

PROJECT MONITORING SYSTEM

BY

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This Report Presented in Partial Fulfillment of the Requirements for the
Degree of Master of Science in Computer Science and Engineering

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APPROVAL

This Project titled “**Project Monitoring System**”, submitted by Subhra Jyoti Halder to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of M.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 07th May 2018.

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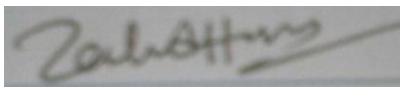
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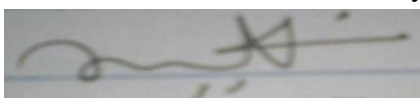
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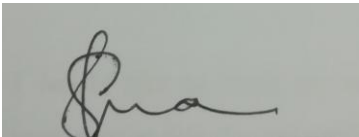
I hereby declare that, this project has been done by me under the supervision of **Dr. Sheak Rashed Haider Noori, Associate Professor and Associate Head, Department of CSE** Daffodil International University. I also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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ABSTRACT

Every private and government office handle different project all over the year. That means their every work is done by different project. When they get a new project, the office admin assign a moderator and few member for new project. After that they have done their work through a team work. Project admin divide the work with specific expert. But this is so much tough to handle in manual process. That's why I have developed a system which will maintain all of this work. According to my system, when a company get a project, the admin will create a project with all agenda and deadline by assigning the project head. Then project head add his or her member. The project head divide his/her the project as per his necessity. Then assign all the divided work to his project member with specific deadline. After that the project head will monitor the developed work.

Actually, this system is developed to reduce the complexity of corporate life. Every admin can handle huge project without any pressure. Employees will be also organized. On the other hand, client can directly observe the project that's why every member will be more concern about the project.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Project monitoring system is an online web application. It can handle any kind of project work both in government and private. It is also a smart way to maintain and observe project work. Every employee is assigned with new work by admin. After assigning work he can monitor the developed work with proper deadline. So every employee will be more concern about their work. On the other hand the client can directly participate in his project session. So he can observe his project and can predict the delivery date. Client participation increase the activity of project team.

1.2 Motivation

Currently, this kind of system is very rare in Bangladesh. After getting a project every company arrange a board meeting to distribute the total work. That time every employee is assigned in his/her expert area. After assigning the work every day project manager take the update from the employee. When any problem arise or have something to announce that time they arrange another meeting. This is total current situation of most of the working lace in Bangladesh.

1.3 Objectives

According to my project title everybody can realize that my system is developed for any corporate organization and even in university administrative section. My aim is to establish a system which solve all the critical part in project developing period. Through my project the admin, employee and the client are connected each other. Everybody who are connected a project can see the daily update, progress report, project member details etc.

1.4 Expected Outcome

From this project, I am expecting a fruitful outcome which will help every organization to organize their work and manage deadline. On the other hand it will also make an annual income through every project wise earning.

1.5 Report Layout

This part play a vital role in project documentation. A key feature of reports is that they are formally structured in sections. The use of sections makes it easy for the reader to jump straight to the information they need. Unlike an essay which is written in a single narrative style from start to finish, each section of a report has its own purpose and will need to be written in an appropriate style to suit – for example, the methods and results sections are mainly descriptive, whereas the discussion section needs to be analytical.

Understanding the function of each section will help you to structure your information and use the correct writing style. Reports for different briefs require different sections, so always check carefully any instructions you've been given.

The title needs to concisely state the topic of the report. It needs to be informative and descriptive so that someone just reading the title will understand the main issue of your report. You don't need to include excessive detail in your title but avoid being vague and too general.

CHAPTER 2

BACKGROUND

2.1 Introduction

Project Monitoring System is a new subject still now in Bangladesh. Because every organization in Bangladesh is using many professional software to organize and maintain their work and business revenue. That's means they are using their employee to maintain calculation through software but they are monitoring their employee in manual process. A project manager divide their work and monitor physically introducing with employee. This manual calculation sometimes causes big problem like delayed in delivery. That's why I have developed this system to make a smart environment to make every project successful with proper dateline.

2.2 Related Works

This type of work is currently running in every tech base company. When they get new project, they just assign their work in their project monitoring system then add their project manager and team member. The manager then assign their project work with a specific deadline. Then every member started their work. If they want they can reassign their work with their assistances also with proper deadline. When one deadline is over it marked as red. That means every member will be concern with their work because It will make a big effect in their career.

2.3 Comparative Studies

If we try to compare this system with other developed nation, we get a big frustrated analysis. Because they are one step ahead from us. Because they are using this kind of system from many years ago. That's why their every company is well organized and their employee are more concern about their work. So it's high time to start our system and make it successful as early as possible. In this position government can play a vital role to implement this successfully.

2.4 Scope of Problems

In my previous section I have mentioned about government steps. But here is some major problem which is our employee. They are not familiar with this type of system. When government try to implement this system in every government office, that time they will face many technical problem. But it could be easily overcome by our expert trainer. So primarily it can cause many problem but in future in will make a great result.[6]

2.5 Challenges

Every system, especially which is new, have many problem to implement. But challenges are part of a system. If we can make necessary step to make defend then we will be successful. So we have to make user friendly system. Because our current employee generation is not too much friendly with this kind of system. Using expert trainer and user-friendly system we can defend any challenge.

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Business Process Model

According to the definition of activity diagram we can say it is a graphical representation for specifying business process. Business Process Model and Notation is a standard for business process modeling that provides a graphical notation for specifying business processes in a Business Process Diagram [1][3]. Our first step in modeling is actually pen and paper. However, to actually run a business process, we will need to digitize that process in a way that a workflow engine can understand [2][3]. That's why we make our workflow by following the rule of Business Process Model. The given work flow is the administrator activities in our system. After login the system as administrator what will see and what is the activity of him, this Figure 3.6 is the solution of those question.

