MINI PROJECT
(2019-20)

DOCUMENT MANAGEMENT SYSTEM
END TERM REPORT

Institute of Engineering & Technology

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Declaration

We here by declare that the work which is being presented in the B.Tech. Project **"DOCUMENT MANAGEMENT SYSTEM"**,in partial fulfillment of the requirements for the award of the ***Bachelor of technology*** and submitted to the Department of Computer Engineering and Applications of GLA University, Mathura ,is an authentic record of our own work carried under the supervision of **Mr. Pankaj Kapoor , Assistant Professor of Computer Engineering Department.**

The contents of this project report, in full or in parts, have not been submitted to any other institute or university for the award of any degree.

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Certificate

This is to certify that the above statements made by the candidates are correct to the best of my/our knowledge and belief.

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ACKNOWLEDGEMENT

The satisfaction which accompanies the successful completion of the project, is incomplete without the mention of a few names. We take this opportunity to acknowledge the efforts of the many individuals who helped us to make this project possible.

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We would also like to extend our immense gratitude to respected Head of Department **Prof. Anand Singh Jalal** who allowed us to choose the topic for our dissertation.

The experience was novel one and we would like to thank all the people, who have lent their valuable time for the completion of the report. Without their consideration it would have been difficult to complete the report.

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ABSTRACT

Document management system is the digital portal which is designed to organize documents and certificates digitally. As it is started in paper form which is now converted into scanning copies in software which is easy to store, can be accessed or retrieved universally and provides security.

We need our documents for various purpose. By using this system you can have access to your documents any time when needed. There will be no need to go from one office to another and you will get your documents on time. It will display the document maintenance of student and faculties.

Students will not have to wait for the approval of application from the higher authorities for a longer time. Documents withdrawal from the higher authority will be faster. It will ease the students for scanning and retrieve the documents. It will reduce the paperwork and maintenance of the document withdraw applications will be diminish.

This create the collection of documents in effective manner and it will be more secure (no one can take out the documents without the login id). Maintenance of file will be more accurate. Once our data is stored we can again reuse the data. It will diminish the time usage and will save our time. Reports can be generated with case as per needed by the user.

CONTENTS

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

Present Problem Statement:

The existing system has lots of flaw, because peoples have to work more manually instead working online. And the peoples sometimes think about the time which will be more required in such processes. Now the present system will save time as well as long processes.

- In this we display the document maintenance of students and faculties.
- Students will not have to worry about the application for approval from the higher authorities.

Proposed System:

Through this new online DOCUMENT management system helps in maintaining or retrieving the documents. It also help the students to connect them to the management directly.

This project used by two types of user:-

- Students
- Admin

Students can search for the documents by login id and password provided by the university.

1.1 Overview and Motivation:

Overview:

The main motive of our project "DOCUMENT management system" is to helps the students who wants to retrieve their documents and want the document photo states from the university document office. It will be less time consuming and reduce paper work.

Motivation:

- Time consuming in process of hand over the documents.
- Lots of time is wasted for regaining the documents from the office.

1.2 Objective:

The aim of DOCUMENT MANAGEMENT SYSTEM is to recovering ,scanning and maintaining the documents. It keeps the track of the documents. It also saves the time and efforts of the students. Many students had to leave the lectures for approving the application.

- This project will able to take approval for withdrawal of documents from the higher authorities.
- Ease of use for student so that he/she can take out online scanned and original documents.
- It will reduce the paper work and maintenance of the document withdraw applications will be diminish.
- It helps the students to collect documents in effective manner and it will be more secure (no one can take out the documents without the login id).

1.3 Organization of Project Report:

PHASES	TIME DURATION
Software requirement specification	2 weeks
System design	3 weeks
Coding	5 weeks
Testing	2 weeks
Documentation	2 weeks
Implementation	1 weeks

SOFTWARE REQUIREMENT ANALYSIS

System Analysis is a detailed study of the various operations performed by a system and their relationship within and outside the system .It is a systematic technique that defines goals and objectives the goal of the development is to deliver the system in the line with the user's requirements, and analysis is this process.

System study has been conducted with the following objectives in mind: -

- Identify the client's need.
- Evaluate the system concept for feasibility.
- Perform economical and technical analysis.
- Allocate functional to hardware, software, people, database and other system elements
- Establish cost and schedule constraints.
- Both hardware and software expertise is required to successfully attain the objectives.

2.1 Requirement Analysis

Information gathering is usually the first phase of the software development project. The purpose of this phase is to identify and document the exact requirements for the system. The user's request identifies the need for a new information system and on investigation re-defined the new problem to be based on MIS, which supports management. The objective is to determine whether the request is valid and feasible before a recommendation is made to build a new or existing manual system continue

The major steps are –

- Defining the user requirements.
- Studying the present system to verify the problem.
- Defining the performance expected by the candidate to user requirement

2.1.1 Hardware Requirements

Processor : Intel(R) Core(TM) i3-6006U CPU @ 2.00GHz 2.00 GHz

RAM: 4.00 GB

System type: 64- bit Operating System, x64- based process

2.1.2 Software Requirements

Operating System	: Window 7 and higher
Front End	: HTML, CSS
Back End	: PHP

2.1.3 Tools and Technology

Tools:

- Windows 7 & and higher
- SQL Server

Technology:

- **SQL:** SQL is a structured query language used for querying database.
- **CSS:** CSS is cascading style sheet which is used to give designer look to HTML using the external file.
- **PHP:** Hypertext Preprocessor is a server-side scripting language designed for web development but also used as a general-purpose programming language.
- **HTML:** Hypertext Markup Language is the standard markup language for creating web pages and web application. HTML element are the building blocks of HTML pages. With HTML constructs, image and other objects, such as interactive form.

