

Online Examination Scheduler

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DECLARATION

This is to certify that the project work entitled “**Online Examination Scheduler**” has been carried out by Tahrima akter and Anjom nour anika in the department of Information and Com- munication Technology, Mawlana Bhashani Science and Technology University, Santosh, Tangail-1902, Bangladesh. The above re- search project work or any part of this work has not been submitted anywhere for the award of any degree or diploma.

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APPROVAL

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Abstract

The project "**Online Examination Scheduler**" will be automated and will help the institution to arrange the exam in the most efficient and optimized way. The system will make the timetable such that it will focus on the student's problem of back to back exam, exam overloading so the students will not face any of these problems and can make use of their full potential. In our project, HTML5, CSS3, Bootstrap, JavaScript and jQuery are used in frontend development and PHP, Ajax, MySQL database technologies in backend development. Xampp, Php-MyAdmin, and Apache Server environments are used to setup the project. The teachers/officials to use this site are the common people for whom this application is to be hosted on the web and the director of transport panel/Vice Chancellor maintains the database. After Completion of every task, the system is tested in some different ways and it works successfully.

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Chapter 1

Introduction

1.1 Introduction

In academic institutions, examination scheduling is an essential administrative task that occurs periodically. On the other hand academic institutions are moving toward automated management of the educational process. One aspect of this process is the exam scheduling. This system helps in arranging examination for student which determines when, where and how examination is to be conducted.[1]. Advantage of using such management system benefits an organization with reduced operating costs, better maintenance, easy information access and better observability of the vehicles. A web based examination management system can offer more advantages. It can make the interaction between the user and the service provider of an organization more distributed [2, 3]. Users can access the system “anytime” and from “anywhere” to make, change or cancel a reservation while management can have a better understanding in knowing standby vehicle inventory at a specified time. It also makes the system device and platform independent [4]. After verifying the student within the requested timeslot, the reservation is confirmed and a teacher is assigned. The whole process is completed manually which often creates confliction, duplication and confusion. Further- more, the maintenance schedule of the Examination is done manually through paper works [5–7]. System can be divided into two categories, manual and online. Manual means that you need to do the traditional process like fill in the booking form first before continue with other process. In the other hand, online system works with internet, so user who wants to use it must connect to the internet whether using wireless or through cable connection. As we know, online system is popular system recently [9, 10]. Many systems can be done through online such as transfer money and buy movie ticket. The purpose of this project is to develop an online exam scheduling system that allows students to pick their preferred exam dates and times, while administrators can maintain an organized and fair system.[11–13]. It will be accessible through a web browser and allow for multiple users, including students, administrators, and faculty.[14]. The main aim of this project is, proposed and develops an online examination scheduler at MBSTU, so that the web based can help the applicant and administration. The applicant can use the system to see their exam routine anywhere and anytime,

and then ask for approval from verifier staff directly without wait for long time [15, 16]. The system will allow instructors to schedule exams online and notify their students of the date, time, and5. User Manual[17–19].

1.2 Purpose of the Project

The purpose of this project is to develop an online exam scheduler. The system will allow students to schedule their exams online and receive notifications about their exam dates and times. Create allow teachers and administrators to create and schedule exams for their students. It will be accessible to all students through a web-based interface, eliminating the need for paper exams. This also very not proper system to use, because as we know, each person had different type of handwriting, and this manual system need to fill by handwriting. Sometimes, we cannot read some handwriting, so that this will cause prob- lem on managing the booking vehicle, and if we misunderstand the handwriting like number of passengers.

1.3 Purpose and Objectives

- To develop a web based exam schedule system to empower Automatic generation.
- To handle examination requisition, scheduling, maintenance and administration workload more efficiently.
- To provide appropriate interface to the administrator and different level of application users.
- • To create a user-friendly interface for teachers and students.

1.4 Possible Outcomes

The Hall Management System has the following features

- An online examination scheduler will be developed.
- A simpler way of managing the examination will be possible which will ensure more transparency, more accountability and more efficiency.

1.5 Organisation of the Project Dissertation

This Project Report consists of six chapters. Chapter 1 includes introduction of the project which describes the briefly about the web application and provides the information about the motivations and contributions of this project. Chapter 2 contains the proposed system and the methodology of the development of the system. Chapter 3 depicts various requirement analysis of the system. Different

types of risk engineering are also discussed here. Chapter 4 describes design of the project including database and module designs. Chapter 5 describes testing and implementation of the final system. Implementation that focuses on to document the design of the project system, and combination of all processes that involve in developing the system. Lastly, chapter 6 consists of a concluding summary and future works. It concludes all the research, development of the project from the beginning to the end of thesis.

1.6 Conclusion

As a conclusion, The online exam scheduler is an essential system that provides students with a more flexible option for scheduling their exams. This system also reduces the workload for administrators and faculty by automating and organizing the process. The system is designed to ensure fairness, transparency, and integrity in the exam scheduling process.

Chapter 2

Proposed System and Methodology

2.1 Introduction

Systems are created to solve problems. One can think of the systems approach as an organized way of dealing with a problem. A collection of components that work together to realize some objectives forms a system. In this chapter we consider models of proposed systems: major new systems and subsystems that are undergoing design and implementation. There has been a confluence of ideas from software engineering and performance evaluation, with queuing diagrams playing a central role. The purpose of this chapter is to present the elements of this framework. We discuss, in a general setting, some of the components necessary to achieve a good understanding of the performance of a proposed system.

2.2 System Analysis

System analysis is conducted for the purpose of studying a system or its parts in order to identify its objectives. It is a problem solving technique that improves the system and ensures that all the components of the system work efficiently to accomplish their purpose. In this chapter we discuss the construction of baseline models of existing systems. This activity relies on knowledge of the hardware, software, workload, and monitoring tools associated with the system under study. It also requires access to information recorded by accounting and software monitors during system operation. Here, we describe general approaches applicable to a variety of systems.

2.2.1 Existing System

The teacher able to create and manage exams, set the exam schedule, create a question bank, assign questions to exams, and assign grades to students. All these part are being done offline paper environment which is time consuming and cumbersome.

2.2.2 Proposed System

Teacher Dashboard:

The teacher should be able to create and manage exams, set the exam schedule, create a question bank, assign questions to exams, and assign grades to students.

Student Dashboard:

The student should be able to register for exams, view exam schedules, take exams, and view their exam scores.

Exam Scheduler:

The system should allow teachers to set and change the exam schedule for each exam. The scheduler should provide teachers with the date and time for the exams.

Question Bank:

The system should allow teachers to create and maintain a question bank. The question bank should allow teachers to add, delete, edit, and manage questions.

Exam Conducting:

The system should allow registered students to take exams online. The system should provide students with a timer, so they have to finish their exams within the given time frame.