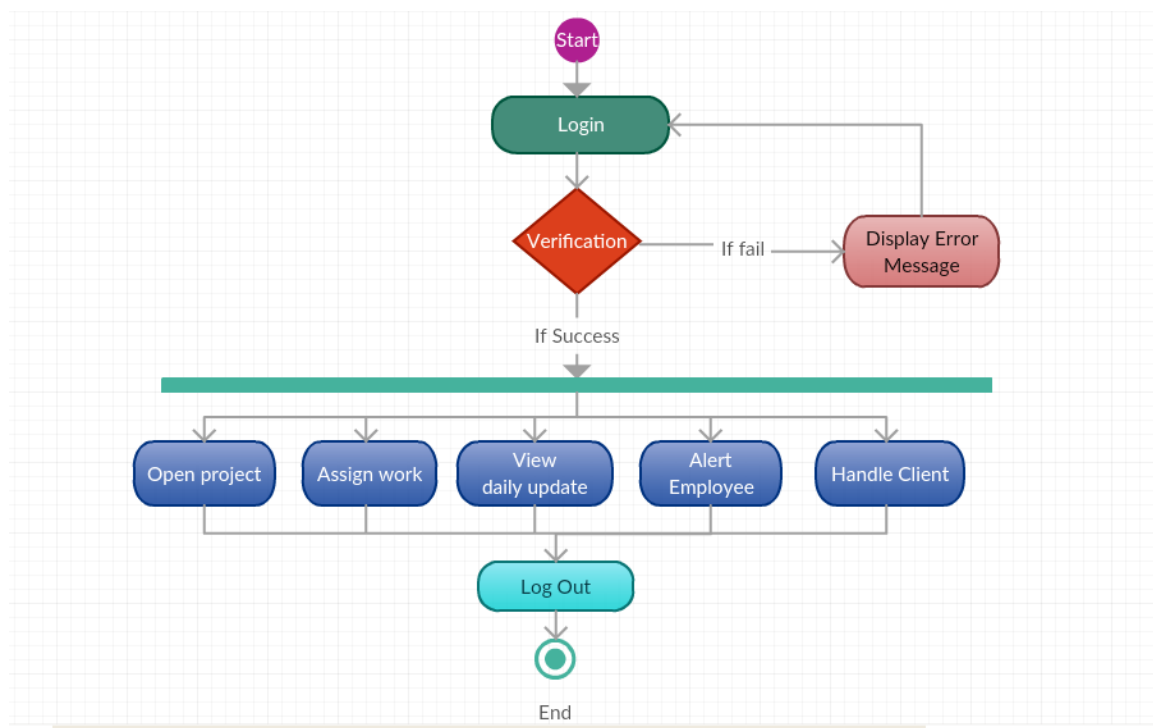


Figure 3.1: Business Process Model

3.2 Requirement Collection and Analysis

The software requirements are description of features and functionalities of the target system. Requirements convey the expectations of users from the software product. The requirements can be obvious or hidden, known or unknown, expected or unexpected from client's point of view. The process to gather the software requirements from client, analyze and document them is known as requirement engineering. The goal of requirement engineering is to develop and maintain sophisticated and descriptive 'System Requirements Specification' document.

3.3 Requirement Collection Process

It is a four step process, which are,

- Feasibility Study
- Requirement Gathering
- Software Requirement Specification
- Software Requirement Validation

3.3.1 Feasibility Study

When the client approaches the organization for getting the desired product developed, it comes up with rough idea about what all functions the software must perform and which all features are expected from the software. Referencing to this information, the analysts does a detailed study about whether the desired system and its functionality are feasible to develop. This feasibility study is focused towards goal of the organization. This study analyzes whether the software product can be practically materialized in terms of implementation, contribution of project to organization, cost constraints and as per values and objectives of the organization. It explores technical aspects of the project and product such as usability, maintainability, productivity and integration ability [3][2].

The output of this phase should be a feasibility study report that should contain adequate comments and recommendations for management about whether or not the project should be undertaken.

3.3.2 Requirement Gathering

If the feasibility report is positive towards undertaking the project, next phase starts with gathering requirements from the user. Analysts and engineers communicate with the client and end-users to know their ideas on what the software should provide and which features they want the software to include.

3.3.3 Software Requirement Specification

SRS is a document created by system analyst after the requirements are collected from various stakeholders. SRS defines how the intended software will interact with hardware, external interfaces, speed of operation, response time of system, portability of software across various platforms, maintainability, speed of recovery after crashing, Security, Quality, Limitations etc.[2]

3.3.4 Software Requirement Validation

After requirement specifications are developed, the requirements mentioned in this document are validated. User might ask for illegal, impractical solution or experts may interpret the requirements incorrectly. This results in huge increase in cost if not nipped in the bud. Requirements can be checked against following conditions[2],

- If they can be practically implemented
- If they are valid and as per functionality and domain of software
- If there are any ambiguities
- If they are complete
- If they can be demonstrated

3.4 Use Case Model and Description

Use case model is very powerful process for understanding and describing any software or management project. That means this model show that the user area and what can user do? At the same time it also shows the limitation of admin. So in a word I can say it is created by developer for more understanding his/her project and build without error. It also fixes the critical bug also. According to the rule of use-case we also build 3 use-case models for admin, employee and client [2]

3.4.1 Use-case Model of Project Monitoring System



Figure 3.2: Use-case Model

3.4.2 Description of Use-case Model

Administrator is the system handler actor in my system in Figure 3.2. Admin is the power house of our project. Because every step of this system will be maintained by admin. He can change the whole prototype of this system. The reputation of my project depends on the activities of administrator. That's why I try to make my admin power and using process more flexible. The given use-case model is the whole activities of administrator. Administrator has registration part and admin can create the account for both employee and client. Then employee and client can login into admin panel. The main work area of admin is to handle and monitor project work. He can open project. After opening project, he can distribute the work among the employee and can monitor the whole process. According to the Figure 3.2, when a new employee will assign by admin he or she can view the whole project with project proposal. Then he can start his work which was assigned by the admin with a specific deadline. Employee can also make comment in discussion area or he can give suggestion to make project more effective. He has also the power to view the total percentage of developed work.

3.5 Logical Data Model

Logical data modeling is the process of representing data architecture and organization in a graphical way without any regard to the physical implementation or the database management system technology involved in storing the data. A logical data model provides all the information about the various entities and the relationships between the entities present in a database. A logical data model represents the organization of a set of data by standardizing the people, places, things (entities) and the rules and relationships between them using a standard language and notation. It provides a conceptual abstract overview of the structure of the data ^[5]. In my logical data model I have tried to visualize the logical relation among different entities in my system.

