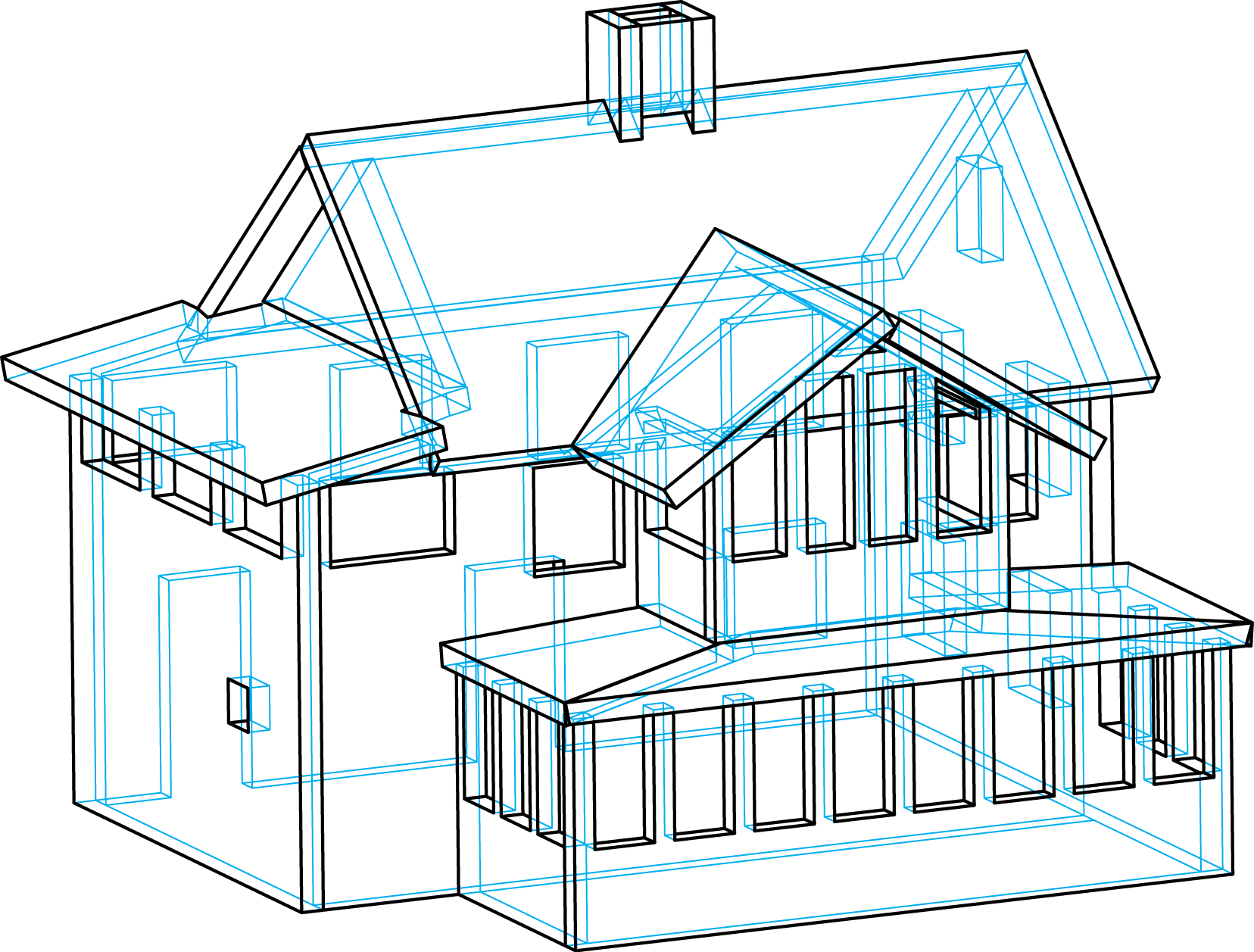
**Computer Science Project**

HOUSE FLOOR PLANNING



**By: Sathvik Bhaskarpandit (12 C) and**

**Abhishek Srivathsa (12 B)**

**ACKNOWLEDGEMENTS**

We would like to thank our Principal Mrs. Deepa Sridhar for giving us this wonderful opportunity. We would also like to thank our Computer Science teachers Mrs. Kavitha Purushotham and Mrs. Smitha Ravindran for their guidance and encouragement.

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# 

# About The Project:

This project is an application in C++ that generates a schematic floor plan of a house as per user’s requirements and gives an estimate of the total cost required for construction.