2.3 Software Process Model

2.3.1 The Systems Development Life Cycle (SDLC)

It's a project management concept that describes the steps of an information system development project, from the initial feasibility study to the ongoing maintenance of the finished product. Various SDLC approaches, such as the waterfall model, have been created to guide the procedures involved (the original SDLC method). Some strategies are better suited to certain sorts of projects, but in the end, the most essential aspect in a project's success may be how well a given plan was followed. A Software Development Life Cycle (SDLC) is a set of processes, or phases, that serve as a framework for the development and administration of software applications. The Software Development Life Cycle (SDLC) is a method for ensuring that high-quality software is created. The methodology and deliverables for each phase of the life cycle feed into the next phase. Phases are:

Requirements -> Gathering and Analysis -> Design -> Coding -> Testing -> Maintenance

SDLC Models are:-

- Water Fall Model
- The Prototyping model / Evolutionary development
- Spiral Model

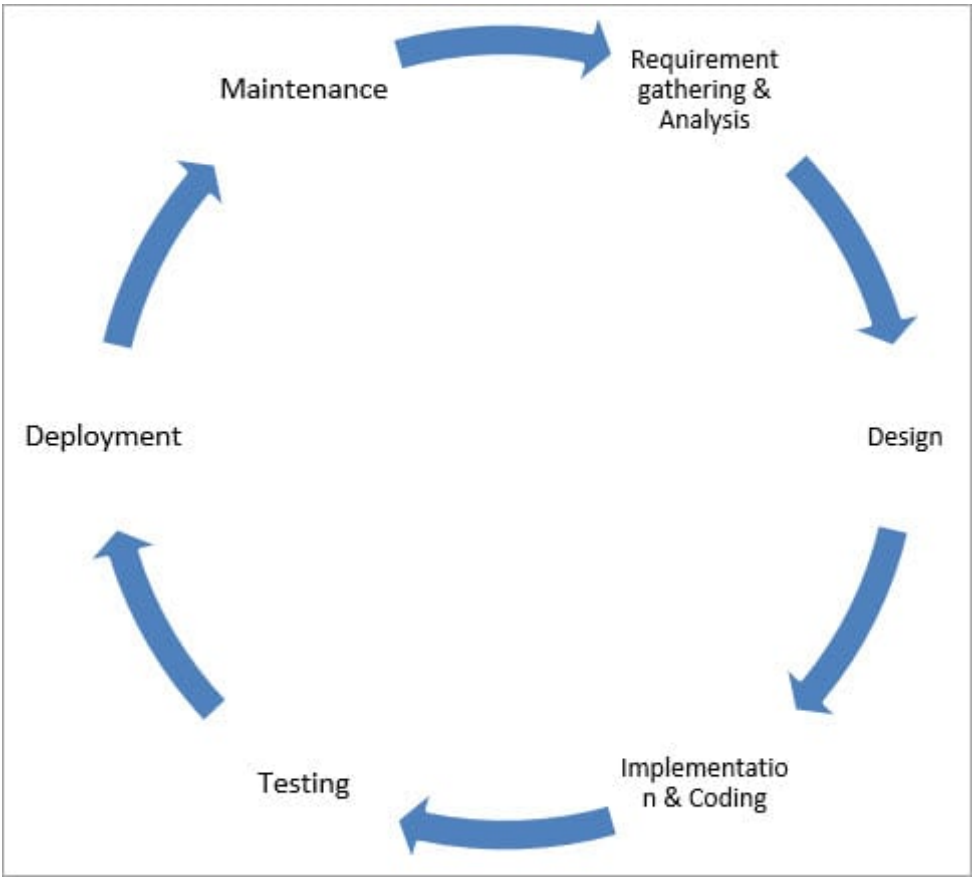


Figure 2.1: Software Development Life Cycle (SDLC)

- The Incremental model
- Agile Model

A specific life cycle model must be utilized to develop a software product in a methodical and disciplined manner. When creating a software product, it is critical to have a clear idea of what to do and when to do it. As a result, there will be less uncertainty, and the project's goal will be met.

2.4 Methodology

2.4.1 Waterfall Model

The model that was followed to develop the project is the waterfall model [1]. The waterfall Model illustrates the software development process in a linear sequential flow. All these phases are cascaded to each other in which progress is seen as flowing steadily downwards (like a waterfall) through the phases. The next phase is started only after the defined set of goals are achieved for previous phase and it is signed off.

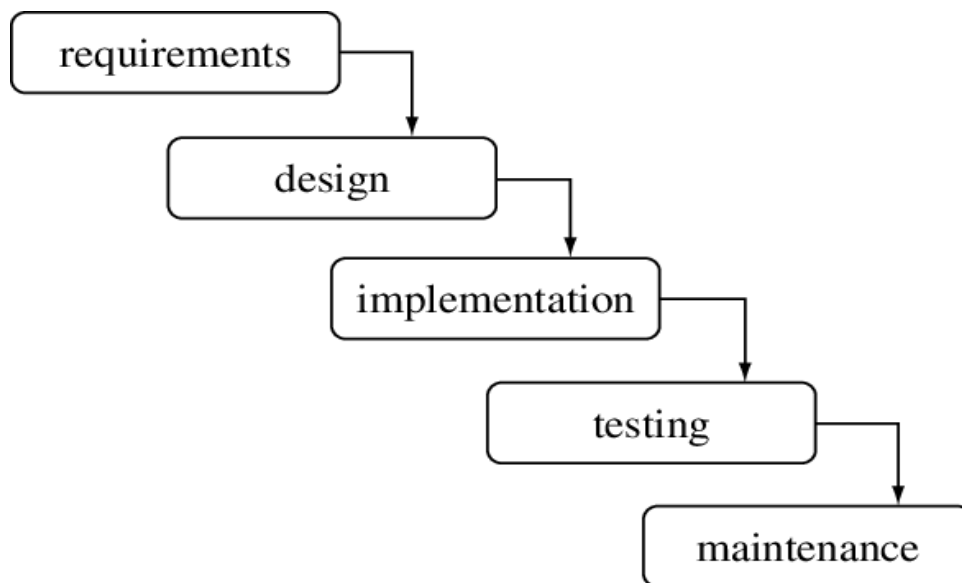


Figure 2.2: Waterfall Model

2.4.2 Advantages

The advantages of waterfall development are that it allows for departmentalization and control. A schedule can be set with deadlines for each stage of development and a product can proceed through the development process model phases one by one.

- The waterfall model are that documentation is produced at each phase and that it fits with other engineering process models
- Disciplined approach
- Careful checking by the Software Quality Assurance Group at the end of each phase or testing in each phase.
- Documentation available at the end of each phase
- Linear model.
- Easy to understand and implement
- Identifies deliverable and milestones

The Development of 'Hall Management System' moves from concept, through design, implementation, testing, installation, troubleshooting, and ends up at operation and maintenance. Each phase of development proceeds in strict order. With keeping the advantages in mind, we choose the waterfall model for the following reasons;

- The requirements are very well known clear and fixed
- product definition is stable.
- Technology is understood
- There are no ambiguous requirements
- Ample resources with required expertise are available freely
- The project is not so long

2.5 User Case Diagram

A Use Case Diagram (UCD) [2] is perfectly suited to expressing all of the things that a database system can accomplish, by all of the individuals who might use it. Identifying the actors is simple when working with an Action/Response table: entities whose behavior occurs in the "Actor's Actions" column are the actors, and entities whose behavior appears in the "System's Response" column are system components.

