



REAL TIME PROJECT TRACKING AND MONITORING SYSTEM USING DATA MINING TECHNIQUES

MALLULA DURGA SRIDEVI^{#1}, A.DURGA DEVI^{#2}

^{#1} MCA Student, Master of Computer Applications,

D.N.R. College, P.G.Courses & Research Center, Bhimavaram, AP, India.

^{#2} Assistant Professor, Master of Computer Applications,

D.N.R. College, P.G.Courses & Research Center, Bhimavaram, AP, India.

ABSTRACT

In the current days the software companies and their branches are located in different geographical places over the world. There is a high demand for the teams that they need to communicate with each other from any place to any place to synchronize their tasks. So there is a need to provide the industry to have the automated project tracking system and fast reliable messaging system. The project entitled " **PROJECT TRACKING SYSTEM AND MONITORING SYSTEM USING DATA MINING TECHNIQUES** " is a web application and can be accessed through internet. The main idea of this application is to provide help for anyone to interact with anyone, mainly in software industry by sending messages, receiving messages, open discussion forums to share their knowledge and updating their tasks with current information. This system allows group of team members around the world to communicate with each other. The application is for free of use expect the users has to sign with his/her details.

Keywords : Project Tracking, Monitoring ,Data Mining

I. INTRODUCTION

In the modern fast-paced world, where information plays a significant role, it is crucial for every organization to manage their knowledge in order to gain a competitive advantage. A rapid increase in the amount of data stored, which goes in petabytes or exabytes, business requirements for high quality, low costs and short time-to-market products have generated an urgent need for new techniques and tools that can intelligently and automatically transform the processed vast amount of data into useful information and knowledge. From the requirements mentioned above a data mining concept has emerged, which is a step in the knowledge discovery process and is responsible for exploration and analysis of large quantities of data, using interdisciplinary techniques from mostly statistics and artificial intelligence areas, in order to discover meaningful patterns and rules².

In recent years the application of data mining by the public and private sector has become extremely popular, especially in industries like banking, telecommunications, insurance, retailing and medicine for such purposes as fraud detection, credit scoring, customer retention, product placement and drug testing. It is used for cost reduction, sales increase and research enhancement that translates into competitive advantage. Although project management is a crucial discipline in terms of delivering and enhancing new products or services, data mining is not being widely applied by information technology practitioners to support the project implementation process.

Risk, uncertainty and estimation are key terms in a project environment on which success of a project is dependent. According to the Standish Group³ survey results only 37%⁴ of IT projects are implemented within the initially assumed budget, resources, duration and scope.

A majority of projects are struggling (42%) with preconceived constraints or even failing (21%). This is mostly caused by uncertainty at the initial stages of a project lifecycle (initiation, planning), where project managers are expected to estimate the budget, schedule and scope with a limited set of tools using mostly estimation by analogy or bottom-up/ top-down techniques. More advanced and mature project-oriented organizations use parametric estimation techniques based on lines of code or function points. These techniques, however, exhibit many limitations, such as: they tend to be complex to apply; may overlook important factors due to limited input variables; they may lead to inaccurate estimation because of poor sizing inputs and not taking into account enterprise environmental factors; and finally they do not fully experience from the completed projects and lessons learnt. A majority of organizations store project performance data generated at every project stage. This data consists of information about resources, financials, quality and other project metrics which can be explored using data mining models in order to support ongoing or further projects in activities like initial estimation and ongoing monitoring (budget, duration), risk identification and evaluation or software quality.

II. LITERATURE SURVEY

Writing study is the most significant advance in programming improvement process. Prior to building up the apparatus, it is important to decide the time factor, economy and friends quality. When these things are fulfilled, ten subsequent stages are to figure out which working framework and language utilized for building up the apparatus. When the developers begin constructing the apparatus, the software engineers need part of outer help. This help acquired from senior software engineers, from book or from sites. Before building the framework the above thought r taken into for building up the proposed framework.

Knowledge management is a process of transferring tacit into explicit knowledge and is one of key resources and success factors for effective project management. A proper application of knowledge and additional skills, tools and techniques contributes to meeting project requirements and goals. In principle, project knowledge management can be divided into two dimensions⁵:

- Micro-knowledge- knowledge needed to perform one task (or its part) or to solve a problem (or its part),

- Macro-knowledge-

total knowledge possessed by a given subject,

- Individual macro-knowledge (knowledge possessed by a team member),

- Project team macro-knowledge (knowledge possessed by a project team),

- Organization macro-knowledge (knowledge possessed by an organization),

- Global macro-knowledge (knowledge possessed by the whole global community of project managers).