The application provides various options to the user:

* **Create a user login**: Accepts the details of the user such as name, address, plot size, username and password.
* **Existing user login**: Accepts username and password and checks if it is authorized.
* **Generating a floor plan**: Inputs the dimensions of living room, bedroom, kitchen and bathroom , and generates 4 possible floor plans
* **Exit**: Allows the user to exit the application at any time

# Project Highlights:

It is very **user friendly** software and allows the user to easily generate a floor plan as per his/her requirements:

* It **collects and stores** dimensions of the living room, bedroom, kitchen and bathroom
* It **generates 4 such** colour filled floor plan, each with a different layout.
* It **provides a reasonable quote** for the construction of the house.
* It allows **multiple users** to create accounts

# Features

* **Home Page**

The home page is a graphics window that is first encountered when the application is opened. As soon as it is opened, an animation starts to run

* **Menu Page**

It is the page after the ‘next’ button is clicked on the home page.

Following Buttons have been provided.

* Button for creating a new account and
* Button for logging into an existing account.

Menu page is also displayed after logging out of an existing account

* **Floor Plans**

Four different floor plans with each room being in different color have been provided for an easy and attractive view

* **House Summary**

After deciding on a plan number, all important details of the house are listed on one screen:

* Area of the rooms and Total area
* Rate of cementing
* Tiling and painting
* Total estimated Cost
* **Buttons**

Four buttons have been provided in various screens to help the user in navigation.

1. **Next:** This has been provided to move to the next screen.
2. **Previous:** This has been provided to move to the screen encountered before
3. **Exit:** This has been provided for user to exit/ leave whenever he/she desires.
4. **Confirm:** This has been provided after the display of the house summary to ensure that the customer has decided on a plan

# System Requirements

* Computer
* DEV C++
* Graphics.h header file

# Project Flow Diagram













# Function Description:

void thankyou()

A function for thanking the user for choosing our company for his/her house selection

int checkout()

A function for confirming the area of all the rooms in the user,s house selection. It includes additional costs like the costs of tiling the floor and painting the walls.

int plan4()

The function for displaying the fourth choice for the house plan as per the user’s requirement.

int plan3()

The function for displaying the fourth choice for the house plan as per the user’s requirement.

int plan2()

The function for displaying the fourth choice for the house plan as per the user’s requirement.

int plan1() The function for displaying the fourth choice for the house plan as per the user’s requirement.

int main()

The main function of the program calling all other functions.

int check\_existing\_user()

The function which has the source code for authorizing the user into the company .Takes the username and password and checks if they are valid.

int new\_user()

The function which has the capability of making a new user for the person who wants to use the services of the company.

int start();

The function which is there as a cover page for the project and welcomes the user who wants to use our services.

int menu();

It’s the function which gives all the available options that the company offers to the user.

int planconfirm();

It’s the function which confirms the plan number which the user has selected as per his/her requirements.

# Structure Plan

|  |  |
| --- | --- |
| Variable | Datatype |
| Name[80] | char |
| Address[80] | char |
| Username[50] | char |
| Password[50] | char |
| l | int |
| b | int |
| liv1 | int |
| liv2 | int |
| bed1 | int |
| bed2 | int |
| kit1 | int |
| kit2 | int |
| bath1 | int |
| bath2 | int |

# Source Code

***1)Main\_Screen.cpp***

#include<iostream.h>

#include<process.h>

using namespace std;

#include<graphics.h>

int start()

{

initwindow(1350,1000);

int x=0,y=0,sel;

cleardevice();

setcolor(RED);

setbkcolor(BLACK);

settextstyle(BOLD\_FONT,HORIZ\_DIR,9);

outtextxy(410,100, "WELCOME TO");

outtextxy(320,190,"SOS ARCHITECTS");

for(int i=0;i<16;i++)

{

if(i==4)

continue;

setcolor(i);

circle(i+200,i+150,i+100);

delay(40);

circle(i+200,i+150,i+50);

delay(40);

circle(i+200,i+150,i+10);

delay(40);

circle(i+1230,i+150,i+100);

delay(40);

circle(i+1230,i+150,i+50);

delay(40);

circle(i+1230,i+150,i+10);

delay(40);

circle(i+500,i+450,i+100);

delay(40);

circle(i+500,i+450,i+50);

delay(40);

circle(i+500,i+450,i+10);

delay(40);

circle(i+800,i+450,i+100);

delay(40);

circle(i+800,i+450,i+50);

delay(40);

circle(i+800,i+450,i+10);

delay(40);

}

setcolor(RED);

rectangle(1100,620,1250,670);

settextstyle(BOLD\_FONT,HORIZ\_DIR,4);

outtextxy(1140,630,"NEXT");

rectangle(100,620,250,670);

settextstyle(BOLD\_FONT,HORIZ\_DIR,4);

outtextxy(140,630,"EXIT");

while(1)

{

getmouseclick(WM\_LBUTTONDOWN, x, y);

if(x>=1100 && x<=1250 && y>=620 && y<=670)

{

sel=1;

break;

}

if(x>=100 && x<=250 && y>=620 && y<=670)

{

sel=2;

break;

}

}

if(sel==1)

