

Department of Computer Science and Engineering

PROJECT ON

ONLINE THESIS & PROJECT MANAGEMENT SYSTEM

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PROJECT ON ONLINE THESIS & PROJECT MANAGEMENT SYSTEM

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PROJECT SUBMITTED IN FULFILMENT FOR THE DEGREE OF B. SC. IN COMPUTER SCIENCE AND ENGINEERING

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DECLARATION

We hereby declare that the work in this project is my/our own except for quotations and summaries which have been duly acknowledged.

12 November 2021

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SUPERVISOR'S DECLARATION

We hereby declare that we have read this project and in our opinion this project is sufficient in term of scope and quality for the award of the degree of B. Sc. in Computer Science & Engineering

12 November 2021

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THESIS / PROJECT REPORT TITLE:

Online Thesis & Project Management System

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ABSTRACT

The online Thesis & Project management System is a web application. It will help all undergraduate students, the teachers whom are supervising the students and the coordinator who has to coordinate both teachers and students and the whole process of final year thesis and project. Students of our department are facing problems regarding this final year thesis/project course since last four years. The completion period of this course is exceeding more than six months. The course is taking more than ten month which is approximately near one year. That means six months of a graduate student are being wasted. So we made up this project which will help to consume the dilation time by doing multiple tasks of thesis/project in a common platform. We have used different programming languages and Framework to make the web application. The design of the application is user friendly, that users can use the system properly. We have maintained all the criteria of software development to develop this web application. After we completed the project we tested our web application according to the software testing process.

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LIST OF ABBREVIATIONS

AELB Atomic Energy Licensing Board

IAEA International Atomic Energy Agency

UKM Universiti Kebangsaan Malaysia

CHAPTER I

INTRODUCTION

1.1 RESEARCH BACKGROUND

Thesis & project management system is a big concern for every University department, especially for our Department. In the contemporary world, everything is now being digitalized and slowly getting modernized. But, in the universities there is a critical and lengthy process that many of the students are not aware of, especially from below 7thsemester. That's why, the students don't know whom he/she should choose as supervisor, the topic he/she should choose, process of making a standard thesis/project and many more. Even some students are not capable to choose between thesis or project, which one will help him/her in their career. Besides, a supervisor has a specific quota for thesis/project teams. He/she cannot exceed the limit. So, some students cannot find their supervisor in time. It is a great problem for both coordinator and students.

As per consequences, we need a smart thesis & project management system. In this project we are proposing a smart thesis & project management system that will help the students to find their research gap by analyzing and studying their senior's previous works on thesis/project as those files will be available in this management system. Our project will make this system much easier and faster. That will save valuable time of our teachers, and also ease the departmental proceedings. Therefore, it will make this critical process much easier.

1.2 PROBLEM STATEMENT

Students are facing problem in choosing supervisor in our department as different students has different interest in subjects and a teacher basically supervises a specific topic like image processing or data mining etc. Some students want to do projects. So while choosing supervisor students & teachers both faces selection problem and as it is done manually or physically by convincing a teacher it takes a long time to start the thesis/project work.

Again checking the progress report while working on thesis or project & contacting the supervisor it also takes time to supervise by the teachers. And the final submission process is also a manual process. That's why the whole process is getting lengthy and complicated. We are combining all the tasks in a common platform through this project.

1.3 MOTIVATION

Our department is facing problem from last four years with the final year thesis and project course. It is both wasting time of teachers and students.

Because, in most cases, students do not know how to get started. After a lot of desire and due to the right guidelines, in many cases it becomes impossible to find the right path. And this is exactly the reason why a lot of thesis papers are being deprived from being published, and the students are unknowingly selecting teachers like a lottery.

Before we start a thesis or a project, we just need to know which one is working in which field. And so many student start working after hearing the name of an interesting field, and this is the real problem, because the field is very big, but the thesis is on a specific topic, where many students have to fall in various problems while working. In the end many do thesis just to pass.

Teachers, on the other hand, can only identify good students based on CGPA, because there is no better way for them to pick good students.

And so we have this project, all the thesis / project of all the students will be given here. Even their reports will be given.

From now on, you don't have to look at the field and throw stones in the dark. By looking at the work, new student can start a new thesis / project with the idea about the work. Which will solve many problems.

So we got motivated to select this project to solve the problem facing our department.

1.4 OBJECTIVE OF RESEARCH

The goal of this project is to create innovative strategies for managing university final year thesis and projects. We are trying to achieve these goals.

| ☐ To collect and manage | University | project thesis | to make | available | for users. |
|-------------------------|------------|----------------|---------|-----------|------------|
|-------------------------|------------|----------------|---------|-----------|------------|

☐ To create a well-structured thesis & project management system

1.5 ORGANIZATION OF THE PROJECT

The project contains five chapters. These are ordinarily defined as follows:

The first chapter reveals the inception of the project. The issue and study inspiration are mentioned in this chapter. The study goals of the study are therefore illustrated. The following chapters would go into the different facts of this project in depth.

The second chapter analyses related works done by others, focusing on contrasting the functionality and limitations.

Chapter 3 reflects on the methods for system construction and process flow in-depth of this project. It reveals the strategies and the algorithms that will be used in performing the analysis.

Chapter 4 outlines the study, specification, and implementation of the framework in depth.

Chapter 5 concentrates on the specifics of the findings and the discussion of our analysis. The last chapter ends the overall report to explore our study's contribution and potential work.

CHAPTER II

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter analyzes and discusses previous similar works that are relevant to the current project, "The online Thesis and Project Management System," which will be constructed. This chapter is divided into three parts. The project's scope is described in the first part, which includes information on the online Thesis and Project Management System.

The second section contains a table comparing three of the most popular The online Thesis & Project management System available right now. It describes the description, features, and limitations of every specific app. The third section discusses the gap achieved from the review.

2.2 SCOPE OF RESEARCH

Scope of this project is to help the student and the teacher. So that the students can easily choose supervisor with their interested subject and teachers can take control of supervision and take the progress report on time in this system.

Scope of this system are given below:

- 1. Easy for students to choose supervisor
- 2. Find a lot research paper from the library
- 3. Easy for teachers to select team for supervision
- 4. Easy for students to send their progress report to their supervisor
- 5. Easy for teachers to supervisor to supervisor through a common platform to take update and check progress of the students
 - 6. Students can upload their final work report on the library
 - 7. Students can find resources of senior and graduated students in the system
 - 8. Students can see the notices through this system

2.3 SIMILAR EXISTING WORKS

There are already many works on WAF that exist. Some of the most popular WAF has been reviewed below:

Table 1: Review of most popular existing similar works

| | T | | | |
|-----------|-------------|---|--|--|
| SL No. | Name | Description s | Features | Limit |
| 1 | MeisterTask | The simple but effective Kanban framework in MeisterTask makes project management a breeze. This clever, simple online task management application is a popular choice for organizations that value clean visual design and user experience because of its vast variety of collaboration possibilities. | Using features like watching, mentioning, tagging, and task scheduling, collaborating with colleagues in the workplace and at home is straightforward and entertaining. MeisterTask also comes with a first-ofits-kind agenda: a customized board where you may pin and arrange tasks from any project. Despite its broad capability, MeisterTask stays quick and logical owing to a variety of sophisticated | It is not free. This website is not only for student, so it may make hassle for student. |

| | | | automations and strong integrated connections with G Suite, Slack, and GitHub. | |
|---|----------|---|--|---|
| 2 | BASECAMP | Many project management teams utilize Basecamp, which is a popular project management platform. | This program has a distinct discussion space where users can submit comments, as well as other collaborative capabilities. A daily summary of the projects on which your team is working (with statuses and changes) is also delivered to your email. Users can also participate in conversations by email. If you can't find something, you may utilize the advanced search engine in this program to locate files or discussions. The absence of milestones and customizing choices, as well as the inability to provide an anticipated time for a | It is not free. This website is not only for student, so it may make hassle for student. Also this system are not user friendly. |

| | | | work or assign it to | |
|---|--------|---------------------|--|-----------------|
| | | | C | |
| | | | more than one person, | |
| | | | are some of the flaws. | |
| | | | | |
| | | | | |
| | | By merging all of | The final result is | |
| 3 | Nifty | the main aspects of | milestone-driven | |
| | TVIILY | project | development that | It is difficult |
| | | management into | keeps teams motivated | to use. Here |
| | | one program, Nifty | while also ensuring | have |
| | | is a new-wave | that organizational | difficulty to |
| | | project | objectives are met on | use function. |
| | | management | time. Nifty's software | |
| | | application that | includes kanban and | |
| | | shortens project | list views for task | |
| | | development cycles | management, a built-in | |
| | | and boosts team | calendar that can be | |
| | | productivity. | connected with | |
| | | | Google, and file and | |
| | | | document sharing. Collaboration comes | |
| | | | Collaboration comes naturally on Nifty | |
| | | | since each project has | |
| | | | its own discussion | |
| | | | thread, which | |
| | | | encourages topic- | |
| | | | specific | |
| | | | communication. Nifty | |
| | | | also includes a GitHub | |
| | | | interface that truly sets | |
| | | | it apart from the | |
| | | | competition by | |
| | | | enabling cross- | |
| | | | departmental | |
| | | | cooperation like no | |
| | | | other. | |
| | | | | |

2.3.1 General

Assuredly, Online Thesis & Project Management System are not an absolute innovation. For several years they have been available on the market, and there exist many vendors. It is clear from the Comparison of the three popular Online Project Management System that none of them is perfectly perfect.

No Online Thesis & Project Management System is dealing with only student with cost free on Top Ten Web Application vulnerabilities efficiently. Most Online Thesis & Project Management System are not user friendly.

2.4 COMPARISON OF OUR SYSTEM

We have built a system where admin or coordinator can post a notice related to thesis and project. Students can submit their thesis report and also progress report while doing research and project work to the supervisor. Students can find the teachers to choose as supervisor according to their choice of interest. Students can find resources related to thesis or project from the library which is in our system.