Figure 2.4 depicts the utilization of this system's functionalities by the User and Admin. Admins have full access to the system, while users have access to only a few of the features that are available to them for free.

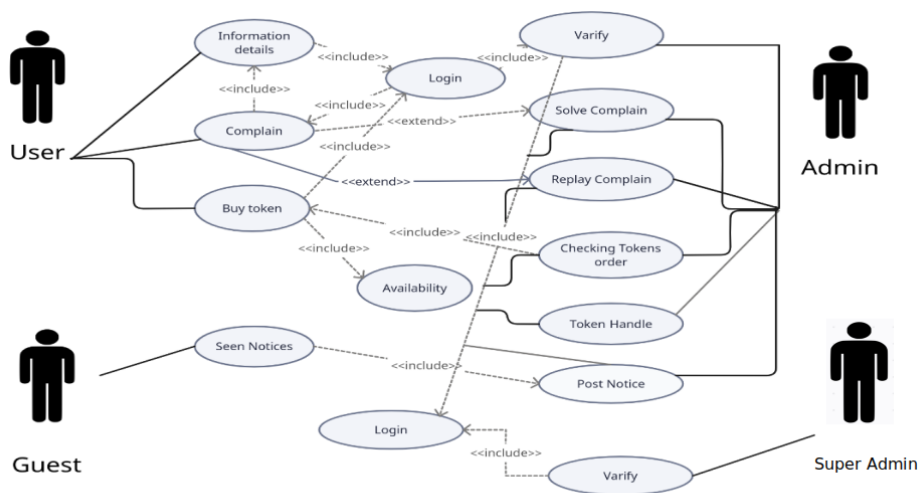


Figure 2.3: Use Case Diagram

2.6 Internal System Architecture

Users of the web application include Clients and system administrator. When a client comes to the system (Web application), he/she is able to book a car available and reserved, to read the FAQ, about us a without registration or signing in and he/she can create an account on the system by registering through providing his/her full name, email, password, if he/she is an existing user he can just sign in using his/her email address and password. What system administrator are able to do on the system he/she is able to manage all users in the web application such as add a new user, update, delete a user, to view the detail information of client, managing booking information, updating, viewing different type of parking cancel the booking and also managing the system administrator setting. The logged

in user can update his/her password by providing the current password and can log off the system.

2.7 Process Flow

Below figure shows the flow of processes that demonstrates how the system works. It will clear how the system works step by step.

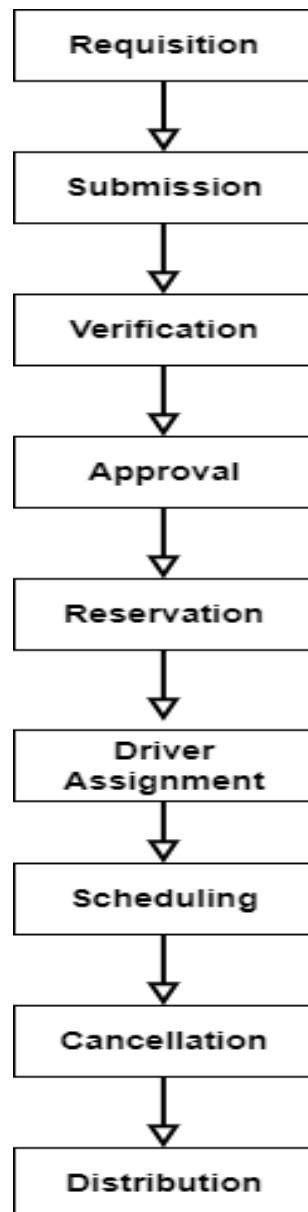


Figure 2.4: Process Flow Diagram

2.8 Feasibility Study

A feasibility study is an analysis that takes all of a project's relevant factors into account including economic, technical, legal, and scheduling considerations to ascertain the likelihood of completing the project successfully. It is simply an assessment of the practicality of a proposed plan or project. A possibility to examine is utilized to decide the feasibility of a thought, for example, guaranteeing a task is legitimately and actually practical and additionally, monetarily reasonable. It lets us know whether a venture is justified regardless of the speculation now and again, a task may not be feasible. There can be numerous purposes behind this, including requiring an excessive number of assets, which not just keeps those assets from performing different assignments yet, in addition, may cost in excess of an association would acquire back by going up against an undertaking that isn't painful.

Once the objectives have been defined, the achievability analysis can begin. It starts with imagining large-scale possible configurations that can be used to show what the new framework should look like. This is where creativity and ingenuity are put to good use. Examiners must devise innovative ways of doing things and generate fresh ideas. There's no reason to start working on the itemized framework task just now. The arrangement should provide enough information to produce reasonable estimates of project costs and offer customers a sense of how the new framework will fit into the organization. It's crucial not to put in a lot of effort at this point only to find out that the project isn't worthwhile or that the primary goal needs to be changed entirely.

2.8.1 Goals of Feasibility Study

The goals of feasibility studies are as follows:

- To understand thoroughly all aspects of a project, concept, or plan.
- To become aware of any potential problems that could occur while implementing the project.
- To determine if, after considering all significant factors, the project is viable that is, worth undertaking.

2.8.2 Types of Feasibility Study

Economical Feasibility

This appraisal typically involves a cost analysis of the project. Improvement of this Web based framework is very economic practical. The main thing to be done is making a domain with a compelling supervision. It is savvy as in has killed the printed material totally. The framework is additional time powerful in light of the fact that the estimations are mechanized which are made toward the finish of the month or according to the client prerequisite.

Technical Feasibility

This is concerned with specifying equipment and software that will successfully satisfy the use considerably, but might include:

- The feasibility to produce output in a given time because system is fast enough to handle multiple users.
- Response time under certain circumstances and ability to process a certain volume of transaction of a particular speed.
- Feasibility to communicate data to distant location. All this are successfully fulfil this project.

Operational Feasibility

It is primarily concerned with human organizational as well as social factors. The following characteristics should be considered: this system's interface is standard, user-friendly, and offers substantial support. As a result, no special training is required.

Social Feasibility

The phrase "social feasibility" refers to the process of determining whether or not a proposed project would be accepted by the general public, therefore this project is both social and feasible.

Scheduling Feasibility

This appraisal is the most imperative for venture achievement; all things considered, a task will bomb if not finished on time. In planning practicality, an association appraises how much time the venture will take to finish. At the point when these territories have all been analyzed, the attainability consider distinguishes any requirements the proposed venture may confront, including:

- Internal Project Constraints: Technical, Technology, Budget, Resource, and so forth.
- Internal Corporate Constraints: Financial, Marketing, Export, and so forth.
- External Constraints: Logistics, Environment, Laws and Regulations, and so forth

2.9 Summary

We analysed existing systems and came up with a proposed system. The model followed to make this project and necessary UML diagrams such as activity diagram, use case diagram show the internal structure of our system. Different types of feasibility study was done to check the practicality of the system.

