Multi-user Chat Application

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Abstract—Internet isn't only a requirement or luxury; it's become a household necessity. When the earth pandemic locked everyone in their house, it became a significant medium to attach, study and work. Students were able to study without the prospect of being vulnerable to covid-19 because of the web. This project is additionally supported internet. This paper shows the vitality of chat application in day-to-day life and its impact within the world of technology. This online system is developed to interact or chat with each other on the web. This application is developed with proper architecture for future enhancement and usability. It's deployed altogether private organizations like Colleges, IT parks, etc.

Keywords—Live chat, Instant Messaging, Online chat.

I. INTRODUCTION

Communication is that the process of sending and receiving messages through verbal or nonverbal means, including speech, or oral communication; writing and graphical representations (such as info graphics, maps, and charts); and signs, signals, and behavior. More simply, communication is alleged to be "the creation and exchange of meaning. The world is continuously evolving, and with the emergence of digital technology, it's changing rapidly. What would take months to deliver is now taking some seconds. Today, communication tools have bridged the gap between different countries. Moreover, internet communication ensures a second connection between people on opposite sides of the planet. Internet-based communication refers to sharing information over the net. From instant messaging to placing calls, the web offers multiple ways to speak. These tools facilitate your save a substantial amount. A number of them like email, social networking, and instant messaging are available freed from cost, whereas some like internet telephony provide you with numerous advantages at cost-effective prices. When it involves internet-based communication tools, Instant Messaging (IM) is one in all the foremost popular.

With services intrinsically, you'll have a non-public conversation with another individual additionally as create a talk room where you'll be able to communicate in real-time with over two people. The popularity of instant messaging is thanks to its real-time nature. The chatting application has huge impact on day-to-day life. There is numerous chatting application available during this world. Each application has different additional features varying from other applications. These application organizations compete with one another and add some competing features during each release. People find an improved application from an available internet application which they feel much reliable and secure a number of the available chatting applications that are available in nowadays are WhatsApp, Facebook, Instagram, Hike, etc. The above-mentioned applications have billion users everywhere the globe. Those companies are one in every of the highest companies within the world, they need higher revenue p.a. and have many employees for his or her organizations developing additional features to compete with other organizations during each release.

These applications have different features and follows alternative ways to confirm security of their user data. Today a knowledge theft is that the major crime and the majority are involved in it. There are many cases being filed nowadays about personal data loss. that the organizations should make sure the security from data loss by third party data crisis. The basic chatting system should involve both sending and receiving processes simultaneously.
II. LITERATURE SURVEY

As we all know the employment of net {the web | the net} has mature exponentially and therefore the internet has become one among the simplest and least expensive communication tools. There are several electronic communication and chat apps coming back presently. There are several applications for communication. The oldest we have a tendency to use is Email or E-Mail. alternative apps on the market are numerous social websites, SMS, Mobile Chatting apps and far additional.

Electronic mail:
Every day, network users send one another billions of email messages. If you're terribly on-line, you'll be able to send many emails or additional every day while not even puzzling over it. Obviously, email has become a really widespread communication tool. a true email system consists of 2 totally different servers running on a server. One is termed SMTP server, wherever SMTP stands for Simple Mail Transfer Protocol. SMTP server contains outgoing mail. Another POP3 server or IMAP server, each of that have incoming mail. POP stands for Post workplace Protocol, and IMAP stands for web Mail Access Protocol. Whenever you send a bit of email, your email the shopper interacts with the SMTP server to manage the causation. The SMTP server in your host might have conversations with alternative SMTP servers so as to deliver email.

Social Networking Sites:
Discussions on social networking sites are usually peer-to-peer, they will occur in teams. As conversations present itself with peers they are doing not ought to line up in any approach. They use Associate in Nursing rule to show the most recent news during a window with friends WHO are on-line. Friends we've talked to frequently are shown within the list. Recent updates are at the highest of the page. speech communication growth is monitored so multiple conversations are conducted at the same time. Here, too, the matter of resilience involves the fore. Since chat numbers are at the same time the chat delay time isn’t adjusted.

III. PROPOSED SYSTEM

Product Perspective
The project will be a standalone web application. It would be complete in itself and will not be a part of any bigger project and shall be created from scratch.

Product Functions:
1) Personal chat
2) Group chat
3) Voice calls
4) Video calls

User classes and characteristics:
1) Chat profile class
2) Group chat class
3) Permission class
4) User class
5) Chat class
6) Chat history class

Operating environment
Good internet connectivity and a web browser

User environment
Users of the environment must know basic navigation in a web browser. Any user will be free to contact the developers using the email id provided.

