

CTP

MINI PROJECT

ENDSEM LAB ASSIGNMENT

TITLE

COVID ASSISTANT – A MINI C PROJECT

PROBLEM STATEMENT & DESCRIPTION

The sudden spread of the Covid-19 virus was a startling and distressing phase of everyone's life. It had been ages since the world had last witnessed such a disastrous pandemic. With an outburst in the number of active cases and a steep increase in death rate, it had become really important to suppress the calamity. The lockdown acted as a temporary solution to the problem but did not prove to be completely effective as it had its own drawbacks - majorly being the large impact on local economies and government budgets. Then, soon later, Covid-19 vaccines were released which brought back hope into people's lives. Having limited supplies of the vaccines, the government had to not only make sure of conveniently making it reach to the huge mass of people but also take care of its black marketing. To assure the proper and the legal usage of vaccinations, we came up with the 'Covid Assistant' program which would help the vaccination campaign to run smoothly and effectively.s.

MOTIVATION

MOVED BY MANY PROBLEMS THAT WE HAVE COME TO LIGHT RECENTLY RELATED TO COVID VACCINATION, WE DECIDED TO MAKE A SMALL PROGRAM THAT CAN HELP AND MANAGE VACCINES FROM THE FACTORY TO THE FRONT LINE WITH SPEED SCALE AND FLEXIBILITY. OUR PROGRAMS WILL HELP CITIZENS TO REMOVE OBSTACLES TO QUICKLY GET VACCINES WITH NEW PLATFORM CONNECT WORKFLOWS ACROSS SYSTEMS FOR EFFECTIVE VACCINE DISTRIBUTION AND MONITORING. THE COMPLAINTS THAT GOVERNMENT FACE OF LIMITED VACCINE SUPPLY MOTIVATED US TO MAKE A PROGRAM WHEREIN PEOPLE GET THE SUPPLIES AT RIGHT TIME



SOLUTION

THE COVID MANAGEMENT PROGRAM

We've brainstormed a series of ideas for the Covid-19 management program and have focussed on the user experience as you interact with the program at a time full of uncertainty, emotions, and anxiety. In this program, we target to build a covid manager that has basic functionalities such as patient checks and vaccination calendars using C language. This uses wide areas of C such as file management (database) to store info of vaccination centers, Questionnaire to understand the patient condition and giving health suggestions, emergency contact details, and a terminal interface for the users to interact with

PROGRAM SUMMARY

01

Storing Data :

- a. File Management
- b. Array of struct
- c. Dynamic array using calloc()

02

Functions :

- a. getData() - to get patient info
- b. setData() - process & store data
- c. DoctorInfo() - get Doctor details
- d. DoctorStats() - check Doctor status
- e. checkmyHealth() - patient checkup

03

Control Structures :

- a. Conditionals - if, if-else if-else, switch
- b. Iterations - for loop, while loop

RESULTS

1. Patients

The code stores and retrieves patient details on registration and login respectively

a. Registration :

Display the form for filling the basic information for the patients entered using basic form checks and validation, Uses basic file management using c to push file into a csv file. uses a separate csv file to store passwords

b. Login :

Enters the patient ID and password to login

c. Detail view

Retrieve data of the logged in patient and displays it in a well arranged tabular form

d. Add Issue :

A tab to manage and organize the issue of the patient and related symptoms

e. Summary :

To view and report latest details of a patient issue and resolve

RESULTS

2. Doctor

The code stores and retrieves patient details on registration and login respectively,
Uses basic file management using c to push file

- a. Enter New Doctor Table
 - 1. Doctor Name:
 - 2. Doctor ID:
 - 3. Doctor Age:
 - 4. Gender:
 - 5. Time Hour And Minutes , AM/PM:
- b. For one Doctor time table
- c. Remove Doctor Time Table

RESULTS

3. Covid Stats

The code is responsible for storing and retrieving information for COVID statistics. It pushes files into a CSV file using basic file management techniques implemented in C.

