

Project Management Application

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ABSTRACT

The Project Management Application is a web-based application that focuses to help students track their project schedule and activities, collaborate with the other project members and their guide; also discuss the various project related details in the discussion forum. The different features of the project management application have been discussed along with the platform used for developing this application. This project management application can be used by the students of any branch and field and thereby will be useful for the guide to analyse the productive work by the project members.

Keywords

Project Management

1. INTRODUCTION

The Standish Group International, Inc. reported in 2001 that 31 percent of all information technology (IT) projects were cancelled before completion, that only 16 percent of projects were completed successfully, and that 88 percent of all projects were over budget, overschedule or both. Standish reported an average cost overrun of 189 percent and an average time overrun of 222 percent of original estimates [3]. The project thereby isn't completed successfully creating chaos among the project members and the pressure is on the project manager to meet the deadline. To avoid this situation we are trying to develop a project management application for students which will be helpful for them to plan, collaborate, discuss their projects with the project members and the guide; also scheduling the projects and carrying out the tasks in a timely manner will help the guide analyze the productive work of the students. The application is developed on Meteor platform which is an open source platform.

2. EXISTING SYSTEM

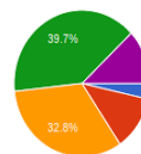
It has been found out that there are various popular Project Management Applications available like Zoho, Basecamp and many more. But these project management applications are developed from industry point of view and is difficult for the

students to understand. Lot of time and effort goes into understanding the functioning and the features of these applications. But as the students need to juggle between the projects, assignments and the other various work at hand, it is essential for them to devote most of their time in the project work rather than understanding the application. For this reason they need user-friendly applications which can help them sort out this problem.

3. MOTIVATION FOR THE APPLICATION

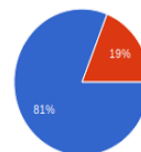
As per for the students of the different streams and branches, it was found out that the previous projects managed by them were good but keeping in mind that this rate was quite low which led to the next question that did they find the need of a project management application. The positive responses were quite high which made it clear that the application is the need of the hour. The statistics are as shown:

How effectively you could manage your past projects?



Poor	2	3.4%
Satisfactory	7	12.1%
Average	19	32.8%
Good	23	39.7%
Excellent	7	12.1%

Do you feel the need for a project management app?

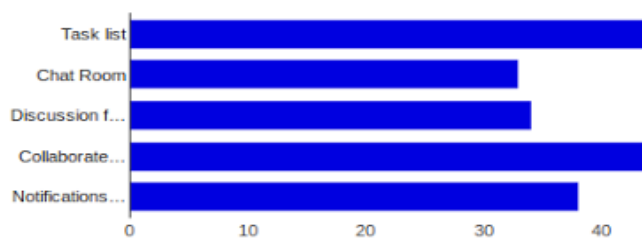


Yes	47	81%
No	11	19%

Fig 1: This figure shows the statistics of survey: part 1

These statistics further gave an idea about the different features which were proposed by the students. This helped the application to be in accordance with the requirements of the students. The different features proposed were as shown in Figure 2 (see Figure 2).

What all features do you wish to see in a project management app?



Task list	44	75.9%
Chat Room	33	56.9%
Discussion forum	34	58.6%
Collaborate with group members and guide	44	75.9%
Notifications regarding deadline	38	65.5%

Fig 2: This figure shows the statistics of survey part:2

So the statistics shown in the survey and also the ones quoted by the Standish Group International, proved to be a motivation to build the project management application with the recommended features.

4. PROPOSED APPLICATION

The proposed Project Management Application is being developed keeping the students and survey in mind. The application is user-friendly, secure, 24x7 available and low-cost application which helps the students start their project at a good pace. The project owner/creator can invite the different members into the project using their email-id's. The application not only tracks the daily activities of the project members but also helps the students collaborate with the help of discussion forum. The discussion forum allows the students and the guide to discuss the issues if any and the project details. The application thus helps the project guide to analyse the work done by the different project members. The discussion forum also has issue tracker feature which discusses and resolves the issues completely. The users can also upload files in the discussion forum. Various events can be tracked down in the calendar provided within the application. This feature helps the students to quickly go through the work performed on different dates or the different milestones achieved during the entire project phase. It eases the way in which the projects can be managed by the students.