{

return 8;

}

else

{

exit(0);

}

}

*2)MenuScreen.cpp*

#include<iostream>

using namespace std;

#include<graphics.h>

int menu()

{

int x,y,sel;

initwindow(1350,1000);

setbkcolor(BLACK);

cleardevice();

setcolor(RED);

settextstyle(BOLD\_FONT,HORIZ\_DIR,8);

outtextxy(300,50,"SOS ARCHITECTS");

setcolor(CYAN);

settextstyle(BOLD\_FONT,HORIZ\_DIR,4);

rectangle(460,210,710,260);

outtextxy(500,220, "NEW USER?");

rectangle(460,400, 790, 450);

outtextxy(500,410, "EXISTING USER?");

//rectangle(460,450,810,500);

//outtextxy(500,460, "ARCHITECT LOGIN");

rectangle(460,580,620,630);

outtextxy(500,590, "EXIT");

while(1)

{

getmouseclick(WM\_LBUTTONDOWN, x, y);

if(x>=460 && x<=710 && y>=210 && y<=260)

{

sel=1; //new user

break;

}

if(x>=460 && x<=790 && y>=400 && y<=450)

{

sel=2; //existing user

break;

}

else if(x>=460 && x<=620 && y>=580 && y<=630)

{

sel = 4;

break;

}

}

if(sel==1)

return 11;

else if(sel==2)

return 12;

else if(sel==4)

exit(0);

}

*3)confirmation\_of\_plan\_ACTUAL*

#include<iostream.h>

#include<graphics.h>

int planconfirm()

{

settextstyle(BOLD\_FONT,HORIZ\_DIR,4);

cleardevice();

outtextxy(220,50,"Please choose your preferred plan number");

settextstyle(BOLD\_FONT,HORIZ\_DIR,6);

setcolor(LIGHTGREEN);

rectangle(250,150,550,300);

rectangle(650,150,950,300);

rectangle(250,350,550,500);

rectangle(650,350,950,500);

setcolor(LIGHTRED);

outtextxy(310,195,"Plan 1");

outtextxy(710,195,"Plan 2");

outtextxy(310,395,"Plan 3");

outtextxy(710,395,"Plan 4");

setcolor(LIGHTBLUE);

rectangle(1100,620,1250,670);

settextstyle(BOLD\_FONT,HORIZ\_DIR,4);

outtextxy(1120,630,"LOGOUT");

rectangle(100,620,250,670);

settextstyle(BOLD\_FONT,HORIZ\_DIR,4);

outtextxy(140,630,"PREV");

int choice,x,y;

while(1)

{

getmouseclick(WM\_LBUTTONDOWN, x, y);

if(x>=250 && x<=550 && y>=150 && y<=300)

{

return 6;

}

else if(x>=650 && x<=950 && y>=150 && y<=300)

{

return 6;

}

else if(x>=250 && x<=550 && y>=350 && y<=500)

{

return 6;

}

else if(x>=650 && x<=950 && y>=350 && y<=500)

{

return 6;

}

else if(x>=100 && x<=250 && y>=620 && y<=670) //previous clicked

{

return 4;

}

else if(x>=1100 && x<=1250 && y>=620 && y<=670) //menu clicked

{

return 8;

}

}

}

*4)MainProgram.cpp*

#include<iostream>

using namespace std;

#include<fstream.h>

#include<graphics.h>

#include<string.h>

#include<stdio.h>

#include<conio.h>

#include<ctype.h>

#include "mainscreen.cpp"

#define ol 670

#define ob 370

extern int start();

extern int menu();

extern int planconfirm();

extern void thankyou();

int new\_user();

struct plan

{

char name[80];

char address[80];

char username[50];

char password[50];

int l; //plot size length

int b; //plot size feet

int liv1;

int liv2;

int bed1;

int bed2;

int kit1;

int kit2;

int bath1;

int bath2;

}s1,s2;

string

command,

name, password,

registerName, registerPassword;

char inName[50],inPassword[50];

int plan1();

int plan2();

int plan3();

int plan4();

void click(int,int);

int checkout();

int new\_user()

{

ofstream g("registration.dat",ios::app|ios::binary);

if (!g.is\_open())

{

cout<<"could not open file\n";

return 0;

}

cout<<"\nEnter your name(max 80 characters): ";

cin>>s1.name;

cout<<"\nEnter the address of your plot(no spaces,use commas): ";

cin>>s1.address;

cout<<"\nEnter your username(max 50 characters,no spaces): ";

cin>>s1.username;

cout<<"\nEnter your password(max 50 characters,no spaces): ";

cin>>s1.password;

cout<<"\n\nEnter the plot size(in feet):\n";

cin>>s1.l>>s1.b;

cout<<"\nEnter the dimensions of living room\n";

cin>>s1.liv1>>s1.liv2;

cout<<"\nEnter the dimensions of bed room \n";

cin>>s1.bed1>>s1.bed2;

cout<<"\nEnter the dimensions of kitchen\n";

cin>>s1.kit1>>s1.kit2;

cout<<"\nEnter the dimensions of bath room\n";

cin>>s1.bath1>>s1.bath2;

g.write((char\*)&s1,sizeof(s1));

g.close();

return 1;