CHAPTER III

METHODOLOGY

3.1 INTRODUCTION

. We used a technique that allowed us to create the system in a systematic manner. In our system, we employed the waterfall model (Web) and the (.NET) Framework. For documentation, we utilized the software development life cycle (SDLC), which is a software engineering technique for documenting rules, processes, and so on.

3.2 PROCESS MODEL

We used a technique to create the system in a systematic manner. In our system, we employed the waterfall approach and the (.NET) Framework. To describe the rules, processes, and other details, we utilized the software development life cycle (SDLC), which is a software engineering method We need a procedure model since the procedure is significant than the item (software). On the off chance that the procedure is excellent, the item likewise is excellent.

3.3 RECENT TRENDS IN SOFTWARE PROCESS MODEL

Current trends in software process model has been given below:

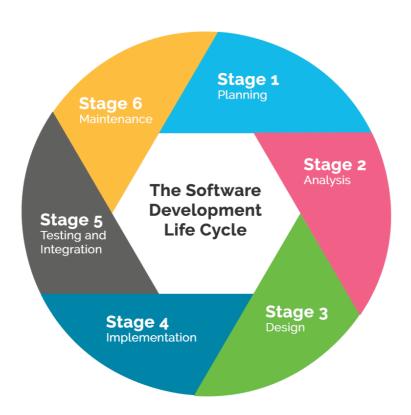
- 1. Waterfall model
- 2. Spiral Model
- 3. Incremental Model

4. Prototyping

- a) Rapid throw away prototyping process model.
- b) Evolutionary prototyping process model.
- c) Extreme prototyping process model.
- d) Incremental prototyping process model.

3.4 METHOD'S LIFE CYCLE

We followed The Software Development Life Cycle (SDLC), which is a technique for generating high-quality software with precisely defined processes. The SDLC technique concentrates on the following system development phases:



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3.4.1 REQUIRMENT COLLECTION AND ANALYSIS

The first stage of the SDLC process is the requirement. We conduct it as a

team, with input from all stakeholders and industry domain specialists. At this point,

the quality assurance needs are planned for, as well as the hazards associated. For the

purpose of gathering and analyzing requirements, we conducted an online and offline

survey. We strive to present a clearer image of the complete project's scope, as well as

the expected challenges, possibilities, and directions that sparked the assignment with

accurate data, at this point.

We attempted to acquire thorough and exact needs throughout the

requirements gathering stage. This aided us in completing the project and determining

the critical deadline for our system.

3.4.2 **Feasibility Study**

After completing the requirement analysis phase, the next SDLC step is to identify

and document software requirements. The 'Software Requirement Specification'

document, also known as the 'SRS' document, was used to guide us through this

procedure. We gather all project-related data, which demonstrates that the system can

be developed. It encompasses everything that has to be conceived and developed

during the project life cycle. Based on the information gathered, we can conclude that

our development system is suitable for users and development in all respects.

There are five different kinds of feasibility checks:

• Economic: We finished the project development on time and on budget.

• Legal: This project is being handled in accordance with cyber legislation and other

regulatory frameworks. /compliances.

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• Operation feasibility: Users and we can operate the system easily

• Technical: System is suitable for all devices and technically feasible

• Schedule: The project is on track to be finished on time.

3.4.3 Design

The system and application design papers were created in this phase according to the requirement specification document. This aids in the definition of the overall system architecture. This design phase is used as input for the model's following stage. During this phase, two types of design papers are created:

HIGH-LEVEL DESIGN (HLD)

- A brief explanation and name for each module

- A summary of each module's capabilities

- Module dependencies and interface relationships

- Database tables and their main components are recognized.

- Detailed architectural schematics with technological information

LOW-LEVEL DESIGN (LLD)

- Database tables, which offer information such as type and size.

- Detailed description of the interface Functional logic of the modules

- Listing of error messages
- Complete input and outputs for every module

3.4.4 CODING

. After the system design phase, the coding step begins. We've begun building the complete system in this phase by developing code in the object-oriented programming language C# (C Sharp) and the Framework Dot Net (ASP.NET). Tasks are separated into pieces or modules and allocated to the team throughout the coding process. It takes time to create a project using coding, which is the longest step of the Software Development Life Cycle process.

3.4.5 TESTING:

The program is then deployed in the testing environment after it is finished. Our team began testing the system's overall functionality. This is done to ensure that the entire application meets the original requirements. We strive to discover bugs/defects that we can remedy during this phase. This procedure is repeated until the program is bug-free, stable, and meets the criteria.

3.4.6 INSTALLATION/DEPLOYMENT:

When the software/application testing phase is completed and certain flaws or faults are discovered in the system that we have attempted to repair, the final deployment procedure begins. The finished program is readied for release and any deployment difficulties are checked based on user input.

3.4.7 MAINTENANCE:

Following are the three processes that occur once the system is launched and test users begin utilizing the designed system

-Bug fixing - at all -Upgrade - Upgrading the program to newer versions of the Software

- . -Bug fixing Bugs are detected since some situations are not tested at all.
- -Improvement Adding new functionality to the program that already exists.

The major goal of this SDLC phase is to guarantee that needs are addressed and that the system continues to work according to the first phase's specifications.

- -Upgrade Upgrading the application to the newer versions of the Software
- -Enhancement Adding some new features into the existing software

The main focus of this SDLC phase is to ensure that needs continue to be met and that the system continues to perform as per the specification mentioned in the first phase.

3.4.8 IMPLEMENTATION

In this stage, we show how our system is put into action. Installing software on user workstations is referred to as implementation. Many websites are built for certain platforms, but we attempt to incorporate additional features to aid the user with ours.. It will help them to create a classroom and join the class by room id more easily without facing any difficulties. We used different well-known programming languages and frameworks to make our design more attractive to our users. As in this step coding and design are very important. So we carefully choose those languages and frameworks to design our system that in future any developer can work on this project. In SDLC, step implementation is very important as it involves implementing the system.

3.5 SUITABLE PROCESS MODEL FOR " ONLINE THESIS &PROJECT MANAGEMENT SYSTEM"

To develop this application, we have followed SCRUM methodology of Agile approach.

Agile Approach: The Agile Approach is based on iterative and incremental progress instead of a straightforward approach. It does not formulate a whole system at once but alternatively develops incrementally. More insufficient time is spent upfront for documentation and critique, as consumers are continually seeing and testing the

output and providing feedback. The development and feedback process attaches accountability and advances client satisfaction by allowing open-ended input.

Agile depends on a very high level of consumer engagement completely every phase of the project. The planning, design, development, testing, release, and feedback are constantly in a fixed period. Somewhat of segmenting schemes in stages, agile development leads to address the projects as a whole.

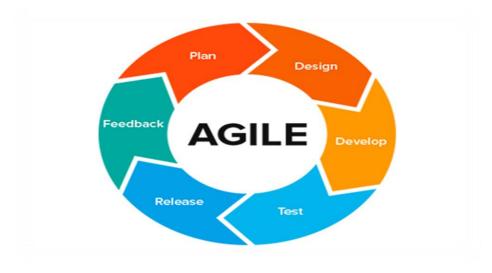


Figure1: Agile Approach

This approach is more flexible than others. The specifications may change by the way, and the team must modify quickly (the teams are usually more miniature). There is more comprehensive transparency between the consumer and developers, and the schedule and cost are anticipated.

SCRUM methodology:

Creating, delivering, and transferring complex products with often changing requirements Scrum's main purpose is to satisfy the needs of the client in an environment of open communication, shared accountability, and continual change. The process starts with a broad knowledge of what needs to be built, which leads to a list of priority characteristics (product backlog) that the product owner wants to achieve.



Figure 2: Basic development structure of SCRUM methodology

1. Product backlog: Product backlog is a trendy product management concept for Agile systems and the technique of Scrum.

It contains several concepts, elements, and suggestions for creating collected and assembled into a collection.

- 2. Sprint Backlog: The Sprint Backlog is an example of the Product Backlog Chart in its entirety. Items relate to all of the thoughts, requests, and duties in the context of a long list. Product Backlog Items are the materials in the product backlog. Because they might be in a variety of states, they are given names.
- 3. Product Increment: It is the latest iteration of the product being created. This latest release includes all the work completed previously, including the job done in the new Sprint.

SCRUM activities: Events of Scrum are everyday events. Any conditions occur during each case. The official events of Scrum are as follows:

Sprint

- Sprint Planning
- Daily SCRUM
- Sprint Review
- Sprint Retrospective

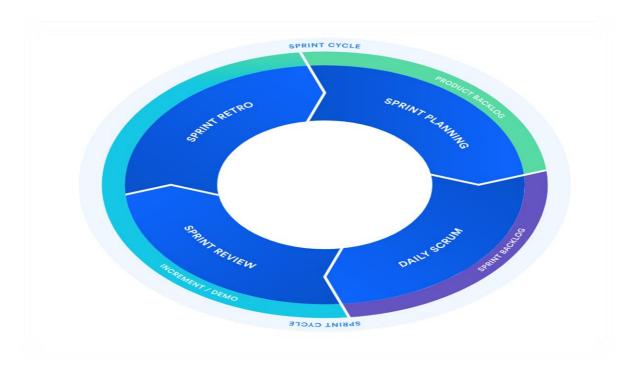


Figure 3: SCRUM events

SCUM technique has three functions. The following functions are:

- 1. Owner of the product
- 2. Master Scrum
- 3. Team Scrum.



Figure 4: Three roles of SCRUM methodology

- 1. Product Owner: The role of the product owner is crucial and can be performed only by anyone who knows the expectations of end-users thoroughly. They might be anyone from the publicity or product testing department, so they can tell us what users from the project team want to see. The owner of a commodity often has to understand potential niche patterns and what steps or features rivals are taking to win more ground in the business. However, it usually depends on the form of the product is made.
- 2. Master Role Scrum: The Scrum Master ensures that each part of the squad knows Scrum and its functions. He or she serves as a trainer and mentor and verifies that some squad participants stick to the Scrum principle and practice, leads by example, wear diligence, and pays attention to every part of the project. The Scrum Master works with the product owner to streamline the product backlog and to improve strategies. It enables the team to shine by ensuring that the sprints are not over-engaged given that sprints do not last four weeks, the major goal of regular sprints is to show superior variants. The sprint's goal is to provide high-quality results in a short amount of time. Assume, however, that the team is overcommitted to a particular project.

