Fundamentals of Communication

Classroom based environment using MQTT Protocol

Group - 25 | Project Id - 4

Report on Project Understanding

INTRODUCTION

The MQTT protocol is a messaging protocol which works on the top of the TCP/IP protocol and is used when the network bandwidth is limited. Clients(who are publishers/subscribers) communicate with each other via the broker(who is the server) and keep no information stored about each other.

The clients can publish/subscribe to any topic which is a virtual channel used to define the path where the data is being sent. The topics are created by publishers and are sent to the broker with the message and then can be subscribed by the subscribers. if there are no current subscribers to a topic, the broker discards it unless the publisher indicates for the topic to be retained.

AIM

To create a Classroom based environment using the MQTT Protocol which will enable the sharing of messages between clients (who can act as publishers or subscribers) through the server (called as the broker) with the help of an Android App.

TASKS

- Sending text messages from a client to all other clients in the classroom.
- Enable app notifications on the phone if a new message arrives.
- Authentication using their username and password using the MQTT Protocol.

COMPONENTS

- Android Studio for creating the android app
- Using the Paho Java MQTT Client for Android Studio
- Hive MQ as the Broker for the communication
- No hardware component is being used

INDIVIDUAL CONTRIBUTION (TENTATIVE)

- Bhavani & Nikhil : User Interface, Authentication, Comments
- Jitesh & Harshith : Publish/Subscription, Notifications

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