Knowledge is transformed into explicit one at every project stage and captured in project

- Initiation – define a new project, obtain authorization to start the project through project charter, initial estimations – budget, time, resources, scope,

- Planning – establish the scope of the project, refine the objectives, and define the course of action required to attain the objectives that the project was undertaken to achieve through project management, scope, schedule, budget, quality, resources, risks plan definition,

- Executing – complete the work defined in the project management plan to satisfy the project specifications.

- Monitoring and controlling – track, review, and regulate the progress and performance of the project, identify any areas in which changes to the plan are required and initiate the corresponding changes through verification of the scope, schedule, budget, quality and risks; time reporting, required expenditure and disbursement reviews,

- Closing – project review and knowledge base update through lessons learned, final project audits, project evaluations, product validations, and acceptance criteria. According to the PMI⁷ all five stages interfere with ten knowledge areas⁸ which are a set of concepts, terms, and activities that enable project team members to define outcomes at each project stage.

III. EXISTING SYSTEM

In the existing system as project tracking system often involves lots of paper work, sheets and other manual data entry tasks. There is also little visibility among team members as to what the status of each task is during the course of a project. And for messaging the information between one person to another also done through general messages or personal E-mails which made the messages in unreliable way. IN order to share the files in primitive data they don't have a sharing option commonly among everyone, hence users need to communicate or share the data with their personal mail ids. By sharing the data personally we are losing our valuable company information.

LIMITATION OF EXISTING SYSTEM

The following are the limitation of existing system.

They are as follows:

- 1) Lot of delay in processing the modules
- 2) Increased cost
- 3) Very time taken for modification
- 4) It is not easy to get updates all the time for every one.
- 5) Increased paper work for maintaining updates.

IV. PROPOSED SYSTEM

The PROJECT TRACKING is accessed SYSTEM is to replace the existing system with a software solution. This system allows both new and old users. And then he has his own user id and account. Then he will be treated as a member and allowed to use the system.

The main Automation of existing system is:

1. Project tracking System

To overcome the problems in the existing system the proposed system is able to track the overall project individual's tasks and saves each team member's time. It allows the team leaders to add the new team members, add the new project and allot tasks to different team members.

2. Messaging System

To overcome the problems in the current messaging system the proposed system provides a discussion form feature integrated in to the teamwork network to keep a running record of all conversations held by members of a team.

ADVANTAGES OF THE PROPOSED SYSTEM

The following are the advantages of the proposed system. They are as follows:

And also provides the following features.

1. Faster processing when compared to existing one.
2. Maintaining team members details.
3. Modifications of profiles can be carried out immediately
4. Better accuracy
5. Reliability
6. Reduced Cost
7. Reduced Time
8. Fast retrieval of Information

5. MODULES

Implementation is the stage where the theoretical design is converted into programmatically manner. In this stage we will divide the application into a number of modules and then coded for deployment. We have implemented the proposed concept on Java programming language with JEE as the chosen language in order to show the performance this proposed application. The application is divided mainly into following 3 modules. They are as follows:

1. Administrator
2. Manager
3. Team member

Now let us discuss about each and every module in detail as follows:

5.1 ADMINISTRATOR MODULE

In this module, after checking the security credentials like user id and password ,the admin will be allowed to use the following services.

1. View/add/modify/ Project Profile
- 2.View/add/modify/ Manager Profile
3. View/add/modify/ Team member profiles.
4. Project Issue to the Manager.
5. Message Inbox.
6. Message Compose

5.2 MANAGE MODULE

In this module, the manager will be login with valid login credentials and after that he has following operations like:

- 1.Divide Project into Modules
- 2.Allot tasks to the team members.
- 3.Check Task status.
- 4.Member Report
- 5.Edit Profile
- 6.Message Inbox
- 7.Messages Compose