3. Scrum Development Team Role: The core work of the Scrum Framework is performed by a devoted Scrum team; the community operates collectively to produce and distribute the product. Ideally, it is a small cross-functional team of about six members (plus, minus three people), comprising consultants for businesses, software testers, and engineers. During regular stand-up sessions, members of the Scrum team must track their daily growth, victories, and obstacles. In the first sprint, no new Scrum team delivers a 100 percent product increase; it usually requires 2-3 weeks to achieve the best success of a new Scrum team.

3.6 REASONS BEHIND CHOOSING AGILE MODEL:

Agile is ideal for applications where the requirements change frequently. Depending on the situation, our pattern matching techniques for the security model may change constantly. Furthermore, it outperforms other existing models in terms of speed. It provides developers implementation flexibility by allowing them to build and test at the same time.

3.7 REQUIREMENT SPECIFICATION

A specification is a contract between users and software developers that describes the desired (functional/service) attributes of the software artefacts, as well as additional properties such as accomplishment, reliability, and so on, without exposing how much functionality will be fulfilled.

3.7.1 Why Requirement Specification is needed?

Requirement Specifications are required because:

- 1. They serve as the basis for contracts between the system developer and clients.
- 2. It is a more complete explanation of the system's functionality as well as the development limits

3.8 REQUIREMENT VALIDATION

Validating requirements entails ensuring that the requirements dictate the solution that the customer wants. It is similar to review in that it is focused with identifying faults with circumstances. Validation, on the other hand, should be concerned with a complete draft of the requirements document, whereas analysis should include working with partial requirements.

3.9 REQUIREMENT VALIDATION IN SOFTWARE PROCESS

Various sorts of checks must be performed during the software's processing phase. These checks include the following:

- 1. Validity check: A user may assume that a system is required to do particular tasks. However, more study may reveal the need for new or alternative roles .For example, in the "Online Thesis &Project Management System "The system has a wide range of users, each with their own set of wants and requirements. In any case, the program must be set up in such a manner that services are available to the whole user community while preserving and confirming their legitimacy.
- 2. Completeness Check: The required document should contain specifications that describe the device user's designated roles and restrictions.
- 3. Control of consistency: text requirements do not clash. For instance, the "Online Thesis &Project Management System" does not have inconsistent restrictions or distinct representations of the same machine structure in dealing with unrecorded participants.
- 4. Realism check: Specifications can be tested using current technical experience to ensure that they can be applied.

3.10 APPLICATION REQUIREMENT

3.10.1 Language:

- 1. Backend ASP.NET
- 2. Frontend- HTML, JavaScript

3.10.2 Database:

1. SQL Server 2014

3.11 FEASIBILITY STUDIES

Feasibility studies are designed to show pretty and accurately the qualities and weaknesses of existing companies or prospective adventures, openings, and risks, the tools needed to achieve, and at last, to develop possibilities.

Economic feasibility: the monetary benefits of this commodity are investigated. More often known as a cost/benefit analysis, the approach is to assess, contrasting the gains and the reserve capital that is normal in the context of an up-and-coming framework. If the benefits outweigh the expenses, the decision is taken to prepare and implement the system. A business individual should measure the cost and advantages precisely before making a move. Such applications spend our resources.

Feasibility of the operation: The operational feasibility is how well a planned framework responds to the challenges and considers the possibilities recognized during scope definition and how it satisfies the criteria defined in the system implementation specifications review aspect.

Technical Viability: Technical feasibility decides what project work can be accomplished with the available facilities, specialized software, and staff. Technical viability concerns the specification of facilities and applications that meet the user's needs. The machine suggested will operate on any handheld OS, which is a fascinating technology.

Schedule Feasibility: A proposal can take too long to be completed in some manner before it becomes valuable. This usually involves assessing to what degree the system can be created and whether it appears to be finalized in a specific time frame using certain strategies such as payout duration. The probability of calendars is a proportion of how sensitive the schedule is. Our Schedule Feasibility is simply time accommodation of the task. In any case, some of the time political viciousness, terrible climate produced results to present our task due time.

3.12 FEASIBILITY STUDY OF "ONLINE THESIS & PROJECT MANAGEMENT SYSTEM"

This segment will discuss the possible investigation of the product interfaces plan and framework Functionalities of "Intelligent WAF." This is to recognize whether our website and the idea of the framework meet the potential clients. The attainability study will be surveyed utilizing a few parameters to check the framework prerequisites in various classifications. It is essential to grasp the customer's needs during the arrangement, and sometimes these crucial perspectives are purposely disregarded. The importance of the customer's emotion on an advanced item has also been verified. The main practical characteristics of the research merely emphasize the estimation and provide another element for the operation of an organization. Innovation potential, economic viability, operational practicality, and legal plausibility are the crucial characteristics. Nevertheless, the evaluation of the customers' need for the additional idea is not highlighted here, while customers do not decide whether or not to buy an item. A quality item should be acceptable to use and agree to all possible customer needs.

3.13 TESTING

Software testing is a procedure used to provide information to stakeholders regarding the quality of the product or service being tested. It may also provide an unbiased, independent evaluation of the program in order to assist the organization in recognizing and comprehending the risks involved with software installation.

Software testing may be confirmed as an authentication and verification process: Software testing may be confirmed as an authentication and verification process:

- 1. Fulfills the design and development requirements of its software program
- 2. Acts as anticipated and
- 3. May be carried out with the same features.

The testing methodologies are provided below:

- a) Unit testing
- b) Black box testing
- c) Functional testing

3.13.1 UNIT TESTING

This is a method of evaluating individual code modules before combining them with other modules. The capacity, subroutine, method, or strategy under test might be a capacity, subroutine, technique, or strategy. Units are often small groups of interconnected modules that are always run as a group. Before modules are combined into a larger programming unit, unit testing is used to identify and correct as many faults as possible. When several modules are linked together, finding and fixing mistakes becomes much more difficult and expensive. The following are the results of unit testing for the Online Thesis and Project Management System:

: Unit Testing 1: Login as a user Object of Testing: To guarantee that a genuine user email and password are used to log into the system.

| ID | Test case | Attributes and values | Expected Result | Result |
|----|-----------|-----------------------|-----------------|--------|
|----|-----------|-----------------------|-----------------|--------|

| 1. | Login="email id" Password="123" | Non register user can login | The system will not allow non Registered user to login. | Pass |
|----|------------------------------------|--|---|------|
| 2. | Login="email id" Password="123" | Wrong email and password | The system throws an error Prevent from login. | Pass |
| 3. | Login="email id" Password="123" | Enter correct email and password | The system can redirect to the page. | Pass |

3.13.2 FUNCTIONAL TESTING

Feasibility testing is defined as a type of testing that verifies that each capability of a product application functions in accordance with the requirements.

This testing mostly consists of discovery testing and is unconcerned with the application's source code. The following are the results of the functional testing of the Online Thesis and Project Management System:

Functional testing: Login with different user role.

Testing Objective: To ensure that users with various roles may log in using the system's limited features.

| ID | Test case | Attributes and values | Expected Result | Result | |
|----|-----------|-----------------------|-----------------|--------|--|
|----|-----------|-----------------------|-----------------|--------|--|

| 1. | Login as "Admin" | Login with admin Information. | Successfully Login. | Pass |
|----|-----------------------|---------------------------------|------------------------|------|
| 2. | Login as "Teacher" | Login with teacher Information. | Successfully Login. | Pass |
| 3. | Login as "Student" | Login with student Information. | Successfully Login. | Pass |

3.13.3 BLACK BOX TESTING

Testing Objective: To ensure that users with various roles may log in using the system's limited features.

| ID | Test case | Expected Result | Real Outcome | Result |
|----|---------------------------------|-----------------|--------------|--------|
| 1. | Login="email id" Password="123" | Login | Not login. | Fail |
| 2. | Login="email id" Password="234" | Login | Login | Pass |
| | | | | |

| 3. | Login="email id" Password="456" | Login | Login | Pass |
|----|---------------------------------|-------|-------|------|
| | | | | |

3.14 SUMMARY

In this chapter, the procedure and structure of the project have been explored. Besides method, technique, or approach of the designing and implementing the project has been discussed briefly.

CHAPTER I V

SYSTEM ANALYSIS, DESIGN AND IMPLEMENTATION

4.1 INTRODUCTION

This chapter briefly explains the implementation of the project. It reveals the progression of system development methodologies and discusses the functions and skills expected of a systems analyst.

4.2 PROPOSED METHODOLOGY

Our OTPMS (Online Thesis &Project Management System) can analyze the GET & POST requests that will come through HTTP and HTTPS. If the OTPMS is appropriately implemented, it will have the power to catch malicious web traffic through HTTP & HTTPS method. To understand more, let us assume - A web-based application is integrated with our OTPMS. If a malicious request comes to the client application, the OTPMS will block the request long before it reaches the actual client web application. In other words, every request of the client application will go through

our OTPMS first. The WAF will decide if the request is clean or not. If the request is clean, the OTPMS will accept the request. Otherwise, it will get blocked.

