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1  #include <arpa/inet.h>
2  #include <dirent.h>
3  #include <netdb.h>
4  #include <stdio.h>
5  #include <stdlib.h>
6  #include <string.h>
7  #include <sys/types.h>
8  #include <sys/stat.h>
9  #include <unistd.h>
10
11 #include "media_transfer.h"
12
13 #define LEN 1024
14
15 int send_media(int sockfd, const char *media_path, size_t length) {
16     int n;
17     char *data = malloc(length);
18
19     FILE *fp = fopen(media_path, "rb");
20     if(fp == NULL){
21         printf("File: %s, not Found", media_path);
22         return -1;
23     }
24
25     size_t sent = 0;
26     fread(data, length, 1, fp);
27     while(sent < length) {
28         size_t t = send(sockfd, data, length, 0);
29         if (t != -1) {
30             sent += t;
31         } else {
32             perror("send_media");
33             exit(1);
34         }
35     }
36
37     fclose(fp);
38     free(data);
39     return 1;
40 }
41
42 int receive_media(int sockfd, const char *filename, size_t length) {
43     unsigned int n = 0;
44     size_t pos = 0;
45     FILE *fp;
46     char buffer[LEN];
47     char *media = malloc(length);
48
49     while (1) {
50         n = read(sockfd, buffer, LEN);
51         if (n < 0) continue;
52         memcpy(media + pos, buffer, n);
53         pos += n;
54         if (pos >= length) break;
55     }
56
57     fp = fopen(filename, "w");
58     fwrite(media, length, 1, fp);
59     fclose(fp);
60     free(media);
61
62     return 1;
63 }
64
65 int get_media_list(const char *path, char *buffer, size_t buffer_size) {
66     DIR *dh = opendir(path);
67     struct dirent *d;
68     struct stat fstat;
69

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70     int n = 0;
71     n += sprintf(buffer, "\tSize\t\tName\n");
72     while((d = readdir(dh)) != NULL) {
73         stat(d->d_name, &fstat);
74         n += sprintf(buffer + n, "\t%ld\t\t%s\n", fstat.st_size, d->d_name);
75     }
76     closedir(dh);
77     return 1;
78 }
79
80 int send_header(int client_socket, int port, size_t media_size, const char *media_type,
81 int status) {
82     char host[256];
83     char *IP;
84     struct hostent *host_entry;
85     int hostname;
86
87     //find the host name
88     hostname = gethostname(host, sizeof(host));
89     if(hostname == -1) {
90         printf("Cannot find host information");
91     }
92
93     //find host information
94     host_entry = gethostbyname(host);
95     if(host_entry == NULL) {
96         printf("Cannot find the host from id\n");
97     }
98
99     //Convert into IP string
100     IP = inet_ntoa(*(struct in_addr*) host_entry->h_addr_list[0]);
101
102     // create the header
103     char header[LEN];
104     int n = 0;
105     n += sprintf(header, "Status: %d\r\n", status);           // req is valid
106     n += sprintf(header + n, "Host: %s:%d\r\n", IP, port);    // append host
107     n += sprintf(header + n, "Type: %s\r\n", media_type);     // append file type
108     n += sprintf(header + n, "Length: %ld\r\n\r\n", media_size); // append file
109     length
110
111     // finally send the header packet
112     if(send(client_socket, header, n, 0) == -1) {
113         return -1;
114     }
115     else{
116         return 0;
117     }
118 }

```