3.5.1 Logical Data Model of Project Monitoring System

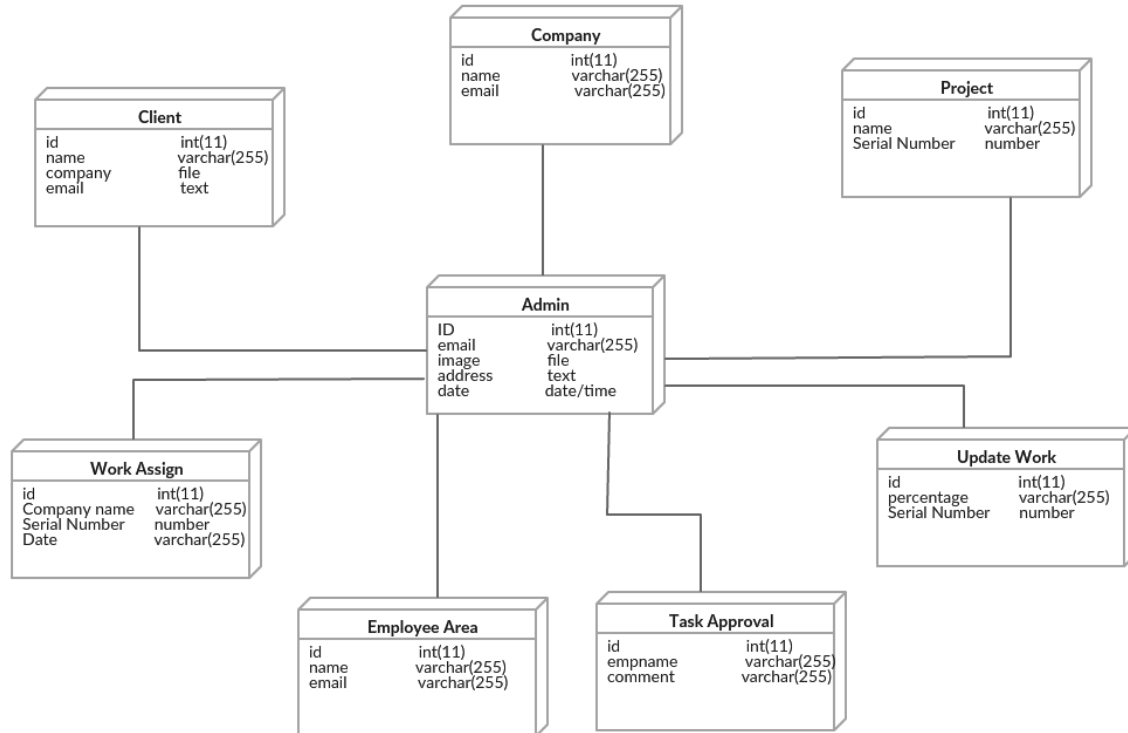


Figure 3.3: Logical Data Model

3.5.2 Description of Logical Data Model

In my system, Admin will handle all supreme activity. That's why he/she has a connection among every entity in my system. Admin can delete, create or update any entity of my system. That's why in my logical diagram I have made a strong relation among all of them. And all are centered into admin. Suppose, one employee submit a work, first it will go the admin for approval, if it is ok then goes to the work area. So, admin or project head plays a vital role to run this system successfully.

3.6 Entity Relationship Diagram

Entity relationship diagram means the graphical representation of entities and their relationship between each other. The important part of E-R diagram is to organize data within database. Actually it's explaining the all structure of every entity. Entity means the every table of database. In the previous we describe our system individually. But entity relation will describe the system with their actual relation and structure of database. In a word we can say entity relationship is the process how the data is shared within entities [2]

3.6.1 ER Diagram of Project Monitoring System

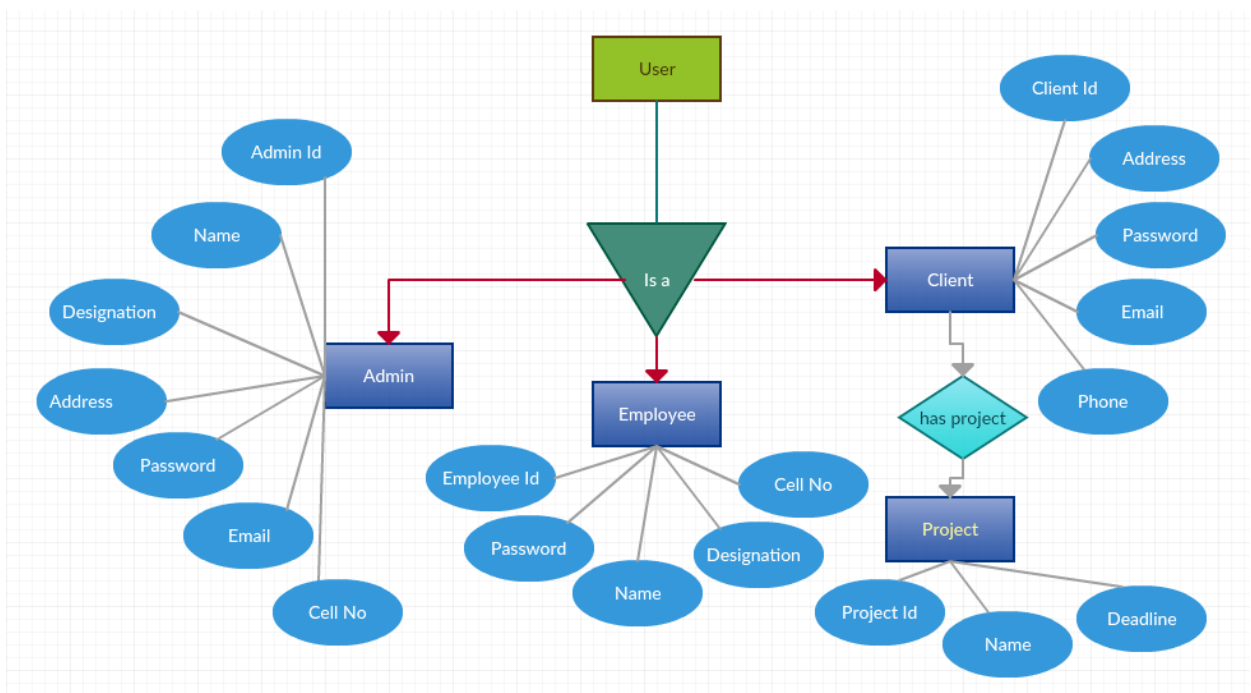


Figure 3.4: ER Diagram of Project Monitoring System

3.6.2 Description of Project Monitoring System ERD

The basic syntax we have already described in section 3.4. But the Figure 3.11 is the actual entity relationship diagram of our system. When admin login in our system he has admin id and password. After login he can see the activity which is described in E-R model. When client login in our system that time if he or she has open project, he can see the project update.

CHAPTER 4

DESIGN SPECIFICATION

4.1 Introduction

My system is totally private. That means only authorized people can access in my application. Those are the admin, employee and client. Here is great challenge to make it user friendly. Because the aim is to make this project to remove manual complexity. I hope it will do well.

4.2 Front-end Design

In every web application the main structure is a markup language that is HTML. HTML tags define the content area and metadata of each page. The whole design is maintained by cascading style sheet (CSS). In our system we have used the latest version of each language. The whole structure is markup by HTML5 and design part is standing under Bootstrap a framework of CSS. We also use so many raw CSS for most customize our system. But the main attractive language of our system is JavaScript. We have used jQuery a framework of JavaScript for making more attraction and user friendly design [3].

4.3 Design Parts

In our system design carries the responsibility of user friendly interface. So at first I have built an admin panel then the access menu will be shown at the left side according to each user access.