5. DEVELOPMENT PLATFORM

There are various platforms available for building the web-based applications but this application is developed on Meteor platform which is an open source platform. Meteor was first introduced in December 2011 and has been developed by the Meteor Development Group. The reason for choosing this platform for developing the application is its full stack reactive app development feature on web and mobile. Meteor installation is quite easy on Linux, Windows and Mac OS. On Linux and Mac OS, the installation is done using the command: `curl https://install.meteor.com/ — sh`

The official windows installer is also available for the Windows users. The project management application's modules (signup and user login, create project and view existing projects, collaborate with guide, assign tasks and schedule them, check status and notifications, add events, discussion forum) are being developed in HTML and JavaScript and are designed in CSS which are supported by meteor. The application can be easily and quickly built in meteor compared to the traditional way. Another main reason for choosing this platform is once we have built our web app with Meteor, we can easily build a native wrapper for our app and publish it to the Google Play Store or iOS App Store with just a few commands; the same packages and APIs work on desktop and mobile, so that we don't have to worry about a lot of the edge cases associated with mobile app development.

6. IMPLEMENTATION

For implementation purpose, an account to register the student on the application needs to be created. Figure 3 shows the home page of the application. (see Figure 3)

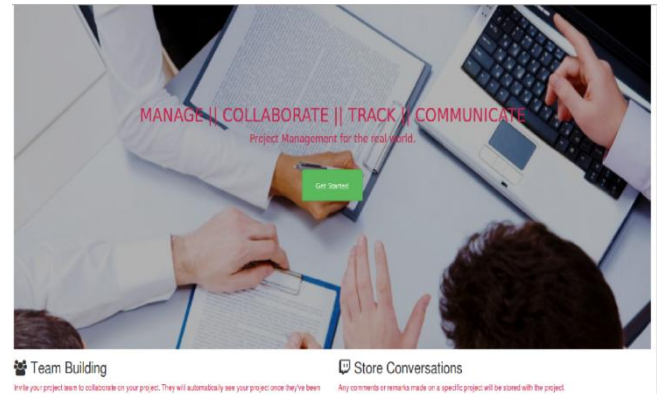


Fig 3: Home page.

The logged in account can create a new project in the application or can participate in some project. The project name, project end date and the guide must be added to create a project as shown in figure 4. (see Figure 4)

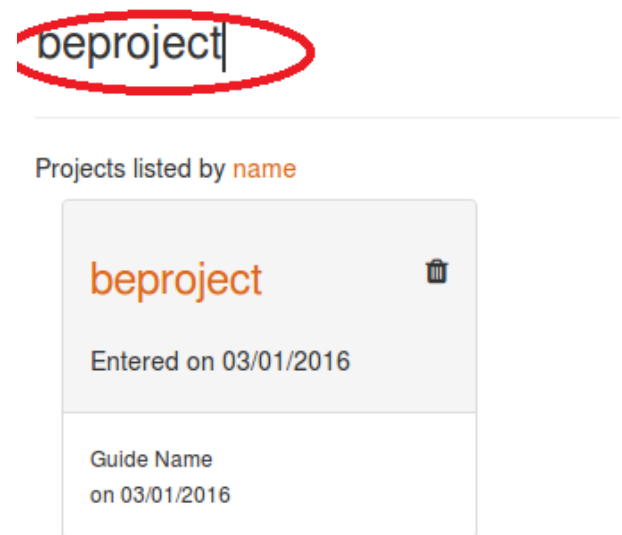
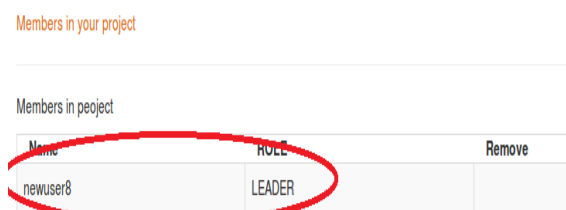


Fig 4: The creator of the project becomes the member

The creator of the project becomes the leader of the project as shown in the figure 5. The leader gets a notification that the project is created. (see Figure 5 and Figure 6)