It displays the number of COVID patients from each state in descending order, with the state with the greatest number of patients at the top of the list, as well as the total number of deaths.

RESULTS

4. Health Checker

The code asks the user if they are suffering from any covid symptoms or if they have any pre-existing conditions. Considering the health issues and the recent travel records of the user, Health Checker will help in calculating the risk of being affected by the Corona Virus.

- a. Questions regarding Covid symptoms
- b. Questions regarding Pre-existing conditions
- c. Recent Travel Details
- d. Risk Percentage
- e. Message for the user (based on the Risk Percentage)

CONCLUSION



In conclusion, the project aims to provide a working interface to manage the covid patients and we have covered code for storing data, accessing data, processing data, and publishing data using different data structures and file management methods. The code is also filled with different control structures and covers a good extent of the C language Learning outcomes – It was important to us that we learned how to design a program architecture, convert real-life situations into efficient code, how we can write readable and understandable code that is both time- and memory-efficient, wise usage of file management and other storage structures.

APPENDIX

Code Screenshots

```
C main.c
1 #include "header.h"
2 #include "welcome.c"
3
4
5 int main(){
6     system("cls");
7     welcomeScreen(); // welcome.c
8     titleBar(); // title.c
9     int choice = homeMenu(); // menu.c
10    system("cls");
11    switch(choice){
12        case 1:
13            patientReg();
14            break;
15        case 2:
16            patientLog();
17            break;
18        case 4:
19            select_doc();
20            break;
21        default:
22            printf("Invalid entry");
23    }
24
25    XsmMargin
26    printf("MAIN EXECUTION TERMINATED.....");
27
28
29
30
31 }
```

APPENDEX

Code Screenshots

```
C doctor.c > remo()
1 #include "header.h"
2
3 void show();
4 void inf();
5 void med();
6 void total();
7 void delet();
8 void table();
9 void remo();
10 void newd();
11
12 void select_doc()
13 {
14     system("CLS");
15     char o[30],f[30],r[5];
16     unsigned int s,d,h,m,a,z,mom,stop=0,i;
17
18     for(i=0;i!=1;i++)
19     {
20         system("CLS");
21         printf("\n\n To Enter New Doctor T_Table <->\n");
22         printf(" For One Doctor Time Table <->\n");
23         printf(" Remove Doctor Time Table <->\n");
24         printf(" >> ");
25         scanf(" %d",&s);
26         if(s > 1 && s <= 4)
27         {
28             switch(s)
29             {
30                 case 2:
31                     newd();
32                     break;
33                 case 3:
34                     table();
35                     break;
36                 case 4:
37                     remo();
38                     break;
39             }
40         }
41         else{
42             printf("\n Press Only <2---3---4--->\n");
43             printf("\n Enter Any Digit OR Ctrl+Z for End \n");
44             printf(" %s", "? ");
45             scanf( "%d", &mom);
46             break;
47         }
48     }
}
```

```
remo()
void table()
{
    char o[30],f[30],r[5];
    unsigned int s,d,h,m,a,z,mom,stop=0,i;
    FILE *read;
    if((read=fopen("Doctor.txt", "r" ))==NULL)
    {
        puts("File could not be opened");
    }
    else
    {
        printf(" Write Doctor ID = ");
        scanf("%d",&z);
        while(!feof(read))
        {
            fscanf(read,"%29s %d %d %29s %d %4s",o,&d,&a,f,&h,&m,r);
            if(d==z)
            {
                stop=1;
                printf("\n");
                printf(" D_Name = %s\n",o);
                printf(" Doctor ID = %d\n",d);
                printf(" Age = %d\n",a);
                printf(" Gender = %s\n",f);
                printf(" D_Timing = %d:%d %s\n",h,m,r);
                break;
            }
            if (stop==0)
            {
                printf("\n This ID: %d Don't Match With Doctor ID!\n", z);
            }
        }
        printf("\n Enter ctrl+z for End \n");
        scanf( "%d", &mom);
        fclose( read );
    }
}
void remo()
{
    char o[30],f[30],r[5];
    unsigned int s,d,h,m,a,z,mom,stop=0,i;
    int ruk=0;
    system ("CLS");
    FILE *cfr,*crj;
    if((cfr=fopen("Doctor.txt", "r" ))==NULL)
    {
        puts("File could not be opened");
    }
```

