Politechnika Świętokrzyska Wydział Elektrotechniki, Automatyki i Informatyki		
Programowanie Usług Sieciowych - laboratorium		
Laboratorium 6	Mateusz Hupa	Grupa: 1ID21A

Celem laboratorium było zrealizowanie klienta i serwera przesyłających film.

Serwer:

```
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
#include <arpa/inet.h>
#define SIZE 1000

int main(){
    char *ip = "127.0.0.1";
    int port = 8080;
    int server_sockfd;
    struct sockaddr_in server_addr, client_addr; int e;
    server_sockfd = socket(AF_INET, SOCK_DGRAM, 0); if (server_sockfd < 0){
        perror("socket error");
        exit(1);
    }
    server_addr.sin_family = AF_INET;
    server_addr.sin_port = port;
```

```
    server_addr.sin_addr.s_addr = inet_addr(ip);
    e = bind(server_sockfd, (struct sockaddr*)&server_addr, sizeof(server_addr)); if (e < 0){
        perror("bind error");
        exit(1);
    }

    FILE *fp;
    char *filename = "/home/mateusz/Pulpit/pus/lab6/lab6_serwer2/serwer.mp4";
    int n;
    char buffer[SIZE];
    socklen_t addr_size;
    char size[256] = "";
    int size2;
    addr_size = sizeof(client_addr);
    recvfrom(server_sockfd, size, sizeof(size), 0, (struct sockaddr*)&client_addr, &addr_size);
    size2 = atoi(size);
    fp = fopen(filename, "wb");
    for (int i = 0; i <= SIZE; i++)
    {
        buffer[i] = '\0';
    }
    for (n = 0; n < size2; n++)
    {
        recvfrom(server_sockfd, buffer, sizeof(buffer), 0, (struct sockaddr*)&client_addr,
&addr_size);
        printf("%s \n", buffer);
        for(int i = 0; i< SIZE; i++){
```

```
            char buffer4[1];
            buffer4[0]=buffer[i];
            fwrite(buffer4, 1, 1, fp);
        }
        for (int i = 0; i <= SIZE; i++)
        {
            buffer[i] = '\0';
        }
    }
    fclose(fp);
    printf("koniec\n");
    close(server_sockfd);
    return 0;
}
```

Klient:

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <unistd.h>
#include <arpa/inet.h>
#include <math.h>
#define SIZE 1000

int main(){
    char *ip = "127.0.0.1";
```

```
int port = 8080;
int server_sockfd;
struct sockaddr_in server_addr;
FILE *fp;
char *filename = "/home/mateusz/Pulpit/pus/lab6/lab6_klient2/klient.mp4";
server_sockfd = socket(AF_INET, SOCK_DGRAM, 0); if (server_sockfd < 0){
    perror("socket error");
    exit(1);
}
server_addr.sin_family = AF_INET;
server_addr.sin_port = port;
server_addr.sin_addr.s_addr = inet_addr(ip);
fp = fopen(filename, "rb");
if (fp == NULL){
    perror("fopen");
    exit(1);
}

int n;
char buffer[SIZE];
int i = 0;
fseek(fp, 0L, SEEK_END);
int sz = ftell(fp);
double        size3 = ceil(sz/SIZE);
int size4 = (int)size3;
fseek(fp, 0, SEEK_SET);
char size[256] = "";
```

```
    snprintf(size, sizeof size, "%d", size4);
    sendto(server_sockfd, size, sizeof( size ), 0, (struct sockaddr*)&server_addr, sizeof(server_addr ));
    for (int i = 0; i <= SIZE; i++)
    {
        buffer[i] = '\0';
    }
    while(fread(buffer, sizeof( char ), SIZE, fp) != NULL){
        n = sendto(server_sockfd, buffer, sizeof( buffer ), 0, (struct sockaddr*)&server_addr, sizeof(server_addr));
        if (n == -1){
            perror("error sendto");
            exit(1);
        }
        usleep(1000);
        for (int i = 0; i <= SIZE; i++)
        {
            buffer[i] = '\0';
        }
    }

    close(server_sockfd);
    return 0;
}
```

Wyniki działania programów: