

Starting with the name of Allah, The most Merciful and Beneficent.

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Project Report

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MESSENGER

Description:

We have made messenger with the great techniques and different kind of approaches. We have discovered its great features and properties. We have used different kinds of libraries in it and each library has its own unique features. We have made it with such efforts that it is very fast like anyone can send and receive messages just within one second. We have used different varieties of functions in it. In this application, First we need to connect to the server then server will be requiring IP address of the clients for the communication and transfer our data.

Following are the properties and approaches that we used to make messenger:

Libraries:

We have used four different libraries named as:

1. Tkinter
2. Socket
3. System(sys)
4. Time

How these libraries works in Messenger?

Tkinter:

There are so many options for evolving the GUI (Graphical User Interface) but Tkinter is one of the most useable library in python. Basically it is unique library inpython. Tkinter is more easy and it is most fastest library in python for the creation of GUI. we used this library for the creation of GUI for messenger and it is most commonly used library in python.

Socket:

We use socket library in python for the communication purpose, Same as in messenger we always need that kind of library from which we can communicate. We always need socket library for connecting two nodes on the network to communicate with each other. Basically it is a connection of server to client where the nodes connected to the server and then they can communicate with each and transfer their data in seconds.

System(SYS):

This type of library that use in python it gives access to the preserved variables those are stored in your computer. it is maintained by the interpreters. So we used this for this purpose that if we want to type any word on our messenger app that we used just a second ago then this library will help us like it will show that used variable so we can just click on it without typing further word.

Time:

We always need information of our delivered message, like when it was sent and received so, For getting know about that info we always use Time library in python. There is also a unique feature of this library that it just don't show us the time but it also us month and year. So when we send our messages then this library will be helping us to show date, time, and year.

How python messenger actually works:

Requirements of libraries:

This is essential for the messenger that it always requires only four common libraries like Tkinter, socket, system(sys), and Time. As we studied above that each library has its unique features and approaches to do work. Like Tkinter is for the development for the GUI(Graphical user interface), Socket for the communication, system(sys) for the stored variables, and time for to know the time, date and year.

How to connect to the server:

So first of all, we will get host name on which our device is online for connection to the server by calling socket library that will be requiring to the clients to connect to the server. There is a unique port of every server like "8080" so that the client has to connect this port for connection. After that host and port will be connected to each other, Then wait for the connection maybe it takes time for a while to connect to the server. After that server get the IP address and we will successfully be connected to the server. After connected to the server, Clients will be permitted to connect and start chatting.

How the Server connect to the Client:

Client will be requiring the name of server for connection and will be connected to same port. Now the port and host will be connected and messages can be send received by both sides.

How it looks like when client and server are connected:

Here are two photos for instance:

Server:



Client:



As the above photos are showing how actually messenger chat box looks like. There is SEND button on both chat box by clicking on them our message will be sent.

Source of Code:

There is a channel on youtube name as "CodeWithHarry", From this channel we watched a video related to the messenger and we got the different ideas and after that we tried to make a code and with the help of this youtube channel, We made messenger successfully.