**1. INTRODUCTION**

**1.1 ABOUT THE PROJECT**

**Project management software** is a term covering many types of software, including estimation and planning, scheduling, cost control and budget management, resource allocation, collaboration software, communication, quality management and documentation or administration systems, which are used to deal with the complexity of large projects. A project management software many be of two types (i) Desktop Based Application. (ii) Web Based Application. The Web based application has many advantages over desktop based software. The main thing is the centralized administration of the entire project management system.

Empowering you to optimize your everyday work needs, Project Scrutinizers an intuitive, web-based solution for your project management needs. Collaboration and communication being the key factors in driving any project to success, Project Scrutinizer, allows all participants to share ideas, documents and most importantly enter, distribute and track all tasks required to reach a common objective; from any browser, anywhere in the world and at any time of the day.

Project Scrutinizer offers better control and efficiency, ensuring the successful completion of your projects on time and within budget, but most importantly, respecting your company's work processes, thus eliminating the learning curve and associated costs of a work team using new software.

The objective of the system is providing a web application for a software company for supporting the planning of human resources and project management. Resource planning is a key to success of any project. The main concepts of the system are tasks on one hand and employees on the other hand. Tasks need to be completed in a certain time by a limited amount of employees with specific skills. The system supports the process of associating tasks to the right employees in a way that due dates are met while every employee gets a constant workload and also the work of each of the employee can be analyzed efficiently.

**1.2 MODULE DESCRIPTION**

**1.2.1 Administrator**

Administrator is the authorized person who is concerned with managing project managers, projects and client interaction. He can add, edit or delete project managers, he can view reports from project manager, he can communicate with the clients about the status of a project or details regarding the invoices. He is the controller of the entire system. He is the top most level of user having the permission to assign a project to the project managers.

**1.2.2 Project Manager**

Project Managers are one type of user in this project which are added by the administrator. The project manager is the authorized user to add team leaders and employees to a particular project. He can also assign a project or part of the project to a particular team leader or group of team leaders under his team. He can collect the status and details of the projects, teams and employees in different teams under his supervision. He can view reports from the team leader about various stages or phases of a project assigned to the team leader.

**1.2.3 Team Leader**

Team leaders are the type of users who are responsible for managing a fixed number of employees assigned to his team for the successful completion of a project. He has the right to divide the project into different modules and he can assign each module to the employees in his team. He can control the work flow of entire modules in the project assigned to him. He can view reports and status of the work done by the employees and he can manage the time allotted for each employee to complete the task. There should be a dashboard facility to team leaders through which they can view the tickets and milestones of each and every employee in his team. He can also request project manager to add new employees into the team if needed or he can request the project manager about the extra time required to complete a project.

**1.2.4 Employees**

Employees can view the different tasks or modules in a project assigned to him by the team leader. He can also have the facility to view the time allotted for a particular task and he can see a track record of his completed as well as incomplete works. Employees have the option to communicate with other employees in his team and with team leader also through internal messaging systems. They have the option to update their work status also. Completed works can also be coordinated through this web application.

**1.2.5 Clients**

Clients have the facility to login to the site and they can view the status of their project, they can settle their invoices, can inform the administrator about the modifications required in his project etc. He can see the development of his project through a dashboard system in which his project is divided into different modules. It will also show the completed task in each module and incomplete tasks in the project. He can communicate with the administrator about the project and payment details through internal messaging system.

**2. SYSTEM STUDY AND ANALYSIS**

**2.1 FEASIBILITY STUDY**

Feasibility study is a major step in the System development life cycle. The main Objective of the feasibility study is to test the economical, technical and operational feasibility while developing system. This analysis is done by investigating the existing system in the area under investigation and generating an idea about the new system.

Feasibility study is a test of System proposed regarding its workability, impact on the organization, ability to meet the needs and effective use of resources. Thus, when a new project is proposed, it normally goes through a feasibility study before it is approved for development.

A feasibility study made to see if the project on completion will serve the purpose of the organization for the amount of work, effort and the time that is spend on it. Feasibility study lets the developer foresee the future of the project and usefulness.

All the projects are feasible given unlimited resources and infinite time. Unfortunately, the development of the project management system is more likely to be played by a security of resources.

Feasibility and risk analysis are related in many ways. If project risk is great, the feasibility of producing the quality software is reduced.

