Vaccine Registration portal

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21BCE246-NEHA RANA

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About the system:

❖ We tried to create a small version of the Vaccine registration portal which takes the user data such as name, ID, password, Mobile Number, etc.

❖ According to the user's requirement, we tried to allocate the hospital in such a way that no one can
❖ Dissatisfied with this portal.

❖ Anybody can access this portal from the valid site and register themselves for vaccination.

❖ We know how tough situations like corona and so and so we need this system for people's help.

Functions:

❖ Registration

❖ Login

❖ Forgot password

❖ Unique id generate

❖ Hospital allocation

❖ Receipt

Major data structures used:

Binary search tree– To store the data of users dynamically

Arrays – To store the available hospital

Time Complexity :

Searching : O(log n)
Insertion : O(log n)
Forget password & reset password : O(1)
Hospital allocation : O(1)

```c
# include <stdlib.h>
# include <stdio.h>
# include <time.h>
# include <string.h>


typedef struct node
{
    int id ;
    char name[20];
    int password ;

    struct node * left ;
    struct node * right ;
    char Hospital[25];
}node ;

typedef struct hs {
    char hos[20] ;
    int spaceAvailable;
}hs;

hs arrayofHospital [4] = { {"SolaCivil" , 5} , {"Zydus",5} , {"CityHospital",5} , {"AIMS",5}};


node * root = NULL ;



void Register ();
void preorder (node *);
void Login ();
node * search (char *  , node * );
void print (node * );
void allocateHospital(node * );
void receipt(node * );
void ForgotPassword (node *);
```

```c
int main ()
{
    int choice ;
    // printf("enter choices\n");

    do
    {
        // Head();
        printf("\n\tMain menu\n");
        printf("1.Register for vaccine\n");
        printf("2.Login\n");
        printf("3.To exit\n");
        printf("4.print all peeps\n\n");

        printf("enter choice : ");
        scanf("%d",&choice);

        switch (choice)
        {
        case 1:
            Register();
            //print();
            break;

        case 2:
            Login();
            break;

        case 3:
            printf("Thankyou for booking Vaccine Slot....\n");
            exit(0);

        case 4:
            preorder(root);
            printf("\n");
            break;
```

```c
      default:
              printf("the entered input is invalid. Please input valid input\n");
              break;
        }

    } while (choice);

    return 0;
}

// ------------------------------------------------------------------------------------------
---- //


// printing the data
void preorder (node * root)
{
    if(root == NULL)
    {
        return;
    }

    preorder(root->left);
    printf("[%s",root->name);
    printf(" , %d , %d]",root->id,root->password);
    preorder(root->right);
}
// Taking input and store it in Binary Search Tree
void Register ( )
{
    srand(time(NULL));
    node * newnode = (node * )malloc(sizeof(node));

    printf("input name : ");
    scanf("%s",newnode->name);
```

```c
printf("set your password : ");
scanf("%d",&newnode->password);

newnode->id = rand();
newnode -> left = NULL ;
newnode -> right = NULL ;

if(root == NULL )
{
    root = newnode;
    return ;
}

// char NAME [20];
// strcpy(NAME,newnode->name);

// node * p = search(NAME,root);

// // check from  here
// if(root != NULL)
// {
//     printf("You have already ready exits\n");
//     // printf("Plese en");
//     return;
// }
node * tmp = root;
while (1)
{
    char n1 [20]; strcpy(n1,tmp->name);
    char n2[20];  strcpy(n2,newnode->name);

    if((strcmp(n2,n1) > 0) && tmp->right == NULL)
    {
        tmp->right = newnode;
        return;
    }
    else if((strcmp(n2,n1) > 0) && tmp->right != NULL)
```

```c
{
            tmp = tmp->right;
        }
        else if(  (strcmp(n2,n1) < 0) && tmp->left == NULL)
        {
            tmp->left = newnode;
            return;
        }
        else
        {
            tmp = tmp->left;
        }
    }
}


void Login ()
{
    printf("input your name : ");
    char name[20] ;
    scanf("%s",name);

    printf("input your password : ");
    int pass ;
    scanf("%d",&pass);

    node * ptr = search (name , root );

    if(ptr->password == pass)
    {
        // printing msg of successfull login
        print(ptr);

        allocateHospital(ptr);

        receipt(ptr);
    }
```

```c
else
    {
        printf("\nincorrect password please enter valid password\n");

