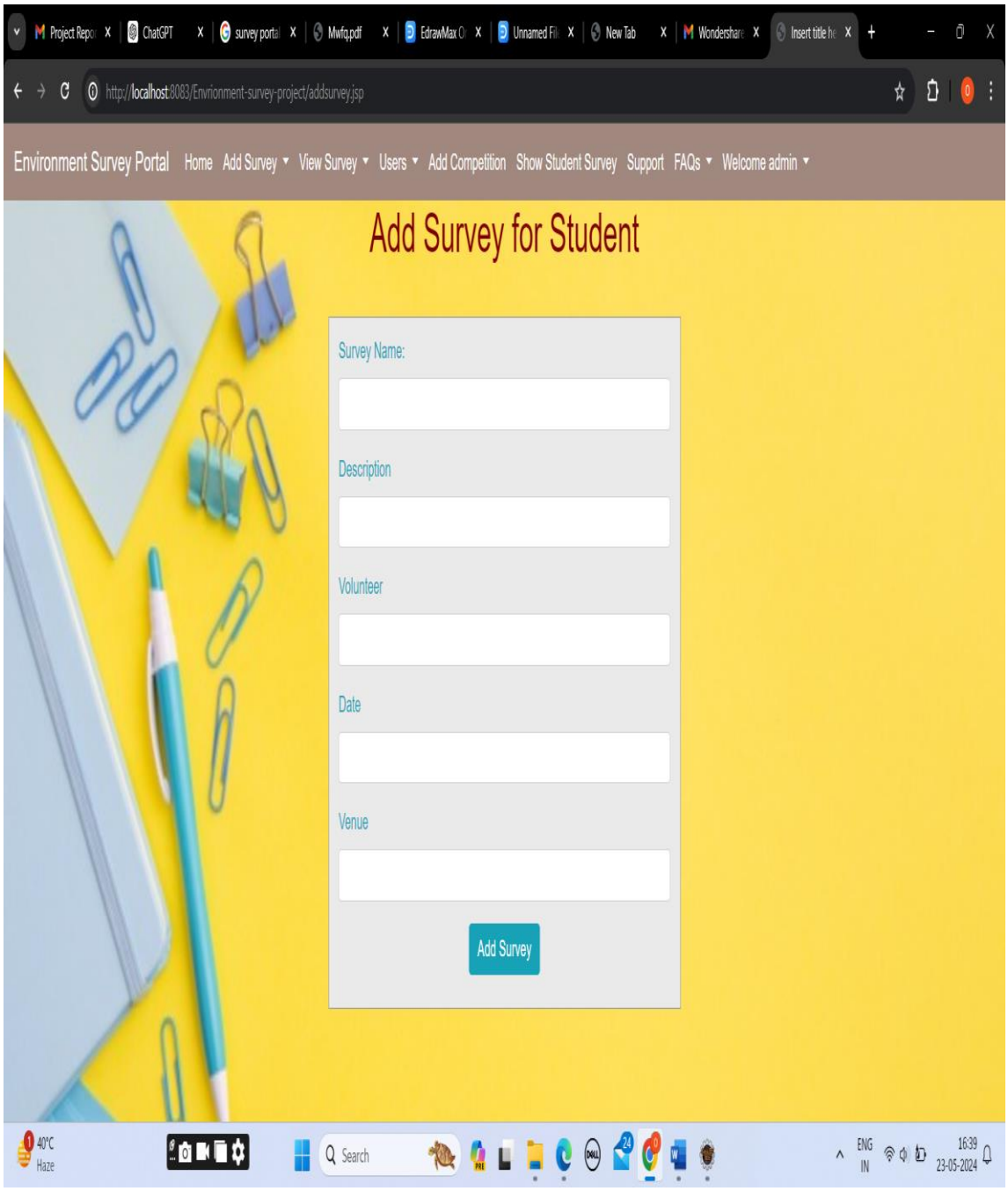

Fig 5.5 Student Survey Page

5.6 VIEW SURVEY PAGE

The users can view the list of surveys added

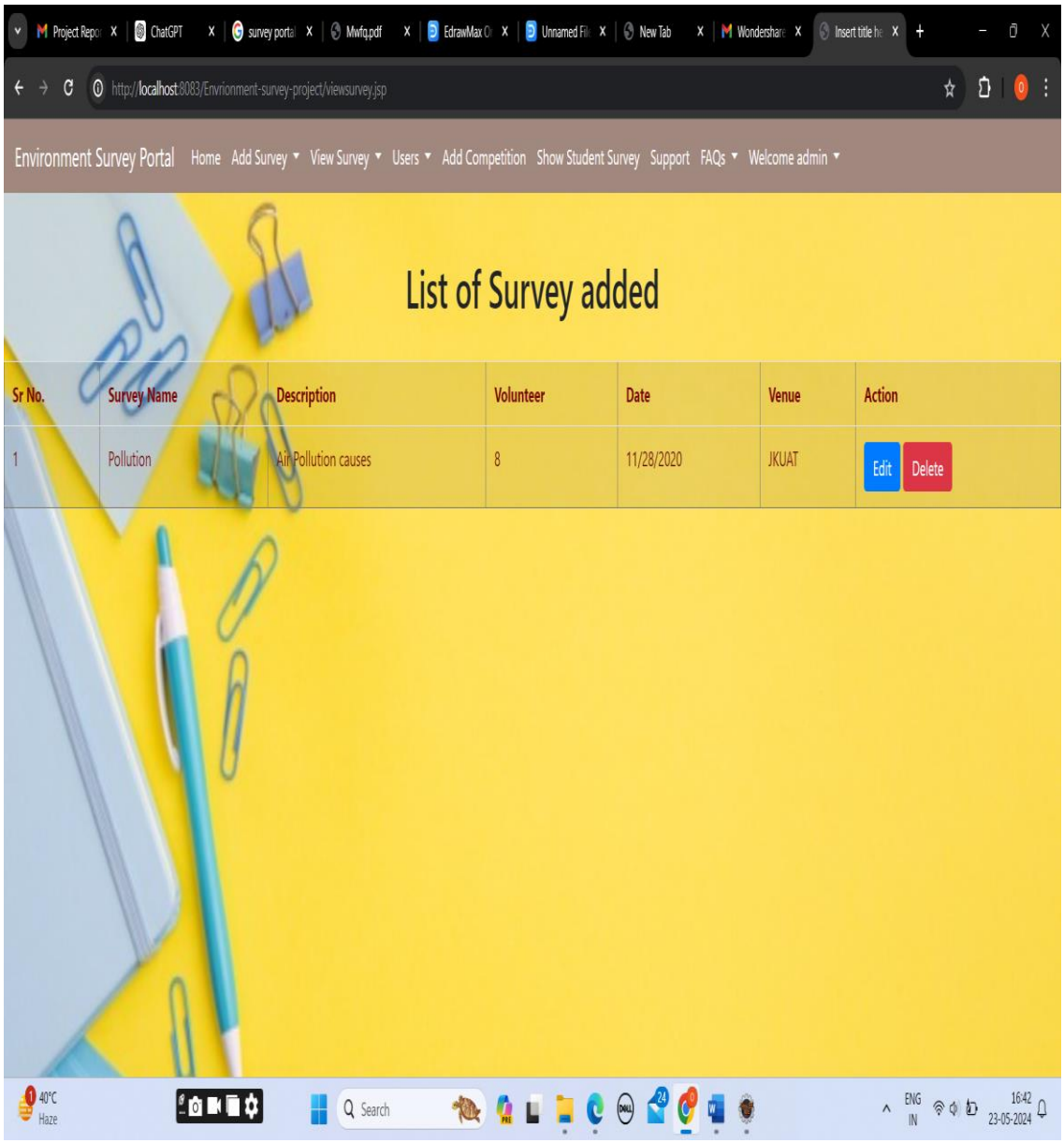

Fig 5.6 View Survey Page

5.7 ADD COMPETITION PAGE