}

int check\_existing\_user()

{

ifstream f("registration.dat",ios::in|ios::binary);

closegraph();

if (!f.is\_open())

{

cout<<"could not open file\n";

return 0;

}

int flag=0;

while(1)

{

cout<<"\nEnter Username: ";

cin>>inName;

cout<<"\nEnter Password: ";

cin>>inPassword;

ifstream f("registration.dat",ios::in|ios::binary);

f.seekg(0);

while (!f.eof())

{

f.read((char\*)&s1,sizeof(s1));

if( (strcmp(s1.username,inName)==0) && (strcmp(s1.password,inPassword)==0))

//(s1.username==inName && s1.password==inPassword)

{

cout<<"\nLogin Successful!!! "

<<"Welcome, "

<<s1.name;

delay(980);

//flag=1;

return 1;

}

}

if(flag==0)

cout<<"\nIncorrect name or password!!!Please try again.\n";

}

}

/\*int enter\_details()

{

cout<< "\n\n\t\t\t\t\t\tWELCOME TO SOS ARCHITECTS"<<endl;

cout<< "=================================================================================";

cout<< "=======================================";

cout<< "=================================================================================";

cout<< "=======================================";

cout<<"\n\nEnter the plot size(in feet):\n";

cin>>l>>b;

cout<<"\nEnter the dimensions of living room\n";

cin>>s2.liv1>>s2.liv2;

cout<<"\nEnter the dimensions of bed room \n";

cin>>s2.bed1>>s2.bed2;

cout<<"\nEnter the dimensions of kitchen\n";

cin>>s2.kit1>>s2.kit2;

cout<<"\nEnter the dimensions of bath room\n";

cin>>s2.bath1>>s2.bath2;

return 1;

} \*/

int main()

{

cout<< "\n\t\t\t\t\t\tWELCOME TO SOS ARCHITECTS"<<endl;

cout<< "=================================================================================";

cout<< "=======================================";

cout<< "=================================================================================";

cout<< "=======================================\n";

int choice,x=0,y=0,sel=0,m=9;

while(1)

{

if(m==1)

{

m=plan1();

}

if(m==2)

m=plan2();

if(m==3)

m=plan3();

if(m==4)

m=plan4();

if(m==5)

m=planconfirm();

if(m==6)

m=checkout();

if(m==7)

thankyou();

if(m==8)

m=menu();

if(m==9)

m=start();

//if(m==10)

//m=enter\_details();

if(m==11)

{

closegraph();

m=new\_user();

}

if(m==12)

{

closegraph();

m=check\_existing\_user();

}

}

/\*delay(5000);

plan2(s2);

delay(5000);

plan3(s2);

delay(5000);

plan4(s2);

cout<<"Total cost of laying living room floor:"<<s2.liv1\*s2.liv2<<endl;

cout<<"Total cost of laying bed room floor:"<<s2.bed1\*s2.b2<<endl;

cout<<"Total cost of laying kitchen floor:"<<s2.kit1\*s2.kit2<<endl;

cout<<"Total cost of laying bath room floor:"<<s2.l4\*s2.bath2<<endl;

cout<<"Do you want to go ahead with this plan(y/n):"<<endl;

cin>>choice; \*/

system("pause");

}

int plan1()

{

initwindow(1350,1000);

cleardevice();

setcolor(WHITE);

settextstyle(BOLD\_FONT,HORIZ\_DIR,6);

outtextxy(550,20,"PLAN 1");

rectangle(ol-((s1.l/2)\*10.3),ob-((s1.b/2)\*10.3)-20,ol+((s1.l/2)\*10.3),ob+((s1.b/2)\*10.3)-20);

//setfillstyle(10,10);

/\*rectangle(ol-(liv1\*10),ob-(liv2\*10),ol,ob);

rectangle(ol,ob-(b2\*10),ol+(bed1\*10),ob);

rectangle(ol,ob,ol+(kit1\*10),ob+(kit1\*10));

rectangle(ol-(l4\*10),ob,ol,ob+(l4\*10));