2.2 Feasibility Study

Feasibility study is the process of determination of whether or not a project is worth doing. Feasibility studies are undertaken within tight time constraints and normally culminate in a written and oral feasibility report. I have taken a fixed time in feasibility study with my co-developer. The contents and recommendations of this feasibility study helped us as a sound basis for deciding how to precede the project. It helped in taking decisions such as which software to use, hardware combinations ,etc.

2.2.1 Technical feasibility:

This is concerned with specifying equipment of software and hardware that will successfully satisfy the user requirements. The technical needs of the system may vary considerably, but might include:

- The facility to produce output in a given time.
- Response time under certain condition.
- Ability to produce a certain volume of transaction at a particular speed.
- In examining technical feasibility, configuration of the system is given more importance than the actual make of hardware. The configuration should give the complete picture about the system requirements. What speeds of input and output should be achieved at particular quality of printing.

According to the definition of technical feasibility the compatibility between front-end and back-end is very important. In our project the compatibility of both is very good. The degree of compatibility of PHP and SQL Server 2014 is very good. The speed of output is very good when we enter the data and click button then the response time is very fast and give result very quick. In ever find difficulty when we use complex query or heavy transaction. The speed of transaction is always smooth and constant. This software provides facility to communicate data to distant location.

We use Active Server Pages and JavaScript. The designing of front-end of any project is very important so we selected Active Server Pages , HTML & CSS as front-end due to following reason:

- Easy implementation of code.
- Well define interface and database.
- Well define hand shaking of SQL Server 2014

At present scenario the no of backend are available but I have selected SQL Server 2008 because of the following number of reasons.

- Able to handle large data.
- Security.
- Robust RDBMS
- Backup & Recovery

With the help of above support we remove defect of existing software . In future we can easily switch over any platform. To ensure that system does not halt in case of undesired situation or events. Problem effected of any module does not affect any module of the system. A change of hardware does not produce problem.

2.2.2 Operational Feasibility:

It is mainly related to human organizational and political aspects. The points to be considered are:

- What changes will be brought with the system?
- What organization structures are distributed structures are distributed.
- What new skills will be required? Do the existing staff members have these skills? If not, can they be trained in due course of time?

At present stage all the work is done manually. So, throughput and response time is too much. Major problem is lack of security check that should have been applied.

Finding out the detail regarding user's request was very difficult ,because data store was in different registers and different places. In case of any problem, no one can solve the problem until the person responsible is not present.

Current communication is entirely on telephonic conversation or personal meetings. Post computerization staff can interact using internet.

Now, we will explain the last point of operational feasibility i.e. handling and keeping of software , at every point of designing I will take care that menu options are not too complex and can be easily learned and required least amount of technical skills as operators are going to be from non-computers background.

2.2.3 Economic feasibility:

Economic analysis is the most frequently used technique for evaluating the effectiveness of a proposed system. More commonly known as cost/benefit analysis: the procedure is to determine the benefits and saving that are expected from a proposed system and compare them with cost. If benefits outweighs cost, a decision is taken to design and implement the system. Otherwise, further justification or alternative in the proposed system will have to be made if it is to have a chance of being approved. This is an ongoing effort that improves in accuracy at each phase of the system life cycle.

At present Company has ten systems with following configuration:

- Ram 4 GB or above for fast execution and reliability
- MOTHER Board x64 based PC
- Color Monitor 14” and17”
- Hard Disk 100GB
- Hence the economic feasibility is very good.

2.3 Analysis

System analysis is the first step towards the software building process. The purpose of system analysis is to understand the system requirements, identify the data, functional and behavioral requirements and building the models of the system for better understanding of the system.

In the process of system analysis one should first understand that, what the present system is ,is how it works (i.e. processes) . After analyzing these points we become able to identify the problems in the present system. Upon evaluating current problems and desired information (input and output to the system), the analyst looks towards one or more solutions. To begin with, the data objects, processing functions, and behavior of the system are defined in detail. After this models, from three different aspects of the system-data, function and behavior. The models created during the system analysis process helps in better understanding of data and control flow, functional processing, operational behavioral and information content.

2.4 Summary of Modules

a) Administrator
b) Student
c) Login

Administrator

The administrator is responsible for maintaining Database of web portal. This module will update information of student documents. Administrator will also manage the records for students.

Students

Students can upload the documents itself. If they need the copy of the documents they can also get photo copy of that by their login id and password provided by the university .

Login

Login module refers to authenticating the user, administrator and assignee and granting the access to their account. They can login with their registered username and password and do their work.

University

In this module, which are registered under government are connected to this web portal which will collect and maintain the documents.

SOFTWARE DESIGN

A software design document (SDD) is a written description of a software product, that a software designer writes in order to give a software development team overall guidance to the architecture of the software project. An SDD usually accompanies an architecture diagram with pointers to detailed feature specifications of smaller pieces of the design. Practically, a design document is required to coordinate a large team under a single vision. A design document needs to be a stable reference, outlining all parts of the software and how they will work. The document is commanded to give a fairly complete description, while maintaining a high-level view of the software.

There are two kinds of design documents called HLDD (high-level design document) and LLDD (low-level design document).

The SDD contains the following documents:

1. The **data design** describes structures that reside within the software. Attributes and relationships between data objects dictate the choice of data structures.
2. The **architecture design** uses information flowing characteristics, and maps the min to the program structure. The transformation mapping method is applied to exhibit distinct boundaries between incoming and outgoing data. The data flow diagrams allocate control input ,processing and output along three separate modules.
3. The **interface design** describes internal and external program interfaces ,as well as the design of human interface. Internal and external interface designs are based on the information obtained from the analysis model.
4. The **procedural design** describes structured programming concepts using graphical, tabular and textual notations. These design mediums enable the designer to represent procedural detail that facilitates translation to code. This blueprint for implementation forms the basis for all subsequent software engineering worked.

