**Synopsis of Real time Chat Application Project**



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**Introduction**

Communication is a mean for people to exchange messages. Messaging apps (eg social messaging or chat applications) are apps and platforms that enable instant messaging. According to the survey the group of users prefer WhatsApp and like to communicate using Emoji. 51% of the group uses the chat applications on an average of 1-2 hours a day. Messaging apps now have more global users than traditional social network which means they will play an increasingly important role in the distribution of digital journalism in the future. Real-time chat is virtually any online communication that provides a real-time or live transmission of text messages from sender to receiver. A variety of software programs are available to enable real-time chat between individuals.

Real-time chat can be any direct text-based or video-based (using webcams) one-to-one chat or one-to-many group chats by means of tools like instant messengers (IMs), talkers, Internet Relay Chat (IRC) and multi-user dungeons (MUDs).

**Objective**

A chat application wiil make it easy to communicate with people anywhere in the world by sending and receiving messages in real time. With a web or mobile chat app, users are able to receive the same engaging and lively interactions through custom messaging features, just as they would in person. Nowadays,people which are interested to talk about a topic which they like and people which are interested in it, can join and communicate with others easily, as the chat is open sourced; which means people can join and easily leave the chat room. Connects people globally – as the application runs through help of internet, it helps in connecting people easily.

**Functionalities provided-**

* Providesthesearchingfacilitiesbasedonvariousfactors.SuchasStock,Products,Sells,Customers.
* InventoryManagementSystemalsomanagetheProductCategorydetailsonlinefor Sellsdetails, Customersdetails, Stock.
* IttracksalltheinformationofInventory,ProductCategory,Sellsect
* ManagetheinformationofInventory.
* ShowstheinformationanddescriptionoftheStock,Products.
* ToincreaseefficiencyofmanagingtheStock,Inventory.
* ItdealswithmonitoringtheinformationandtransactionsofSells.
* ManagetheinformationofStock.
* Editing,addingandupdatingofRecordsisimprovedwhichresultsinproperresource management ofStockdata.
* ManagetheinformationofSells.
* IntegrationofallrecordsofCustomers.

**Methodology**

The methodology for developing a real-time chat application can vary depending on the specific requirements and technology stack used, but the approach involves the following steps:

1. Requirements gathering and analysis: The first step is to gather requirements and analyze the project's scope and goals. This may involve identifying the target audience, defining the features and functionalities required, and determining the technical requirements.
2. Design and architecture: Based on the requirements, the next step is to design and plan the application's architecture. This includes selecting the appropriate technology stack, defining the data models, and creating a high-level design of the user interface.
3. Development: In this stage, the actual code for the application is developed and tested. This may involve implementing the back-end functionality using technologies such as Node.js and Express, and developing the front-end using frameworks such as React.
4. Implementation of real-time communication: Implementing real-time communication is a crucial part of a chat application, and this may involve using websockets or other real-time communication protocols. The goal is to ensure that messages are sent and received in real-time and are efficiently processed by the server and clients.
5. Testing and debugging: Once the development is complete, the application is thoroughly tested and any bugs or issues are identified and fixed.
6. Maintenance and updates: The final step is to ensure that the application is properly maintained and updated as needed. This may include fixing bugs, adding new features, and improving performance.

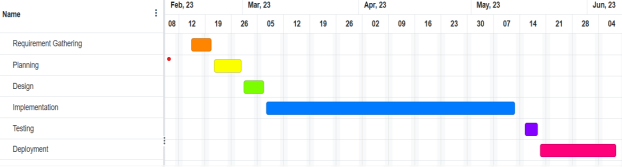
**OUTCOME**

**The outcome of the Real-Time Chat Application project will be a functional and user-friendly web-based communication platform that allows users to communicate with each other in real-time. The following are some of the expected outcomes of the project:**

1. **Increased Productivity: The real-time communication feature will allow users to exchange information and ideas in real-time, improving the speed and efficiency of communication and collaboration.**
2. **Enhanced User Experience: The user-friendly interface, mobile compatibility, and various features such as file sharing, notifications, and user profiles will provide a positive user experience for users.**

**3.** **Increased User Engagement: The platform's ability to support multiple conversations and user-to-user interactions will encourage users to engage with each other and participate in discussions.**

**GANTT CHART**

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TOOLS AND TECHNOLOGIES

Hardware requirements:

The most common set of requirements defined by any operating system or software applications the physical computer resources also known as hardware.

Hardware requirements for present project:

PROCESSOR: AMD PRO A6-7350B R5

RAM : 4GB

HARD DISK: 500 GB

SOFTWARE REQUIREMENTS:

Software requirements deal with defining software resource requirements and pre- requisites that need to be installed on a computer to provide optimal functioning of an application.

SOFTWARE REQUIREMENTS FOR THE PROJECT

OPERATING SYSTEM :Windows 10

CODE EDITOR:Visual Studio Code

TECHNOLOGIES:

HTML: HTML, which stands for Hypertext Markup Language, is the standard markup language for creating web pages.

CSS: CSS, which stands for Cascading Style Sheets, is a stylesheet language used for describing the look and formatting of a document written in HTML.

JAVASCRIPT: JavaScript is an essential component of the web development landscape and is supported by all modern web browsers.

REACT: React is a JavaScript library for building user interfaces.

NODE.JS: Node.js is an open-source, cross-platform JavaScript runtime environment that is used for server-side web development.

MONGO-DB: MongoDB is a free and open-source NoSQL database that is used for storing and retrieving data in a document-oriented manner.

SOCKET.IO: Socket.IO is a JavaScript library for real-time, bidirectional communication between web clients and servers.It enables real-time, event-based communication between the client and a server, allowing for the creation of fast and interactive web applications.