\*/

settextstyle(BOLD\_FONT,HORIZ\_DIR,2);

setfillstyle(SOLID\_FILL,BLUE);

bar(ol-(s1.liv1\*10),ob-(s1.liv2\*10),ol,ob);

setfillstyle(SOLID\_FILL,RED);

bar(ol,ob-(s1.bath2\*10)-50,ol+(s1.bath1\*10),ob-50);

setfillstyle(SOLID\_FILL,YELLOW);

bar(ol,ob-50,ol+(s1.bed1\*10),ob+(s1.bed1\*10)-50);

setfillstyle(SOLID\_FILL,GREEN);

bar(ol-(s1.kit1\*10),ob,ol,ob+(s1.kit1\*10));

outtextxy((ol-(s1.liv1\*10))-10,ob-(s1.liv2\*10)/2,"Living Room");

outtextxy((ol+(s1.bath1\*10)/2),ob-(s1.bath2\*10)/2-50,"Bathroom");

outtextxy(ol+(s1.bed1\*10)/2,ob+(s1.bed2\*10)/2-50,"Bedroom");

outtextxy((ol-(s1.kit1\*10))-10,ob+(s1.kit2\*10)/2,"Kitchen");

rectangle(1100,620,1250,670);

settextstyle(BOLD\_FONT,HORIZ\_DIR,4);

outtextxy(1140,630,"NEXT");

/\*rectangle(100,620,250,670);

settextstyle(BOLD\_FONT,HORIZ\_DIR,4);

outtextxy(140,630,"PREV"); \*/

int x,y,sel;

while(1)

{

getmouseclick(WM\_LBUTTONDOWN, x, y);

if(x>=1100 && x<=1250 && y>=620 && y<=670)

break;

}

cleardevice();

return 2;

}

int plan2()

{

cleardevice();

setcolor(WHITE);

settextstyle(BOLD\_FONT,HORIZ\_DIR,6);

outtextxy(550,20,"PLAN 2");

rectangle(ol-((s1.l/2)\*10.3),ob-((s1.b/2)\*10.3)-20,ol+((s1.l/2)\*10.3),ob+((s1.b/2)\*10.3)-20);

settextstyle(BOLD\_FONT,HORIZ\_DIR,2);

setfillstyle(SOLID\_FILL,RED);

bar(ol-(s1.bath1\*10),ob-(s1.bath2\*10),ol,ob);

setfillstyle(SOLID\_FILL,BLUE);

bar(ol,ob-(s1.liv2\*10),ol+(s1.liv1\*10),ob);

setfillstyle(SOLID\_FILL,YELLOW);

bar(ol,ob,ol+(s1.bed1\*10),ob+(s1.bed2\*10));

setfillstyle(SOLID\_FILL,GREEN);

bar(ol-(s1.kit1\*10),ob,ol,ob+(s1.kit1\*10));

outtextxy((ol-(s1.bath1\*10))-10,ob-(s1.bath2\*10)/2,"Bath room");

outtextxy(ol+(s1.liv1)/2,ob-(s1.liv2\*10)/2,"Living room");

outtextxy(ol+(s1.bed1\*10)/2,ob+(s1.bed2\*10)/2,"Bedroom");

outtextxy(ol-(s1.kit1\*10)/2-20,ob+(s1.kit2\*10)/2,"Kitchen");

rectangle(1100,620,1250,670);

settextstyle(BOLD\_FONT,HORIZ\_DIR,4);

outtextxy(1140,630,"NEXT");

rectangle(100,620,250,670);

settextstyle(BOLD\_FONT,HORIZ\_DIR,4);

outtextxy(140,630,"PREV");

int x,y, sel;

while(1)

{

getmouseclick(WM\_LBUTTONDOWN, x, y);

if(x>=1100 && x<=1250 && y>=620 && y<=670)

{

sel=1;

break;

}

if(x>=100 && x<=250 && y>=620 && y<=670)

{

sel=2;

break;

}

}

if(sel==1)

{

cleardevice();

return 3;

}

else

{

cleardevice();

return 1;

}

}

int plan3()

{

cleardevice();

setcolor(WHITE);

settextstyle(BOLD\_FONT,HORIZ\_DIR,6);

outtextxy(550,20,"PLAN 3");

rectangle(ol-((s1.l/2)\*10.3),ob-((s1.b/2)\*10.3),ol+((s1.l/2)\*10.3),ob+((s1.b/2)\*10.3));

settextstyle(BOLD\_FONT,HORIZ\_DIR,2);

setfillstyle(SOLID\_FILL,RED);

bar(ol-(s1.bath1\*10),ob-(s1.bath2\*10)-50,ol,ob-50);

setfillstyle(SOLID\_FILL,YELLOW);

bar(ol,ob-(s1.bed2\*10),ol+(s1.bed1\*10),ob);

setfillstyle(SOLID\_FILL,BLUE);

bar(ol,ob,ol+(s1.liv1\*10),ob+(s1.liv1\*10));

setfillstyle(SOLID\_FILL,GREEN);

rectangle(ol-(s1.kit1\*10),ob,ol,ob+(s1.kit1\*10));

outtextxy((ol-(s1.bath1\*10))-10,ob-(s1.bath2\*10)/2,"Bath room");

outtextxy((ol+(s1.bed1\*10))-10,ob-(s1.bed2\*10)/2,"Bed room");

outtextxy(ol+(s1.liv1\*10)/2,ob+(s1.liv2\*10)/2,"Living room");

outtextxy(ol-(s1.kit1\*10)/2,ob+(s1.kit2\*10)/2,"Kitchen");

rectangle(100,620,250,670);

settextstyle(BOLD\_FONT,HORIZ\_DIR,4);

outtextxy(140,630,"PREV");

rectangle(1100,620,1250,670);

outtextxy(1140,630,"NEXT");

int x,y, sel;

while(1)