4.3 SYSTEMOVERVIEWOF " ONLINE THESIS &PROJECT MANAGEMENT SYSTEM

The OTPMS (Online Thesis and Project Management System) system overview refers to the entire process of data being supplied to the web server and received by the database device. We utilized XML as a communication medium between the web services and the web server. The whole procedure is depicted in the diagram below:

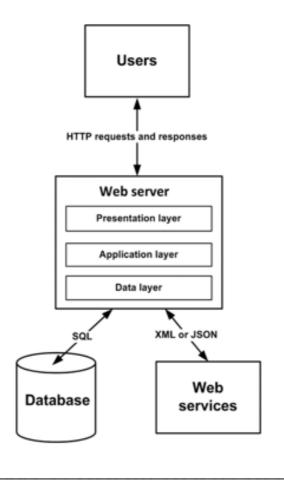


Figure 3.1: System Overview of OTPMS (Online Thesis &Project Management System)

According to Figure 3.1, during the moment of data transmission, the first web server will be generated from an HTTP post request to PHP. Then PHP sends a request to the web server, which PHP receives as a response. The output will be transformed to XML, which will be sent to the web services and stored in a local SQL database. As a result, any legitimate request will trigger the data flow procedure.

4.3.1 DATA OVERVIEW

We attempted to display all of the data in the most efficient manner possible. List views are often used in the Online Thesis & Project Management System. As a result, it's critical to show list view elements in a stunning manner. The web server controls list views in web-based applications.

4.4 **SECURITY**

The Secure Communication between Web Servers will be created using the Online Thesis & Project Management System. The cornerstone of web security is HTTP session management. When a website sends a request to a web server, the server responds with data in XML format. To ensure that sessions are secure, all mitigations should be implemented. Developers should additionally enable/use any security features that are available.

4.5 VERSION SUPPORT

We have used integrated development environment (IDE) Visual Studio 2019 to use the ASP.NET framework. The ASP.NET version is .NET Framework 4.5.2. This version is suited in all latest technologies.

3.6 A general Model of software design process

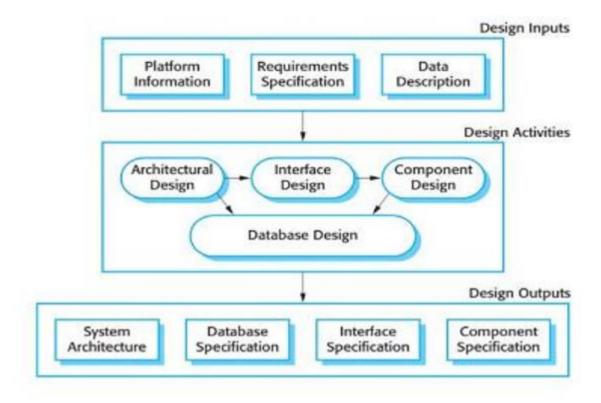


Figure 3.2: A model of the software development process in general

4.7 FLOW CHART

A flow chart is a depiction of a process in graphical or symbolic form. The flow chart icons are connected by arrows that indicate the direction of the process flow.

4.7.1 FLOW CHART FOR ADMIN

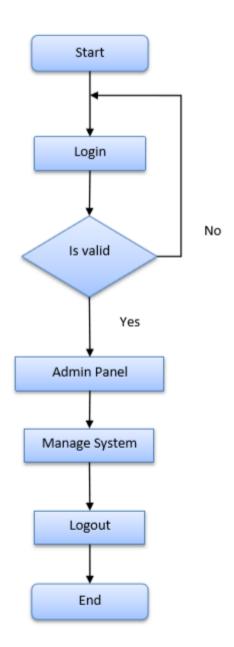
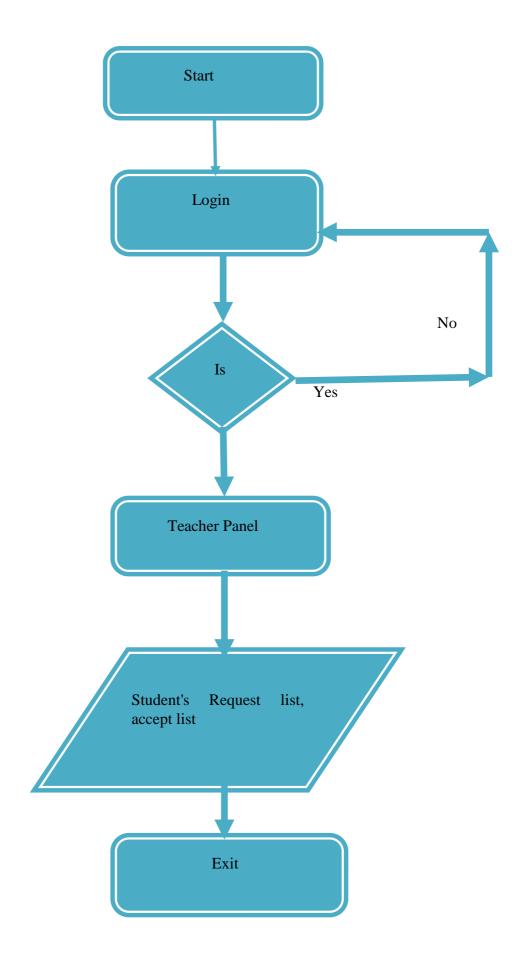
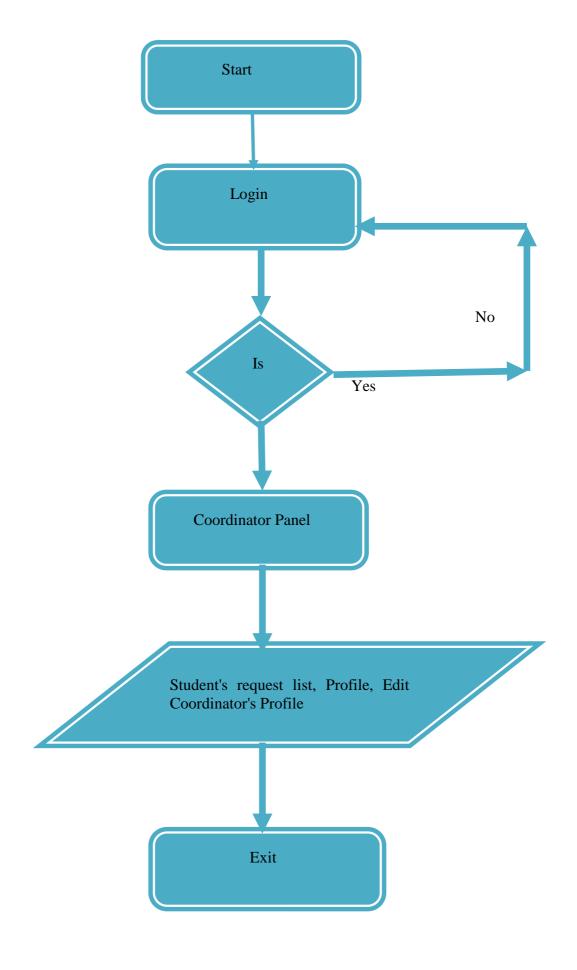


Figure 3.3: Flow Chart for Admin

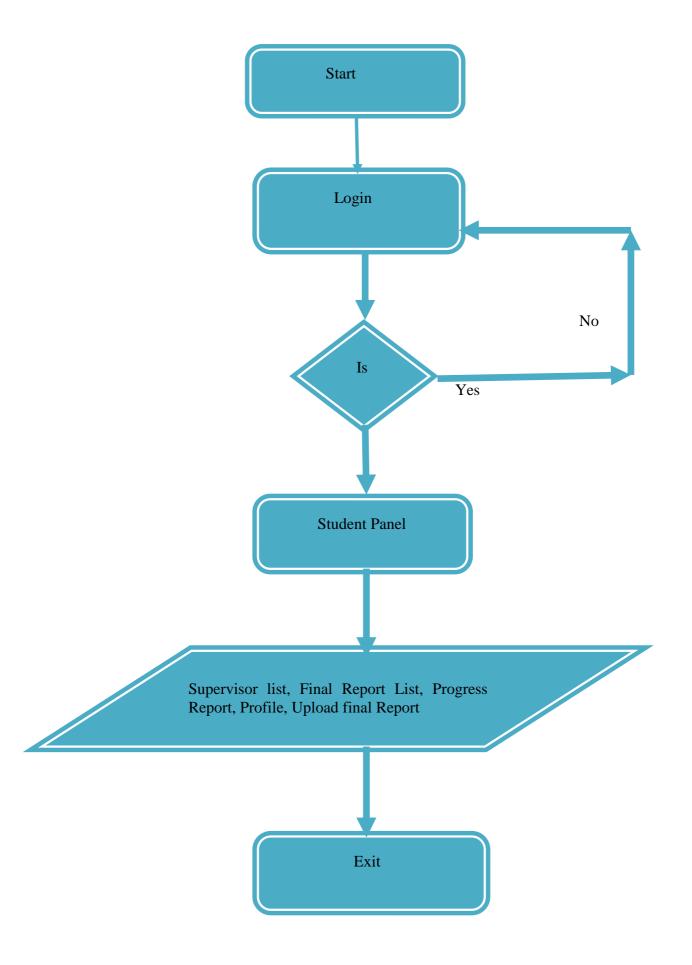
4.7.2 FLOW CHART FOR TEACHER



4.7.3 FLOW CHART FOR COORDINATOR



4.7.4 FLOW CHART FOR STUDENT



4.8 USE CASE DIAGRAM

A use case diagram is a visual representation of how the parts of a system interact. A use case is a system analysis approach for identifying, clarifying, and organizing system needs.