Chapter 3

Requirement Analysis

3.1 Introduction

Requirements analysis is an important aspect of the software development requirements definition and management process. Software requirement refers to a requirement that software must meet in order to improve the quality of the software product. These requirements are a form of user expectation from a software product that is crucial and must be met by the software. To analyze something implies to look at it in a systematic and detailed manner in order to learn all of the information about it. As a result, software requirement analysis simply entails a thorough examination, analysis, and description of software needs in order to satisfy actual and necessary requirements in order to solve a problem. Analyzing Software Requirements entails a number of processes.

3.2 Teachers/Officers Requirement

The following are some of the end-user features that make online examination scheduler more pleasant:

- Any Web browser that supports HTML 3.2 (or later) and cookies should be able to utilize the requisition application.
- Teachers/Officers who are new to the site should be able to sign up using their own institutional mail. Unique user identities will be used to distinguish users.
- To prevent unauthorized teachers/officials from authorized teachers/officials, a basic authentication method must be integrated into the application.
- Teachers/officials should be able to select vehicles for personals or office related work.
- Teachers/officials should be able to make new requisition and view details of their requisition.

- They must be able to see the distance and cost of their destination from the google map.

3.3 System Requirement

The System must provide following

- User should have appropriate version of windows/linux.
- System should have a minimum of 2 GB RAM to run the application.
- The website must be uploaded to a server.
- A web browser is required.
- An installed code editor is required.

So, this is the general process of making the Online Shopping system operate, and users can get policies without having to deal with agents, and they don't always have to pay commission.

3.3.1 Functional Requirement

The system must have the following features.

- Enables program manager to generate the exam schedule.
- The system enables students view the exam schedule.
- The program manager updates schedule information.
- the program manager delete the cam schedule information.
- Keeping track of whether or not a product has been delivered.
- Keeping the customer's selected items in temporary storage/wish list.
- The admin will have complete control over the admin panel.

3.3.2 Non-Functional Requirement

There will be non-functional needs in the insurance on the internet: F hours a day, 7 days a week.

- Availability 24X7
- Improved component design for peak performance.
- For future expansion, a flexible service-based architecture will be essential.

The system's attributes and restrictions are defined by nonfunctional needs. It occurs as a result of user needs, budget limits, corporate policies, or external factors such as safety regulations, privacy registration, and so forth.

Various other Non-functional requirements are:

- Security
- Reliability
- Maintainability
- Portability
- Extensible
- Re-usability
- Application Affinity/Compatibility
- Resource Utilization

3.4 Used Platform/Tools

Front-End: Web pages using HTML5, CSS3 and JavaScript, Frameworks: Bootstrap4, Back-End: Database: MYSQL, Programming Language: PHP8.1, Server: XAMPP

- **HTML:** HTML is a markup language that is used to create web pages. The most used markup language for web pages is HTML, which stands for Hypertext Markup Language. It allows you to specify the organization of text-based information in a document by labeling certain sections of text as headings, paragraphs, or lists, for example.
- **CSS:** For designing front end CSS was used. CSS portrays the Web pages introduction, including design, hues, and textual styles. It empowers the fashioner to change the introduction to different kinds of gadgets, similar to a little screen, expansive screens, or printers
- **JavaScript:** It's used to double-check user information before sending it to the recipient. JavaScript is a popular scripting language for client-side web development. It's a prototype-based language with first-class functions that's dynamic and weakly typed.
- **PHP:** PHP (Hypertext Preprocessor) is a widely-used server-side scripting language for web development. It offers a straightforward syntax and seamless integration with HTML, allowing developers to create dynamic and interactive web applications. PHP supports a wide range of databases, offers extensive functionality through built-in functions and libraries, and has a large and active community. Its versatility, scalability, and ease of use make PHP a popular choice for both small-scale projects and large-scale enterprise applications. Why we used PHP:

- PHP is a powerful language.
 - PHP is platform independent.
 - PHP is free, open source.
 - PHP has rich API.
 - PHP is fast, secure and reliable
- **Bootstrap:** Bootstrap is front-end structure and gathering of instruments and systems for building web applications. It comprises of HTML and CSS based plan formats for routes, shapes, catches, typography, and other interface components, and furthermore JavaScript expansions. Bootstrap is a front-end framework (library) for designing websites and web apps that is free and open-source. It includes fonts, frames, catches, routes, and other interface segments in HTML and CSS-based outline forms, as well as optional JavaScript expansions. It was concerned in front-end advancement, unlike many other web systems. With over 123,000 stars, Bootstrap is the second-most-featured project on GitHub.
- **MySQL:** MySQL is a relational database management system (RDBMS) that has been installed over 6 million times. "My Structured Query Language" is the acronym for "My Structured Query Language." The application functions as a server, allowing several users to access various databases [14, 15]. The source code for the project is accessible under the GNU General Public License as well as a number of proprietary agreements. Free software projects that require a full-featured database management system frequently utilize MySQL. It's also utilized in some of the most high-profile World Wide Web products, such as Google and Facebook. Its popularity as a web application framework is closely linked to that of PHP, which is frequently paired with MySQL. MySQL is used for data storage and recording of user data by a number of high-traffic websites, including Flickr, Facebook, Wikipedia, and Google (though not for searches), Nokia, Auction arts, and YouTube.
- **XAMPP:** XAMPP is a cross-platform, open-source web server solution that allows users to set up a local development environment on their computers. The acronym stands for Apache, MySQL, PHP, and Perl, which are the core components included in the XAMPP package. These components provide a complete web server stack, enabling users to run dynamic web applications and test websites offline.

3.5 Summary

We analyzed, refined, and scrutinized the gathered requirements to make consistent and unambiguous requirements. This activity reviews all requirements. The understandability of the project may improve significantly after that. The functional and non-functional requirements were described. The tools and technologies required to develop and run this system are detailed.

4.1 Project Design

In order to design a web site, the relational database must be designed first. Conceptual design can be divided into two parts: The data model and the process model. The data model focuses on what data should be stored in the database while the process model deals with how the data is processed. To put this in the context of the relational database, the data model is used to design the relational tables. The process model is used to design the queries that will access and perform operations on those tables.

4.1.1 Data Model

A data model [3] is a conceptual representation of the data structures that are required by a database. The first step in designing a database is to develop an Entity Relation Diagram (ERD) [4]. The ERD serves as a blue print from which a relational database may be deduced. Figure below shows the ERD for the project. Data models are often used as an aid to communication between the business people defining the requirements for a computer system and the technical people defining the design in response to those requirements. They are used to show the data needed and created by business processes. The creation of the data model is the critical first step that must be taken after business requirements for analytics and reporting have been defined.