        printf("1.Forgot Password\n2.Login Again \n");

        int n ;
        scanf("%d",&n);

        switch(n)
        {
        case 1:
            ForgotPassword(ptr);
            break;

        case 2:
             Login();
             break;

        default:
            break;
        }

    }

}
node * search (char name[] , node * ptr)
{
    char n1[20];
    char n2[20];

    strcpy(n1,ptr->name);
    strcpy(n2,name);

    if( ptr == NULL )
    {
        return NULL ;
```

```c
}
    else if( strcmp(n2,n1)==0 )
    {
        return ptr;
    }
    else if (strcmp(n2,n1)>0)
    {
        return search(name,ptr->right);
    }
    else
    {
        return search(name,ptr->left);
    }
}

void print (node * ptr)
{
    printf("\n\t\t\tLogin Successfull\n");

    printf("Your unique Id is : %d\n",ptr->id);
}

void receipt(node* ptr)
{

    printf("\n\n----------------- Your registration process is finish. Now you are eligible for
vaccine ----------------- \n");
    printf("\n************** Here is your login details ************ :\n");
    printf("\n\nName of the patient : ");
    printf("%s\n",ptr->name);
    printf("generated id of the patient is: ");
    printf("%d\n", ptr->id);
    //printf("")
    printf("Allocated hospital is:");
    printf("%s\n\n",ptr->Hospital);
    //printf("\n");
}
```

```c
void allocateHospital  (node* ptr)
{

    printf("\nthe available hospital are\n");
    for (int i = 0; i < 4; i++)
    {
        if(arrayofHospital[i].spaceAvailable <= 0 )
        {
            continue;
        }
        printf("%s  ",arrayofHospital[i].hos);
        printf("%d\n",arrayofHospital[i].spaceAvailable);
    }

    printf("\ninput hospital choice\n");
    char choice [20] ;
    scanf("%s",choice);

    for (int i = 0; i < 4; i++)
    {
        if(strcmp(choice,arrayofHospital[i].hos) == 0 )
        {
            arrayofHospital[i].spaceAvailable -- ;
            strcpy(ptr->Hospital , choice);
            return;
        }
    }

    printf("please enter valid input\n");
    allocateHospital(ptr);
}

void ForgotPassword  (node * ptr)
{
    printf("input newpassword : ");
    int pass ;
```

```c
 scanf("%d",&pass);

    ptr->password = pass;
    printf("the password is set seuccessfully !\n");
    Login();
}
```

```
?) { .\new_binarytre }

        Main menu
1.Register for vaccine
2.Login
3.To exit
4.print all peeps

enter choice : 1
input name : Neha
set your password : 3856

        Main menu
1.Register for vaccine
2.Login
3.To exit
4.print all peeps

enter choice : 1
input name : Dhruvil
set your password : 2680

        Main menu
1.Register for vaccine
2.Login
3.To exit
4.print all peeps

enter choice : 1
input name : Niyati
set your password : 1423

        Main menu
1.Register for vaccine
2.Login
3.To exit
4.print all peeps

enter choice : 2
input your name : Neha
input your password : 3856

                Login Successfull
Your unique Id is : 7599
```

```
                        Login Successfull
Your unique Id is : 7599

the available hospital are
SolaCivil  5
Zydus  5
CityHospital  5
AIMS  5


input hospital choice
Zydus


----------------- Your registration process is finish. Now you are eligible for vaccine -----------------

*************** Here is your login details ************ :


Name of the patient : Neha
generated id of the patient is: 7599
Allocated hospital is:Zydus


        Main menu
1.Register for vaccine
2.Login
3.To exit
4.print all peeps

enter choice : 2
input your name : Dhruvil
input your password : 3478

incorrect password please enter valid password
1.Forgot Password
2.Login Again
1
input newpassword : 4782
the password is set seuccessfully !
input your name : Dhruvil
input your password : 4782

                        Login Successfull
Your unique Id is : 7626
```

```
                    Login Successfull
Your unique Id is : 7626

the available hospital are
SolaCivil  5
Zydus  4
CityHospital  5
AIMS  5

input hospital choice
AIMS

----------------- Your registration process is finish. Now you are eligible for vaccine -----------------

*************** Here is your login details ************ :

Name of the patient : Dhruvil
generated id of the patient is: 7626
Allocated hospital is:AIMS

        Main menu
1.Register for vaccine
2.Login
3.To exit
4.print all peeps

enter choice : 4
[Dhruvil , 7626 , 4782][Neha , 7599 , 3856][Niyati , 7688 , 1423]

        Main menu
1.Register for vaccine
2.Login
3.To exit
4.print all peeps

enter choice : 3
Thankyou for booking Vaccine Slot....
PS C:\Users\DELL\Desktop\Neha cp\.vscode\.vscode>
```

Thankyou