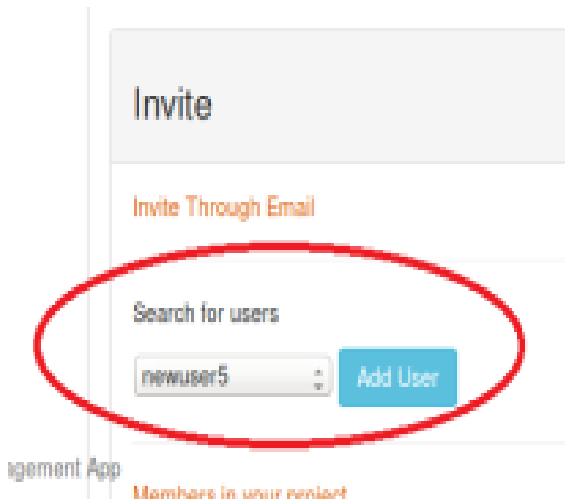


Fig 5: The leader can invite members

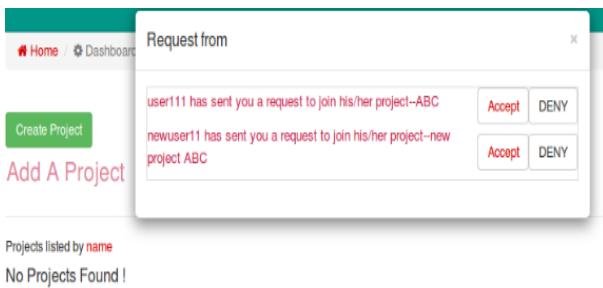


Fig 6: Invite

The leader can invite members to participate in the project as shown in the figure 5. The leader sends an invite to the members. If they have registered in the application they can view the invite in the people section of their account. They can accept it or deny it as shown in figure 6. If they accept it then they become a part of the project and they will get all the notifications of the project and can participate in it.

The leader can assign “member or guide” role to members. (see Figure 7)

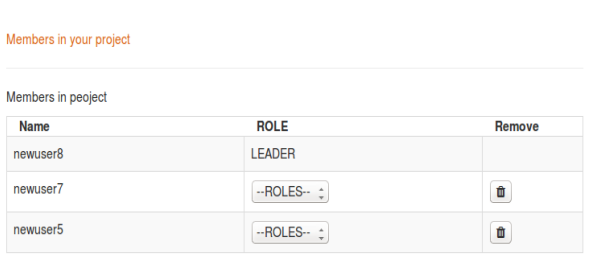


Fig 7: Assigning roles to members

The leader can remove members but other members cannot remove the members or the leader from the project as shown in figure 8. (see Figure 8)

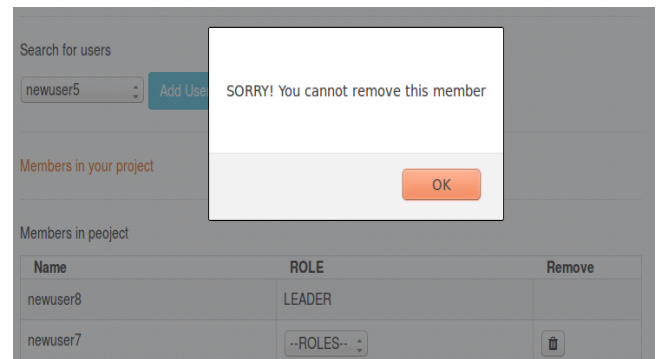


Fig 8: Only the leader can remove members from the project

The leader can assign todo task for each member and himself as shown in figure 9. (see Figure 9)

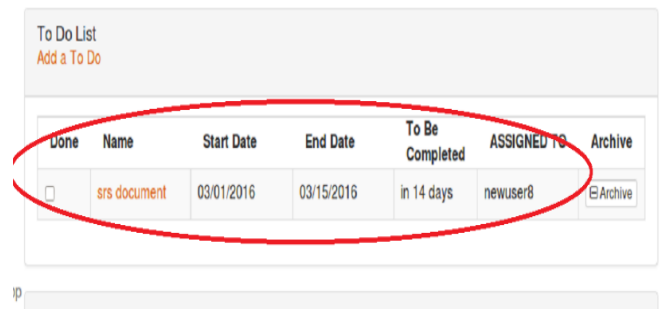


Fig 9: The leader can create a to do task for himself or each member

This todo task can be saved by the member or the leader or the guide as shown in figure 10. (see Figure 10)



Fig 10: The todo task can be saved

The member has to send a verification file to the leader when his task gets completed. If such a thing is not done then the task is not declared as finished by the leader as shown in figure 11. (see Figure 11)