Entity Relationship Diagram

Now we will discuss the whole ER-diagram to make better understanding. Here we have different Entities such as Order, Customer, Product, Payment, Cart let look one by one which is as follow.

It shows all the relationship of this system database. Entity has 3 types of relationship 1st one is one to one, 2nd one is one to many and 3rd one is many to many which are stand for 1:1, 1:N, N:M

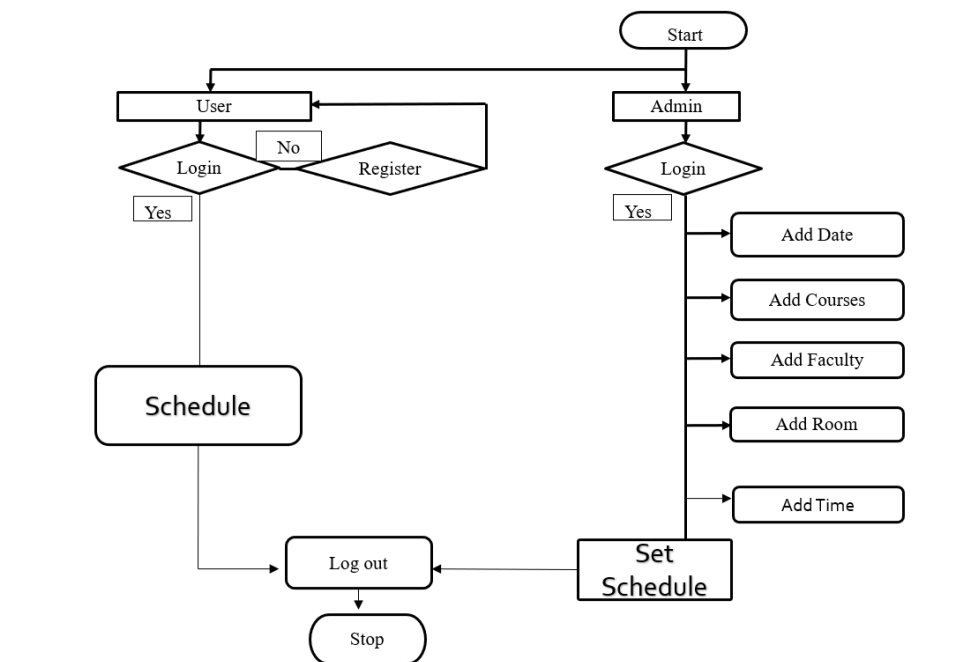


Figure 4.1: ER Diagram

Class Diagram

A class diagram [5] in the Unified Modeling Language (UML) is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, operations (or methods), and the relationships among objects. Class diagrams enable us to model software in a high level of abstraction and without having to look at the source code. Classes in a class diagram correspond with classes in the source code. The diagram of ?? shows the names and attributes of the classes, connections between the classes, and also the methods of the classes.

4.1.2 Process Model

A Process Model tells us about how the data is processed and how the data flows from one table to another to gather the required information. This model consists of the Functional Decomposition Diagram and Data Flow Diagram.

Functional Decomposition

A decomposition diagram shows a top-down functional decomposition of a system and exposes the system's structure. The objective of the Functional Decomposition is to break down a system step by step, beginning with the main function of a system and continuing with the interim levels down to the level of elementary functions. The diagram is the starting point for more detailed process diagrams, such as data flow diagrams (DFD). ?? shows the Functional Decomposition Diagram for this project.

Data Flow Diagram

Data flow diagrams (DFDs) [6] reveal relationships among and between the various components in a program or system. DFDs are an important technique for modeling a system's high-level detail by showing how input data is transformed to output results through a sequence of functional transformations.

To start with Website DFD level 0 is shown??. The Website DFD level 0 is also known as context diagram. Context diagrams (level 0 DFDs) are diagrams in which the entire system is represented as a single process. It's supposed to be an abstract view, with the mechanism represented as a single process with external parties. In this data flow diagram the general process done is seen in E-commerce Website monitoring. This will also serve as a guide as we go through the deeper processes of the Website data flow diagrams.

Next to the context diagram is the level 1 data flow diagram. The content of E-commerce Website DFD level 1 must be single process node from the context diagram and is broken down into sub processes. In this level, the system must display or reveal further processing information. ?? shows level 1 DFD of our project. These procedures require information such as record of customers, sales, transactions, payments and products from which served as the bases for customers and admin to manage the E-commerce Website. This type of data is represented by a data store.

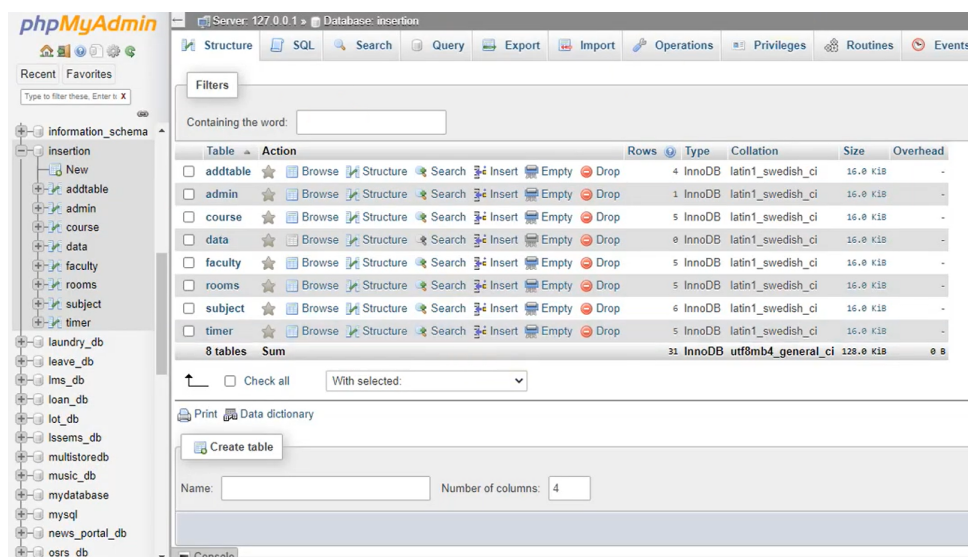
The System level 1 DFD lists all of the major sub-processes that make up the entire system. A level 1 DFD can be thought of as a “detonated view” of the context diagram. A single production node and its relationships to external entities are depicted in Level 0 data flow diagrams. Level 1 DFDs provide a broad overview but go into greater depth than a context diagram. The single process node from the context diagram is broken down into sub processes in a level 1 data flow diagram.

After presenting the E-commerce Website DFD levels 0 and 1, next to that is level 2. We need to consider in creating data flow diagram level 2 couple of things.

The Level 2 DFD for the website should represent the basic modules as well as data flow between them. Since the DFD level 2 is the highest abstraction level, its Website processes must be detailed that is based on the DFD level 1.

4.2 Database Design

In this section, the basic structure of the tables composing the database for the project are shown along with information about primary and foreign keys. Database designs provide the blueprints of how the data is going to be stored in a system. A proper design of a database highly affects the overall performance of any application.