This page lets the user add the details of the upcoming environmental competition.

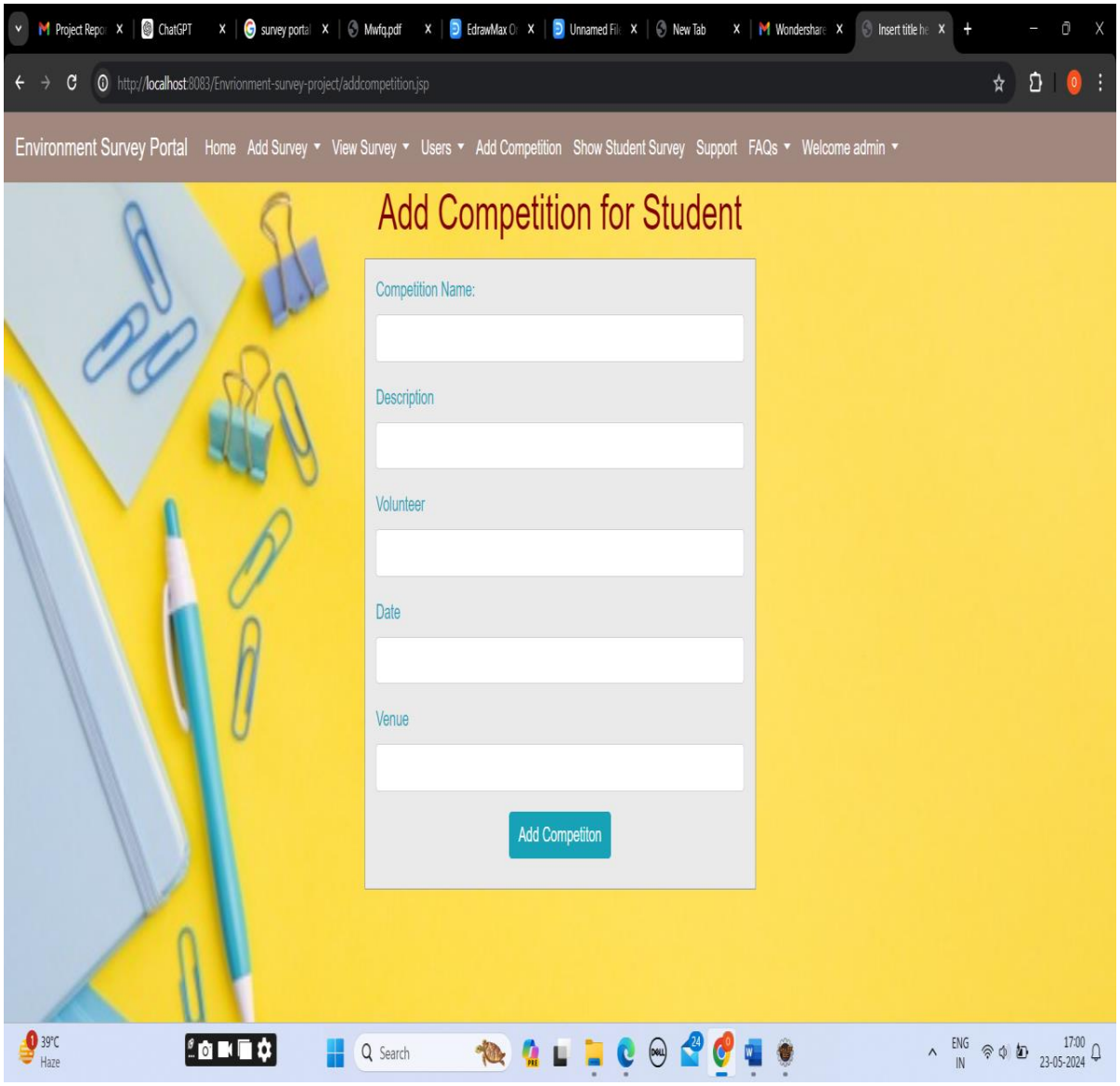

Fig 5.7 Add Competition Page

5.8 FAQ's PAGE

This page shows about the common faq's for the users.