3.1 Data Flow Diagram(DFD)

The Data Flow Diagram (DFD) is a graphical representation of the flow of data through an information system. It enables you to represent the processes in your information system from the viewpoint of data. The DFD lets you visualize how the system operates, what the system accomplishes and how it will be implemented, when it is refined with further specification.

- Data flow diagrams are used by systems analysts to design information-processing systems but also as a way to model whole organizations. You build a DFD at the very beginning of your business process modeling in order to model the functions your system has to carry out and the interaction between those functions together with focusing on data exchanges between processes. You can associate data with conceptual, logical, and physical data models and object-oriented models.

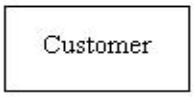
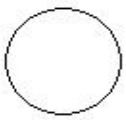
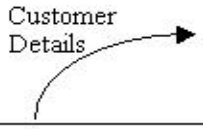
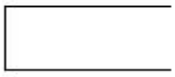
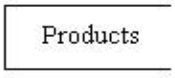
Name	Symbol	Description	Example
Entity		Used to represent people and organizations outside the system. They either input information to the system, accept output information from the system or both	
Process		These are actions that are carried out with the data that flows around the system. A process accepts input data and produces data that it passes on to another part of the DFD	
Data Flow		These represent the flow of data to or from a process	
Data Store		This is a place where data is stored either temporarily or permanently	

Fig 3.1: Data Flow Diagram Symbols

3.1.1 DFD LEVEL 0

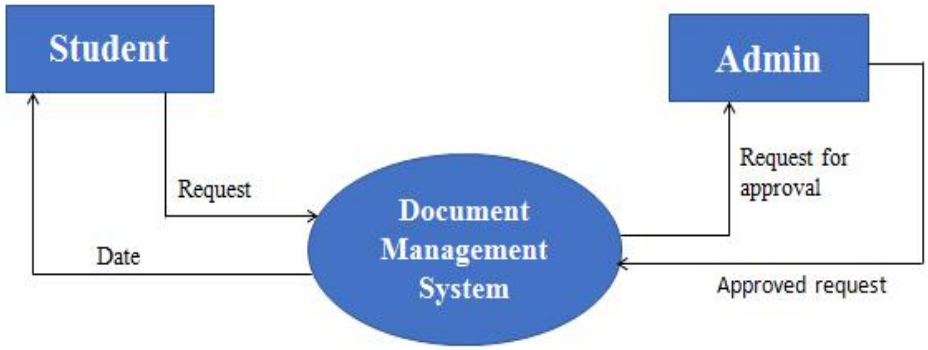


Fig 3.2: 0 Level DFD

3.1.2 DFD LEVEL 1

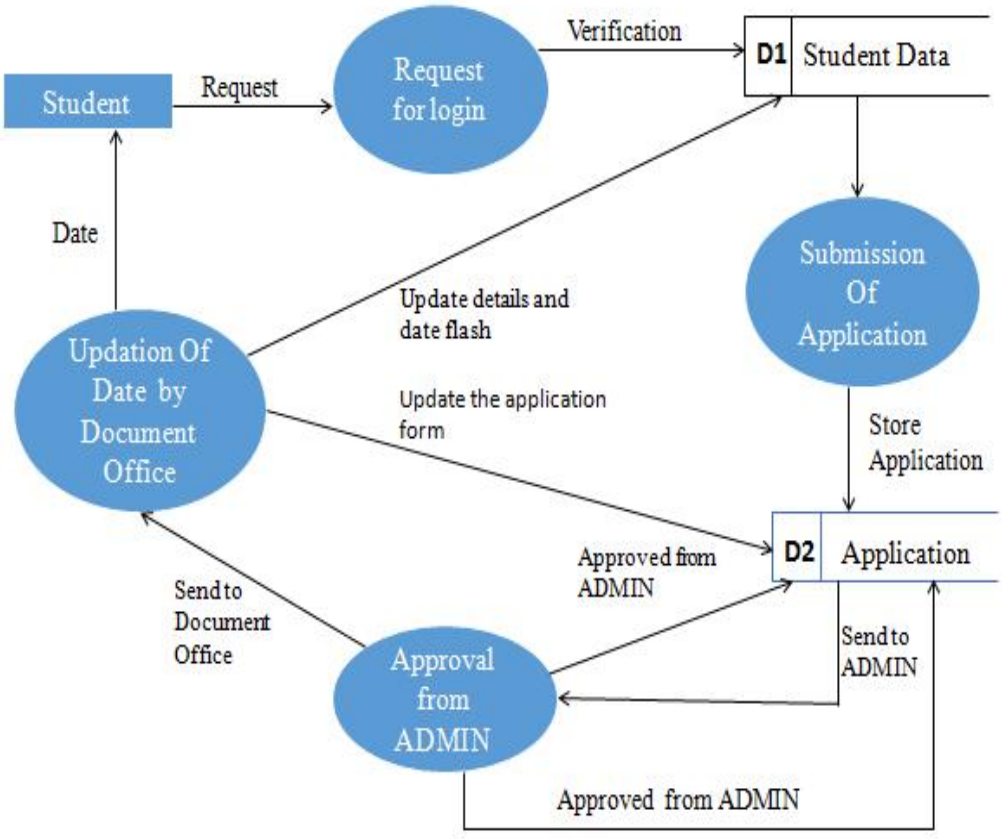


Fig 3.3: 1 Level DFD

In 0 level DFD, all students can fill their login to get in DOCUMENT MANAGEMENT SYSTEM (project) and then all of them can apply for the approval of documents.