**Steps in Feasibility Study**

Feasibility study involves eight steps:

* Form a project team and appoint a project leader
* Prepare a System flowchart
* Enumerate the potential candidate systems
* Describe and identify characteristics of candidate systems
* Describe and evaluate performance and cost effectiveness of each candidate systems
* Weight system performance and cost data
* Select the best Candidate system
* Prepare and report final project directive and management

The main objective of feasibility study is to test the technical, social and economic feasibility of developing a system. This is done before developing a system. This is done by investigating the existing system in the area under investigation and generating ideas about the new system.

* Technical
* Economic
* Operational
* Time
* Behavioral

**Technical Feasibility**

Technical feasibility centers on the existing computer system and to what extend it can support the proposed addition .The system, been improved for single organizations there may be some additions that are to be made on the system by the user. The user needs some printed or some other hardware to be added to the system that will raise the technical complexity. Then the user has to check whether the system will support the addition or not. This involves financial considerations to accommodate technical enhancements.

In Technical feasibility, the management determines whether the current level of technology can support the proposed system. Previously all the report generation, statistical analysis, and staff management etc are done manually. Considering all the advantages of the proposed system and also the profit as a serious constraint, we recommended to use the proposed system. Technologies used in the system are PHP and Java script.

**Economic Feasibility**

Economic Feasibility is the most frequently used method for evaluating the effectiveness of the proposed system. The software as a whole will help webmasters to create survey and view their result that include operating system details & browser details which all are kept manually. Considering the benefits and savings that are expected from the proposed system, the administrator decides to design and implement a new system. When the system is computerized all the processes get speed up.

**Operational Feasibility**

Proposed project would be beneficial only if they can be turned into information system that’ll meet the organization operating requirements. One of the main problems faced during the development of a new system is getting acceptance from user. The test of operational feasibility asks if the system will work when developed and installed. The tools selected for developing the software are PHP, MySQL, and Windows 7 which are all easily available in the market.

**Behavioral Feasibility**

In behavioral feasibility, the proposed system covers all the jobs that were done manually and whether it has considerable improvements. Understanding the advantages and efficiency of the proposed system the management has decided to develop a new system.

Since the new proposed system is nothing to do with the current users, worker resistance to the system is very much less. The proposed system helps to avoid the delay in processing the data thereby reducing the amount of time consumed.

**Time Feasibility**

Time feasibility study checks whether the time duration for completion of projects will be feasible. The time feasibility study in this project was carried out and required adjustments were made to make feasible in terms of time.

**2.2 EXISTING SYSTEM**

*Project management* is a term covering many types of software, including estimation and planning, scheduling, cost control and budget management, resource allocation, collaboration software, communication, quality management and documentation or administration systems, which are used to deal with the complexity of large projects. Planning of human resources and project management is done through manually. The employees, team leaders and project managers may be in different places. They communicate about the project through external communication system. Different Medias such as email, telephonic conversations, official letter pads etc are used for communication purpose.

Another way of effective management of project is to make all the process in online through a web application.

**2.3 DRAWBACKS OF EXISTING SYSTEM**

* Existing system has no centralized administration of the entire project management system.
* Limited service that allows all participants to share ideas, documents and most importantly enter, distribute and track all tasks required to reach a common objective.
* Planning of human resources and project management are hard task.
* Workload and efficiency of employees cannot be analyzed properly.
* Timely completion of project cannot be guaranteed.

**2.4 PROPOSED SYSTEM**

The main objective of the proposed system is to overcome the limitations of the existing system. Project scrutinizer is a system that provides a web application for a software company for supporting the planning of human resources and project management. Resource planning is a key to success of any project. The main concepts of the system are tasks on one hand and employees on the other hand. Tasks need to be completed in a certain time by a limited amount of employees with specific skills. The system supports the process of associating tasks to the right employees in a way that due dates are met while every employee gets a constant workload and also the work of each of the employee can be analyzed efficiently. Project Scrutinizer offers better control and efficiency, ensuring the successful completion of your projects on time and within budget, but most importantly, respecting your company's work processes, thus eliminating the learning curve and associated costs of a work team using new software.

**2.5 ADVANTAGES OF PROPOSED SYSTEM**

* It can be accessed from any type of computer without installing software on user's computer through internet.
* Ease of access-control and only one software version and installation to maintain.
* The system is being developed with the user friendly interfaces.
* Various authentication and access levels are handled.
* Information files about the employees, project managers, team leader, clients, and other users can be stored in a centralized database.
* Project Scrutinizer offers better control and efficiency, ensuring the successful completion of your projects on time and within budget.

**2.6 DATA FLOW DIAGRAM (DFD)**

DFD are the most commonly used way of documenting the process of current and required system. As their name suggests they are a pictorial way of showing flow of data into, around the system. DFD was introduced by Demacro, Gane and Sarson.