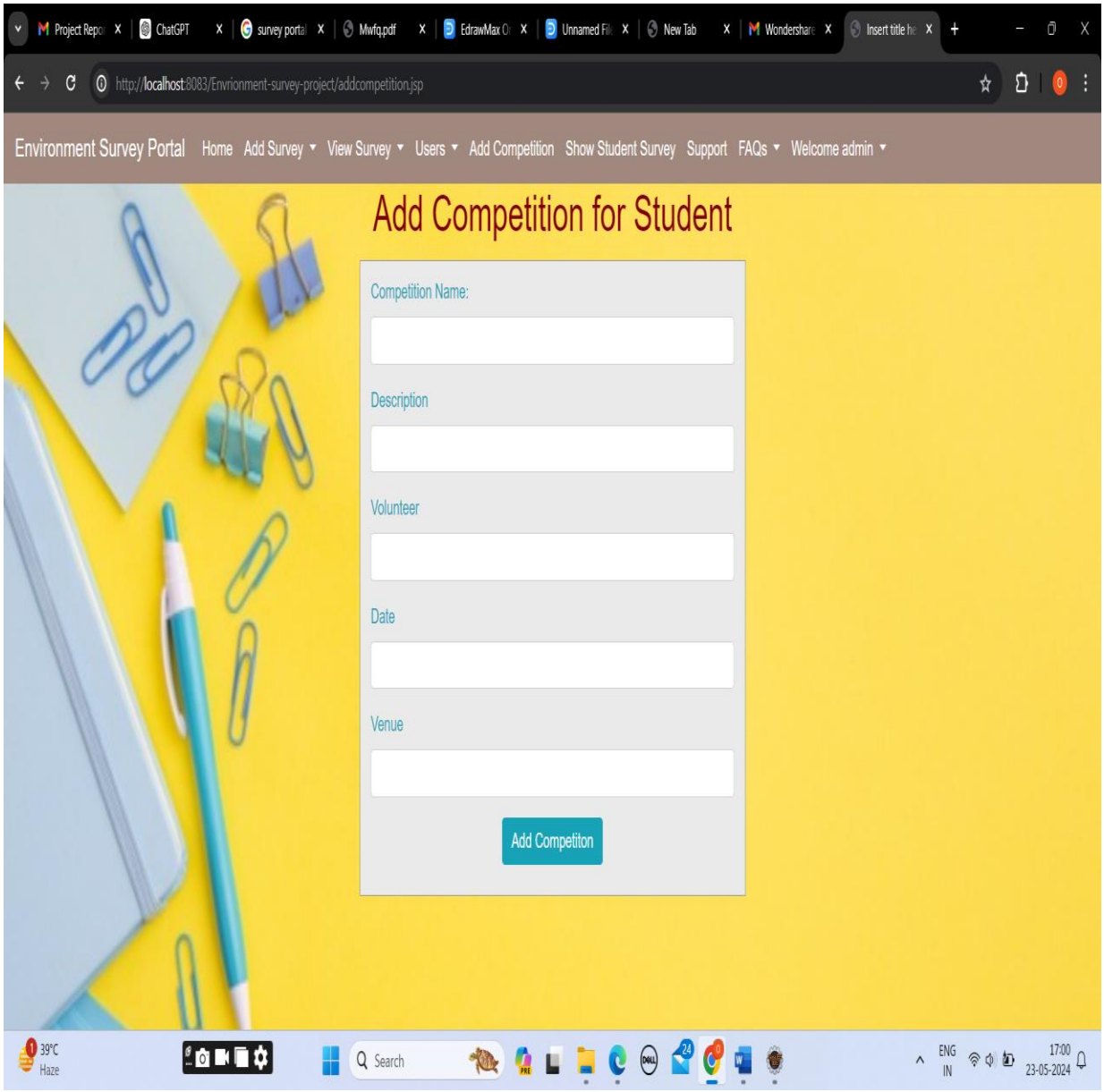

Fig 5.8 FAQ Page

5.9 EDIT FAQ PAGE

This page lets the admin alter the faq’s.