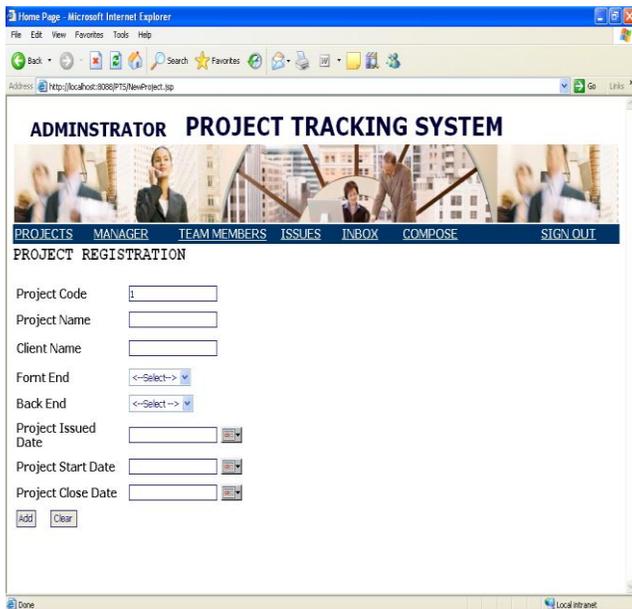
5.3 TEAM MEMBER MODULE

After login checking of every team member he will be allowed to use the following services.

- 1.MyTasks.
- 2.Messages Inbox
- 3.Message Compose
- 3.Edit Profile

VI. RESULTS

New Project



List Of Projects

ADMINSTRATOR PROJECT TRACKING SYSTEM

PROJECTS MANAGER TEAM MEMBERS ISSUES INBOX COMPOSE SIGN OUT

PROJECT INFORMATION

Project Code	Project Name	Client Name	Front End	Back End	Pr.Issue Date	Prj Start Date	Prj CloseDate	Status	Update
1	E-Classifieds	EENADU	Java	Oracle	2010-05-14	2010-05-14	2011-05-19	Pending	Update
2	E-Shopping	ANR	Java	Oracle	2010-05-14	2010-05-15	2011-05-15	Pending	Update