Data Flow diagrams are constructed with five major components. They are:

1. External Entities
2. Data Stores
3. Process
4. Data Flows
5. Output

**External Entities**

This represents any outside agency. Which interact with the system It represents the source or destination of data for the system under consideration. It represents as rectangle.

**Data Stores**

A data store represents a logical file. Data store is represented by open ended rectangle. Each data store is connected to a process by means of a data flow symbol.

**Process**

A process represents some amount of work being performed on data. It is represented by a rounded rectangle.

**Data Flows**

The data flow portrays an interface among different components in a DFD It represents flow of data between two processes or between a process and an external entity or between a process and data store.

**Output**

The output symbol is used when a card copy is produced and the user of the copy can not be clearly specified

**DATA FLOW DIAGRAM**

CONTEXT DIAGRAM

Response

Request

Administrator

Administrator

Response

Request

Response

Manager

Manager

Request

Team Leader

Team Leader

Response

Request

Employee

Employee

Response

Request

Client

Client

**Level1- DFD for Administrator**

Manager Details

Manager

Management

manager

Client

Management

Client Details

client

Login Details

Login

Admin

Project Details

managerwork

Project

Management

adminwork

Password

Project Details

Username

Messages

mail

Login details

inbox

Messages

chat

sentitems

Messages

chat

Add

news

news

news

**Level1- DFD for Manager**

Team Leader

Management

Teamleader Details

teamleader

Employee Details

Employee

Management

employee

Login Details

Login

Manager

teamleaderwork

Project

Management

Project Details

managerwork

Password

Project Details

Username

Messages

mail

Login details

inbox

Messages

chat

sentitems

Messages

chat

**Level1- DFD for Team leader**

teamleaderwork

Project Details

Project

Management

Login Details

employeework

Teamleader

Project Details

Login

Messages

mail

inbox

Messages

Password

Username

chat

sentitems

Login details

Messages

chat

**Level1- DFD for Employee**

ProjectDetails

employeework

Project

Management

Login Details

Messages

inbox

Employee

Login

mail

Messages

sentitems

Password

Username

chat

Login details

Messages

chat

**Level1- DFD for Client**

Login Details

login

Client

Registration

Client Details

client

ProjectDetails

adminwork

Project

Management

Login Details

Client

Login

Messages

inbox

mail

sentitems

Messages

Password

Username

chat

Login details

Messages

chat

**Level 2 –DFD for Admin: Manager Management**

Add

Manager

Details

Manager Details

Edit

Manager

Details

Manager

Management

manager

Updated Data

Login

Manager Details

Manager Details

Delete Manager

Details

Manager details

View Manager

Details

Manager Details

Block Managers

**Level 2 –DFD for Admin: Client Management**

Client Details

View

Client Details

Client Management

client

Login

Delete Client

Details

Client Details

**Level 2 –DFD for Admin: Project Management**

View

Client Project

Request

Projecttopic,

completiondate

adminwork

Assign

Project

Project

Management

mgrcode, projecttopic, completiondate

managerwork

Login

workstatus

View

Project

Status

Enter Project

Status

adminwork

workstatus

**Level 2 –DFD for Admin: mail**

View

Mail

Message

Compose

Mail

mail

inbox

Login

Message

Message

sentitems

View

Send

Mails

Message

**Level 2 –DFD for Manager: Team Leader Management**

Add

TeamLeader

Details

Team leader Details

Updated Data

Edit

TeamLeader

Details

Team Leader

Management

teamleader

Login

Team leader Details

Delete TeamLeader

Details

Team leader Details

View TeamLeader

Details

Block TeamLeader

**Level 2 –DFD for Manager: Employee Management**

Add

Employee

Details

Employee Details

Updated Data

Edit

Employee

Details

Employee

Management

employee

Login

Employee Details

Delete Employee

Details

Employee Details

View Employee

Details

Block Employee

**Level 2 –DFD for Manager: Project Management**

Projecttopic, completiondate

View

New Projects

managerwork

Teamcode,projecttopic,completiondate

Assign

Project

Project

Management

teamleaderwork

Login

workstatus

View

Project

Status

Enter Project

Status

managerwork

workstatus

**Level 2 –DFD for Team Leader: Project Management**

Projecttopic, completiondate

View

New Projects

Teamleaderwork

empcode, modulename,completiondate

Assign

modules

Project

Management

Login

employeework

workstatus

View

Project

Status

Enter Project