4.3.1 Login Page

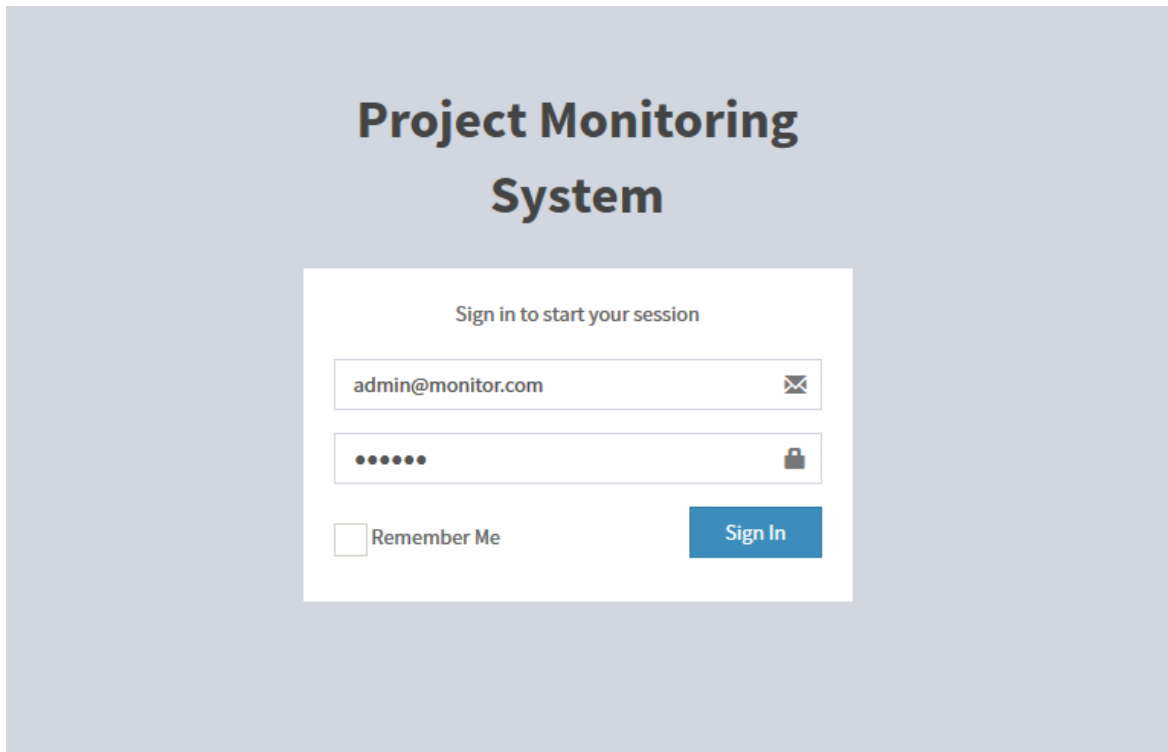


Figure 4.1: Login of Project Monitoring System

4.3.2 Description of Login Page

When system is fully developed office authority can access their system by this login page. That's why developer team will create an admin account for start the system. By using this email and password admin can enter his/her system. This system is private that's why no public domain will not be allowed. They can only login by a secure IP address.

4.3.3 System Dashboard

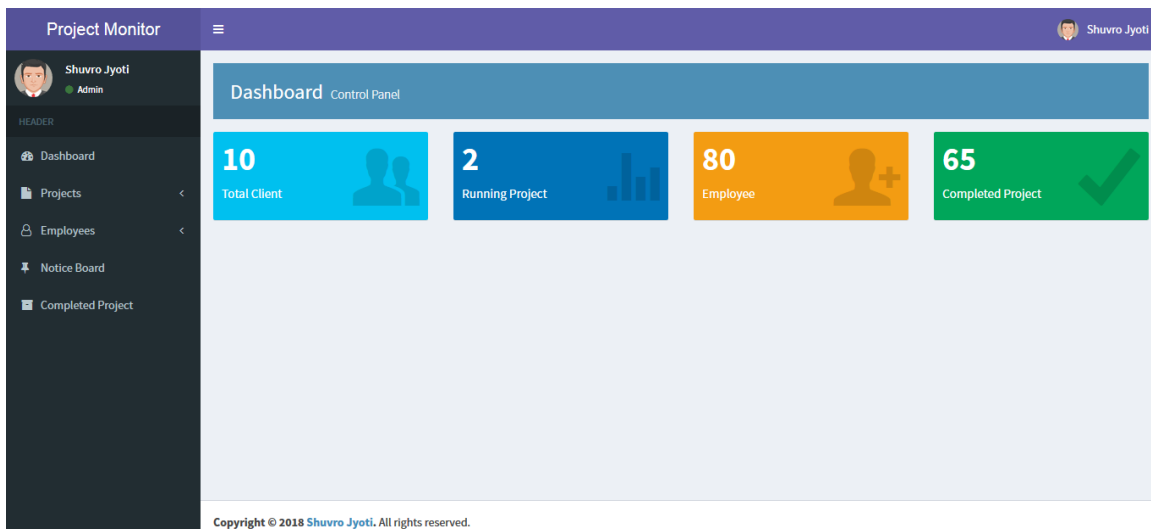
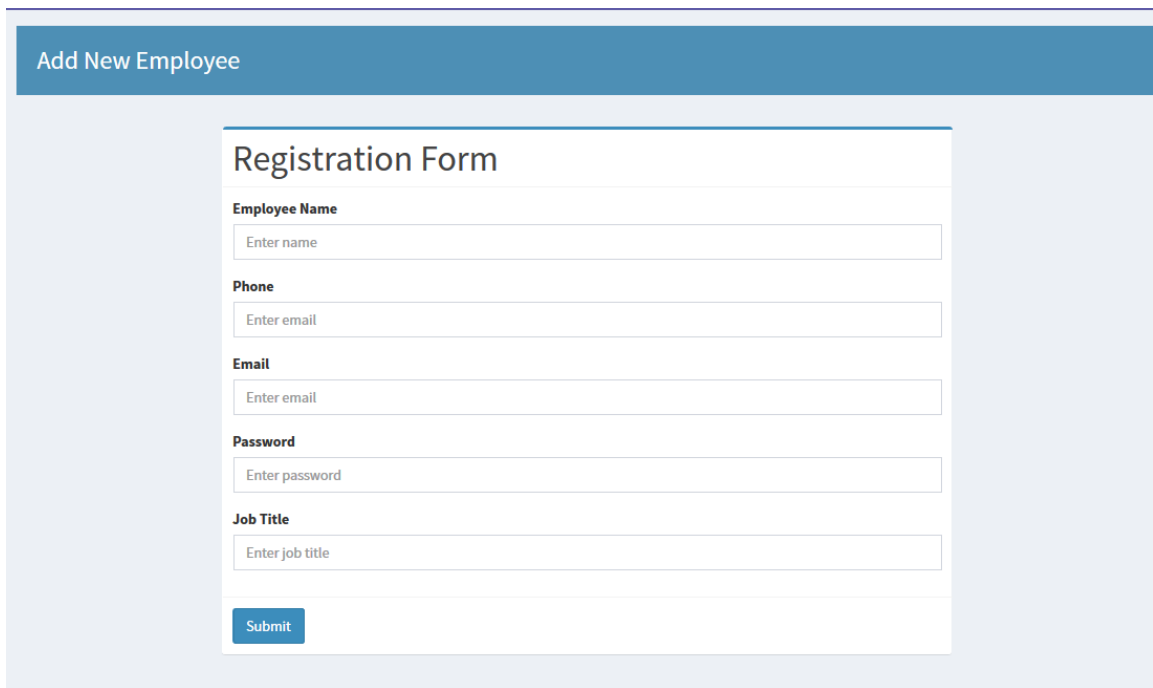