{

getmouseclick(WM\_LBUTTONDOWN, x, y);

if(x>=1100 && x<=1250 && y>=620 && y<=670)

{

sel=1;

break;

}

if(x>=100 && x<=250 && y>=620 && y<=670)

{

sel=2;

break;

}

}

if(sel==1)

{

cleardevice();

return 4;

}

else

{

cleardevice();

return 2;

}

}

int plan4()

{

cleardevice();

setcolor(WHITE);

settextstyle(BOLD\_FONT,HORIZ\_DIR,6);

outtextxy(550,20,"PLAN 4");

int x,y,sel;

rectangle(ol-((s1.l/2)\*10.3),ob-((s1.b/2)\*10.3),ol+((s1.l/2)\*10.3),ob+((s1.b/2)\*10.3));

settextstyle(BOLD\_FONT,HORIZ\_DIR,2);

setfillstyle(SOLID\_FILL,YELLOW);

bar(ol-(s1.bed1\*10),ob-(s1.bed2\*10),ol,ob);

setfillstyle(SOLID\_FILL,GREEN);

bar(ol,ob-(s1.kit2\*10)+30,ol+(s1.kit1\*10),ob+30);

setfillstyle(SOLID\_FILL,RED);

bar(ol,ob+60,ol+(s1.bath1\*10),ob+(s1.bath1\*10)+60);

setfillstyle(SOLID\_FILL,BLUE);

rectangle(ol-(s1.liv1\*10),ob,ol,ob+(s1.liv1\*10));

outtextxy((ol-(s1.bed1\*10))-10,ob-(s1.bed2\*10)/2,"Bedroom");

outtextxy(ol+(s1.kit1\*10)/2,ob-(s1.kit2\*10)/2,"Kitchen");

outtextxy(ol+(s1.liv1\*10)/2,ob+(s1.liv2\*10)/2,"Bath room");

outtextxy((ol-(s1.liv1\*10))-10,ob+(s1.liv2\*10)/2,"Living room");

rectangle(1100,620,1250,670);

settextstyle(BOLD\_FONT,HORIZ\_DIR,4);

outtextxy(1140,630,"DONE");

rectangle(100,620,250,670);

settextstyle(BOLD\_FONT,HORIZ\_DIR,4);

outtextxy(140,630,"PREV");

while(1)

{

getmouseclick(WM\_LBUTTONDOWN, x, y);

if(x>=1100 && x<=1250 && y>=620 && y<=670)

{

sel=1;

break;

}

if(x>=100 && x<=250 && y>=620 && y<=670)

{

sel=2;

break;

}

}

if(sel==1)

{

cleardevice();

return 5;

}

else if(sel==2)

{

cleardevice();

return 3;

}

}

int checkout()

{

int x,y,sel;

cleardevice();

setcolor(RED);

settextstyle(BOLD\_FONT,HORIZ\_DIR,7);

outtextxy(400,20, "HOUSE SUMMARY");

line(370,80,935,80);

setcolor(CYAN);

rectangle(100,620,250,670);

settextstyle(BOLD\_FONT,HORIZ\_DIR,4);

outtextxy(140,630,"PREV");

rectangle(1100,620,1250,670);

outtextxy(1110,630,"CONFIRM");

settextstyle(BOLD\_FONT,HORIZ\_DIR,3);

setcolor(BLUE);

line(620,130,620,900);

setcolor(WHITE);

char str1[50];

char str2[50];

int a1 =s1.liv1 \* s1.liv2;

itoa(a1,str2,10);

strcpy(str1, "Area of the living room (sqft) = ");

strcat(str1,str2);

outtextxy(20,150,str1);

int a2 =s1.bed1 \* s1.bed2;

itoa(a2,str2,10);

strcpy(str1, "Area of the living room (sqft) = ");

strcat(str1,str2);

outtextxy(20,200,str1);

int a3 =s1.kit1 \* s1.kit2;

itoa(a3,str2,10);

strcpy(str1, "Area of the living room (sqft) = ");

strcat(str1,str2);

outtextxy(20,250,str1);

int a4 =s1.bath1 \* s1.bath2;

itoa(a4,str2,10);