Status

teamleaderwork

workstatus

**Level 2 –DFD for Employee: Project Management**

View

New Projects

Projecttopic, completiondate

Project

Management

Login

employeework

Enter Project

Status

workstatus

**Level 2 –DFD for Client: Project Management**

Enter

New Project

Details

Projecttopic, completiondate

Project

Management

Login

adminwork

View Project

Status

workstatus

**3.3.2 TABLE DESIGN**

1. **Table name: login**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Type** | **Length** | **Constrain t** | **Description** |
| loginid | int | 6 | notnull | Automaticaly incremented id |
| user | varchar | 20 | notnull | Type of user |
| username | varchar | 20 | primarykey | Username of user |
| password | varchar | 20 | notnull | Password of user |
| status | varchar | 20 | notnull | Block or unblock status |
| online | int | 6 | notnull | Online user status |
| email | varchar | 20 | notnull | Email-id of user |

1. **Table name: manager**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Type** | **Length** | **Constraint** | **Description** |
| mgrid | Int | 6 | notnull | Automatically incremented id |
| mgrcode | Varchar | 20 | primarykey | Unique id of manager |
| mgrname | Varchar | 20 | notnull | Name of manager |
| mgrdomain | Varchar | 20 | notnull | Associated domains |
| username | Varchar | 20 | foreignkey | Username of manager |
| mgrphoto | Varchar | 100 | notnull | Photo path of manager |
| mgrresume | Varchar | 100 | notnull | Resume path of manager |
| mgrexp | Varchar | 10 | notnull | Experience of manager |
| mgrdate | Date |  | notnull | Appointed date of manager |
| mgremail | Varchar | 20 | notnull | Email-id of manager |

1. **Table name: teamleader**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Type** | **Length** | **Constraint** | **Description** |
| teamid | int | 6 | notnull | Automatically incremented id |
| teamcode | varchar | 20 | primarykey | Unique id of team leader |
| teamname | varchar | 20 | notnull | Name of team leader |
| teamdomain | varchar | 20 | notnull | Associated domains |
| username | varchar | 20 | foreignkey | Username of teamleader |
| teamphoto | varchar | 100 | notnull | Photo path of team leader |
| teamresume | varchar | 100 | notnull | Resume path of team leader |
| teamexp | varchar | 10 | notnull | Experience of team leader |
| teamdate | date |  | notnull | Appointed date of team leader |
| teamemail | varchar | 20 | notnull | Email-id of team leader |

1. **Table name: employee**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Type** | **Length** | **Constraint** | **Description** |
| empid | int | 6 | notnull | Automatically incremented id |
| teamcode | varchar | 20 | foreignkey | Unique id of team leader |
| empcode | varchar | 20 | primarykey | Unique id of employee |
| empname | varchar | 20 | notnull | Name of employee |
| mgrcode | varchar | 20 | foreignkey | Code of manager |
| username | varchar | 20 | foreignkey | Username of employee |
| empphoto | varchar | 100 | notnull | Photo path of employee |
| empresume | varchar | 100 | notnull | Resume path of employee |
| empexp | varchar | 20 | notnull | Experience of employee |
| empdate | date | 20 | notnull | Appointed date of employee |
| empemail | varchar | 20 | notnull | Email-id of employee |
| empproject | varchar | 50 | notnull | Project assigned for the employee |

1. **Table name: client**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Type** | **Length** | **Constraint** | **Description** |
| clid | int | 6 | primarykey | Automatically incremented id |
| clname | varchar | 20 | notnull | Name of client |
| cloccu | varchar | 20 | notnull | Occupation of client |
| claddrs | varchar | 50 | notnull | Address of client |
| clage | int | 3 | notnull | Age of client |
| clgen | varchar | 3 | notnull | Gender of client |
| username | varchar | 20 | foreignkey | Username of client |
| clemail | varchar | 20 | notnull | Email-id of client |
| clphone | varchar | 20 | notnull | Phone number of client |
| cldescr | varchar | 50 | notnull | Descryption of work |

1. **Table name: adminwork**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Type** | **Length** | **Constraint** | **Description** |
| workid | int | 6 | primarykey | Automatically incremented id |
| userid | int | 6 | foreignkey | Id of user |
| projecttopic | varchar | 50 | notnull | Topic of project |
| project | varchar | 500 | notnull | Path of project abstract file |
| extra | varchar | 100 | notnull | Extra information |
| completiondate | date |  | notnull | Date of completion given by user |
| workstatus | varchar | 20 | notnull | Status of work |
| status | varchar | 20 | notnull | Current status |

