# Collective Research on Team and Task Management Platforms

## -   Limitations and Ideas Of Upgradation

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***Abstract*—** In an era of Industrialization, growing startups and technologies, team and project management plays a crucial role. Work efficiency and growth of company depends on management system. There are so many existing tools for team and task management, but according to our research, they lag in one or the other features or the company has to rely on more than one tools. There are many tools who either work on task management and to-do list while some tools purely work on team conversations. Here, we are proposing a full-fledged system, eradicating the existing flaws. This project will be a pack of easy-to-use features, major one being task management, working according to the hierarchy of organization, team conversations including chats and conferences and project management. This project can be developed using different technologies: Backend: PHP, Java and Frontend: HTML, CSS, Bootstrap, JavaScript, Ajax. We are trying to propose this idea on website hence, we are also using Laravel php framework. This idea can be implemented robustly. This paper presents, a survey on different tools of team management and project management developed on various technologies. This paper includes importance of combining all features, result of the research on different existing platforms. A vast content of papers, docs and GitHub projects are listed in the reference section which can be useful to the researchers and developers for implementing this idea on different platforms.

***Keywords*—** *Team Management, Task Management, full-fledged system, existing platforms.*

## I.   INTRODUCTION

Team management refers to multiple activities to bind team members to accomplish tasks and projects. Whereas, Task management is the process of managing a task through its life cycle from planning to tracking to execution.[5]

Amid COVID-19 pandemic, where social distancing became a global concern, all organizations have shifted to remote workforce. Hence to maintain the work productivity and team communication, everyone started opting for various team management platforms. During starting phase users were facing burnout and companies have to rely on more than one tools to achieve their requirements. In this paper, we have researched on some platforms and tried proposing an idea of full-fledged team and task management web framework.

This framework will be including various features of team management, project management, communication, integration and notification with good user interface and easy navigation. This can be developed using different backend and frontend technologies PHP (Laravel), MySQL and JavaScript, Vue.JS, HTML, CSS, Bootstrap. This idea can be developed on various other platforms.



## II.   COMPARITIVE STUDY OF EXISTING PLATFORMS

Team management and task management tool is used by an individual, team, or organization to help complete projects more efficiently by organizing and prioritizing related tasks. It involves teamwork, communication, objective setting, tracking task progress, delegating work to team members and much more. Under this section, we have discussed about some existing tools and flaws in their interface.

**VersionOne:** VersionOne is a cloud-based application lifecycle management (ALM) solution that helps businesses engage stakeholders and track reports. VersionOne features agile portfolio management, program management, agile project management, business intelligence, hub integration and development. It focuses more on DevOps features like goals, issues and defects, spring planning, project road mapping, release planning and test management. But the tools have some cons as complex implementation, slow processing speed, support and documentation, no video conferencing feature, hard navigation and suffers too many frequent updates.

**Scoro:** Scoro is a comprehensive solution that combines all the features to manage your business: projects & tasks, contact management, quotes, team collaboration, multiple dashboards, billing, and reporting. Its powerful API integrations connect to dozens of tools include Microsoft Outlook, Microsoft Dynamics, Dropbox and MailChimp. Tool features are useful for commerce companies. This platform suffers majorly in responsiveness for mobile view, e-mail integration, high paid service and task management features as chat box and video conferencing.

**Slack:** Slack is a cloud-based project collaboration and team interaction tool designed to facilitate communication across organizations. By creating Slack channels, setting up notifications and easy file sharing boosts team's productivity. It is favorable for teams who need to be in constant communication. Slack has no feature of project management, calls are sometimes buggy, tool is slow and takes a lot of time to load. It is a paid service so companies have to bargain for more than one tool for team and task management.

**Zoho CRM:** Zoho CRM is a cloud-based business management platform that caters to businesses of all sizes. It supports email, live chat, social media, and in-person meetings, offers sales and marketing automation tools with helpdesk, analytics and customer support functions. Zoho's AI-powered sales assistant, Zia, provides advanced interpretations, solutions and predictions for salespeople. Its key features include lead management, workflow automation, advanced analytics, process management and developer platform. But has issues in exporting any type of documents, sitemap, UI design. And has no features of task management and contact management.

**Asana:** Asana helps teams orchestrate their work, from daily tasks to strategic initiatives. Asana manages initiatives, create projects, and then to create tasks within these projects. Assign tasks to your teammates, add them as task followers, share projects with them, or mention them in task comments to keep everyone in the loop. Asana can only handle a basic project and missing feature like project budgeting and project timeline, and some features like video conferencing, data storage and commenting on tasks.         [1][2][3][4]

## III. FEATURES

Team management and project management tools comes with various features to attain need of an individual, a team or an organization to accomplish any project requirements at a single platform. A full-fledged tool can take company to higher points with efficiency, high growth rate and in an arranged manner. Live tools have good featural interfaces but still suffers some drawbacks. In this section of paper, we are providing set of features of idea we are proposing.

A. *Hierarchy of organization:* Hierarchical organization structures all the entities in accordance with power and roles. With respect to management tools, hierarchy can be leveled as, firstly, registering organization, secondly, project and team allocation and ends with task management and completion.