4.8.1 USE CASE DIAGRAM FOR ADMIN

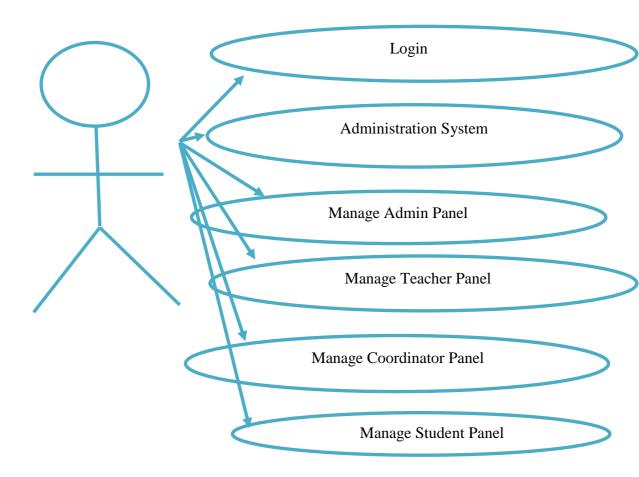


Figure 4.6: Use Case Diagram for Admin

4.8.2 USE CASE DIAGRAM FOR TEACHER

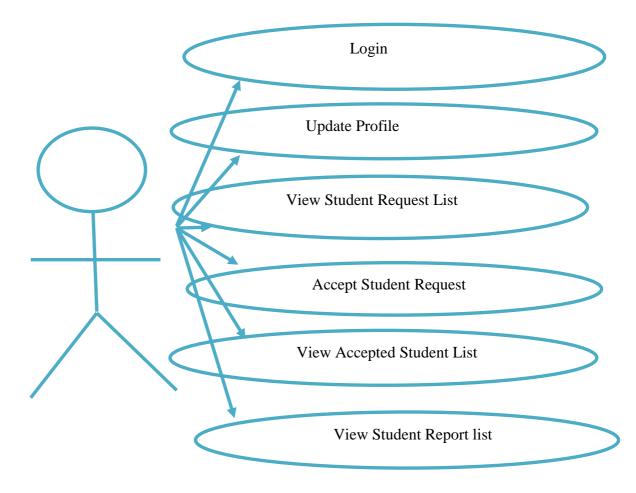


Figure 4.7: Use Case Diagram for Teacher

4.8.3 USE CASE DIAGRAM FOR COORDINATOR

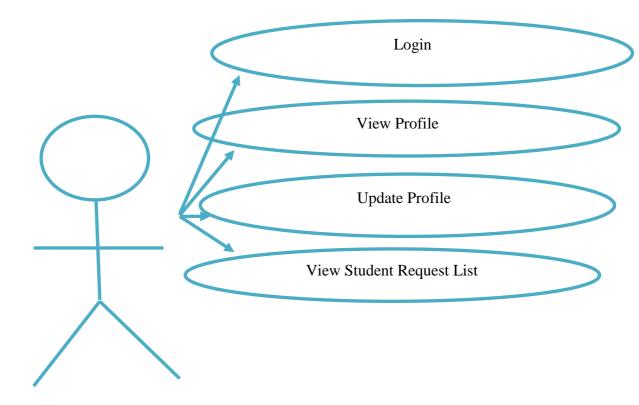


Figure 4.8: Use Case Diagram for Coordinator

4.8.4 USE CASE DIAGRAM FOR STUDENT

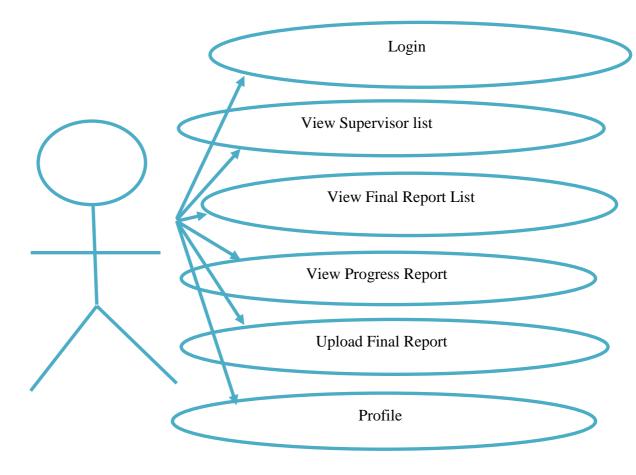


Figure 4.8: Use Case Diagram for Student

4.9 ENTITY RELATIONSHIP DIAGRAM OF ONLINE THESIS &PROJECT MANAGEMENT SYSTEM

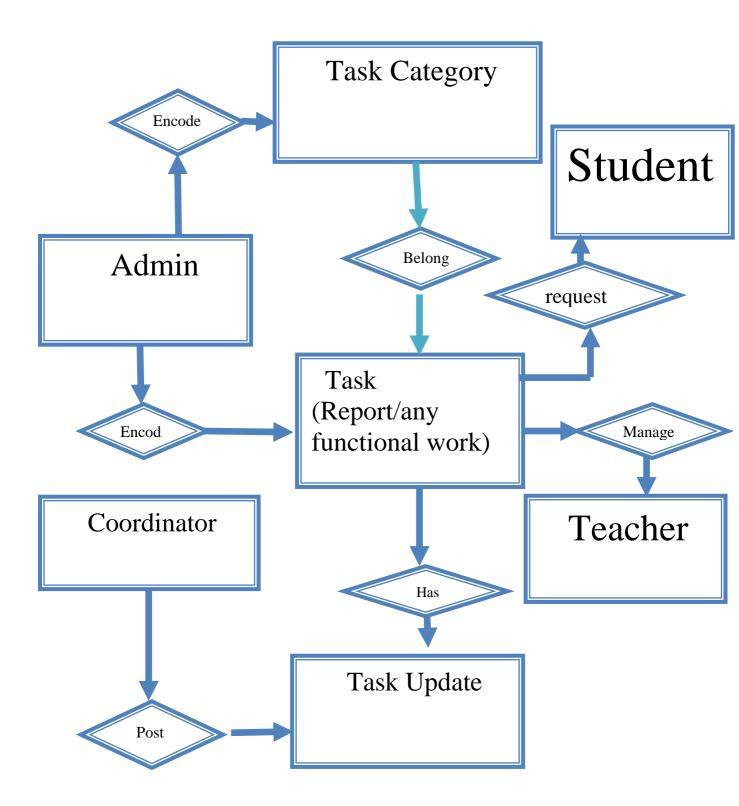


Figure 4.9: ER Diagram for Online Thesis & Project Management System

4.10 DATABASE TABLE OF OF ONLINE THESIS &PROJECT MANAGEMENT SYSTEM

In order to fully utilize SQL server innovation, it is fundamental to ensure that the database is very much structured. The documents names picked to mark every one of the tables made inside the database endeavor to mirror the table's motivation and, in this way, add to well plan framework. The in time step in structuring was to choose, as indicated by the necessities and particulars of the venture, which tables ought to be made, and what kind of data everyone should hold.