1. **Table name: managerwork**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Type** | **Length** | **constraint** | **Description** |
| workid | int | 6 | primarykey | Automatically incremented id |
| mgrcode | int | 20 | foreignkey | Code of manager |
| projecttopic | varchar | 50 | notnull | Topic of project |
| project | varchar | 500 | notnull | Path of project abstract file |
| Extra | varchar | 50 | notnull | Extra information |
| completiondate | date |  | notnull | Date of completion assigned by admin |
| workdonedate | date |  | notnull | Actually completed date |
| workstatus | varchar | 20 | notnull | Status of work |
| status | varchar | 20 | notnull | Current status |

1. **Table name: teamwork**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Type** | **Length** | **constraint** | **Description** |
| workid | int | 6 | primarykey | Automatically incremented id |
| teamcode | int | 20 | foreignkey | Code of teamleader |
| projecttopic | varchar | 50 | notnull | Topic of project |
| project | varchar | 500 | notnull | Path of project abstract file |
| extra | varchar | 100 | notnull | Extra information |
| completiondate | date |  | notnull | Date of completion assigned by admin |
| workdonedate | date |  | notnull | Actually completed date |
| workstatus | varchar | 20 | notnull | Status of work |
| status | varchar | 20 | notnull | Current status |

1. **Table name: employeework**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Type** | **Length** | **constraint** | **Description** |
| workid | int | 6 | primarykey | Automatically incremented id |
| empcode | int | 6 | foreignkey | Code of employee |
| projecttopic | varchar | 50 | notnull | Topic of project |
| modulename | varchar | 50 | notnull | Name of module |
| module | varchar | 20 | notnull | Path of moule abstact |
| extra | varchar | 500 | notnull | Extra information |
| completiondate | date |  | notnull | Date of completion assigned by admin |
| workdonedate | date |  | notnull | Actually completed date |
| workstatus | varchar | 20 | notnull | Status of work |
| status | varchar | 20 | notnull | Current status |

1. **Table name: news**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Type** | **Length** | **constraint** | **Description** |
| news | varchar | 100 | notnull | News data |

1. **Table name: inbox**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Type** | **Length** | **Constraint** | **Description** |
| inboxid | int | 6 | primarykey | Automaticaly incremented id |
| toid | varchar | 20 | foreignkey | Id of receiver |
| fromid | varchar | 20 | foreignkey | Id of sender |
| subject | varchar | 50 | notnull | Subject of message |
| message | varchar | 500 | notnull | Content of message |

1. **Table name: sentitems**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Type** | **Length** | **constraint** | **Description** |
| sendid | int | 6 | primarykey | Automaticaly incremented id |
| fromid | varchar | 20 | foreignkey | Id of receiver |
| toid | varchar | 20 | foreignkey | Id of sender |
| subject | varchar | 50 | notnull | Subject of message |
| message | varchar | 500 | notnull | Content of message |

1. **Table name: chat**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Type** | **Length** | **constraint** | **Description** |
| id | int | 6 | primarykey | Automatically incremented id |
| from | varchar | 20 | foreignkey | Sender |
| to | varchar | 20 | foreignkey | Receiver |
| message | text |  | notnull | Content |
| sent | datetime |  | notnull | Send message |
| recd | int | 10 | notnull | Record of message |

**3.5 MENU TREE**

**Project Scrutinizer**

**Chatting**

**View and send message**

**Manage Projects**

**Employee**

**Chatting**

**View and send message**

**Manage Projects**

**Chatting**

**View and send message**

**Manage Projects**

**Chatting**

**View and send message**

**Manage Projects**

**Manage Employee**

**Manage Team leader**

**Add news**

**Chatting**

**View and send message**

**Manage Projects**

**Manage Clients**

**Manage Project Manager**

**Client**

**Team leader**

**Project Manager**

**Admin**

1. **CONCLUSION**

**CONCLUSION**

This page is meant for the technology conclusions of the project report. In the former pages, all details about the development of software have been explained.

**Project Management System** is developed as web application using **PHP** as front end and **MySQL** as back end. Every effort has been made to make the system as user friendly as possible. All the activities provide a feeling like an easy walk over to the user who is interacting with the system. Trial run of the system has been made and gave good results.

All the modules are tested separately and put together to from the main system. **Project Scrutinizer** is designed in an attractive fashion to generate user interest. Thus the project was successfully completed in the allotted span of time with satisfactory performance.

The key features of the system are:-

* Resource requirement is less.
* User friendly.
* Ease in handling and implementation.
* Adaptable to future enhancements