In 1 level DFD, the admin and students can login by providing the valid username and password. After that student can apply for the approval form and the admin can proceeded for the further process after getting the pop-up on the screen for the approval for retrieval of documents.

3.2 Entity Relationship Diagram(ER-Diagram)

An entity-relationship diagram (ERD) is a graphical representation of an information system that shows the relationship between people, objects, places, concepts or events within that system. An ERD is a data modeling technique that can help define business processes and can be used as the foundation for a relational database.

While useful for organizing data that can be represented by a relational structure, an entity-relationship diagram can't sufficiently represent semi-structured or unstructured data, and an ERD is unlikely to be helpful on its own in integrating data into a preexisting information system.

Three main components of an ERD are the entities, which are objects or concepts that can have data stored about them, the relationship between those entities, and the cardinality, which defines that relationship in terms of numbers.

➢ Components of the ER Model

The three main components of the ER Model are **entities**, **attributes** and **relationships**.

- In ERM terms, an entity is a "thing" within the organization that we want to keep information about, such as a customer, employee or course. In other words, an entity in an ERM actually refers to a table, and rows within the table are referred to as entity occurrences. Entities are represented by rectangles containing the name of the entity. Entity names must be singular and in capital letters.
- Each entity has attributes which are the properties of each entity. Attributes will be implemented as columns in the tables. Each attribute has a domain which specifies the set of possible values an attribute can have. For instance, the range of values for a telephone extension may be specified as a set of integer numbers between 4000 and 4999. An attributes domain is not displayed in ER diagrams, but is recorded in the data dictionary.

- Attributes can be of various types. A composite attribute can be subdivided into smaller parts. For example, an attribute Name can be subdivided into First Name and Last Name. Attributes that cannot be subdivided are called simple attributes. First Name and Last Name are now simple attributes. Most attributes have only a single value and as such are called single valued attributes. For example, a Teacher can have only one Last Name or a Subject can have only one Subject Code. Multi valued attributes can have more than one value. For example, a Student could have more than one Certificate or a Department may have several Extensions.
- A key attribute is an attribute that has a unique value for each entity occurrence. In other words, a key attribute is used to identify each row uniquely. For example, a Subject Code will uniquely identify each subject as not subjects can have the same Subject Code. Key attributes are represented by underlining its name.

- A relationship is the association between entities or entity occurrences

3.2.1 ER Diagram of DOCUMENT MANAGEMENT SYSTEMs:

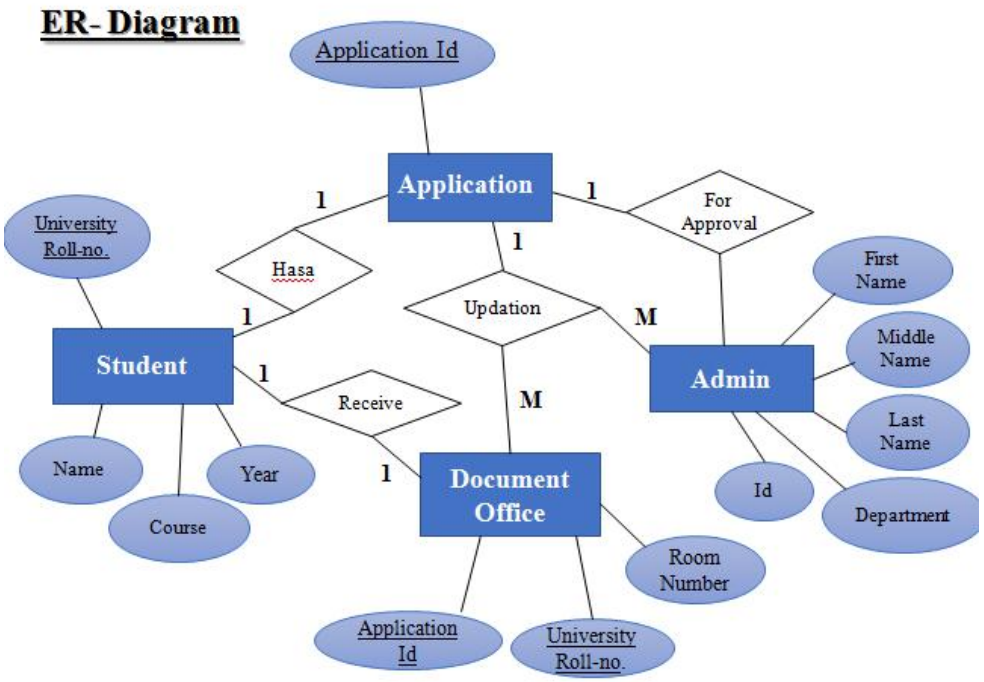


Fig 3.7: Entity Relationship Diagram

3.3 Database Design

A good database design is crucial for a high-performance application, just as an Aerodynamic body is important to a race car. If the car doesn't have smooth lines, it will produce drag and go slower. Without optimized relationships, your database won't perform as efficiently as possible. Thinking about relationships and database efficiency is part of normalization.

Beyond the issue of performance is the issue of maintenance—your database should be easy to maintain. This includes storing only a limited amount (if any) of repetitive data. If you have a lot of repetitive data and one instance of that data undergoes a change (such as a name change) ,that change has to be made for all occurrences of the data. To eliminate duplication and enhance your ability to maintain the data, you might create a table of possible values and use a key to refer to the value. That way, if the value changes names, the change occurs only once in the master table. The reference remains the same throughout other tables.

