WEBCAM SOCKET TRANSMIT

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INTRODUCTION

WHAT IS NETWORK SOCKET ?

- A Software structure within a network node
- Serves as an endpoint to send & receive data
- It’s properties are defined by network API
- Exist only during process of application
- Externally identified by it’s socket address

SOCKET ADDRESS

- A combination of protocol type, IP address and port number for data communication.
- A remote process establishes a socket in it’s protocol stack.
- Remote process then uses networking API to connect to the application.
- It present it’s own socket address for use.

PURPOSE OF THE PROJECT

- We will be running python codes for server and client by using opencv to extract video of the server's webcam and then send it to the client
- The server and client modules can either run on the the same system or separate systems .
- Video streaming locally/server
- Can be used to view live footage from cctv, drones etc. By connecting to their address

FUNCTIONALITY

- CLIENT-SERVER MODEL

  Server creates socket on startup

  May serve several client concurrently

  A client should know the server IP and port

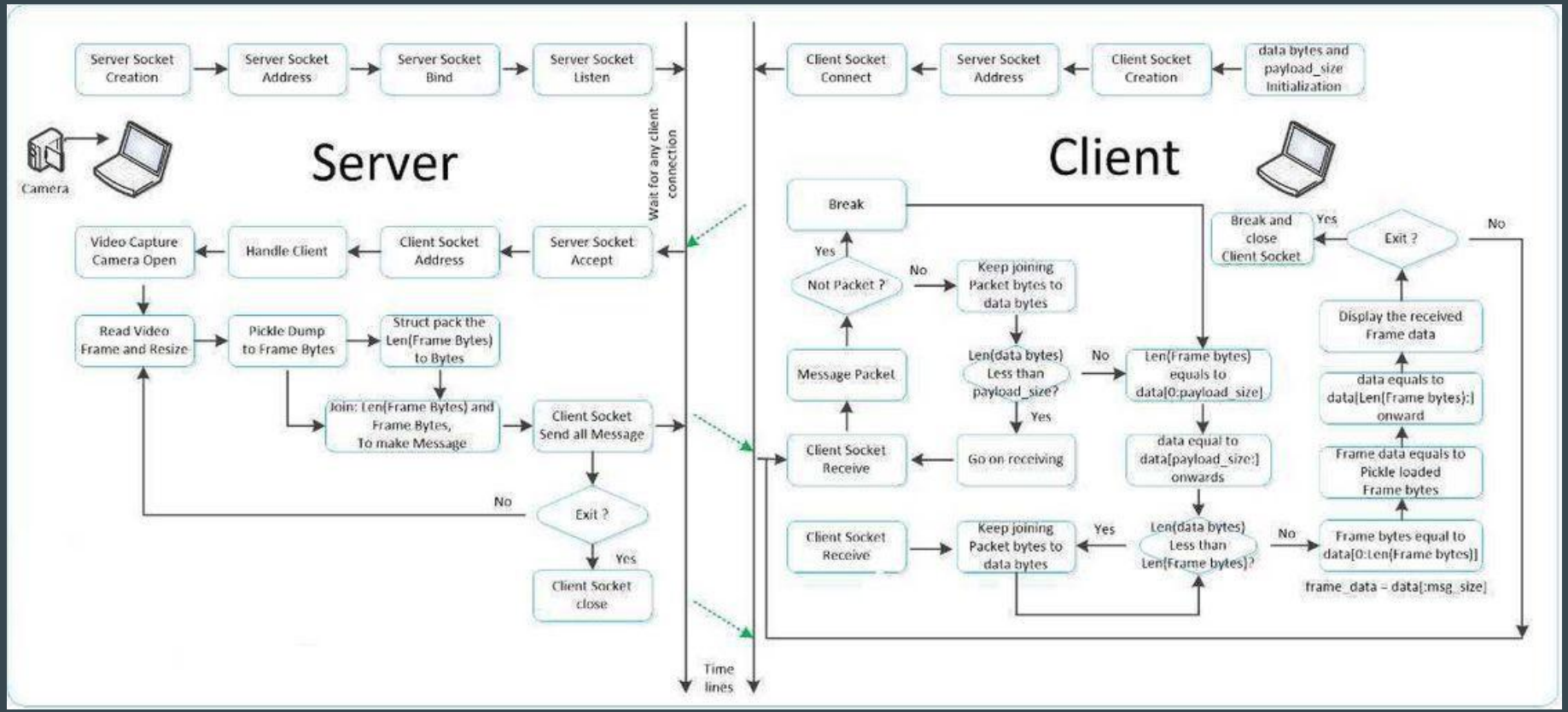
VIDEO DATA TRANSMISSION

- AT SERVER SIDE
  - With open CV get the video frames of webcam
  - With pickle serialized frame to byte data
  - Pack each frame data using struct module
  - Send data to client and display frame

- AT CLIENT SIDE
  - Recieve packets and appends them to data
  - Unpack the data using struct module
  - Load the frame using pickle
  - Display the frame at client side

COMPUTING RESOURCE

- Operating system : Linux or any other compatible operating system
- Socket programming and OpenCv in python
- Minimum RAM required : 512 MB
- Processor : i3 or higher processor
- Minimum storage : 2 GB



DESIGN OF THE PROJECT

THANK YOU