strcpy(str1, "Area of the living room (sqft) = ");

strcat(str1,str2);

outtextxy(20,300,str1);

int a= a1+a2+a3+a4;

itoa(a,str2,10);

strcpy(str1, "Total area of the house (sqft) = ");

strcat(str1,str2);

outtextxy(20,350,str1);

int rate=90;

itoa(rate,str2,10);

strcpy(str1, "Rate of tiling per sqft = ");

strcat(str1,str2);

outtextxy(750,150,str1);

int tiling=rate \* a;

itoa(tiling,str2,10);

strcpy(str1, "Total cost of tiling = ");

strcat(str1,str2);

outtextxy(750,200,str1);

rate=60;

itoa(rate,str2,10);

strcpy(str1, "Rate of painting per sqft = ");

strcat(str1,str2);

outtextxy(750,250,str1);

int painting=rate\*a;

itoa(painting,str2,10);

strcpy(str1, "Total cost of painting = ");

strcat(str1,str2);

outtextxy(750,300,str1);

rate=120;

itoa(rate,str2,10);

strcpy(str1, "Rate of cementing per sqft = ");

strcat(str1,str2);

outtextxy(750,350,str1);

int cementing=rate\*a;

itoa(cementing,str2,10);

strcpy(str1, "Total cost of cementing = ");

strcat(str1,str2);

outtextxy(750,400,str1);

line(680,480,1270,480);

int total=tiling+painting+cementing;

itoa(total,str2,10);

strcpy(str1, "Total amount to be paid = ");

strcat(str1,str2);

outtextxy(750,500,str1);

while(1)

{

getmouseclick(WM\_LBUTTONDOWN, x, y);

if(x>=1100 && x<=1250 && y>=620 && y<=670)

{

sel=1;

break;

}

if(x>=100 && x<=250 && y>=620 && y<=670)

{

sel=2;

break;

}

}

if(sel==1) //next

{

cleardevice();

return 7;

}

else if(sel==2) //prev

{

cleardevice();

return 5;

}

}

*5)ThankYou.cpp*

#include<iostream.h>

#include<graphics.h>

void thankyou()

{

int x,y;

cleardevice();

settextstyle(BOLD\_FONT,HORIZ\_DIR,8);

setcolor(RED);

outtextxy(130,150,"THANK YOU FOR CHOOSING");

outtextxy(330,250,"SOS ARCHITECTS");

settextstyle(BOLD\_FONT,HORIZ\_DIR,4);

setcolor(WHITE);

outtextxy(340,400,"We will get back to you shortly");

while(1)

{

getmouseclick(WM\_LBUTTONDOWN, x, y);

if(x>=0 && x<=1350 && y>=0 && y<=1000)

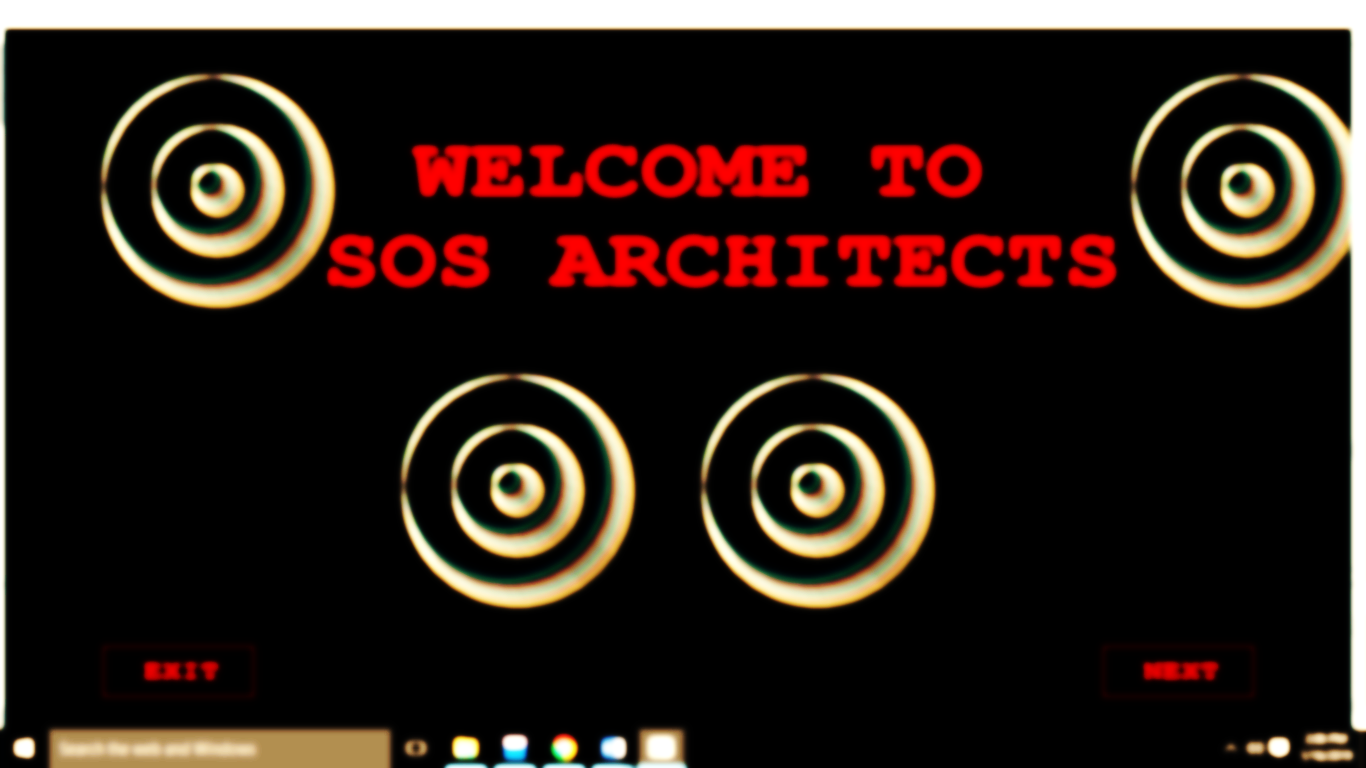
exit(0);