Figure 4.2: System Dashboard

4.3.4 Description of Dashboard

When admin login in my system, then he can see how many client he has? How many project is currently running? How many employee have in his company? And finally how many successful project had he run? So less than one minute he would be realized about current condition of any organization. Now look at the left side menu, this is the all power area of admin. By using those options can create as he/she wish. If we take a close look at our admin panel first we can see, we have 7 running project, 2 active client, total 80 employee and 65 job has done successfully. That means an admin enter his/her admin panel within one minute he/she can realize the current condition of his/her organization. Now take a deep look at sidebar menu. Those are the power tool of admin. Now I will describe all the sections.

4.3.5 Employee Registration



The screenshot shows a web interface for adding a new employee. At the top, there is a blue header bar with the text "Add New Employee". Below this, a white registration form is displayed. The form is titled "Registration Form" and contains the following fields:

- Employee Name:** A text input field with the placeholder "Enter name".
- Phone:** A text input field with the placeholder "Enter email".
- Email:** A text input field with the placeholder "Enter email".
- Password:** A text input field with the placeholder "Enter password".
- Job Title:** A text input field with the placeholder "Enter job title".

At the bottom of the form, there is a blue button labeled "Submit".

Figure 4.3: Register New Employee

4.3.6 Description of Employee Registration

This system first required requirement is the information of the employee. Because without employee information admin can't assign the work with employee. So before accept any project we have to register our all employee in our system database. That's why this is a very important part of our system. In this form employee must have to provide his name, phone number, email address, password and the designation which is provided by the company. After fill up the form admin can register the employee. When the registration part is complete, employee and login their dashboard to see the assigned work.

4.3.7 All Employee

Employee Name	Email	Designation	Phone	Update
Abdur Rahman	abdur@gmail.com	Admin	0181276344	Update
Kobir Sultan	kabir@gmail.com	Manager	0182737432	Update
Mamun Jahangir	mamun@gmail.com	Member	01917263543	Update
Nazma Jahan	nazma@gmail.com	Member	109383822	Update

Showing 1 to 4 of 4 entries

Previous 1 Next

Figure 4.4 All Employee List

4.3.8 Description of All Employee Section

This is the database of all employee like all clients in this system. In this page admin can see his/her all employee in one page. When they have joined, what is their designation etc. Here is another option like all client page. That is the update option. When registration part is complete that time wrong information may have imputed in the system by typing mistake. That why update option is so much important for the system. When any employee informed that his/her information in incorrect or address, phone number is changed that time admin will click on the specific employee's update button. Then appear a update form with past value. Admin just remove the incorrect one and input the correct one. After that just press the update button and the job is done.

4.3.9 Project Registration Area

Add New Project

Registration Form

Project ID

Company Name

Project Details

Starting Date

Delivery Date

Client Name

Email

Phone

Password

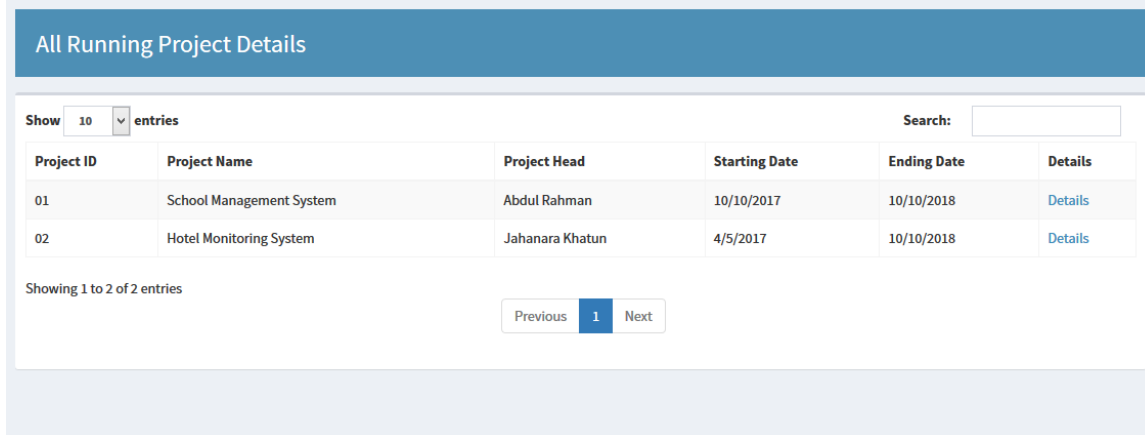
Enter Project Head ID

Figure 4.5: Project Registration Area

4.3.10 Description of Project Registration Area

This registration part is the heart of my system. Because all necessary data will be inputted through this form. So, data validation and required field play a vital role in this form. In my form all field is required. When any company get a new project, first they have to open this form to register a project. Frist, they have to assign a unique id for their project then all necessary data according to my form. The last input is about the project manager. Admin just assign the project manager id, then the project will be assigned in his/her account.

4.3.11 All Running Project



Project ID	Project Name	Project Head	Starting Date	Ending Date	Details
01	School Management System	Abdul Rahman	10/10/2017	10/10/2018	Details
02	Hotel Monitoring System	Jahanara Khatun	4/5/2017	10/10/2018	Details

Figure 4.6: All Running Project List

4.3.12 Description of All Running Project

In this section admin can view all running project in his/her company. This list contain the field like project unique ID, Project name, Project head name, Starting date, Ending date and a details link. This link will be show the project dashboard, which I will describe in my next section.