Design/implementation constraints
The UI/UX of an app plays a very crucial role in its success, so we have to make sure that UI/UX should be very easy to interact so that the masses would be able to use it without any hassle, the user should be able to navigate through the site with ease.

Assumptions and dependencies
The client system should have a web-browser. Users should have a basic understanding of using the web. Users should be familiar with the concept of chatting. The client system should have a good and stable internet connection. The server should be configured in such a way so as to handle the load of the traffic.

Use case diagram –

Fig 1. Represents use case diagram of our system.

Use case diagram is graphical representation of elements used in multi-user chat application. It’s a way to summarize details of system and users within that system. Mainly it identifies iteration between system and actors.
IV. METHODOLOGY

By itself, the agile software development approach is particularly focused on a finished product with collaborative efforts. It involves short-term software development cycles that are called iterations. Each iteration is well organized and a bit like a mini software project usually lasting from one to four weeks. The iterations contain tasks like adding new functionalities, requirements analysing and planning, designing, coding, testing, and documenting. Because the quantity of iterations increases, the event team reassesses the project and prioritizes the backlog. It's an honest practice that helps to form sure the merchandise release and have a better version at the highest of every iteration. However, the agile model isn't a panacea and its advantages go along with disadvantages. When the world pandemic locked everyone in their house, it became an enormous medium to connect, study and work. Students were able to study without the prospect of being at risk of covid-19 because of the net. This project is additionally supported internet. This paper show's the vitality of chat application in our day-to-day life and its impact within the technological world. This online system is developed to interact or chat with one another on the online. This application is developed with proper architecture for future enhancement and further usability. It's deployed altogether private organizations like Colleges, IT parks, etc.

Benefits of Agile

•The agile methodology delivers a high-quality output since small iterations involve easy tests and continuity with reduced errors.
•It allows creative improvements moreover as modifications while functioning on a software product. Developers get to explore various modifications together with the code.
•The approach of agile methodology is adaptive and has low dependence on initial documentation. Applied changes don’t disrupt or have any major setbacks on the project.
•Software costing and budgets are right planned. The agile approach requires project estimation before every iteration.
•Due to the main target on clarity, there are regular interactions as also, communication among the client, developers and members of the assembly process.

Considerations in Agile

•Lack of initial clarity moreover project vision due to inconsistency in product specifications.
•No set or strict deadlines. Changes in specifications still as requirements mean no accurate estimate deadlines for project completion.
•The challenge of estimating resources required for a project. Unpredictable changes make it tough to estimate the prices and resources.
•Lacks efficiency in documentation. Agile Methodology Steps
•Development iteration
•QA iteration
•Retrospective
•Scope adjustment

FEATURE DRIVEN DEVELOPMENT (FDD) METHODOLOGY:

This is another iterative methodology but together with object modelling. It’s effective for giant team projects. The primary step during this method is to travel through the scope of the system. After the review, next is that the creation of domain models well for every and each feature, so the scope of the system is reviewed everywhere again. The merging of all the domain models results in one functional model. Software development with this method involves five steps which are as follows: developing the entire model, listing features, planning, designing, and building by feature.

Benefits of FDD

•This methodology is suitable for big projects and guarantee success.
•Its five-step process of development that helps in accelerating software delivery easily.
•FDD supports multiple teams that are working in parallel.
•The level of this method ranks with the best industry practices.
•Feature driven development covers all the projects that require sequential updates.
•The resulting features are always greater than the corresponding inputs. Considerations in FDD
•It provides almost zero documentation for project owners.
•Based on the efforts required, it’s unsuitable for small projects.
•It is way of a posh pattern of development for individual software developers.
•The success of this system solely depends on the Team Lead and their skill set.

FDD Methodology Steps

•Development of an overall project model.
•List of features.
•Feature-focused iterations with milestones.
•Design by feature.

V. RESULT AND CONCLUSION

Multi-user chat application allows you to chat, message or call-in real time. It also allows the user to find other users, set a status of their own choice as also select their desired theme for the website.

In conclusion, we have presented a web application for the purpose of texting as well as calling. The web applications mean to provide a user-friendly experience. Our project can be further enhanced and improved in the future according to the new necessities of the consumers. Till then, the presented system is bound to provide a comfortable multifaceted functioning and would revolutionize the prospects of existing needs.
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