Chat (Timing) Covert Channel

Write a **Go language** 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., **only one submission per team is needed**).

Notes and Requirements:

- Submit your source code module only; The module should be a zipped folder containing at least

    - your Go source code (e.g. `chatclient.go`)
    - your module file (i.e. `go.mod`)

- 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 delays between characters received of an overt 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:

```
prof@latech:~$./chatclient
[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: Spectacular achievement is always preceded by unspectacular
preparation. -- Robert H. Schuller
```

How can the delays that map to 0 or 1 be determined? I suggest that the timing between characters of the overt message be displayed to `stdout` – using pretty good precision (e.g., three decimal places). You should be able to pick out the two delays. Modify your program so that one delay maps to 0 and the other to 1. Hopefully, you guessed correctly (you have a 50% chance, after all). Of course, if that doesn't work, then switch the two!