Attribute	Type	Description	Constraints
Username	varchar(30)	Username of student	Primary Key
Password	varchar(30)	Password of student	Not null

Table 3.1: Student Login

Attribute	Type	Description	Constraints
Username	Varchar(30)	Username of Admin	Primary Key
Password	Varchar(30)	Password of Admin	Not Null

Table 3.2: Admin login

IMPLEMENTATION & USER INTERFACE

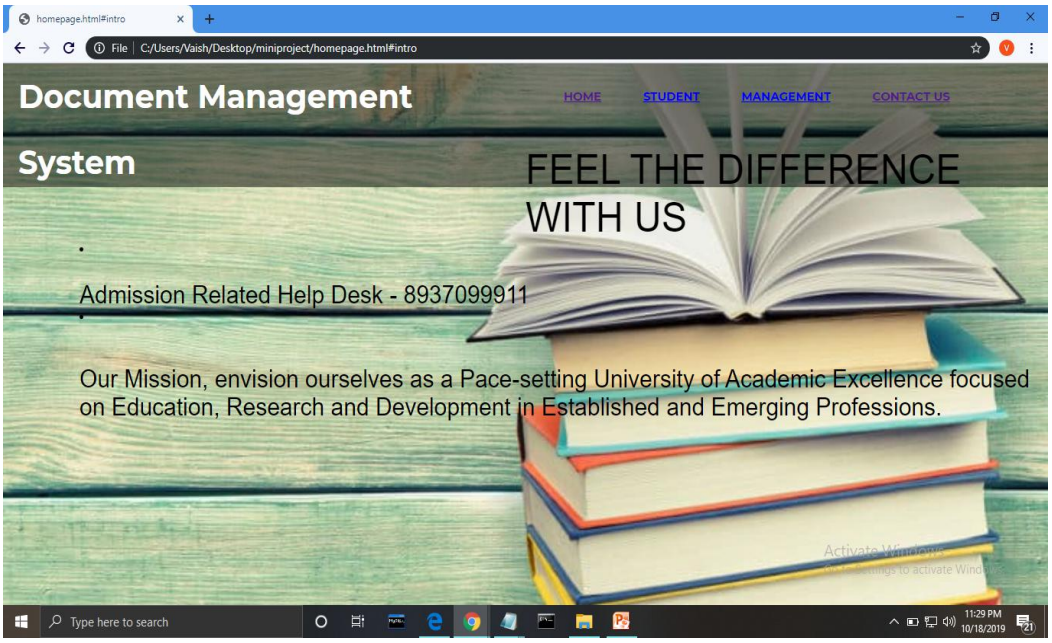


Fig 4.1: Home

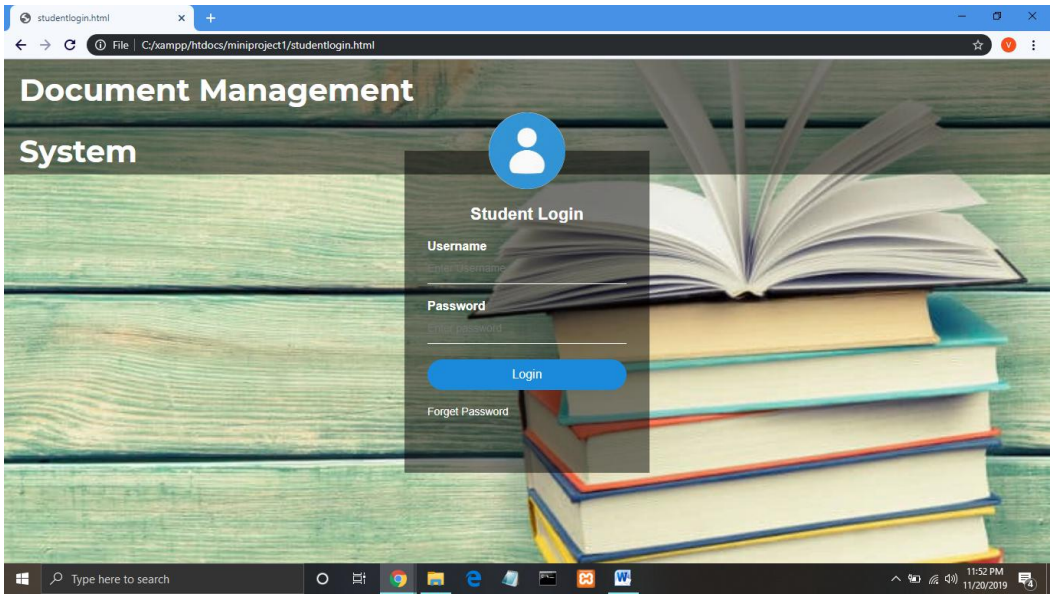


Fig 4.2: Student Login

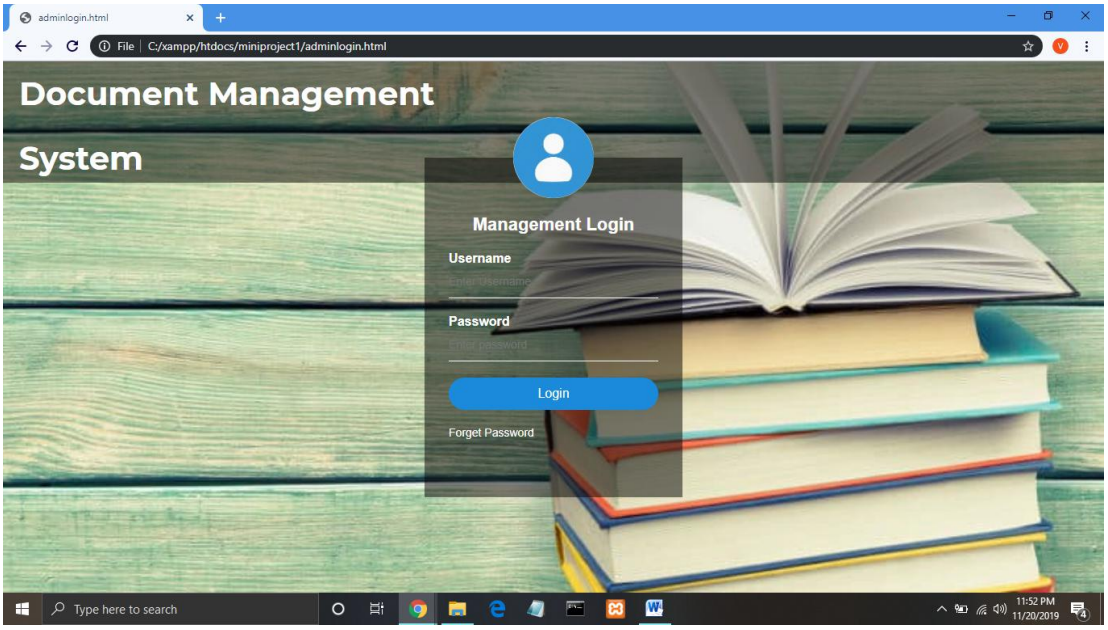


Fig 4.3: Admin Login

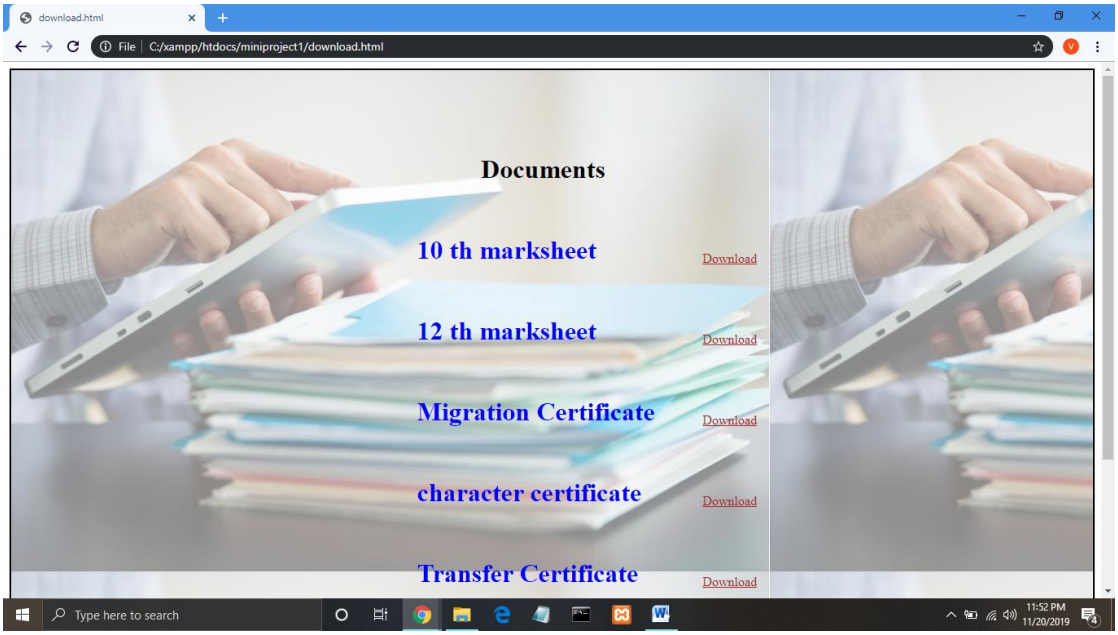


Fig 4.4:Document Download

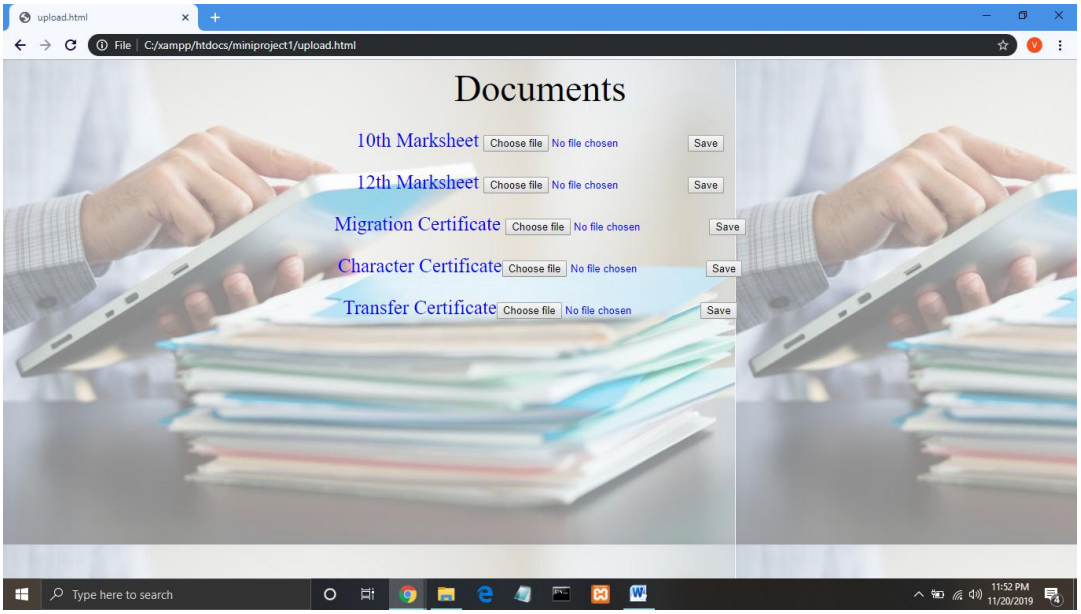


Fig 4.5: Document Upload

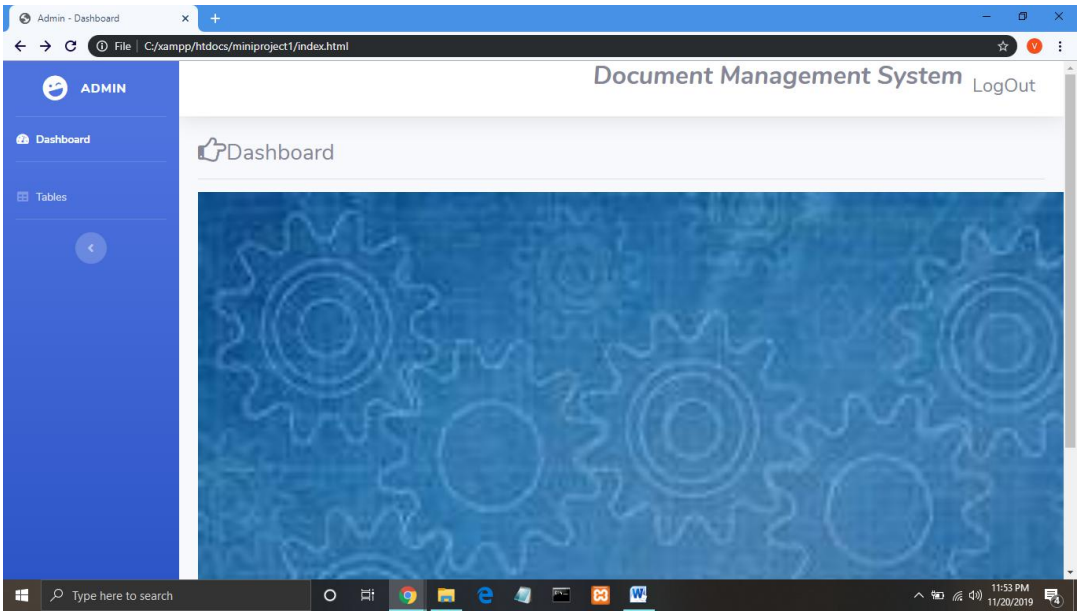


Fig 4.6: Admin Dashboard

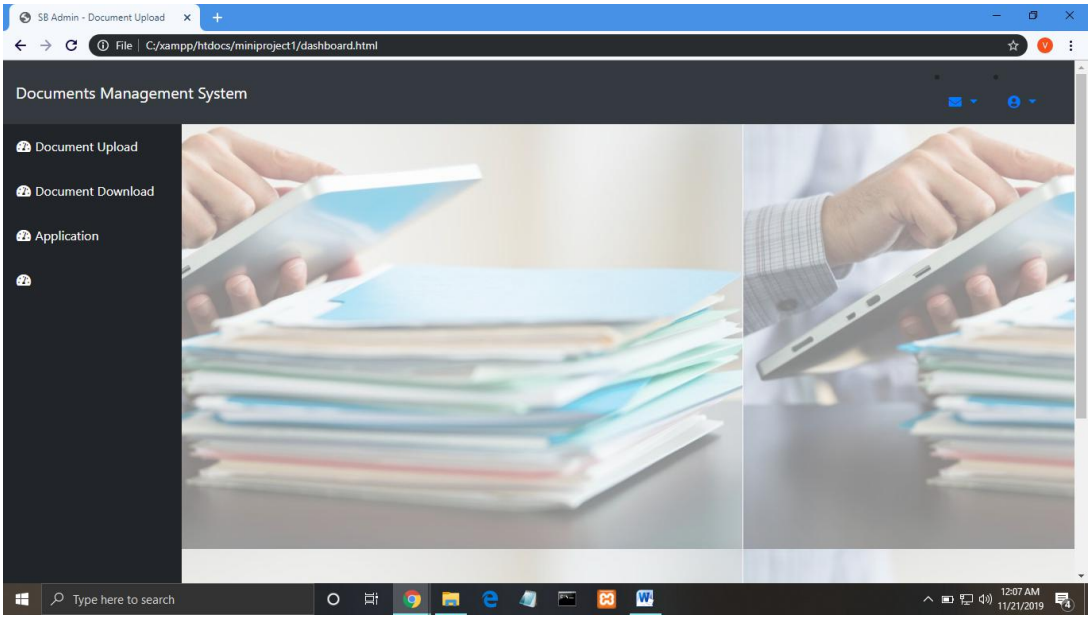


Fig 4.7: Student Dashboard

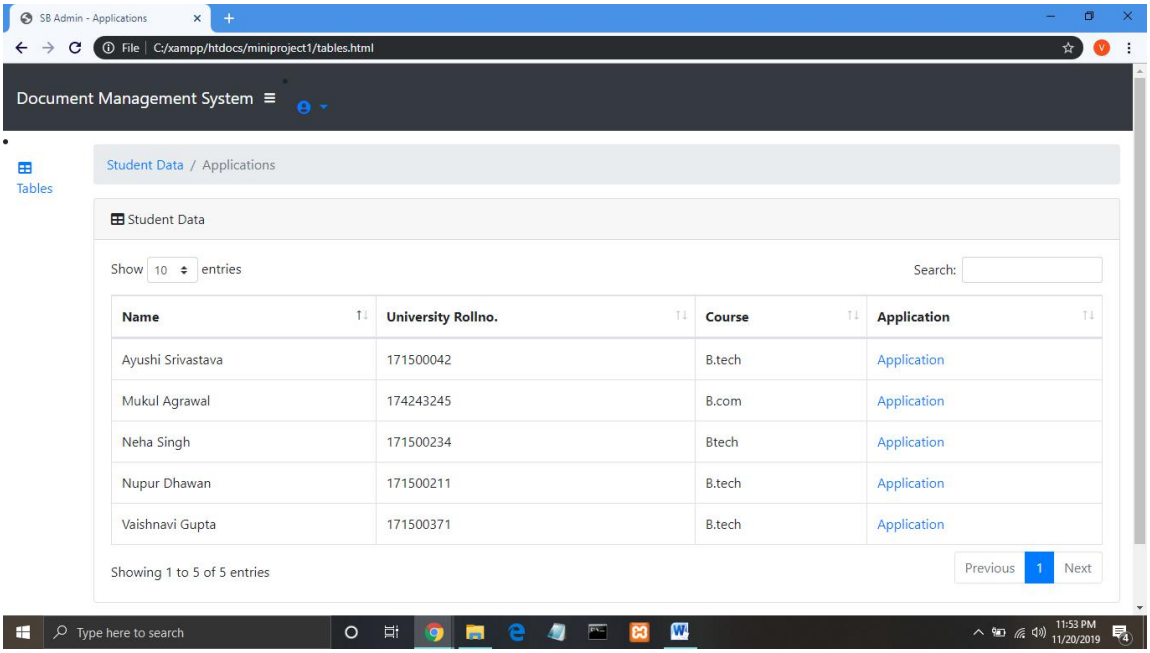


Fig 4.8: Students Data

SOFTWARE TESTING

5.1 Testing

- Software testing is the process of executing a program with intension of finding errors in the code. It is a process of evolution of system or its parts by manual or automatic means to verify that it is satisfying specified or requirements or not.
- Generally, no system is perfect due to communication problems between user and developer, time constraints, or conceptual mistakes by developer.
- To purpose of system testing is to check and find out these errors or faults as early as possible so losses due to it can be saved.
- Testing is the fundamental process of software success.
- Testing is not a distinct phase in system development life cycle but should be applicable throughout all phases i.e. design development and maintenance phase.