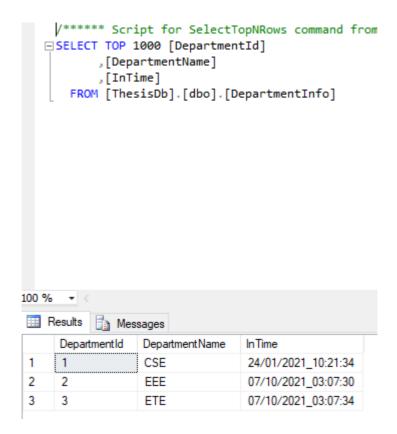


Figure 4.10: Database table of Department Information

. In department information table id is the primary key

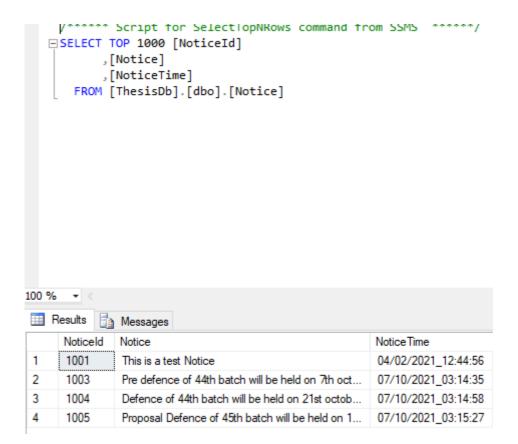


Figure 4.11: Database table of Notice

. In Notice table NoticeId is the primary key

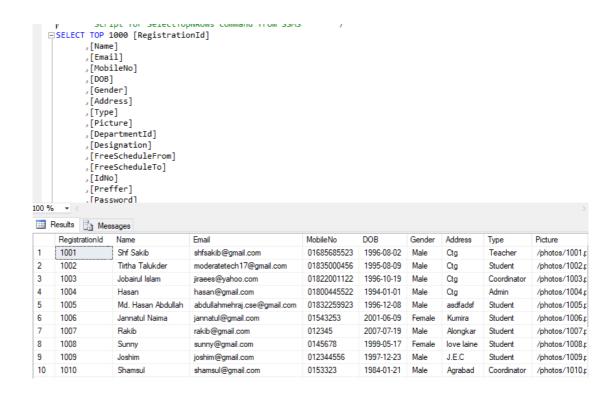


Figure 4.12: Registration table of Notice

. In Registration table RegistrationId is the primary key

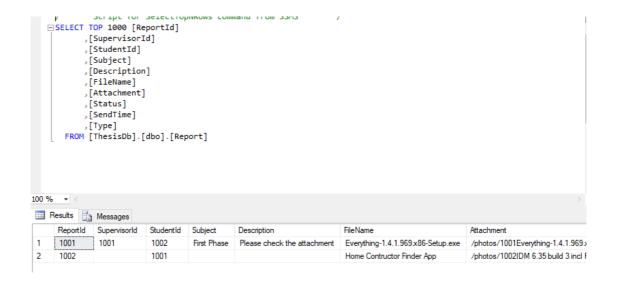


Figure 4.13: Report table of Notice

. In Report table ReportId is the primary key

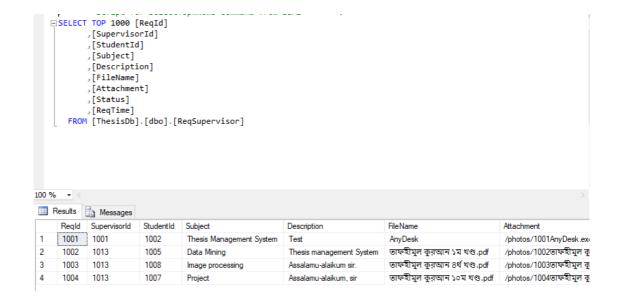


Figure 4.14: Request table of Notice

. In Request table ReqId is the primary key

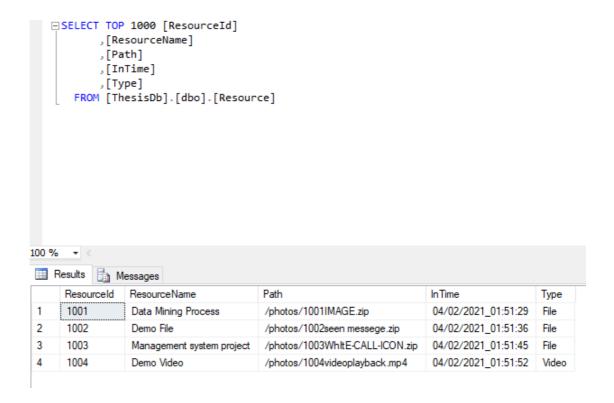


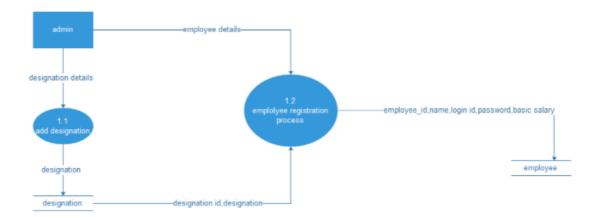
Figure 4.15: Resource table of Notice

. In Resource table ResourceId is the primary key

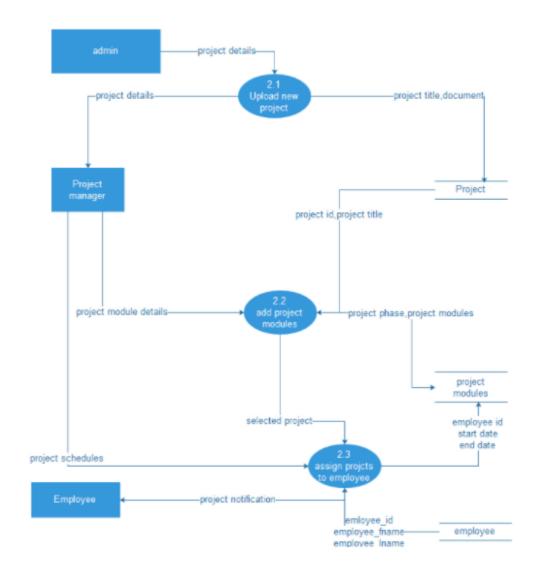
4.11 DATA FLOW DIAGRAM OF ONLINE THESIS &PROJECT MANAGEMENT SYSTEM

A data flow diagram (or DFD) is a graphical representation of the flow of data through an information system. It shows how information is input to and output. From the system, the sources and destinations of that information, and where that Information is stored.

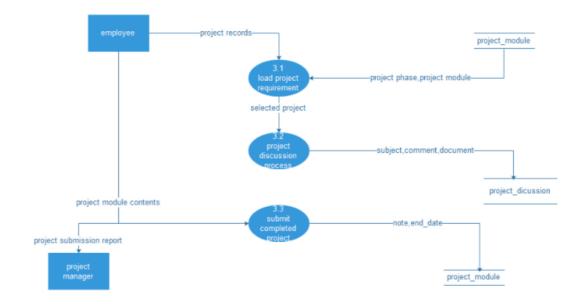
DFD LEVEL 1



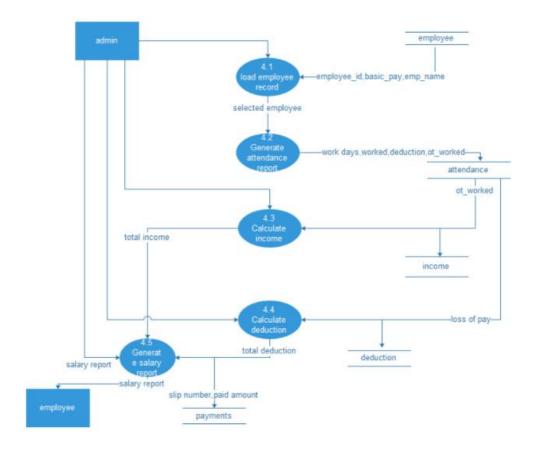
DFD LEVEL 2



DED LEVEL 3



DFD LEVEL 4



4.12 DESIGN MODEL

A design model is an item-based picture or pictures that speak to the utilization cases for a framework. Alternatively, on the other hand, to put it another way, it is the way to depict a framework's execution and source code in a diagrammatic manner.



Figure 4.13: Design model

4.13 GRAPHICAL REPRESENTATION

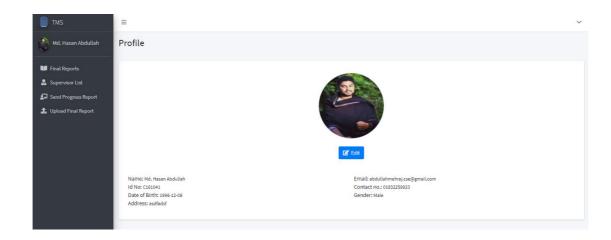
The obtained results for both web showed in the next sections.

4.13.1 WEB APPLICATON

Online Thesis &Project Management System starts with one more splash screen that exists for few seconds and then proceeds to terminal. User can easily login and navigate to the various feature of the website.

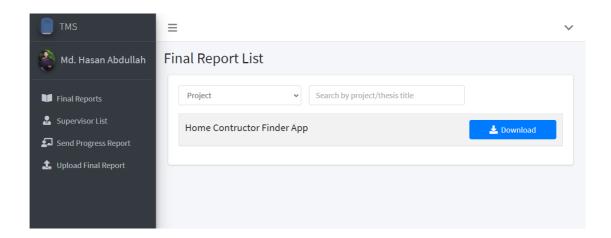
STUDENT PANEL

Home Page:



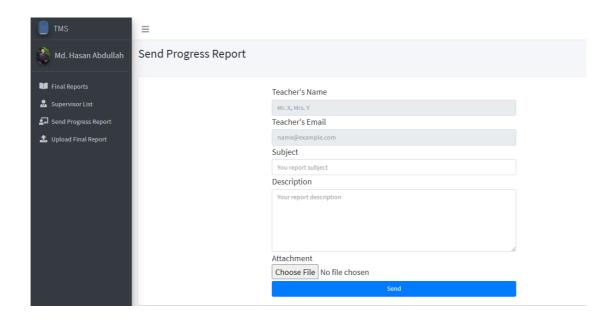
- →This (a) is the homepage of student panel our website.
- →Here Student can see the Profile and can edit his/her profile.

FINAL REPORT LIST:



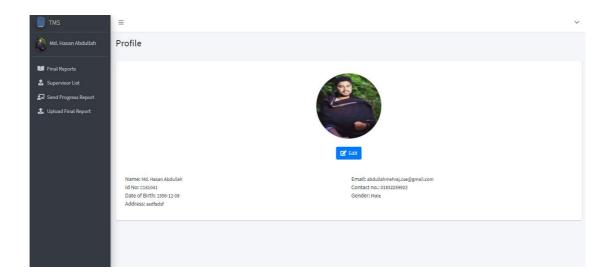
- →This (a) is the final report of our website.
- →Here student can the report list in details.

PROGRESS REPORT LIST:



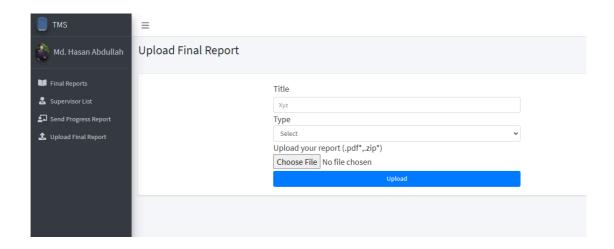
- \rightarrow This (a) is the progress report list of our website.
- →Here Student can see progress report list in details.

PROFILE PAGE:



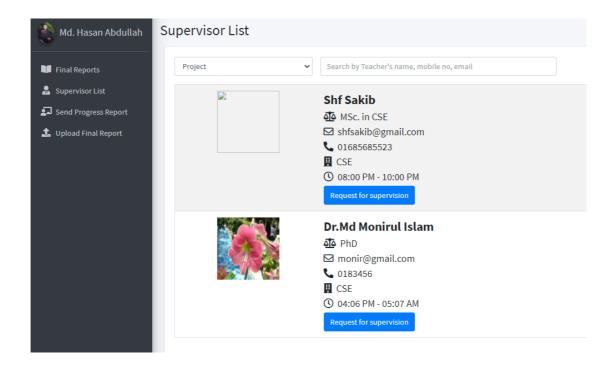
- →This (a) is the profile of student panel our website.
- →Here Student can see the Profile and can edit his/her profile.

UPLOAD FINAL REPORT:



- →This (a) is the Upload final Report page of our website.
- → Here Student can upload their thesis/project report.

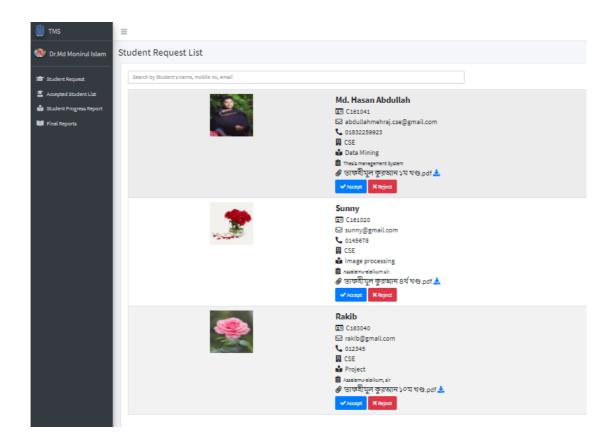
SUPERVISOR-LIST PAGE:



- →This (a) is the Supervisor list of our website.
- →Here Student can see the Supervisor list in details.