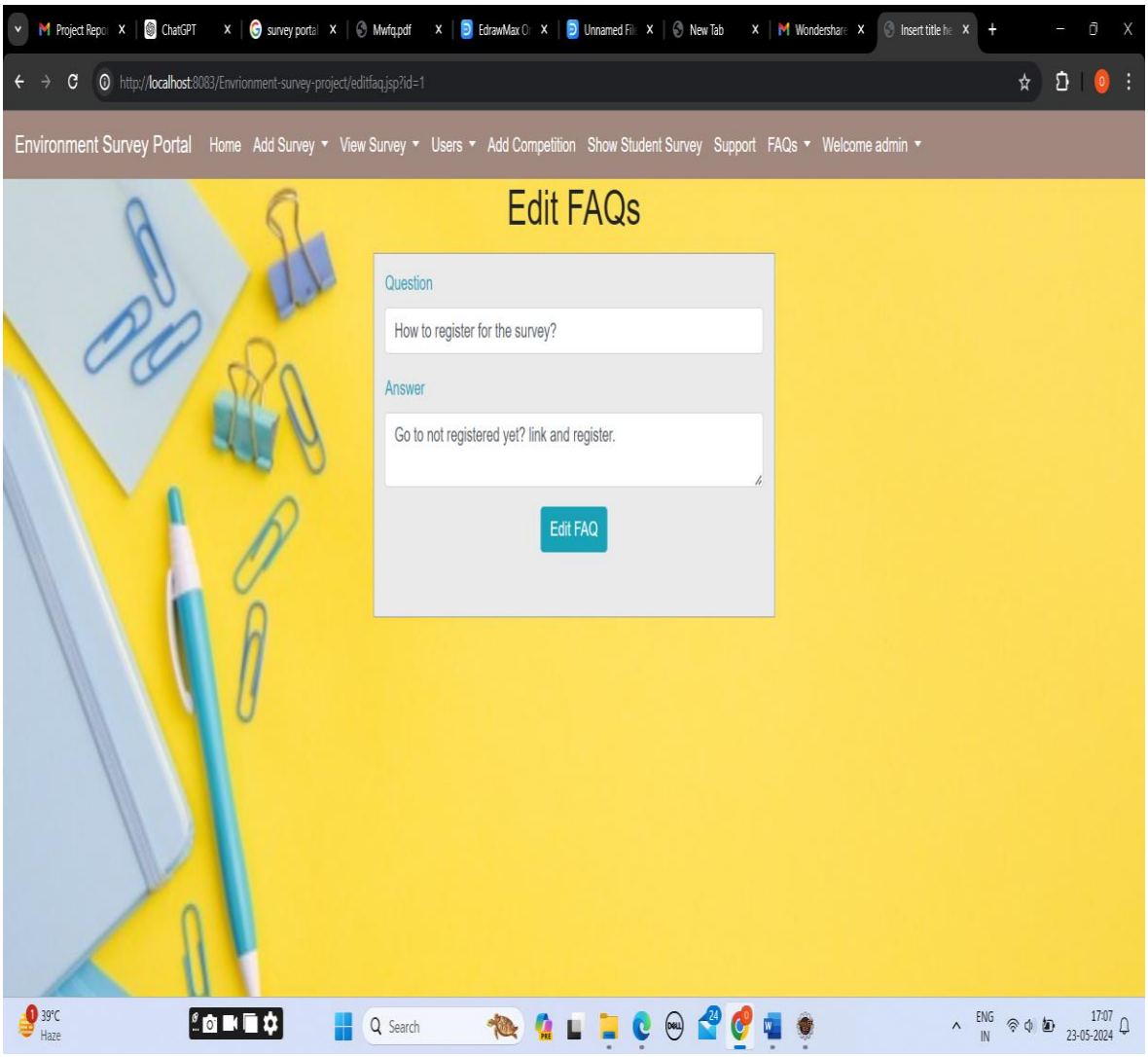

Fig 5.9 Edit FAQ Page

5.10 REGISTERED USERS PAGE

In this page admin can check the registered users .

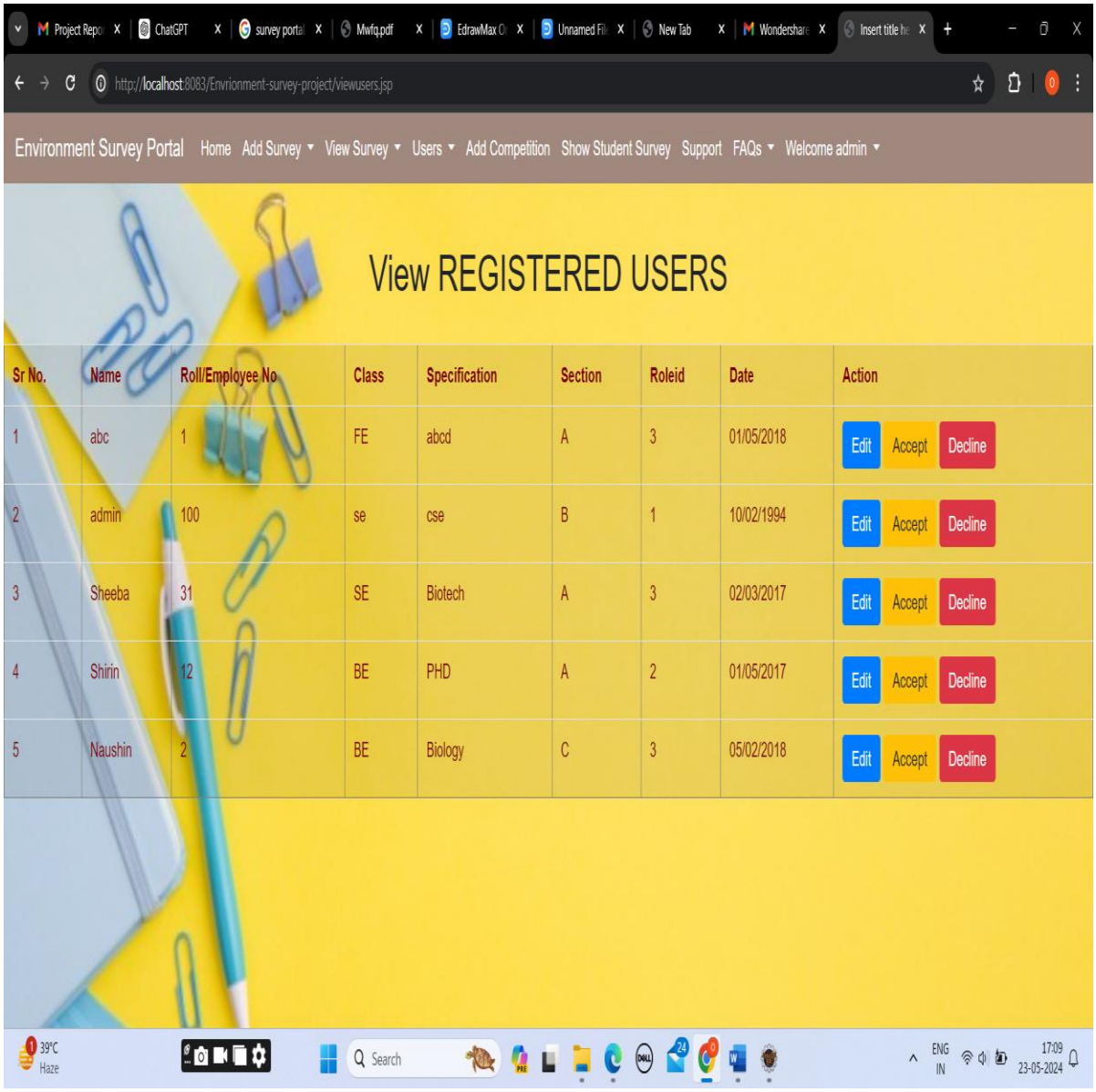

Fig.5.10 Registered users Page

5.12 ADD FACULTY PAGE

The admin here can register the faculty or staff for surveys.