B. *Project management:* Setup of working environment of tool begins with project management. For managing project various steps are followed, referred as features, listed below:
- *Creating project:* Here, project is added in the tool and required description is filled. Scheduling and setting priority are performed.
- *Adding Members & assigning roles:* in this step, members will be added to the project and will be assigned their roles to perform.
- *Setting permission:* Access to database, security permission and information visibility will be maintained.
- *Quoting:* The tool will provide additional feature which will help in setting project budget on the basis of time and work of project.

C. *Task management:* The process of handling the entire life-cycle of task using several features in called as task management [7]. Some features are marked below:
- *To-do list:* Tasks can be added in list in text form, recorded message or in the form of small video clips.
- *Task status management:* Drag and drop feature makes task management user friendly and easy to manage.

- *Prioritizing task:* Priority of task as low, moderate or high, can be set when task is under process.
- *Commenting:* This feature allows user to comment on tasks and personal profiles.

D. *Communication features:* Communication with team members plays major role in project's success and company's growth. To make it more efficient following features turns very important:
- *Chat box:* This feature provides channel for messaging with team members and groups, improving workflow.[8]
- *Video conferencing:* Meetings and conferences could be done at single place with additional feature of white board useful in presentations.[9]

E. *Integration and Notification:* Integrated environment with link to other platforms makes system more dynamic and versatile.
- *Data sharing:* Integration with Google drive and Dropbox for data sharing.
- *Development interfaces integration:* Git hub and Bitbucket linking with tool makes it friendly for IT sector.
- *Notifications:* Gmail serves best in this purpose and is most suited platform.

F. *Reports and Analytics:* Most important section of any tool is analysis and data representation. Some important concepts are as follows:
- *Category based dashboards:* Different dashboards based on different categories like financial, personal, will be available.
- *Real time graphs and tables:* Project status, team performance and tasks performance results will be presented with good user interface.

G. Appraisal and Certifications: Appreciation is very important for keeping members motivated and devoted. Some features of our proposed idea will help in this regard.
- *Badges:* Titles and badges will be awarded to users on completing certain tasks and on achieving goals.
- *Personal profile reviews and comments:* Users can be appreciated by heads and other members on commenting on their profiles and writing reviews.
- ❖ *NOTE:* System monitoring and real time activity tracking with automatic attendance maintenance features can be included in future scope.

## IV. TECHNOLOGIES USED

In the above section, we shared the list of various features which would be beneficial for the overall work productivity and for effective team management. Here, we are summing up all the features into an idea. We would like to showcase our idea by structuring it in a form of website. Hence, here we are providing with the list of technologies that can be used for the fulfilment of the idea.

**LARAVEL** – Laravel is the PHP Framework. It follows the Model, View, Controller (MVC) architectural pattern which will be used for the development of overall structure of the website. It provides with certain inbuilt common tasks such as authentication, routing, sessions and caching hence making the development of the website fast and easier without

compromising with the functionality of the website. Through Laravel, we can provide with the idea of hierarchy of organization. Every user should be the part of the team followed by the part of organization.[6]

**PHP** – Hypertext Preprocessor (PHP) is the scripting language which Is used for backend development. It includes making the website dynamic and fast. PHP is not used differently but in Laravel framework for the idea implementation. All the logic in Laravel is developed using PHP. Mainly, developer writes codes in different controllers by making different functions and triggering these functions from different parts of pages to make webpage dynamic.

**HTML/CSS/BOOTSTRAP** – Hypertext Markup Language (HTML) and Cascading Stylesheets are used to make creative webpages. HTML is the basic requirement to form structure of webpages and content inside it. CSS is the language used to style the HTML documents. It describes the presentation of webpages including coloring, layout, fonts and designing. Bootstrap is the most popular HTML, CSS, and JavaScript framework for developing responsive, mobile-first websites. Bootstrapping is the process Laravel takes to combine the necessary bits in the framework together to be able to process and handle the functionality thrown at the system. Inside the bootstrap folder you will find a few files: autoload. php - loads and includes composer so any packages are loaded.

**JAVASCRIPT/VUE.JS/AJAX** – JavaScript is a text-based programming language used both on the client-side and server-side that allows you to make web pages interactive. Where HTML and CSS are languages that give structure and style to web pages, JavaScript gives web pages interactive elements that engage a user.     Vue. js is a progressive framework for JavaScript used to build web interfaces and one-page applications. Not just for web interfaces, Vue. js is also used both for desktop and mobile app development with Electron framework. Here, we are using vue.js with Laravel to develop communication system which includes chats and call (both audio and video) features. Asynchronous JavaScript and XML (AJAX) is a technique for creating fast and dynamic web pages. The main purpose of Ajax is to improve the speed, performance and usability of a web application.

**MY SQL** – MySQL is a relational database management system based on SQL – Structured Query Language. It lets us access and manipulate databases. The queries are written in controllers of Laravel which allows to access data from database. Laravel provides with two features namely Query builder and Eloquent ORM with the help of which we can interact with database.

## CONCLUSION

Because of COVID-19 pandemic, nowadays almost everyone from IT industries and organizations have shifted to remote workforce. Hence, not only to maintain the work productivity but also to increase work efficiency with effective and easy team management and communication an ideal platform is required where everyone can co-ordinate and work without any burnouts.

Gradually, people have started adapting the new environment of work which clearly indicates the rapid increase in usage of these team management platforms. Hence, prioritizing the comfort of people for remote work, this idea can be implemented in a form of software, application or tools.

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