NEW First Previous Next Last

List of Managers

ADMINSTRATOR PROJECT TRACKING SYSTEM

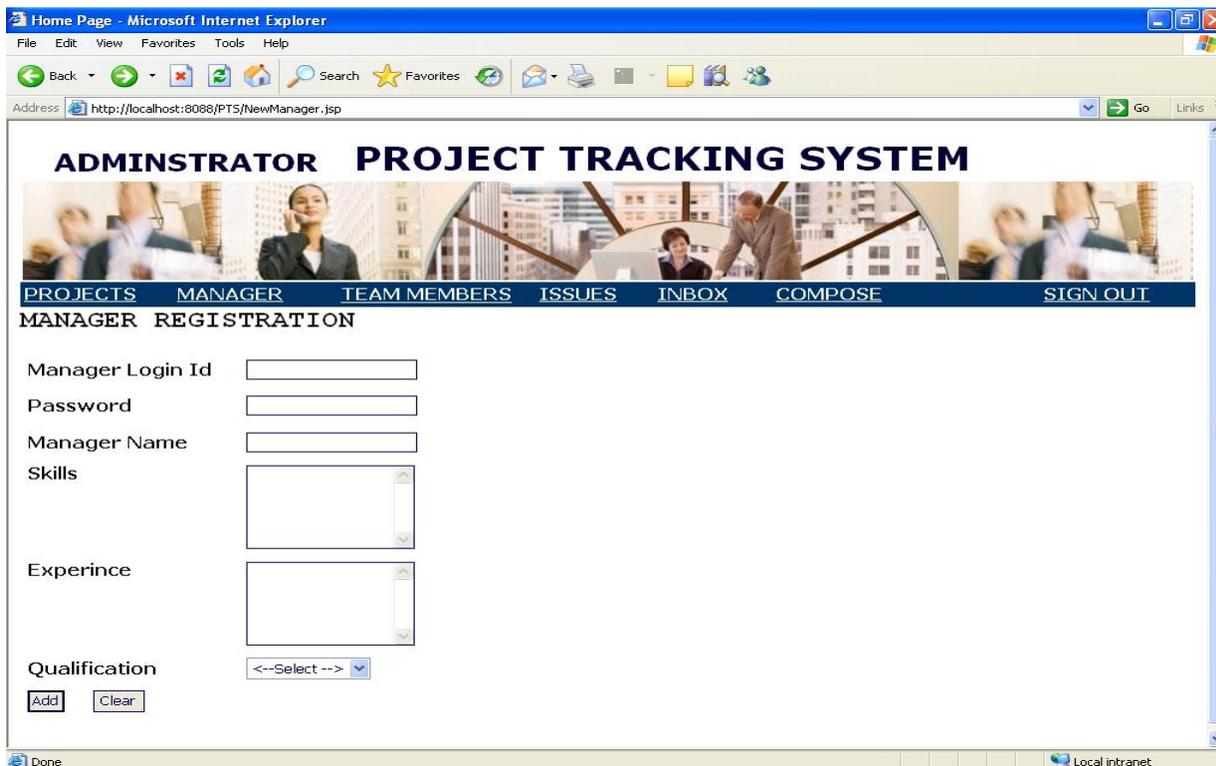
PROJECTS MANAGER TEAM MEMBERS ISSUES INBOX COMPOSE SIGN OUT

MANAGER INFORMATION

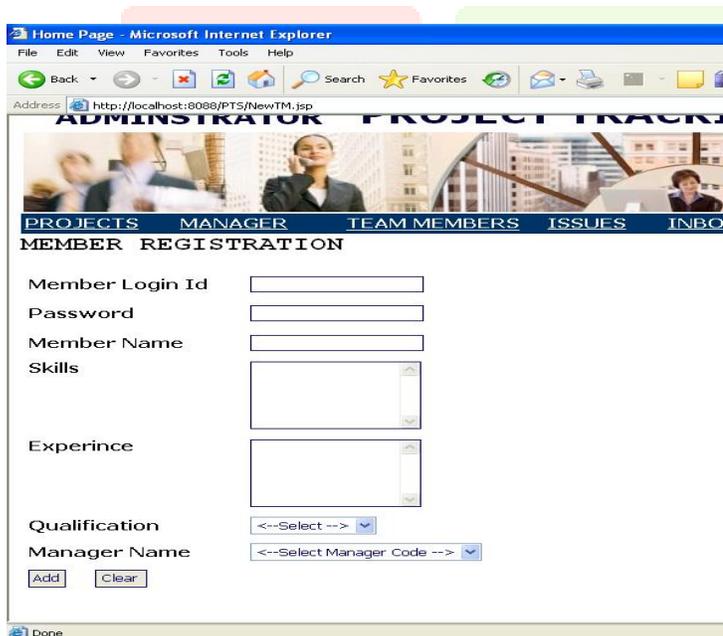
Manager Id	Manager Name	Skills	Experience	Qualification	Update
vijaykumar	vijaykumar	java	3+yrs	MSC	Update
govind	govind	java	2+yrs	MSC	Update

NEW First Previous Next Last

New Manager



New Team Member



List of Team Members

The screenshot shows a web browser window titled "Home Page - Microsoft Internet Explorer" displaying the "ADMINISTRATOR PROJECT TRACKING SYSTEM". The address bar shows "http://localhost:8088/PTS/TMInfo.jsp". The navigation menu includes "PROJECTS", "MANAGER", "TEAM MEMBERS", "ISSUES", "INBOX", "COMPOSE", and "SIGN OUT".

The "MEMBER INFORMATION" section displays a table with the following data:

Member Id	Member Name	Skills	Experience	Qualification	Manager Name	Update
suresh	suresh	java	1+yrs	BTECH	vijaykumar	Update

Below the table are navigation buttons: NEW, First, Previous, Next, Last.