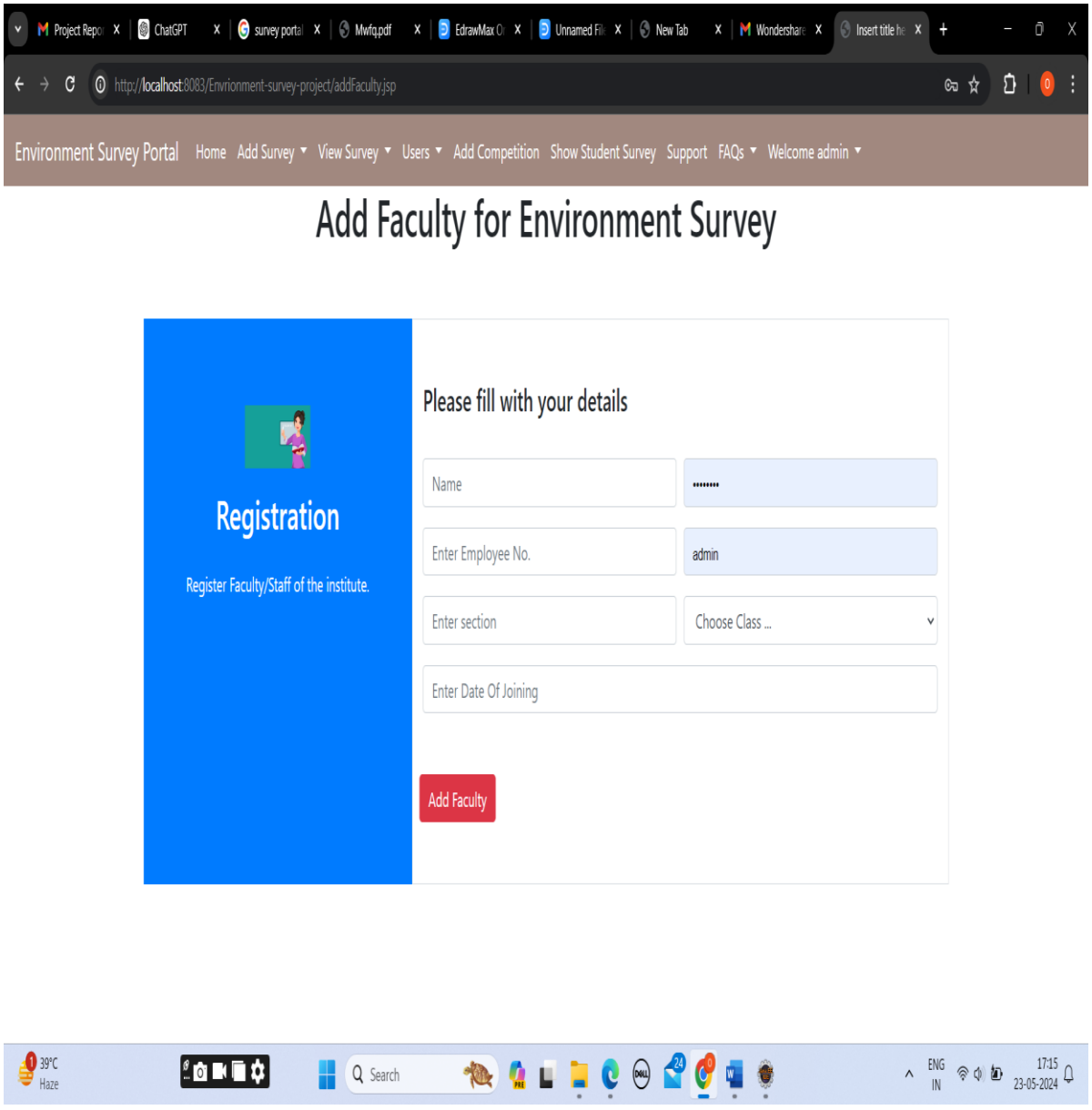

Fig 5.12 Add Faculty Page

5.13 FACULTY SURVEY PAGE

The Admin can see the surveys added by faculty**.**

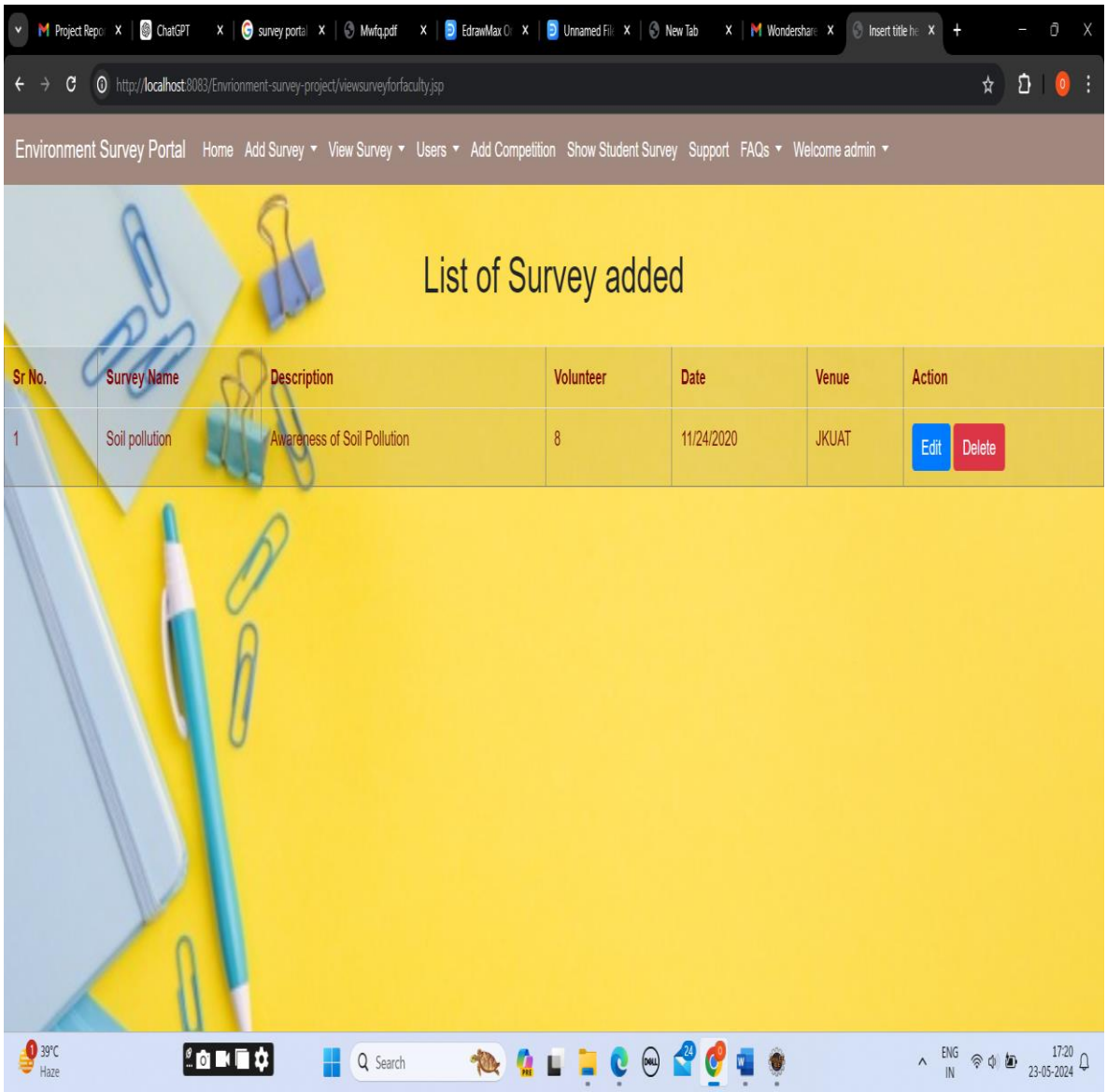

Fig.5.13 Faculty Survey Page

5.14 CONTACT US PAGE

It lets user to ask for support from the technical team

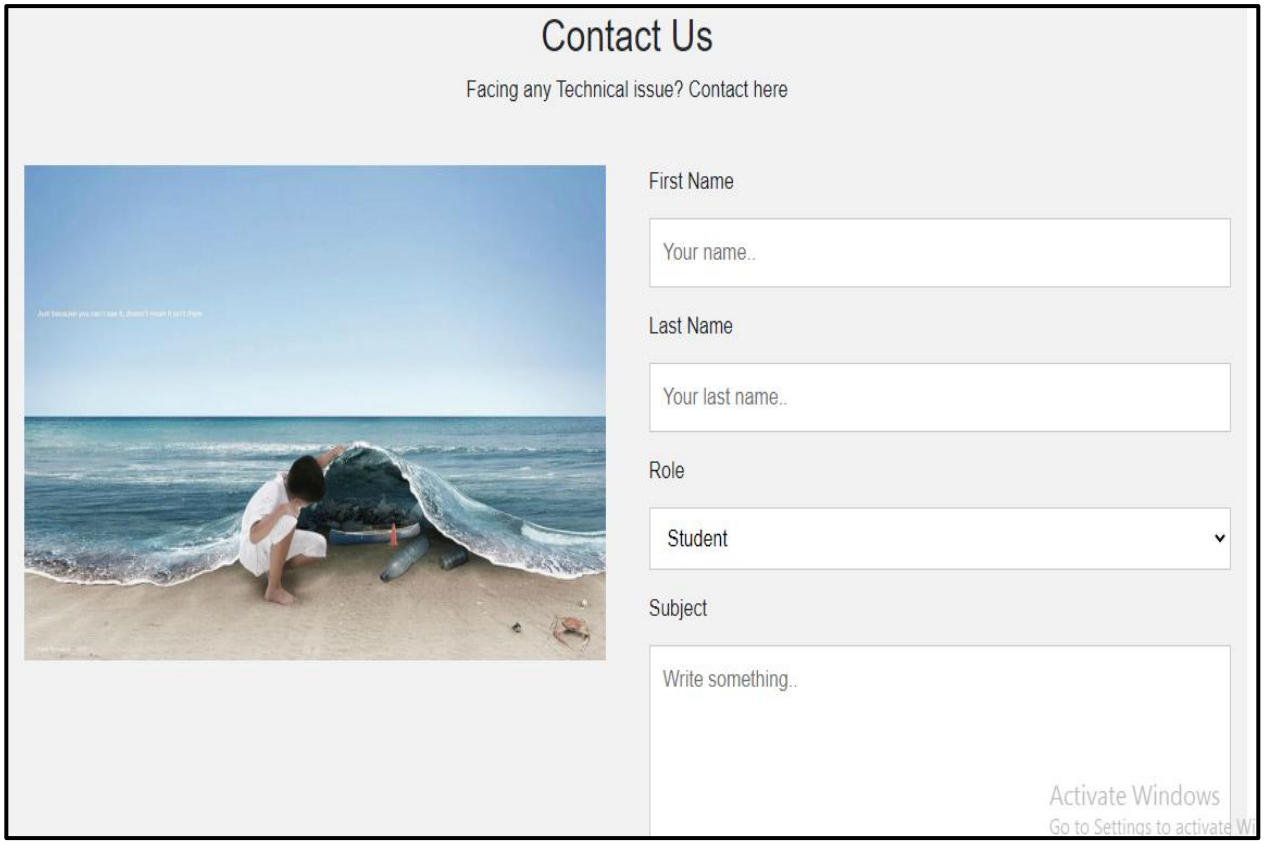

Fig.5.14 Contact Us Page

CHAPTER 6

Testing

Testing is a process of executing a program with the intent of finding bugs that makes the application fail to meet the expected behavior. System Analysis and Design process including Requirement Analysis, Business Solution Options, Feasibility Study, Architectural Design was discussed in previous chapter. Generally Software bugs will almost always exist in any software module. But it is not because of the carelessness or irresponsibility of programmer but because of the complexity. Humans have only limited ability to manage complexity. This chapter discusses about the testing of the solution and implementation methodologies. Regardless of the development methodology, the ultimate goal of testing is to make sure that what is created does what it is supposed to do. Testing plays a critical role for assuring quality and reliability of the software. I have included testing as a part of development process. The test cases should be designed with maximum possibilities of finding the errors or bugs. Software Testing is the process of executing a program or system with the intent of finding errors. The scope of software testing often includes examination of code as well as execution of that code in various environments and conditions. Software Testing is a method to check whether the actual software product matches expected requirements and to ensure that software product is Defect free. It involves execution of software/system components using manual or automated tools to evaluate one or more properties of interest. The purpose of software testing is to identify errors, gaps or missing requirements in contrast to actual requirements. Testing stage of the project can be explained as below and system was tested for all these stages. Various level of testing are as follows

6.1 Testing Levels

Unit testing: Unit testing tests the functionality of individual units of source code. It is the smallest component of a testable software that works in isolation with other parts of the code. I have done unit testing for various individual components of the source code to uncover errors within the boundary of the application.