4.3.13 Project Dashboard

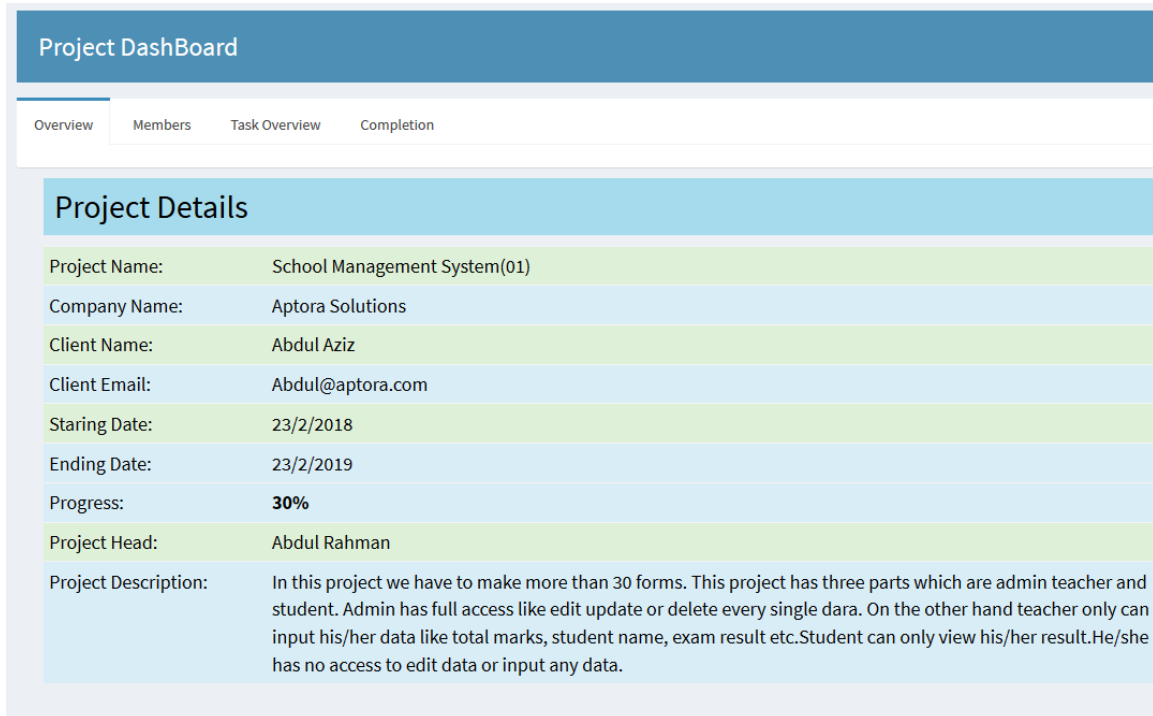


Figure 4.7: Project Dashboard

4.3.14 Description of Project Dashboard

In my previous section, I have described the all running project section. But here is option like details. When admin or project manager click on this details button he/she will be redirected in this project dashboard page. This is a user friendly dashboard because anybody can realize about this project just browsing it. In this very first page the project name, company name, client name, client email, starting date, ending date, project head name and the project description. That means in a nut shell admin can see the current condition of a project or she/he can realize the total project if she/he not informed about this project.

4.3.15 Project Member Area

Project DashBoard

Overview Members Completion

Member ID	Member Name	Role	Email	Action
101	Kobir Sultan	Manager	kabir@gmail.com	Task Details Update Delete
102	Mamun Jahangir	Member	mamun@gmail.com	Task Details Update Delete
103	Nazma Jahan	Member	nazma@gmail.com	Task Details Update Delete
104	Abdur Rahman	Admin	abdur@gmail.com	Task Details Update Delete

Add New Member

Enter Member ID

Enter id

Select Designation

Admin

Submit

Figure 4.8: Project Member Area


4.3.16 Description of Project Member Area

Then we have member area. Because when admin know the details about the project then she/he has to know the group members. Just one click on the member tab and all member will be appeared if they are previously assigned. If admin want to add more group member in his/her project just fill up the add new member form below the all member

table. Here she/he has to assign the member id and select the role like admin, manager or the simple member. Then press the submit button a new member will be added in this list. Here is another two options which are update and delete. Suppose admin want to change the role of an member that time just click the update button, This update part will be described in my next section. Here is another one is delete. Suppose, one member quit the job or deny his/her participation that time admin just click the delete button and the member will be deleted. Here is the most important things that is task details. Take a look in my next section.

4.3.17 Task Details Area

School Management System(01) -- Member DashBoard
Back



**Mamun
Jahangir(102)**
Project Member

All Task
Assign Task

Task ID	Task Details	Starting Date	Ending Date	Status	Action
01	Collect full requirement from client	2/29/2018	4/29/2018	Completed	Complete Incomplete
02	Make clear documentation of this project	2/9/2018	4/10/2018	Completed	Complete Incomplete
03	Design the home page in PSD format	3/9/2018	5/12/2018	Incomplete	Complete Incomplete
04	Fix the error in logout page	5/2/2018	9/2/2018	Incomplete	Complete Incomplete
05	PSD to HTML Homepage	5/6/2018	11/7/2018	Incomplete	Complete Incomplete

Figure 4.9: Task Details of Member

4.3.18 Description of Task Details Area

This is the most important part in my system. Because admin can see from this page what is the actual task of every member. Admin can assign multiple task in his/her member. According to the image admin has assigned 5 task to a member. This member completed 2 tasks and three other is incomplete. When other three tasks is will be completed admin marked as completed and it becomes green color.