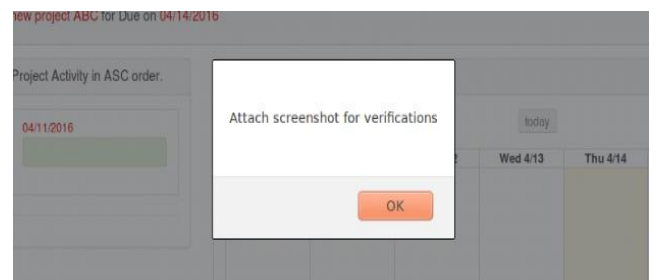


Fig 11: The message showing to attach files for verification

The leader and the members along with the guide can also participate in discussion by chatting in the discussion forum as shown in figure 12. (see Figure 12)

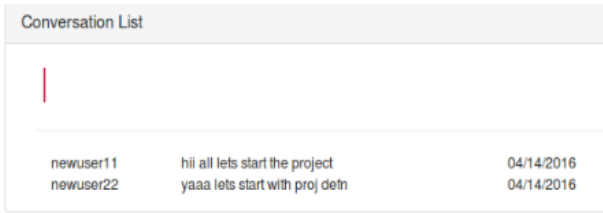


Fig 12: Members chatting in the discussion forum

The members can also use the feature one on one chat where they can chat with each other individually as shown in the figure 13. The chat room shows all the members who are online and are available to chat. (see Figure 13)

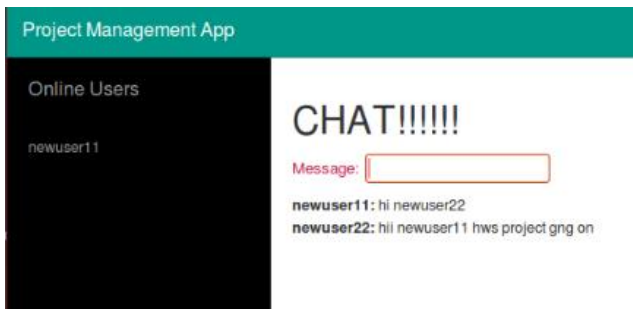


Fig 13: Members chatting in the chat room

Events can be created ,edited and removed from the calendar as shown in figure 14. (see Figure 14)

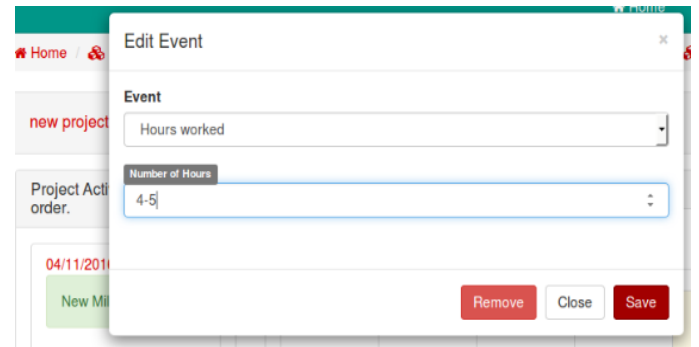


Fig 14: The events dialog box

The members can discuss and solve their issues in the issue tracker. The members can create issues, mark the status of the issues as well as remove the issues as shown in the figures 15 and 16. (see Figure 15 and Figure 16)

Finally the members as well as the guide can view all the changes in the project in the timeline of the project as shown in figure 17. (see Figure 17).