The screenshot shows the phpMyAdmin interface for a database named 'insertion'. The left sidebar lists various databases, with 'insertion' selected. The main panel displays the 'Structure' tab, showing a table list with columns: Table, Action, Rows, Type, Collation, Size, and Overhead. Below the table list, there is a 'Create table' section with fields for 'Name' and 'Number of columns'.

Table	Action	Rows	Type	Collation	Size	Overhead
addtable	Browse Structure Search Insert Empty Drop	4	InnoDB	latin1_swedish_ci	16.0 K1B	-
admin	Browse Structure Search Insert Empty Drop	1	InnoDB	latin1_swedish_ci	16.0 K1B	-
course	Browse Structure Search Insert Empty Drop	5	InnoDB	latin1_swedish_ci	16.0 K1B	-
data	Browse Structure Search Insert Empty Drop	0	InnoDB	latin1_swedish_ci	16.0 K1B	-
faculty	Browse Structure Search Insert Empty Drop	5	InnoDB	latin1_swedish_ci	16.0 K1B	-
rooms	Browse Structure Search Insert Empty Drop	5	InnoDB	latin1_swedish_ci	16.0 K1B	-
subject	Browse Structure Search Insert Empty Drop	6	InnoDB	latin1_swedish_ci	16.0 K1B	-
timer	Browse Structure Search Insert Empty Drop	5	InnoDB	latin1_swedish_ci	16.0 K1B	-
8 tables	Sum	31	InnoDB	utf8mb4_general_ci	128.0 K1B	0 B

Figure 4.2: Database

4.3 Interface Design

This is one of the main task of the developer to design a graphical user interface that user attracts to and can use easily, in one word it should be user friendly. So for this we should have better understanding of customers likes and dislikes and the features that are in trend and mesmerize the public easily, initially we need to locate the targeting people that what kind of application do they need. After getting all this information we should start to design the application. After checking all the information that design this project interface.

User interface design can dramatically affect the usability and user experience of an application. If a user interface design is too complex or not adapted to targeted users, the user may not be able to find the information or service they are looking for. In website design, this can affect conversion rates. The layout of a user interface design should also be clearly set out for users so that elements can be found in a logical position by the user.

User Login :

EXAM SCHEDULING SYSTEM

Login Panel

Username

snigdha

Password

Login

Don't have an account?

[Register here](#)

Figure 4.3: Login

Register :

SCHEDULING

Add Account Here

Username

user I

Password

Add

Already have an account?

[Login here](#)

Figure 4.4: Register

Home Page :

Exam Scheduling

Home Date Faculty Course Room Time List Schedule

Here you will set your schedules

Set Schedule

Faculty

Course

Date

Room

Start time

End time

Figure 4.5: Homepage

Add Date Page :

Exam Scheduling

Home Date Faculty Course Room Time List Schedule

Here you will Assign Dates

Add Date

Date

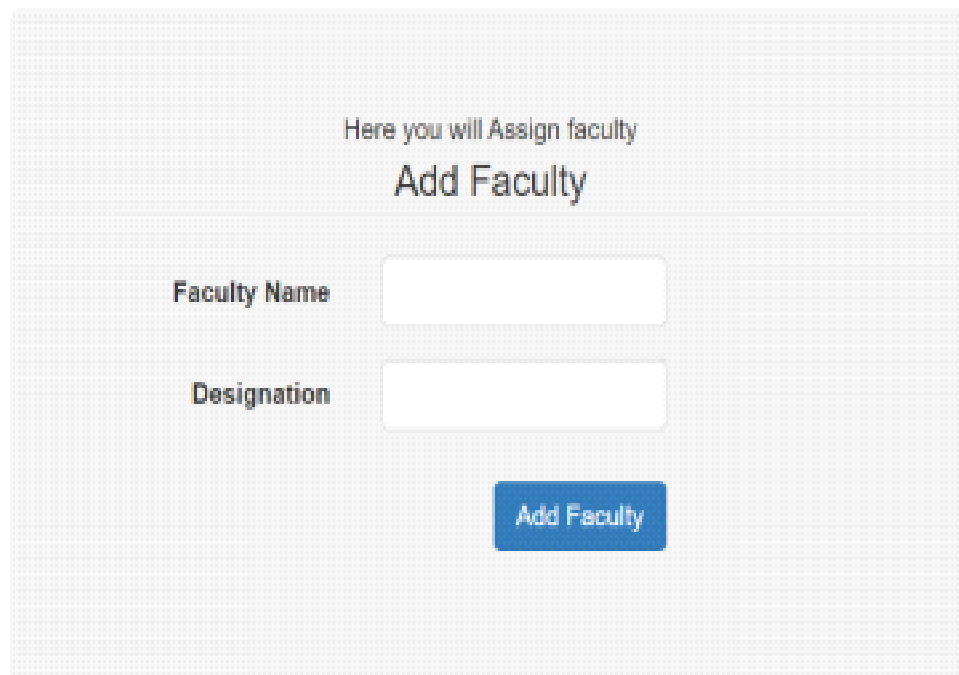
List of Dates

Date	Action
2023-05-27	<input type="button" value="Delete"/>
2023-05-29	<input type="button" value="Delete"/>

Activate V

Figure 4.6: Add Date

Add Faculty Page :



Here you will Assign faculty

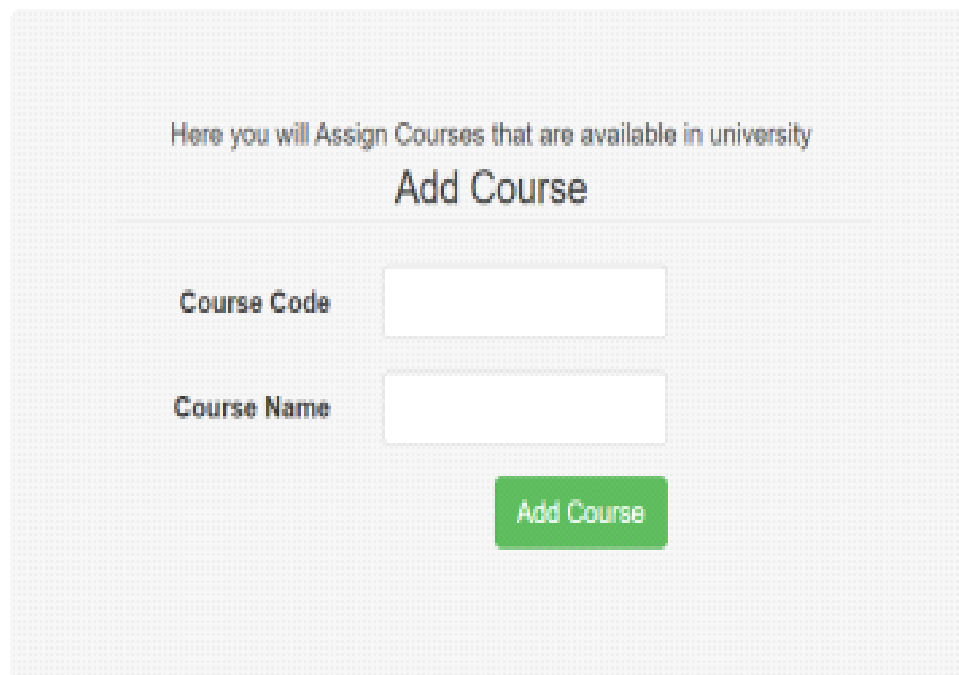
Add Faculty

Faculty Name

Designation

Figure 4.7: Add Faculty

Add Course Page :