4.3.19 Assign Task

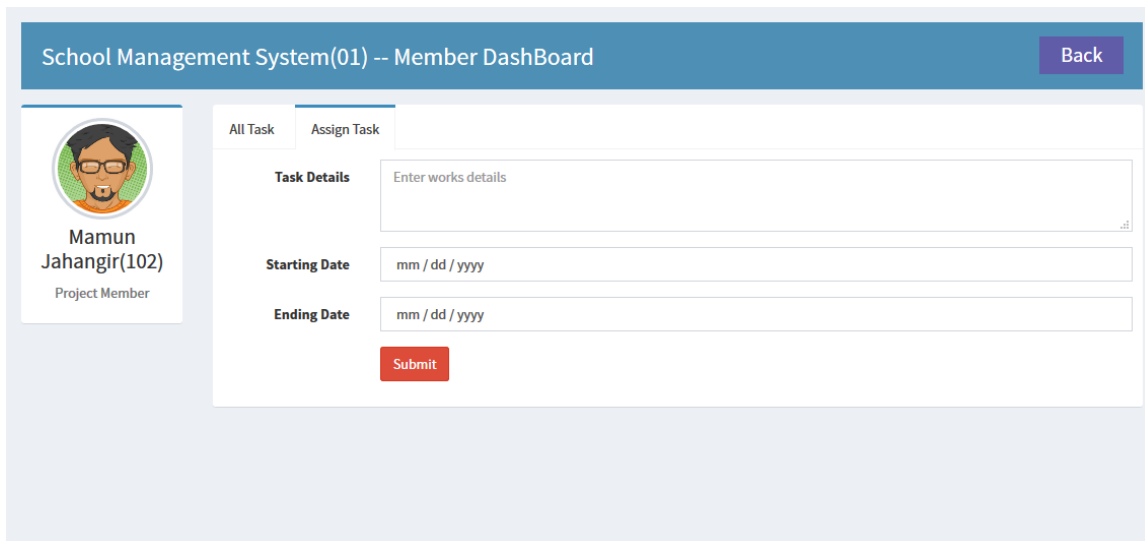


Figure 4.10: Assign Task

4.3.20 Description of Assign Task

This is the private area of each member in my system. In my previous section I have described the total task which was assigned my admin. But if admin want to assign more task then she/she has to need this task assign form. By this form admin can assign another work for specific admin with proper date line.

4.3.21 Task Completion Area

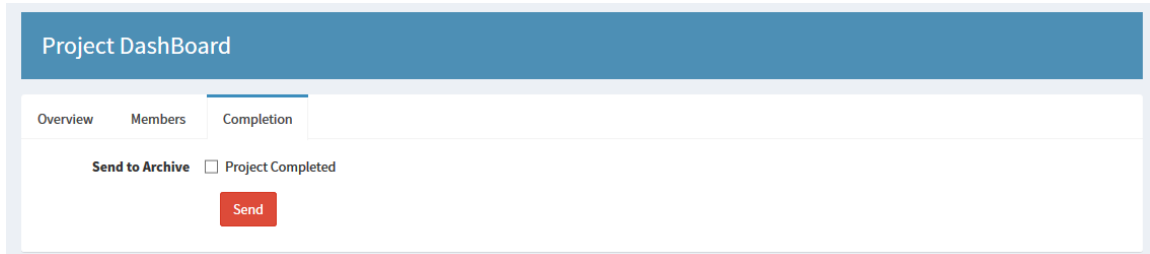


Figure 4.11: Task Completion Area

4.3.22 Description of Task Completion Area

Suppose every member in this project have submitted his/her work and admin marked as completed. That means total project is complete to handover. After some days project is handed over to the client. But remember the fact, this project is still in running category. To move this project from running to archive admin just check the project completed option and press send. Now take a look in my second image.

4.3.23 Completed Task to Archive

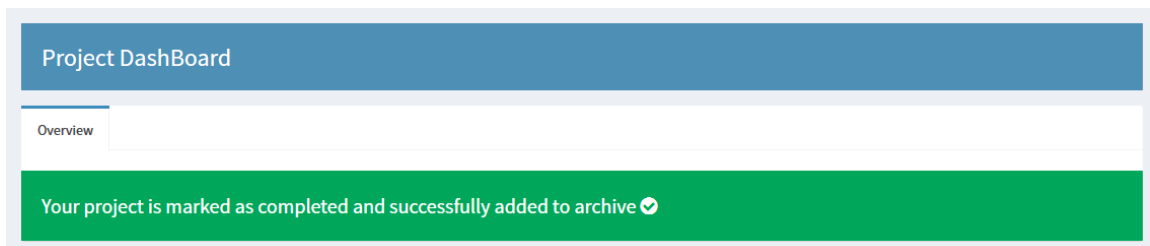
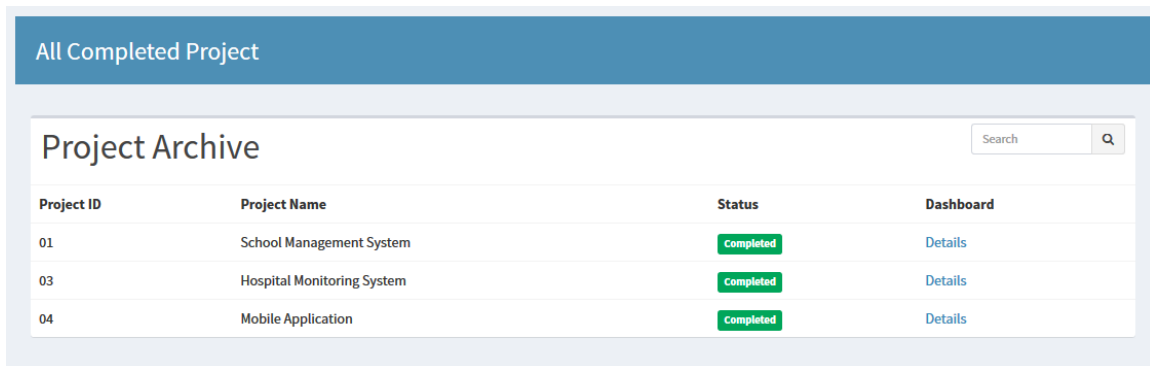


Figure 4.12: Task Send to Archive

4.3.24 Description of Completed Task to Archive

When admin press the send button he/she will receive a message like my image. This will be said that your project is successfully completed and send to archive as completed project. Then this project will no longer available in running project and will be added in archive list.

4.3.25 Completed Task in Archive



The screenshot shows a web interface for 'All Completed Project'. Below a blue header, there is a 'Project Archive' section with a search bar. A table displays the following data:

Project ID	Project Name	Status	Dashboard
01	School Management System	Completed	Details
03	Hospital Monitoring System	Completed	Details
04	Mobile Application	Completed	Details

Figure 4.13: Completed Task in Archive

4.3.26 Description of Completed Task in Archive

In my previous section, I have just sent the project from running project to archive. Now, take a look in my archive. When it is send to archive this project status mark as completed with green signal. Here admin can show the project id , name, status but if is necessary to show the project details for future scope then she/he can just press the details button and open the dashboard like my previous sections.

4.3.27 Notice Board

The screenshot shows a web interface for a Notice Board. At the top, there is a blue header bar with the text "Notice Board". Below the header, there is a search bar on the right and a "Show 10 entries" dropdown on the left. The main content is a table with three columns: "Title", "Published Date", and "Details". The table contains three entries: "Emergency Project Meeting" (4/10/2018), "Hospital Issue" (5/10/2018), and "Meet up" (3/4/2018). Each entry has a "Click Here" link in the "Details" column. Below the table, there is a "Showing 1 to 3 of 3 entries" message and a pagination control with "Previous", "1", and "Next" buttons.

Title	Published Date	Details
Emergency Project Meeting	4/10/2018	Click Here
Hospital Issue	5/10/2018	Click Here
Meet up	3/4/2018	Click Here

Figure 4.14: Notice Board

4.3.28 Description of Notice Board

This notice board part also very important part in my system. Suppose one project manager face a big problem and want to arrange a meeting a with his/her members. Then he/she can makes a post on central notice board with specific serial number. At the same time all member will be informed and can attend the meeting.

