Project title : "Tokenflix"

token - used to gain access to video stations or channels.

flix - platform which provides video contents such as movies, TVshows, NEWS, cartoon, etc.

Objective : To create a simple video stations/ channels server & client system using TCP socket programming in C language with token-based access control.

User can login, select station to watch & granted tokens to watch videos. Tokens are gained by answering questions.

Server provide list of stations & client can select & watch them.

Functionalities :

i] server & client communication.
to send & receive data.

ii] video station : server uses "ffplay" command to play videos to client.

iii] User authentication : Client sends user name & password to server when request for videos.

iv] Token-based access control : client are granted limited number of tokens to watch videos. Tokens get reduce when video is played & can be gain by answering questions.

v] station list : server sends list of available videos to client for selection (for eg : movie, TV shows, cartoon, news,)

Database : i] station_data.txt. : for storing names & no. of videos of stations

ii] user_data.txt : for storing username & password that of client.

iii] user_tokens.txt : for keeping record tokens of users.

file handling concept is used for creating, reading & updating information in database.

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Working: i] server-side:

- ⊙ It initializes by creating socket & binding it to specific port.
- ⊙ listens for incoming client connection
- ⊙ Upon client connection, it sends list of available videos (station) to client.
- ⊙ It receives clients username & password & initial no. of tokens.
- ⊙ The server processes client's choice to play video, checking if client has enough tokens. If not, it asks client question to replent tokens.
- ⊙ Server streams selected video to client, updating token count & user's tokens file.

ii] client-side:

- ⊙ Initialize by creating socket & connect to server.
- ⊙ It receives list of available videos from server & display them to user
- ⊙ client sends username, password & initial token to count server
- ⊙ client sends choosen video number to server, which processes request based on token availability.
- ⊙ If tokens are depleted, client answers question to replenish tokens.
- ⊙ Client can exist loop & disconnect from server at any time.

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