Here you will Assign Courses that are available in university

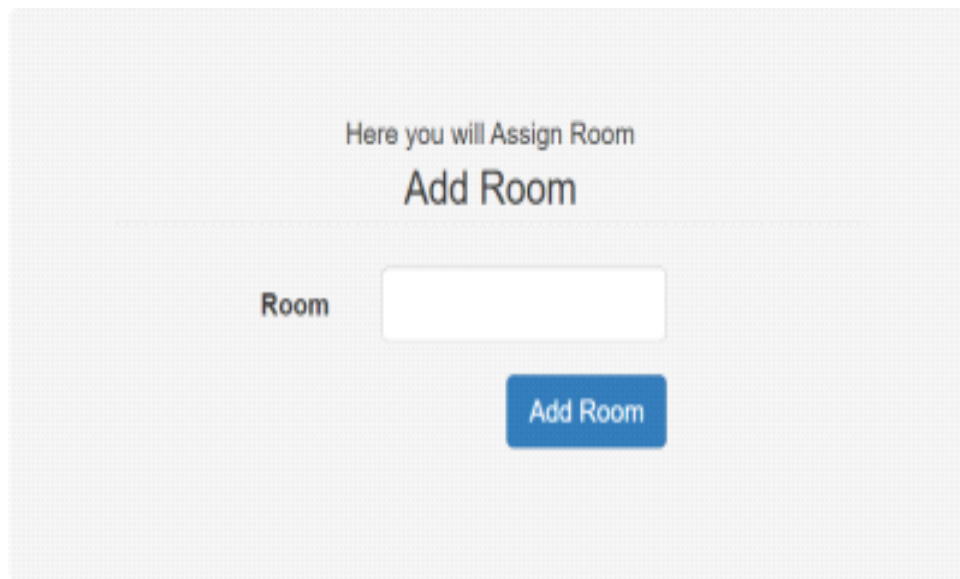
Add Course

Course Code

Course Name

Figure 4.8: Add Course

Add room Page :



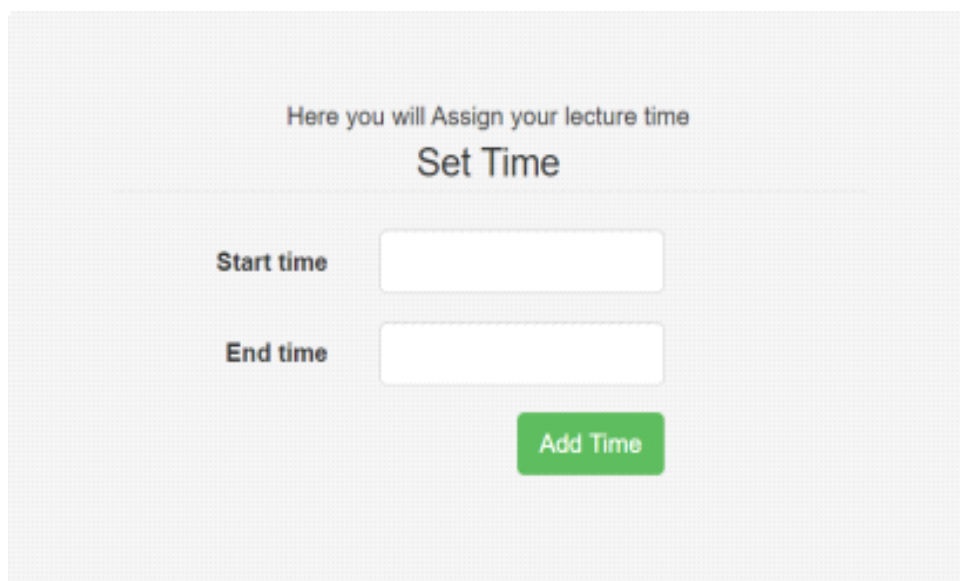
Here you will Assign Room

Add Room

Room

Figure 4.9: Add room

Set Time Page :



Here you will Assign your lecture time

Set Time

Start time

End time

Figure 4.10: Set Time

List of Date Page :

List of Dates	
Date	Action
2023-05-27	Delete
2023-05-29	Delete
2023-05-31	Delete
2023-05-01	Delete
2023-07-10	Delete
2023-09-21	Delete
2023-09-15	Delete

Figure 4.11: List of Date

Overall Schedule Page :

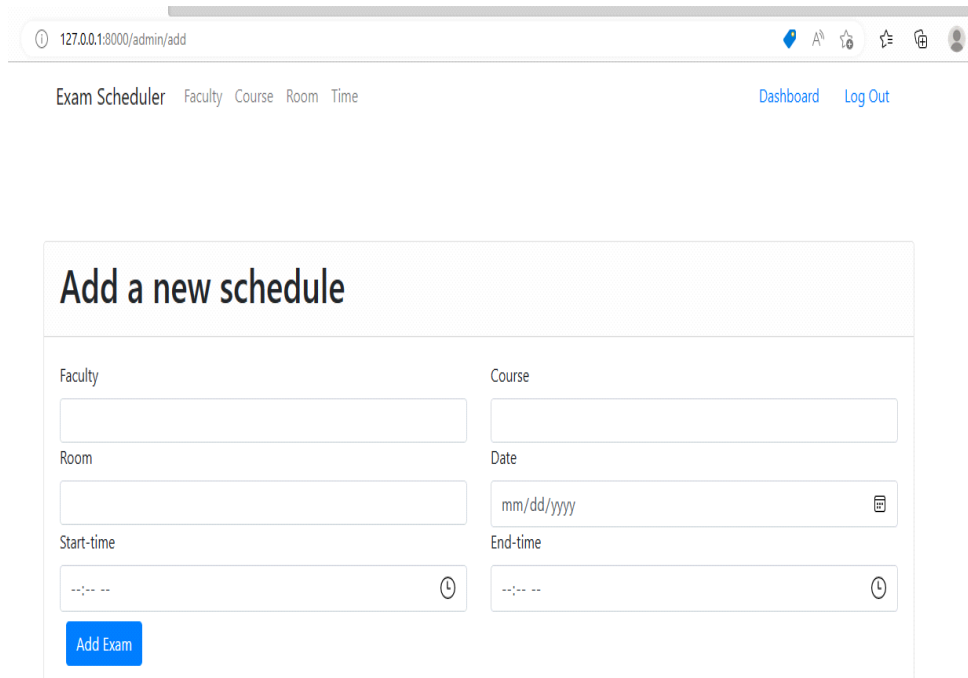
Schedule						
Date	Faculty	Course	Room	Start time	End time	Action
2023-05-27	Md. Tarvir Ahmed	Web Development	201	7:30 am	10:30 am	Delete
2023-05-29	Dr. Sajjad Waheed	Digital Logic Design	205	1:30 pm	4:30 pm	Delete
2023-05-31	Dr. Monir Morshed	Optical Fiber	204	2:00 pm	5:00 pm	Delete
2023-05-01	Dr. Sajjad Waheed	Data Structure	201	1:30 pm	4:30 pm	Delete