Integration testing: Integration testing focuses on the design and construction of the software. Here the individual components that are tested using unit tests are combined and tested as a group. Its primary purpose is to expose the defects associated with the interfacing of modules. It checks if the modules perform the desired functionality when integrated together

System testing: System testing is performed on a completely integrated system to see if it meets the requirements, System Testing is a type of software testing that is performed on a complete integrated system to evaluate the compliance of the system with the corresponding requirements. In system testing, integration testing passed components are taken as input.

Regression testing: Regression testing aims at verifying the functionality of the software that is previously tested and to which changes are made. It is to ensure the old software still works with new changes.

Acceptance testing: Acceptance testing is conducted to verify if the system compliance the business requirements. Software Testing is a method to check whether the actual software product matches expected requirements and to ensure that software product is Defect free. It involves execution of software/system components using manual or automated tools to evaluate one or more properties of interest. The purpose of software testing is to identify errors, gaps or missing requirements in contrast to actual requirements.

Adhering to the levels of testing, Unit testing is performed on individual components of the system ensuring the expected behavior. Later, I have integrated various components together and performed Integration testing. Once the integration testing is done, I have performed System 30 testing and ensured the application works as per the requirements. Finally, acceptance testing is performed to check if the client accepts the system

- All Its module are working properly and the project is best viewed both in Computer.
- The main requirement for this project that you should have good internet connection.

Performance Testing : Performance testing is performed to determine how well the system can perform in terms of responsiveness under all kinds of load. The web application is tested to see if it can sustain huge amount of requests providing higher throughput under different loads. I have simulated multiple hits on various pages of the application to evaluate the overall performance.

6.2 Test Cases

6.2.1 Login Table

Field	Details
Username	admin
Password	admin123

Table 1.10 Login Table