- Testing is used to show incorrectness and considered to success when an error is detected.

5.2 Objectives of Software Testing

- **Software Quality Improvement:** The computer and the software are mainly used for complex and critical applications and a bug or fault in software causes severe losses. So a great consideration is required for checking for quality of software.
- **Verification and Validation:**
    - Verification means to test that we are building the product in right way .i.e. are we using the correct procedure for the development of software so that it can meet the user requirements.
    - Validation means to check whether we are building the right product or not.

- **Software Reliability Estimation:** The objective is to discover the residual designing errors before delivery to the customer. The failure data during process are taken down in order to estimate the software reliability

5.3 Principles of Software Testing

- All tests should be traceable to end user requirements.
- Tests should be planned long before testing begins
- Testing should begin on a small scale and progress towards testing in large
- To be most effective testing should be conducted by an independent third party

The primary objective for test case design is to derive a set of tests that has the highest livelihood for uncovering defects in software. To accomplish this objective two different categories of test case design techniques are used. They are

- White box testing.
- Black box testing.

5.3.1 White-box testing:

White box testing focus on the program control structure. Test cases are derived to ensure that all statements in the program have been executed at least once during testing and that all logical conditions have been executed.

5.3.2 Black-box testing:

Black box testing is designed to validate functional requirements without regard to the internal workings of a program. Black box testing mainly focuses on the information domain of the software, deriving test cases by partitioning input and output in a manner that provides through test coverage. Incorrect and missing functions, interface errors, errors in data structures, error in functional logic are the errors falling in this category.

5.4 Testing fundamentals

Testing is a process of executing program with the intent of finding error. A good test case is one that has high probability of finding an undiscovered error. If testing is conducted successfully it uncovers the errors in the software. Testing cannot show the absence of defects, it can only show that software defects present.

5.5 Testing Information flow*:*

Information flow for testing flows the pattern. Two class of input provided to test the process. The software configuration includes a software requirements specification, a design specification and source code.

Test configuration includes test plan and test cases and test tools. Tests are conducted and all the results are evaluated. That is test results are compared with expected results. When erroneous data are uncovered, an error is implied and debugging commences.

CONCLUSION

This was the first considerably large and important project undertaken by me during my B.tech course. It was an experience that changed the way I perceived project development. The coding could not be started before the whole system was completely finalized. Even then there were so many changes required and the coding needed to be changed. I attribute this to inadequate information gathering from the user. Though there were many meetings with the user and most of the requirements were gathered, a few misinterpretations of the requirements still crept in. It made me realize how important the systems analysis phase is. The project is a classic example, that learning of concepts needs to be supplemented with application of that knowledge.

On the whole it was a wonderful experience developing **DOCUMENT MANAGEMENT SYSTEM** and I would have considered my education incomplete without undertaking such a project which allowed me to apply all that I have learnt and tried to develop a project that can be useful for the students and administration for recovering the documents with ease. It is developed using PHP so that it can be accessed very easily and at any time. The system will be capable of providing information about the documents and the system will be available and operational all the time. The system is developed with an aim of usability so that it is an easy to use system that requires the least amount of user input possible. For using this system general computer knowledge is enough. An easy well-structured module will show the correct path to reach the destination. Users will be authenticated to ensure that no unauthorized users gain access to private information.

BIBLIOGRAPHY &REFERENCES

References:

www.w3schools.com/html
www.stackoverflow.com
www.html-tutorial.com
www.w3schools.com/css