

V Teams:project communication platform

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ABSTRACT: Communication and collaboration with other people has become the need of the hour. In the current era, real-time communication apps have become an inseparable part of our lives. Everyday millions of people in the world communicate through real-time communication and chatting applications. Developing projects that help make the world a better place by solving real life problems is something that every student aims to do. Currently students make use of multiple different platforms to collaborate with other team members for coordination of project activities. Using multiple platforms for performing a single task is not efficient and often results in confusion and chaos. This scenario emphasizes the need of a single app that helps to coordinate all activities required in project development like chatting, voice and video calling and more.

KEYWORDS:Communication Platform, Chatting, Realtime

I. INTRODUCTION

Communication and collaboration with team members is an essential part of any project development activity. There are a few initiatives taken by start-ups and individuals, but most of the products they produce are only beneficial to a certain level and/or not scalable as they are unable to reach a huge number of needy people. Hence, many people are unable to get the best project development experience. It is necessary that these initiatives and efforts to develop a project communication platform are carried out with a systematic approach. This will help students and developers to solve the problems more efficiently. One of the approaches could be a web application designed for this purpose. This web application would be accessible through any device with an active internet connection and will support all major browsers with Chrome being the recommended browser. The web application called 'vTeams' will be a complete package with functionalities like real-time chatting, topic-based channels, video and voice calls, customizable UI

and more to help in every phase of project development activity. The application targets students specifically and aims to provide solutions for all final year project development related activities. Each registered and verified user will be able to create a topic specific channel and will be able to invite other users to join the channel. People can send text messages as well as images in the channels. Users will also be able to make video calls which will further increase efficiency and productivity.

II. LITERATURE SURVEY

A few existing systems are studied and analysed as follows:

I. Slack



Features:

- Public and Private channels
- Easy to share and collaborate in real-time
- Integration with Other Apps
- App for all major platforms

Limitations:

- Messages are deleted after a certain period of time in the free versions
- Consumes a lot of RAM and battery
- Video-audio synchronization issues
- Expensive

II. Discord



Features:

- Provides API for creating bots
- Supports video and text communication
- Roles based access

- Syntax highlighting and Markdown support

Limitations:

- Proprietary software and cannot be self-hosted
- Targeted at gaming community
- Few technical glitches
- Messages are not encrypted

III. Microsoft Teams



Features:

- Integration with multiple tools
- Each channel has its own file storage
- Bots to help in everyday tasks
- Record meetings

Limitations:

- Limited number of channels
- Expensive
- Confusing file structure

IV. Google Chat



Features:

- Integration with other google apps
- Rich video conferencing experience
- Cloud storage & file sharing
- Secure

Limitations:

- Expensive
- No dedicated client software
- Requires good net-connectivity constantly

V. Webex



Features:

- Good user interface
- High quality video calling
- Meeting reports
- Integrate with most common tools

Limitations:

- Sound breaks on low bandwidth
- High CPU usage and disk usage
- Meeting in recorded in proprietary format

It has been analysed that the prices of these apps are quite high. Most of these existing apps are owned by tech giants and integrate well with other apps developed by the same companies. It has both benefits and drawbacks. Benefit being good support and drawback being data privacy issues and additional costs if we need to use some app not provided by the same company. All of these apps are closed source and we cannot view or make changes to the app. Apps like Slack provide good functionality in text-based communication but lack in video communication whereas Google provides good functionality in video communication but lacks in text-based communication. Similar is the case with other apps. Some of these apps don't have good support for linux based systems. None of these apps target students as an audience.

III. PROPOSED SYSTEM

vTeams, a project collaboration platform is an online platform which aims to meet all the communication and collaboration needs of a student for developing a quality project.

The application is aimed to help students to find all tools required for effective collaboration in one single app. vTeams will be open-sourced and completely free to use and modify as needed. vTeams will be a centralized platform with no area limitations and will be accessible to all individuals. Clubbing together the best from all other applications, along with an extremely user-friendly user interface, vTeams aims to provide the best collaboration platform for students.

IV. OVERCOMING EXISTING PROBLEMS

1. Expensive Cost

Reason: Other apps are owned by tech giants and they charge a lot as they want to maximize their profit.

Solution: This problem will be solved because vTeams will be completely free to use. The codebase will be open-source and

2. Less to no customizability

Reason: Closed source and proprietary software.

Solution: vTeams is an open-source project and anyone can customize the behaviour according to their needs.

3. Lack of support for some operating systems

Reason: Developers focus on the operating system used by the majority of their clients and pay less attention to other operating systems.

Solution: vTeams is a web application and can be accessed on any device and any modern browser

4. Confusing UI and folder structure

Reason: Different targeted audience and technical glitches

Solution: vTeams uses react and provides responsive and easy to use user interface

V. OBJECTIVES AND FEATURES

User Account Management:

- User Registration
- Email based User Account Verification
- User Login

Chat Channels:

- Create chat channel for every topic to keep things organized
- Invite code to add users to channel
- Send text messages and images real-time
- Mark channels as favourite for easy access

Video Calling:

- Unlimited time video and voice calling
- Users webrtc technology and sockets for efficient data transfer
- Share URL to add more people to call
- Send text messages in video calling chat section

Track versions of projects:

- Easily track version history of projects
- Notifications when new version is releases

User friendly:

- Uses react for making beautiful and responsive user interfaces
- Customizable themes
- Does not clutter the entire page with unnecessary buttons

Minimize spam:

- Users have to verify their email
- Users need invite code to join any channel

VI. SOCIAL IMPACT

We have identified three types of users:

i) Students (60-70%):

The app specifically targets students as the main audience and provides features to fulfil needs for college going students. User friendly interface coupled with high speed chatting and calling capabilities and tools for project version tracking and that too absolutely free of cost, overall provides an awesome platform for students

ii) Smallfirms (15-30%):

Other platforms are comparatively extremely expensive and might tick off small firms. vTeams will cater to most if not all of their requirements.

iii) Others (20-30%):

Perfect platform for casual interactions with friends, families. People don't have to worry about call time limits or messages being deleted.

VII. CONCLUSION AND FUTURE SCOPE

vTeams fulfils the goal of providing a fast and efficient project collaboration platform. Being a web-based application, it ensures that anyone using any configuration and operating systems and located anywhere in the world can access it. Users have to verify email and need invite code for joining channels which helps to reduce unnecessary spam texts and interruptions. Unlimited messages and calling without any type of limits all for free provides a great deal for the users.

In future, there can be integration for other productivity apps like text editor, spreadsheet, drawing boards, etc. A native app for android and iOS platform can be developed to further improve user experience.

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