Successfully logged in

6.2.2 Registration Table

Field	Details
Name	admin
Roll No	123
Section	FE
Date Of Admission	12/5/2014

Table 1.11 Registration Table

Successful Registration

6.2.3 Add Survey For Student

Field	Details
Survey Name	Soil Pollution
Description	To Fact check the condition of the soil
Volunteer	Oorja
Date	12/7/2022
Venue	KIET

Table 1.12 Add Survey For Student Table

Survey added successfully

6.2.4 Add Competition

Field	Details
Competition Name	Soil Pollution Poster Making
Description	Present creative and unique posters that spread awareness about soil pollution
Volunteer	Oorja
Date	12/7/2022
Venue	KIET

Table 1.13 Add Competition

Competition added successfully

6.2.5 Add FAQ

Field	Details
Id	1
Question	What are environmental surveys?
Answer	Surveys about environment

Table 1.15 Add FAQ Table

FAQ Added Successfully

6.2.6 Edit FAQ

Field	Details
Id	1
Question	What are environmental pollution surveys?
Answer	Surveys about environmental pollution

Table 1.16 Add FAQ Table

FAQ Edited Successfully

6.2.7 Edit Student Survey

Field	Details
Survey Name	Soil Pollution in KIET GROUND
Description	To Fact check the condition of the soil
Volunteer	Oorja
Date	12/7/2022
Venue	KIET

Table 1.17 Edit Student Survey Table

Survey edited successfully

6.2.8 Delete Student Survey

Field	Details
Survey Name	Soil Pollution in KIET GROUND
Description	To Fact check the condition of the soil
Volunteer	Oorja
Date	12/7/2022
Venue	KIET

Table 1.18 Delete Student Survey Table

Survey deleted successfully

6.2.9 Participation Table

Field	Details
Seminar Name	Green energy seminar
Description	Ways to promote green energy usage
Volunteer	oorja
Date	2/6/15
Venue	KIET
Id	123

Table 1.19 Participation Table

Participation added successfully

6.2.10 Edit User Profile

Field	**Details**
Id	23
Name	Reena
Roll No	34
Class	7
Specification	Student
Section	B
Password	!ed#45
Status	Qualified
Date Of Admission	4/5/20

Table 1.20 Edit User Profile

Profile edited successfully

CHAPTER 7

Conclusion and Future Scope

Conclusion

This Web Application provides facility to attend Surveys Online using this web application. It saves time as it allows number of Students to attend the survey online instead of going to the location. More importantly, it reduces paper consumption which is the main objective of this application. It is automatically generated by the server.
Administrator has a privilege to create, modify and delete the Users, Add Survey for student, faculty. Admin can also add Competition are going to be held.

