Львівський національний університет імені Івана Франка
Факультет електроніки та комп’ютерних технологій

Звіт
про виконання лабораторної роботи №8
“Робота з програмними інтерфейсами файлових систем”

Виконав:
студент групи ФеП-13
Андріан Карсанашвілі
Прийняв:
доц. Бойко Я.В.

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Мета: вивести інформацію про ПК, використовуючи інтерфейси файлових систем.

Операційна система: Ubuntu 18.04.

Завдання 1

Код:

```
#include <conio.h>
#include <Windows.h>
#include <stdio.h>

int main()
{

   printf("\t\t\tDevice Configuration Of System\n");
   MEMORYSTATUS MemoryStatus;
   GlobalMemoryStatus(&MemoryStatus);
   printf("\tMemory Information:\n");
   printf("Physical memory in use: %d%%\n",MemoryStatus.dwMemoryLoad);
   printf("Total size of physical memory: %u\n",MemoryStatus.dwTotalPhys);
   printf("Available size of physical memory: %u\n",MemoryStatus.dwAvailPhys);
   printf("Total size of page file: %u\n",MemoryStatus.dwTotalPageFile);
   printf("Available size of page file: %u\n",MemoryStatus.dwAvailPageFile);
   printf("Total user virtual memory size: %u\n",MemoryStatus.dwTotalVirtual);
   printf("Available user virtual memory size: %u\n",MemoryStatus.dwAvailVirtual);
   printf("\tDisplay devices:\n");
   DISPLAY_DEVICE DisplayDevice;
   DisplayDevice.cb=sizeof(DisplayDevice);
   for (UINT iIndex=0;EnumDisplayDevices(NULL,iIndex,&DisplayDevice,0);iIndex++)
   {
      *((char*)&DisplayDevice.StateFlags)=0;
      printf("%s\n",DisplayDevice.DeviceString);
   }
   printf("\tKeyboard type:\n");
   switch(GetKeyboardType(0))
   {
   case 1:printf("IBM PC/XT or compatible (83-key) keyboard\n");break;
   case 2:printf("Olivetti ICO (102 key) keyboard\n");break;
   case 3:printf("IBM PC/AT (84 key) or similar\n");break;
   case 4:printf("IBM enhanced (101 or 102 keys) keyboard\n");break;
   case 5:printf("NOKIA 1050 or similar\n");break;
   case 6:printf("NOKIA 9140 or similar\n");break;
   case 7:printf("Japanese keyboard\n");break;
   }
   HKEY BootKey;
   unsigned char Buffer[100];
   DWORD BufferSize=100;
   ZeroMemory(Buffer,100);
```

```
   if (!RegOpenKeyEx(HKEY_LOCAL_MACHINE,"SOFTWARE\\Microsoft\\Windows
NT\\CurrentVersion\\WOW\\boot.description",0,KEY_QUERY_VALUE,&BootKey))
   {
      if (!RegQueryValueEx(BootKey,"mouse.drv",NULL,NULL,Buffer,&BufferSize))
      {
         printf("\tMouse type:\n");
         printf("%s\n",Buffer);
      }
   }
   ZeroMemory(Buffer,100);
   BufferSize=100;
   if (!RegQueryValueEx(BootKey,"display.drv",NULL,NULL,Buffer,&BufferSize))
   {
      printf("\tDisplay type:\n");
      printf("%s\n",Buffer);
   }
   ZeroMemory(Buffer,100);
   BufferSize=100;
   if
(!RegOpenKeyEx(HKEY_LOCAL_MACHINE,"HARDWARE\\DESCRIPTION\\System\\Central
Processor\\0",0,KEY_QUERY_VALUE,&BootKey))
   {
      if (!RegQueryValueEx(BootKey,"ProcessorNameString",NULL,NULL,Buffer,&BufferSize))
      {
         printf("\tProcessorName:\n");
         printf("%s\n",Buffer);
      }
   }

   system("pause");
   return 0;
}
```

```
                        Device Configuration Of System
        Memory Information:
Physical memory in use: 21%
Total size of physical memory: 4294967295
Available size of physical memory: 4294967295
Total size of page file: 4294967295
Available size of page file: 4294967295
Total user virtual memory size: 2147352576
Available user virtual memory size: 2103750656
        Display devices:
Intel(R) HD Graphics Family
Intel(R) HD Graphics Family
Intel(R) HD Graphics Family
NVIDIA GeForce 840M
RDPDD Chained DD
RDP Encoder Mirror Driver
RDP Reflector Display Driver
        Keyboard type:
IBM enhanced (101 or 102 keys) keyboard
        ProcessorName:
Intel(R) Core(TM) i5-4210U CPU @ 1.70GHz
Press any key to continue . . .
```

Завдання 2

Код:

```
void* server(void* par) {

    mkfifo("serverFIFO", 0644);

    int file;
    char fileName[100], fileEntry[10000];
    int length;

    while(1) {

        file = open("serverFIFO", O_RDONLY);
        length = read(file, fileName, sizeof(fileName));
        close(file);

        if (strcmp(fileName, "exit") == 0)
            break;

        file = open(fileName, O_RDONLY);
        length = read(file, fileEntry, sizeof(fileEntry));
        close(file);

        if (length > 0) {
            file = open("clientFIFO", O_WRONLY);
            write(file, fileEntry, sizeof(fileEntry));
            close(file);
        } else {
            file = open("clientFIFO", O_WRONLY);
            char erorrStr[] = "Erorr while try to open file\nMaybe file doesn`t exist!";
            write(file, erorrStr, sizeof(erorrStr));
            close(file);
```

```
                        Device Configuration of system
                  Memory information:
Physical memory in use: 25%
Total size physical memory: 4294967295
Available size physical memory: 4294967295
Total size of page file: 4294967295
Total user virtual memory size: 2147352576
Available user virtual memory size: 2147352576
                Display devices:
Intel(R) HD Graphics Family
Intel(R) HD Graphics Family
Intel(R) HD Graphics Family
NVIDIA Geforce 840M
RDPDD Chained DD
RDP Encoder Mirror Driver
RDP Reflector Display Driver
                KeyBoard type:
IDM enhanced (101 or 102 keys) keyboard
```

Висновок: Вивчив та застосував інтерфейси файлових систем.