4.4 Back End Design

Table	Action	Rows	Type	Collation	Size	Overhead
<input type="checkbox"/> wp_commentmeta	★ Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_unicode_ci	48 K1B	-
<input type="checkbox"/> wp_comments	★ Browse Structure Search Insert Empty Drop	10	InnoDB	utf8mb4_unicode_ci	96 K1B	-
<input type="checkbox"/> wp_links	★ Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_unicode_ci	32 K1B	-
<input type="checkbox"/> wp_options	★ Browse Structure Search Insert Empty Drop	157	InnoDB	utf8mb4_unicode_ci	496 K1B	-
<input type="checkbox"/> wp_postmeta	★ Browse Structure Search Insert Empty Drop	140	InnoDB	utf8mb4_unicode_ci	96 K1B	-
<input type="checkbox"/> wp_posts	★ Browse Structure Search Insert Empty Drop	59	InnoDB	utf8mb4_unicode_ci	128 K1B	-
<input type="checkbox"/> wp_termmeta	★ Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_unicode_ci	48 K1B	-
<input type="checkbox"/> wp_terms	★ Browse Structure Search Insert Empty Drop	7	InnoDB	utf8mb4_unicode_ci	48 K1B	-
<input type="checkbox"/> wp_term_relationships	★ Browse Structure Search Insert Empty Drop	14	InnoDB	utf8mb4_unicode_ci	32 K1B	-
<input type="checkbox"/> wp_term_taxonomy	★ Browse Structure Search Insert Empty Drop	7	InnoDB	utf8mb4_unicode_ci	48 K1B	-
<input type="checkbox"/> wp_usermeta	★ Browse Structure Search Insert Empty Drop	28	InnoDB	utf8mb4_unicode_ci	48 K1B	-
<input type="checkbox"/> wp_users	★ Browse Structure Search Insert Empty Drop	1	InnoDB	utf8mb4_unicode_ci	64 K1B	-
12 tables	Sum	423	InnoDB	latin1_swedish_ci	1.2 MiB	0 B

Figure 4.15: Database Design

4.5 Implementation Requirements

After developing the databases of the system, the implementation phase emerges and through this phase, several activities and techniques were used to develop the website and mobile App, as shown in blew. The development of the website starts with designing the website structure using HTML5, then the style of the website was designed using CSS3. After that, enhanced user interfaces and dynamic website were developed using JavaScript and JQuery. Later on, the website contents and databases were managed through the use of PHP7. Finally, the panorama was incorporated in the website [6][7].

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1 Implementation of Database

The implementation phase is where you install the DBMS on the required hardware, optimize the database to run best on that hardware and software platform, and create the database and load the data. The initial data could be either new data captured directly or existing data imported from a MySQL database or another DBMS. You also establish database security in this phase and give the various users that you've identified access applicable to their requirements. Finally, you also initiate backup plans in this phase.[4][5]

5.2 Implementation of Front-end Design

Front end design create a great impact on client. Because they never see the code, they only see the design. So, if the design is not user friendly the project will not run well even if it is well coded and documented. So resolve this issue I personally create a PSD format then start coding using HTML5 and CSS3. Before creating PSD I have made a mockup in online wireframing platform. Then start PSD, when it seems to user friendly then start coding.

5.3 Testing Implementation

Testing is the process of evaluating a system or its component(s) with the intent to find whether it satisfies the specified requirements or not.[5] Testing is executing a system in order to identify any gaps, errors, or missing requirements in contrary to the actual requirements. This tutorial will give you a basic understanding on software testing, its types, methods, levels, and other related terminologies.

5.3.1 Functional Testing

This is a type of black-box testing that is based on the specifications of the software that is to be tested. The application is tested by providing input and then the results are examined that need to conform to the functionality it was intended for. Functional testing of a software is conducted on a complete, integrated system to evaluate the system's compliance with its specified requirements. [4]. so, in this section my main challenge was to working procedure of percentage system. Firstly, I have divided a project then assign some employee. When one employee submitted his/her work the percentage system automatically increased.

5.3.2 Unit Testing

This type of testing is performed by developers before the setup is handed over to the testing team to formally execute the test cases. Unit testing is performed by the respective developers on the individual units of source code assigned areas. The developers use test data that is different from the test data of the quality assurance team. The goal of unit testing is to isolate each part of the program and show that individual parts are correct in terms of requirements and functionality. From this instruction I have completed my unit test in my system. Firstly, I have opened my system along with my requirement. Then try to match every part of my requirement. That time I have found some issue which was not regular in my system and I have changed those issue.

5.3.4 Regression Testing

Whenever a change in a software application is made, it is quite possible that other areas within the application have been affected by this change. Regression testing is performed to verify that a fixed bug hasn't resulted in another functionality or business rule violation. The intent of regression testing is to ensure that a change, such as a bug fix should not result in another fault being uncovered in the application. This type of problem is very common in web application. Because if one required information is missing from main registration form, the whole system can suffer for that. That's why I have made a regression testing in my system.

5.3.6 Beta Testing

This test is performed after alpha testing has been successfully performed. In beta testing, a sample of the intended audience tests the application. Beta testing is also known as pre-release testing. Beta test versions of software are ideally distributed to a wide audience on the Web, partly to give the program a "real-world" test and partly to provide a preview of the next release [4][5]. To perform this test I have made some user and gave it to my friends to perform some project and make the work division.

5.3.7 Security Testing

Security testing involves testing a software in order to identify any flaws and gaps from security and vulnerability point of view. Listed below are the main aspects that security testing should ensure[4],

- Confidentiality
- Integrity
- Authentication
- Availability
- Authorization
- Software data is secure
- Input checking and validation
- SQL insertion attacks
- Session management issues
- Cross-site scripting attacks

CHAPTER 6

CONCLUSION

5.1 Summary

My application software is totally online based so any office can use it without any wire. The main advantage of my application is, I have no installation process and every computer has browser. Admin just have to login in application then open project. Create other employee account then assign the work.

Actually, my system decrease the communication gap among admin, employee and the client. It increase the monitoring system and employee will also more attentive and concern about their project. Because every work will be saved in online. So, it will be the reputation issue of employee. On the other hand, client can monitor the process online, this process decrease the communication gap and client can participate from home and also give necessary suggestion.

5.2 Future Scope

In future our main target is to make mobile application for our system. Today's the Smartphone users are increasing day by day. Most of the employee use apps for customize their work without browsing website.[8] So it is necessary to make a mobile application for our system. When I will lounge it employee need not browse our whole system, only open the application and submit their event works.

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