New

Logout

Figure 4.12: Schedule

Add New Schedule Page :



The screenshot shows a web browser window with the address bar displaying '127.0.0.1:8000/admin/add'. The browser's toolbar includes icons for back, forward, search, and user profile. Below the address bar, a navigation bar contains the text 'Exam Scheduler' followed by links for 'Faculty', 'Course', 'Room', and 'Time'. On the right side of the navigation bar are links for 'Dashboard' and 'Log Out'. The main content area is titled 'Add a new schedule' and contains a form with the following fields: 'Faculty' (text input), 'Course' (text input), 'Room' (text input), 'Date' (calendar icon and 'mm/dd/yyyy' placeholder), 'Start-time' (time picker with '--:--' placeholder), and 'End-time' (time picker with '--:--' placeholder). A blue 'Add Exam' button is located at the bottom left of the form.

Figure 4.13: Add Schedule

4.4 Summary

Different elements of the project design was discussed in the chapter. ER diagram to show the data model and data flow diagrams to show the process were demonstrated. The database design gave us a thorough view of the structure of the database of the system. The overview of the system interface shows how it looks like in the eye of a user.

Chapter 5

Testing and Implementation

5.1 Software Verification and Validation

Software testing [7] is used in association with verification and validation. In this stage, both individual components and the integrated whole are methodically verified to ensure that they are error-free and fully meet the requirements outlined in the first step.

Test whole software into two parts:

- Hardware
- Software

Two types of testing:

- Inside Test
- Outside Test

5.1.1 Verification

Have we built the software right? (i.e., does it match the specification?) Yes we built the right application. It match all specifications. Verification is the process of evaluating a system or component to determine whether the products of a given development phase satisfy the conditions imposed at the start of that phase.

5.1.2 Validation

Have we built the right application? (i.e., is this what the customer wants?) Validation is the process of evaluating a system or component during or at the end of the development process to determine whether it satisfies specified requirements. Validation has been done of this project.

5.2 Software Quality Assurance

After assessing and changing the software engineering process itself to reduce the amount of faults that end up in the delivered software: the so-called defect rate. It has also been checked by the expert.

5.3 Test Plan

Thorough testing is critical to ensuring systems meet organizational and End-user requirements. Test plans created during initial project phases enhance an organization's ability to create detailed tests. A bottom-up approach tests smaller components first and progressively adds and tests additional components and systems. A top-down approach first tests major components and connections and progressively tests smaller components and connections. Bottom-up tests often begin with functional (requirements based) testing. Functional tests should ensure that expected functional, security, and internal control features are present and operating properly. Testers then complete integration and end-to-end testing to ensure application and system components interact properly. Users then conduct acceptance tests to ensure systems meet defined acceptance criteria. For testing of the website:

- All the features of the website are tested by running each function available in the website
- The results of the tests conducted on the website are analyzed properly.
- Only after getting satisfactory results of testing the website can be uploaded on the network i.e. internet.

5.4 Implementation

Though this project was only for education purpose implement it properly by the help of some of friends and users. The implementation phase involves installing approved applications into production environments. Primary tasks was include announcing the implementation schedule, training end users and installing the project. Additionally, my friends input and verify data configure and test system and security parameters, and conduct post-implementation reviews. After installing the project. Input pre-existing data manually and electronically to the new system. Verifying the accuracy of the input data and security configurations was a critical part of the implementation process.

Organizations often run a new system in parallel with an old system until they verify the accuracy and reliability of the new system. Employees should document any programming, procedural, or configuration changes made during the verification process.

For implementation of the website project:

- The website can be installed on a computer or a server which has PHP and MySQL installed in it.
- The owners of the website are to be properly trained to use all the features of the website, giving details of each features of the website.
- To show the accuracy of the website and conformance of the website to the requirements of the owners or users of the website

5.5 Maintenance

The maintenance phase involves making changes to hardware, software, and documentation to support its operational effectiveness. It includes making changes to improve s system,s performance, correct problems, enhance security, or address user requirements. To ensure modifications do not disrupt operations or degrade a system's performance or security. Organizations should establish appropriate change management standards and procedures. Routine changes Ere not as complex as major modifications and can usually be implemented in the normal course of business. Routine change controls should include procedures for requesting, evaluating.

Approving, testing, installing, and documenting software modifications. Maintaining accurate, up to-date hardware and software inventories is a critical part of all change management processes. Management should carefully document all modifications to ensure accurate system inventories. Management should coordinate all technology related changes through an oversight committee and assign an appropriate party responsibility for administering software patch management programs. Quality assurance. security. audit, regulatory compliance. network, and end-user personnel should be appropriately included in change management processes. For maintenance of the website:

- The database has to be updated regularly according to new available information.
- Redundant and false information must be removed from the database.
- Newer version of PHP and MySQL can be used for up gradation of website and to improve the overall performance of the system.

5.6 Summary

The testing of the system was done for the implementation. After verification and validation, functional test ensured that all the features of the website run- ning and available. The maintenance should be done to make sure the features are updated and at the same time it does not disrupt or degrade the system's performance or security.

Chapter 6

Recommendation and Conclusion

6.1 Summary of the project

The online exam scheduler is an essential tool in the digital age of education. It provides a secure and user-friendly environment for scheduling, administering, and grading online exams.

6.2 Recommendation

To fulfill all the requirement of the web pages the teachers and other officers must be connected to the Internet. Again they should be given a valid login name and password to access the system. Power failure is now becomes a serious problem in country. It could be happened any time. So a back up power system for server should be generated for this purpose.

6.3 Conclusion

The online exam scheduler is an essential system that provides students with a more flexible option for scheduling their exams. This system also reduces the workload for administrators and faculty by automating and organizing the process. The system is designed to ensure fairness, transparency, and integrity in the exam scheduling process.

6.4 Scope of Further Development

The system could be modified suitable to work on a large network. This involves, amount other, resolving used conflicts, protecting database integrity and ensuring consistency of data if it is distributed across multiple location. The project could be implemented in an average sized organization. An average company will not be very keep on spending loads of money on ledgers. Whereas these project will greatly reduce the costs which is using common and cheap office items like database and desktop application. Can possible to improve this project

on mobile app version. In mobile app client will be able to book vehicles through smart phones.

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