The Environment Survey Portal is a comprehensive web application designed to facilitate the efficient and sustainable administration of surveys. By enabling online survey participation, the portal saves significant time and resources, allowing numerous students to complete surveys remotely without the need to travel to a physical location. This approach not only enhances convenience and accessibility but also substantially reduces paper consumption, aligning with the primary objective of promoting environmental sustainability.

Administrators benefit from a robust set of tools within the portal, granting them the ability to create, modify, and delete user accounts, as well as manage surveys and competitions seamlessly. This centralized management capability ensures that all survey activities are streamlined and effectively organized. Additionally, the automated processes managed by the server enhance the overall efficiency and reliability of the system, minimizing the need for manual intervention and reducing the potential for human error.

The Environment Survey Portal represents a significant advancement over traditional, paper-based survey methods. It addresses critical issues such as user-friendliness, scalability, and environmental impact, providing a reliable and user-centric solution for conducting surveys. By leveraging modern web technologies, the portal not only meets the current needs of students, faculty, and administrators but also sets a strong foundation for future enhancements

and broader adoption.

The Environment Survey Portal is poised for continued growth and enhancement. By addressing current limitations and implementing planned future enhancements, we can further improve the user experience and expand the portal's capabilities. Making the system accessible via the internet and adding features such as email notifications and survey answer downloads will significantly increase its utility and effectiveness. Additionally, integrating with other systems, enhancing data security, and improving the user interface will make the portal a more comprehensive and user-friendly tool. These advancements will not only benefit current users but also attract a broader audience, solidifying the portal's role as a vital tool for conducting environmental surveys efficiently and sustainably. By continuously evolving and adapting to user needs, the Environment Survey Portal will remain a cutting-edge solution in the realm of environmental data collection and analysis.

Future Outlook

The future of the Environment Survey Portal looks promising with several potential enhancements and expansions to further improve its functionality and user experience. The following points outline the key areas of focus for future development:

Integrate advanced data analytics tools to provide deeper insights into survey results.
Develop customizable reporting features that allow administrators to generate detailed reports tailored to specific needs.

Create a dedicated mobile application to complement the web portal, enabling users to participate in surveys and access information on the go.
Ensure the mobile app provides a seamless and user-friendly experience comparable to the web application.

Implement advanced security protocols to protect user data and enhance privacy.
Conduct regular security audits and update the system to safeguard against emerging threats and vulnerabilities.

Utilize AI and machine learning algorithms to analyze survey responses, identify trends, and predict future outcomes.
Implement intelligent feedback mechanisms that provide personalized suggestions and improvements based on user behavior.

Introduce new features such as discussion forums, live chat support, and community engagement tools to foster greater interaction among users.
Enhance user profiles to include more detailed information and allow for better customization and personalization of the survey experience.

Expand the portal's language support to cater to a more diverse user base, promoting global accessibility.

Introducing gamification elements such as badges, leaderboards, and rewards for survey participation can increase user engagement and motivation. This approach can make the survey process more interactive and enjoyable, encouraging higher participation rates and more comprehensive data collection.

Limitations

- **Email Notifications**: One current limitation of the system is the lack of an email notification feature. This means that students do not receive automated emails regarding survey availability, deadlines, or other important updates. Implementing an email notification system in future versions will enhance communication and ensure that users are promptly informed about relevant survey activities. This feature will include customizable email templates and scheduling options to cater to different user needs.

- **Survey Answer Download**: Another limitation is the absence of a functionality that allows users to download their survey answers. Providing an option to download survey responses in various formats (e.g., PDF, CSV) will improve data accessibility and usability for users who need to keep records of their responses for personal or academic purposes. This feature will also benefit researchers and administrators by enabling easy export and analysis of survey data using external tools.

- **User Interface and Experience**: While the current system provides basic functionalities, there is room for improvement in terms of user interface and experience. Future versions will focus on enhancing the overall design, making the

portal more intuitive and user-friendly. This will include the implementation of responsive design principles, improved navigation, and interactive elements to engage users effectively.

- **Support and Documentation**: Currently, the system may lack comprehensive support and documentation for users. Future improvements will address this by providing detailed user guides, video tutorials, and a robust helpdesk system. This will ensure that users can easily find answers to their questions and troubleshoot any issues they encounter.

- **Offline Access**: Currently, the system requires an active internet connection to function. Introducing offline access capabilities will allow users to participate in surveys and access key features even without an internet connection, synchronizing data once connectivity is restored.

The Environment Survey Portal is poised for continued growth and enhancement. By addressing current limitations and implementing planned future enhancements, we can further improve the user experience and expand the portal's capabilities. Making the system accessible via the internet and adding features such as email notifications and survey answer downloads will significantly increase its utility and effectiveness.

Additionally, integrating with other systems, enhancing data security, and improving the user interface will make the portal a more comprehensive and user-friendly tool. The introduction of AI-powered insights, enhanced collaboration features, gamification elements, and personalized user experiences will further enrich the portal's functionality and user engagement. These advancements will not only benefit current users but also attract a broader audience, solidifying the portal's role as a vital tool for conducting environmental surveys efficiently and sustainably. By continuously evolving and adapting to user needs, the Environment Survey Portal will remain a cutting-edge solution in the realm of environmental data collection and analysis.

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