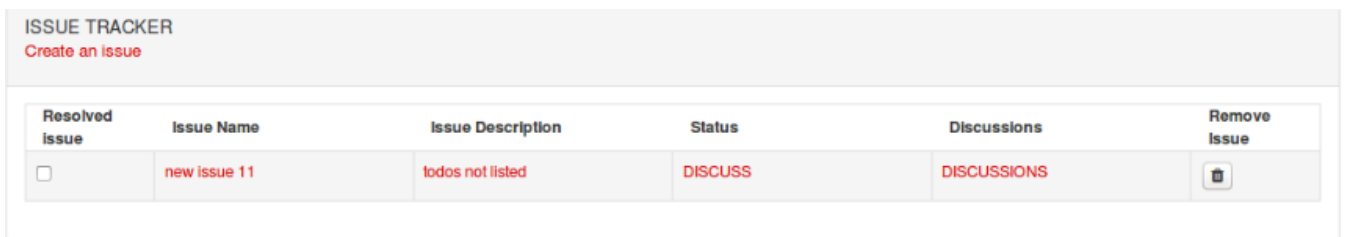


Fig 15: Issue Tracker

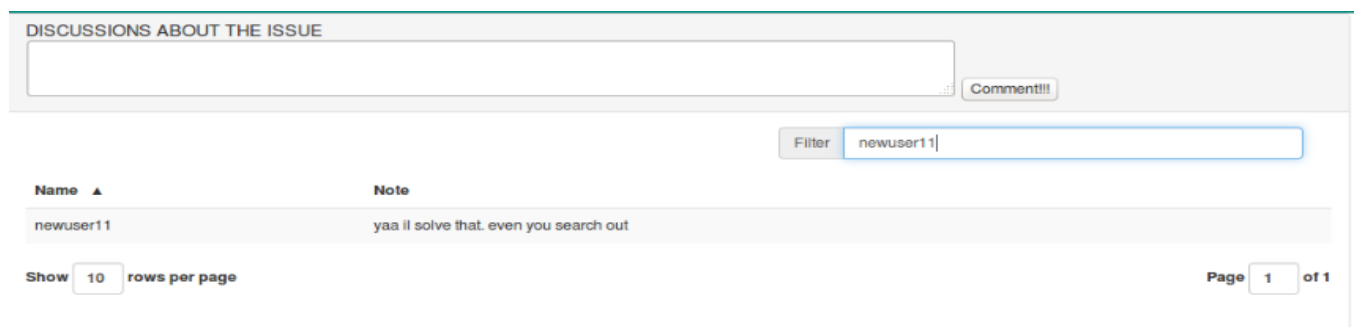


Fig 16: Discussion Forrum in Issue Tracker

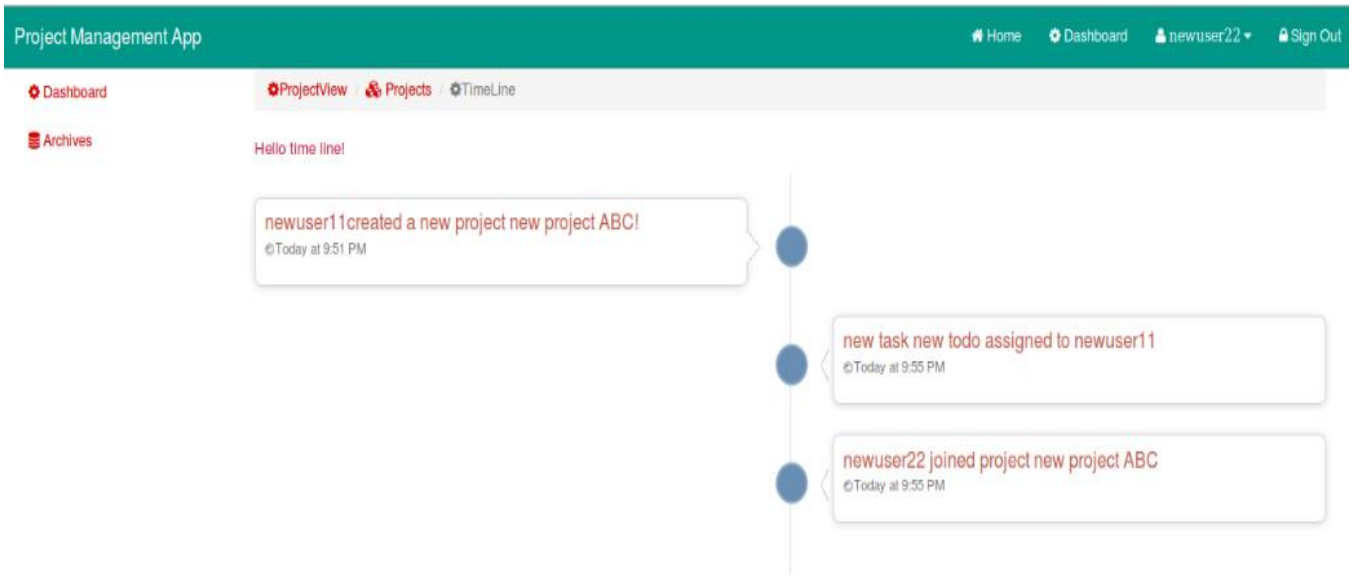


Fig 17: Timeline

7. CONCLUSION

The application works well in handling the different projects of the different students. The students can rely on the application as their project related data will be secure on the server not causing any discrepancy to the details of the project. But as it is evident that today most of the users are mobile users so it will be beneficial for them if they get to work with their projects using the mobile app of this web based application. So the future work of this application will be to develop a mobile application for the students also that they are able to view their projects offline.

8. ACKNOWLEDGMENT

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