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#include <iostream>
#include <fstream>
#include <opencv2/opencv.hpp>
#include <winsock2.h>

#pragma comment(lib, "ws2_32.lib")

#define PORT 9999
#define BUFFER_SIZE 4096

int main() {
    WSADATA wsaData;
    SOCKET clientSocket;
    struct sockaddr_in serverAddr;
    int addrSize = sizeof(serverAddr);

    // Initialize Winsock
    if (WSAStartup(MAKEWORD(2, 2), &wsaData) != 0) {
        std::cerr << "WSAStartup failed" << std::endl;
        return 1;
    }

    // Create socket
    if ((clientSocket = socket(AF_INET, SOCK_STREAM, 0)) == INVALID_SOCKET) {
        std::cerr << "Socket creation failed" << std::endl;
        WSACleanup();
        return 1;
    }

    // Initialize server address
    serverAddr.sin_family = AF_INET;
    serverAddr.sin_addr.s_addr = inet_addr("127.0.0.1"); // Change to server's
IP
    serverAddr.sin_port = htons(PORT);

    // Connect to server
    if (connect(clientSocket, (struct sockaddr *)&serverAddr,
sizeof(serverAddr)) < 0) {
        std::cerr << "Connection failed" << std::endl;
        closesocket(clientSocket);
        WSACleanup();
        return 1;
    }

    std::cout << "Connected to server" << std::endl;

    // Open video file for writing
    std::ofstream videoFile("received_video.mp4", std::ios::binary);
    if (!videoFile) {
        std::cerr << "Video file open failed" << std::endl;
        closesocket(clientSocket);
        WSACleanup();
        return 1;
    }
}

```

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// Receive video data and write to file
char buffer[BUFFER_SIZE];
int bytesRead;
while ((bytesRead = recv(clientSocket, buffer, BUFFER_SIZE, 0)) > 0) {
    videoFile.write(buffer, bytesRead);
}

std::cout << "Video received successfully" << std::endl;

// Close sockets and file
videoFile.close();
closesocket(clientSocket);
WSACleanup();

// Open and display received video
cv::VideoCapture cap("received_video.mp4");
if (!cap.isOpened()) {
    std::cerr << "Video file open failed" << std::endl;
    return 1;
}

cv::Mat frame;
cv::namedWindow("Received Video", cv::WINDOW_NORMAL);
while (true) {
    cap >> frame;
    if (frame.empty()) {
        break;
    }
    cv::imshow("Received Video", frame);
    if (cv::waitKey(30) == 27) {
        break;
    }
}

cap.release();
cv::destroyAllWindows();

return 0;
}

```