Chat (Timing) Covert Channel

Using the programming language of your choice (so long as it is either compilable or interpretable on my Linux OS), write a program that can extract a covert message from the delays in between characters of a message transmitted by a chat server. This is a group programming assignment (i.e., **each group will submit one program**).

Notes and Requirements:

- Submit your source code only;

- Your program should connect to the chat server, receive an overt message, and display it as it is being received (to `stdout`);

- Your program should accurately time the overt message to decode a covert message;

- Your program should determine the end of the overt message to properly disconnect from the chat server (hint: the overt message ends with "EOF"); and

- Your program should output the covert message (to `stdout` – hint: it also ends with "EOF").

Please, no GUIs. Make this a command line application without frills that I can execute at the command line as illustrated below:

```
jgourd@jgourd-latech:~/covert$ python chat_client.py
[connect to the chat server]
...
Some sort of overt message is being transmitted here.  But there is a
hidden message being covertly transmitted!  Can you guess it?
...
[disconnect from the chat server]
Covert message: Gourd is 31337!  Of course, we already knew this...
```