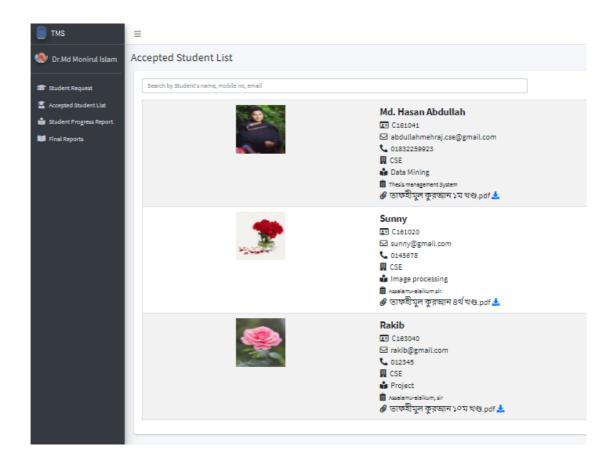
TEACHER PANEL

STUDENT REQUEST LIST:



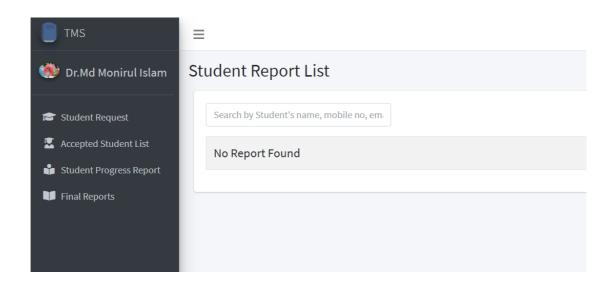
- → This (a) is the Student Request List Page of our website.
- →Here Teacher can see the Student Request List in details.

ACCEPTED STUDENT LIST:



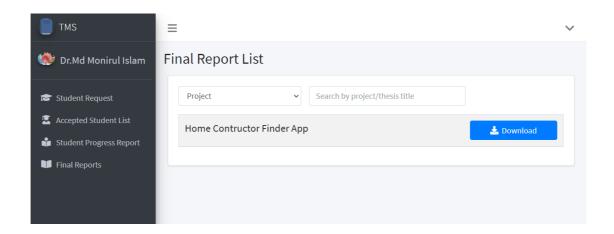
- →This (a) is the Accepted Student List of our website.
- →Here Teacher Accepted Student List in details.

STUDENT REPORT LIST:



- →This (a) is the Student report list of our website.
- →Here Teacher can see the Student report list in details.

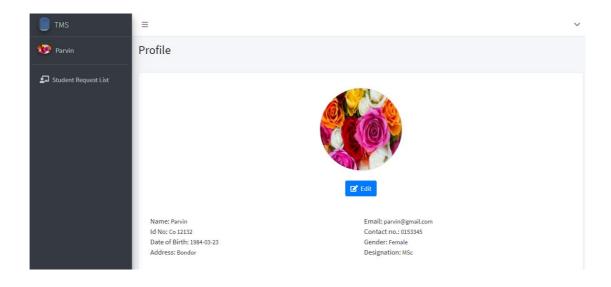
FINAL REPORT LIST:



- →This (a) is the Final Report list of our website.
- →Here, Teacher can see the Final Report list in details.

COORDINATOR PANEL

COORDINATOR PROFILE:



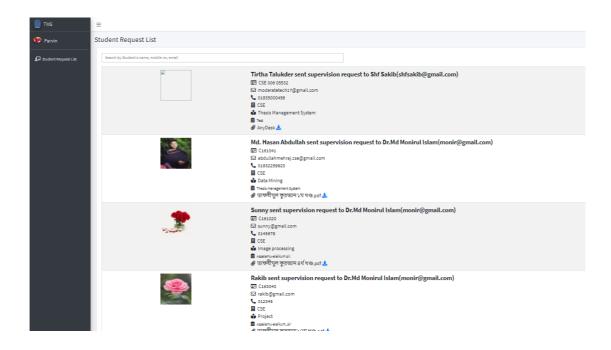
- →This (a) is the Coordinator Profile page of our website.
- →Here Coordinator can see his/her profile and can edit also.

EDIT PROFILE PAGE:

| Vame | Email | | |
|-------------|------------------|---------------|--|
| Parvin | parvin@gmail.com | | |
| Mobile no | Date of Birth | Date of Birth | |
| 0153345 | 03/23/1984 | | |
| Gender | | | |
| Female | | ~ | |
| Address | | | |
| Bondor | | // | |
| Designation | Id No. | | |
| | | | |

- → This (a) is the Coordinator Profile edit page of our website.
- →Here, Coordinator can edit his/her website.

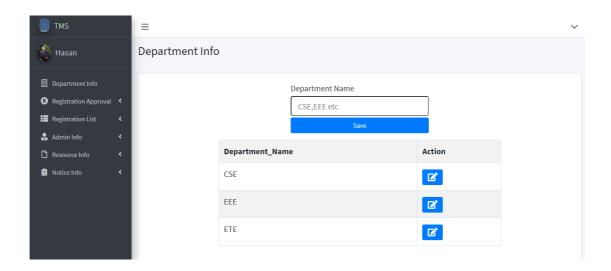
STUDENT REQUEST LIST:



- →This (a) is the Student Request List of our website.
- →Here Coordinator can see the Student Request List in details.

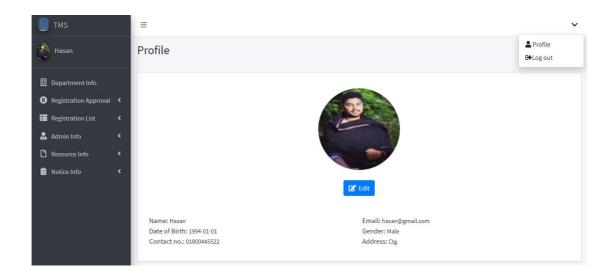
ADMIN PANEL

HOME PAGE:



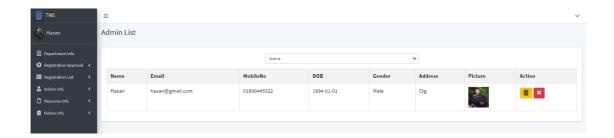
- →This (a) is the homepage of our website.
- →Here Admin can see the overview of this website.

ADMIN PROFILE PAGE:



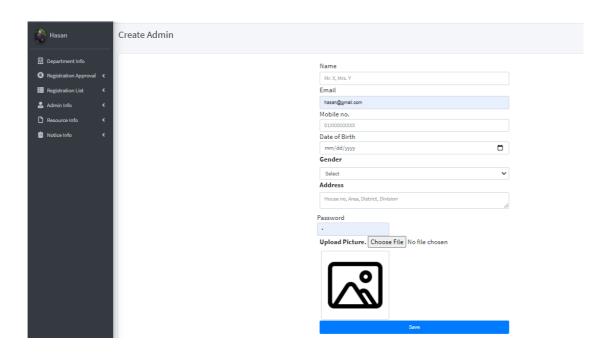
- →This (a) is the Admin profile page of our website.
- →Here Admin can see his/her profile and can edit also.

ADMIN LIST PAGE:



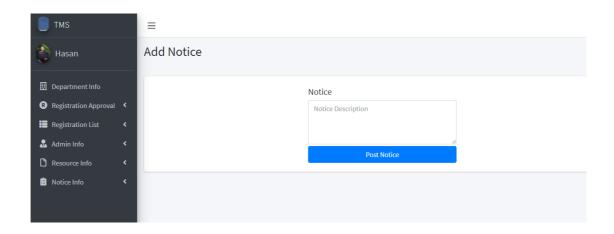
- →This (a) is the Admin list page of our website.
- →Here, Admin can see the Admin list and can edit & delete another admin from list.

ADD ADMIN PAGE:



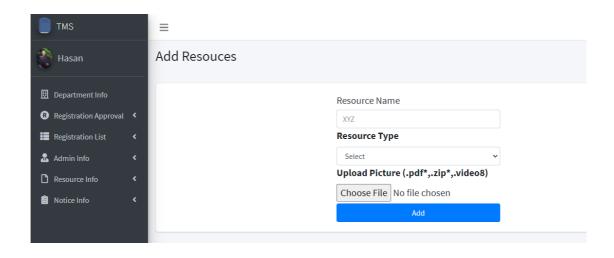
- →This (a) is the Add admin page of our website.
- →Here Admin can add admin.

ADD NOTICE PAGE:



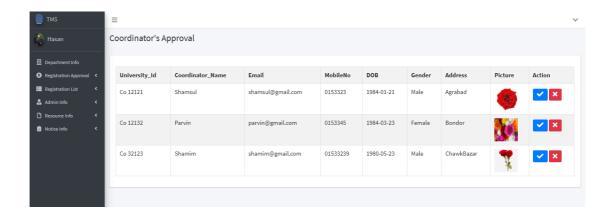
- →This (a) is the Add Notice Page of our website.
- → Admin can add Notice.

ADD RESOURCE PAGE:



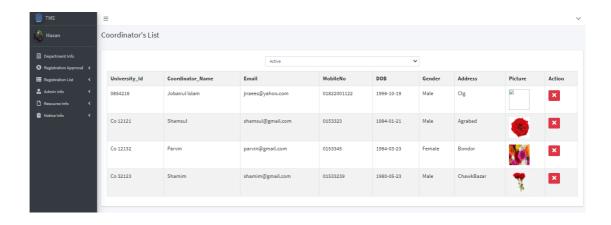
- →This (a) is the add resource page of our website.
- →Here, Admin can add resource.

COORDINATOR APPROVAL PAGE:



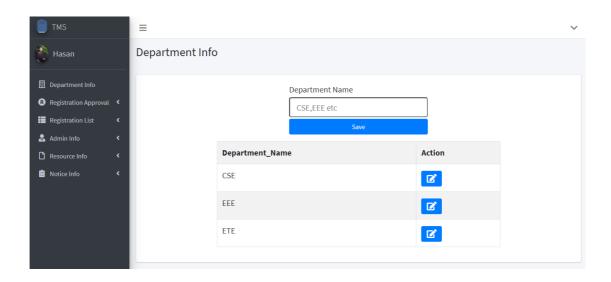
- → This (a) is the Coordinator approval page of our website.
- → Here, Admin can Approve or delete the request to be a Coordinator.