Assign Project to Manager

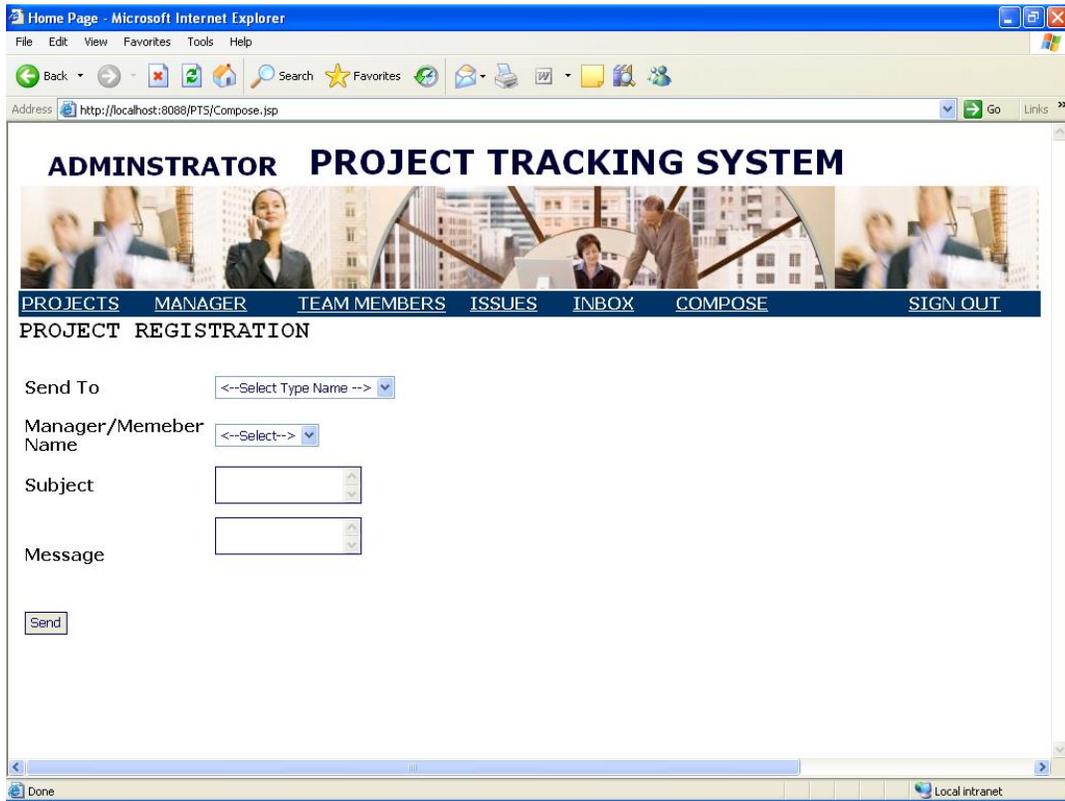
The screenshot shows the "ASSIGNING PROJECT TO MANAGER" form in the same web browser window. The address bar shows "http://localhost:8088/PTS/Issueinfo.jsp". The navigation menu is the same as in the previous screenshot.

The form contains the following fields:

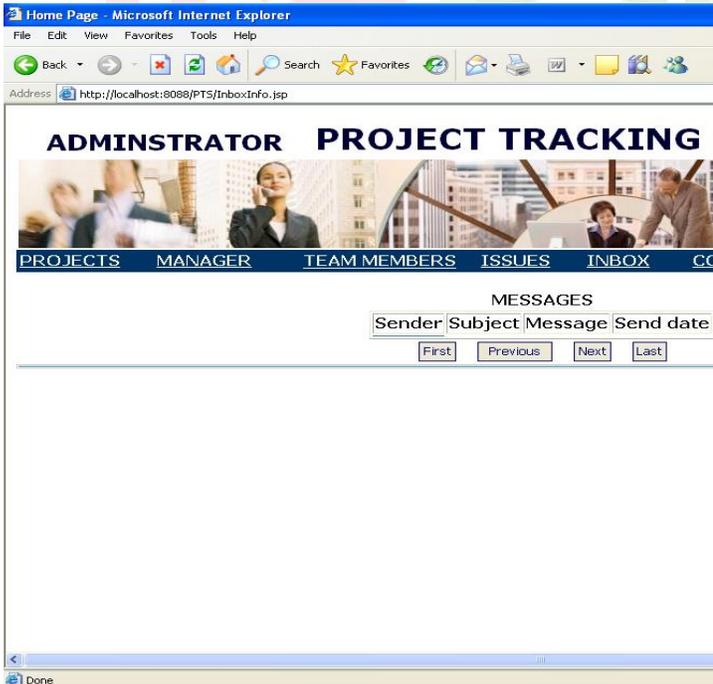
- Project Name:
- Manager Name:
- Client Name:
- Skills:
- Front End:
- Experience:
- Back End:
- Team Size:
- Start Date:
- Submission Date:
- Project Issued Date:
- Project Close Date:

At the bottom of the form are "Issue" and "Close" buttons.

Composing mail



Inbox Messages



VII. CONCLUSION

This system can be used as an online service, through internet. This web application is very easy to use and navigable through links. This application has followed some design standards those are already used in software industry. The time and economic factors are decreased.

Limitations

This product is tested on Internet Explorer, Netscape Navigator. And this application requires high h/w configurations.

Foreceable Enhancement

1. This Project can also be enhanced to mailing capability.
2. It can also be enhanced to searching utility.

VIII. REFERENCES

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