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Output Screenshots



APPENDEX

Output Screenshots

STATE	COVID STATS
	ACTIVE
Maharashtra	7870000
Kerala	6520000
Karnataka	3948000
Tamil Nadu	3458000
Andhra Pradesh	2320000
Uttar Pradesh	2070000
West Bengal	2020000
Delhi	1860000
Odisha	1290000
Rajasthan	1280000
Gujarat	1220000
Chhattisgarh	1080000
Madhya Pradesh	1040000
Haryana	984000

```
Are you having Sore Throat or Cough or Fever? [y/n] : y
Are you having Hearing Impairment or Loss of senses of Smell and Taste or Body Ache? [y/n] : n
Are you having Chest Congestion or Runny Nose or Difficulty in Breathing? [y/n] : n

Do you have Diabetes or Kidney Disorder? [y/n] : n
Do you have Asthma or Lung Diseases? [y/n] : n
Do you have Hypertension or Heart Diseases? [y/n] : y

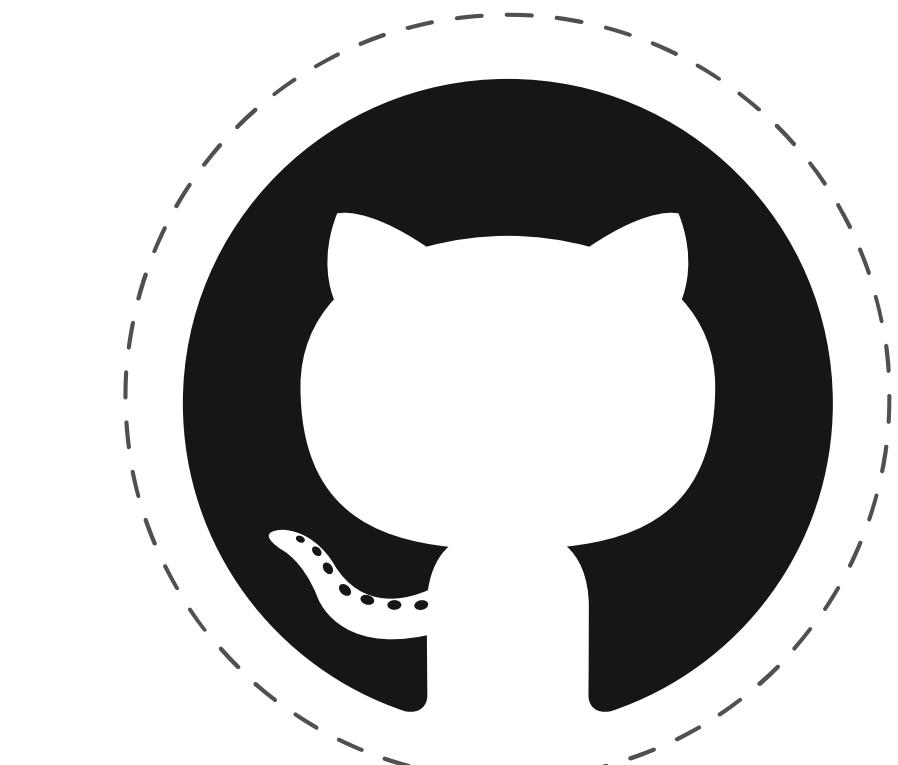
Have you travelled anywhere in the past 14 days? [y/n] : y
Domestic or Abroad? (Enter 'd' for Domestic and 'a' for Abroad) : d
Enter the name of the place : Jaipur

Your risk percentage is 42.86%.
According to our Health Checker, you are at LOW RISK of being affected by the Corona Virus!

Thank You for using our Health Checker! Stay Safe!
```

APPENDEX

CTP Mini project Github link: [click here](#)



THANKYOU