COORDINATOR LIST PAGE:



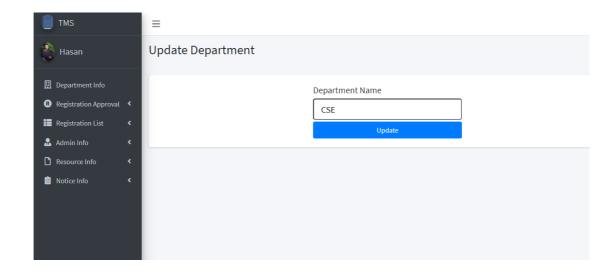
- →This (a) is the Coordinator List of our website.
- →Here, Admin can see the Coordinator list in details.

DEPARTMENT INFORMATION PAGE:



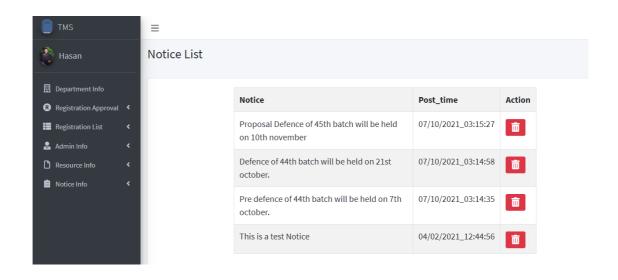
- →This (a) is the Department information page of our website.
- →Here Admin can see the Department information in details.

EDIT DEPARTMENT INFORMATION PAGE:



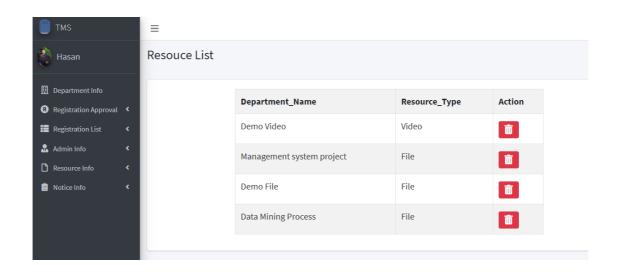
- → This (a) is the edit department information of our website.
- →Here, Admin can edit department information.

NOTICE LIST:



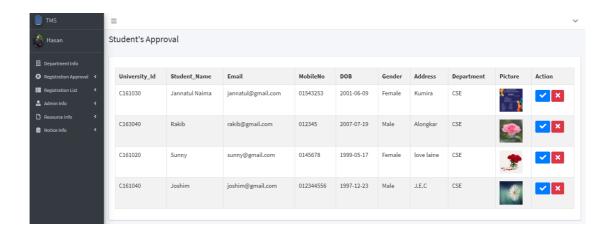
- →This (a) is the Notice list of our website.
- →Here Admin can see the Notice list in details and can delete also.

RESOURCE LIST PAGE:



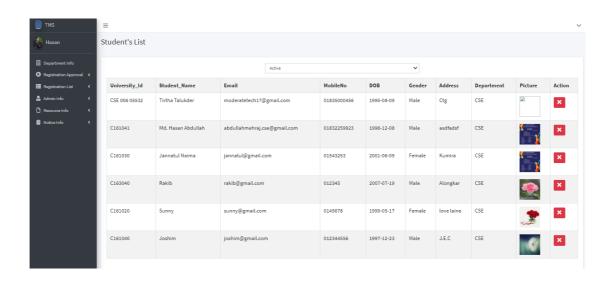
- → This (a) is the Resource list of our website.
- →Here Admin can see the Resource list in details and can delete also.

STUDENT APPROVAL PAGE:



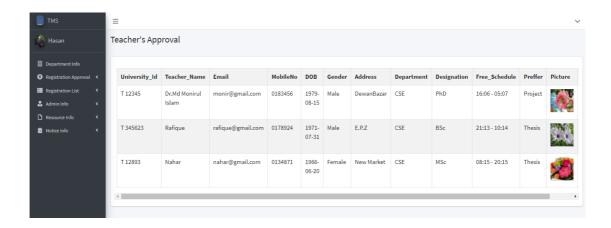
- →This (a) is the Student approval page of our website.
- →Here, Admin can Approve or delete the request.

STUDENT LIST:



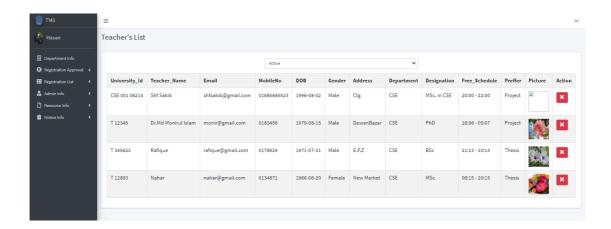
- →This (a) is the Student list of our website.
- →Here Admin can see the Student list in details and can delete also.

TEACHER APPROVAL PAGE:



- → This (a) is the Teacher approval page of our website.
- → Here, Admin can Approve or delete the request to be a Teacher.

TEACHER LIST:



- →This (a) is the Teacher list of our website.
- →Here Admin can see the Teacher list in details and can delete also.

4.17 GANTT CHART

| | March | April | May | June | July | August | September | October |
|-----------|-----------------------------------|-------|----------------------------------|-------------------------|-------------------------|-------------------------|---|---------|
| Task 1 | Project Selection and Planning | | | | | | | |
| Task 2 | Requirement Analysis | | | | | | | |
| Task 3 | | | Systen | n Design | | | | |
| Task 4 | | | | Feasibilit Data Coll | y Study and lection | | | |
| Task 5 | | | System Design and Implementation | | | | | |
| Task 6 | | | | | Utilizing Taking Review | Efficiency, Customer | | |
| Task 7 | | | | | | Testing ar | nd Development | |
| Task 8 | | | | | | | Release and Taking Final Feedback | |
| Task 9 | | | | | | | Writing up Project Report | |

CHAPTER V

RESULTS AND DISCUSSION

5.1 INTRODUCTION

This chapter reveals the result of the project. Which meets the goals properly.

5.2 RESULTS

- a) Collect and manage University project thesis to make available for users.
- b) Create a well-structured thesis & project management system.
- a) Perfectly worked in every web application Successfully
- b) Blocked WRONG HTTP requests
- c) Recognized normal HTTP requests

5.2.1 General

Finally, we have implemented our OTPMS (Online Thesis &Project Management System) on a cloud server. Then, to test its ability, we integrated it with other web applications also. Our OTPMS has successfully worked in every web application and done all tas successfully. It has successfully recognized all the requests and allowed them to pass through. It successfully complete its all task with zero problem.

5.3 Discussion

Our OTPMS (Online Thesis &Project Management System) Work successfully with first & effective way, OTPMS is secured also, so any student & teacher can use this without any doubt. Our OTPMS's work procedure is unique.

CHAPTER VI

CONCLUSION AND FUTURE WORKS

6.1 CONCLUSION

Our goal is to make an OTPMS, that will use for whole student entire the world, cause knowledge is shear able thing, every student can see what the world's education's position right now.

6.2 CONTRIBUTION OF THIS THESIS

The major contributions in the thesis are:

Firstly, here we collect and manage University project thesis to make available for users. That was so challenging also.

Secondly, we create a well-structured thesis & project management system. Because this project's hasn't any functional problem.

6.3 FUTURE WORKS

Some aspects of the present research work can be further investigated and improved. Based on the literature reviews and studies conducted in this thesis, the following recommendations are proposed:

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APPENDIX A

UPLOAD FINAL REPORT

APPENDIX B

REGISTRATION MODEL

```
public string RegistrationId { get; set; }
public string Name { get; set; }
public string Email { get; set; }
Breferences
public string MobileNo { get; set; }
public string DOB { get; set; }
public string Gender { get; set; }
8references
public string Address { get; set; }
public string Type { get; set; }
public string Picture ( get; set; )
10 references public int DepartmentId { get; set; }
public string Designation { get; set; }
public string FreeScheduleFrom { get; set; }
10 references
public string FreeScheduleTo { get; set; }
public string IdNo { get; set; }
public string Preffer { get; set; }
Breferences
public string Password { get; set; }
public string Status { get; set; }
public string InTime { get; set; }
```

APPENDIX C

REGISTRATION GATEWAY

```
try
{
    if (con.State != ConnectionState.Open)
        con.Open();
    transaction = con.BeginTransaction();
    cmd = new SqiCommand("INSERT INTO Registration(RegistrationId, Name, Email, MobileNo, DOB, Gender, Address, Type, Picture, Depa cmd. Parameters. AddithValue("BergistrationId", ob. RegistrationId);
    cmd. Parameters. AddithValue("Bermail", ob. Email);
    cmd. Parameters. AddithValue("Bermail", ob. Email);
    cmd. Parameters. AddithValue("Bermail", ob. Email);
    cmd. Parameters. AddithValue("Bermail", ob. Address);
    cmd. Parameters. AddithValue("Bermail", ob. Perffer);
    cmd. Parameters. AddithValue("Bermail", ob. Perffer);
    cmd. Parameters. AddithValue("Bermail", ob. Password);
    cmd. Parameters. AddithValue("Bermail", ob. OpertmentId);
    cmd. Parameters. AddithValue("Bermail", ob. OpertmentId);
    cmd. Parameters. AddithValue("Besignation", ob. Designation);
    cmd. Parameters. AddithValue("Besignation", ob. PerescheduleFrom);
    cmd. Parameters. AddithValue("Besignation", ob. PreeScheduleFrom);
    cmd. Parameters. AddithValue("Besignation", ob. FreeScheduleFrom);
    cmd. Parameters. AddithValue("Bintime", ob. IdNo);
    cmd. Parameters. AddithValue("Bintime", ob. IdNo
```

APPENDIX D

DEPARTMENT GATEWAY