}

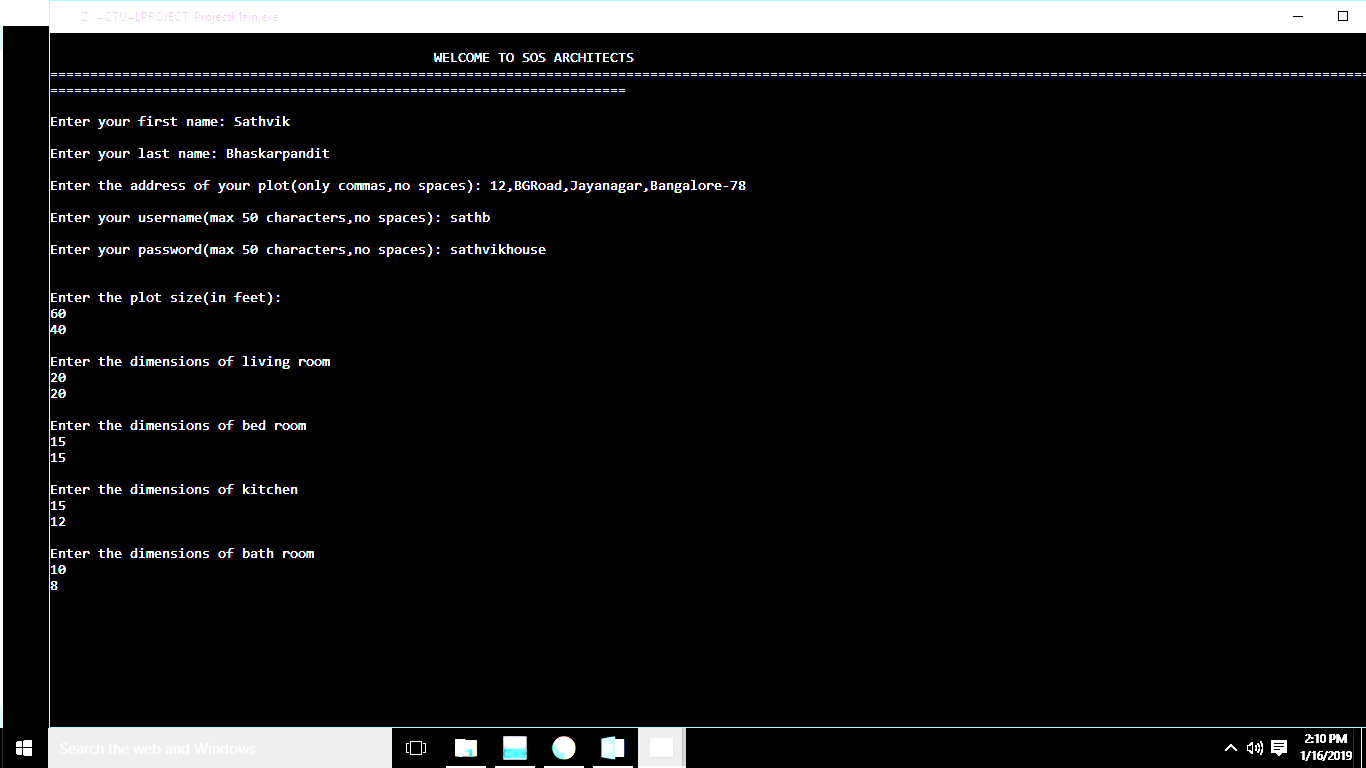
system("pause");

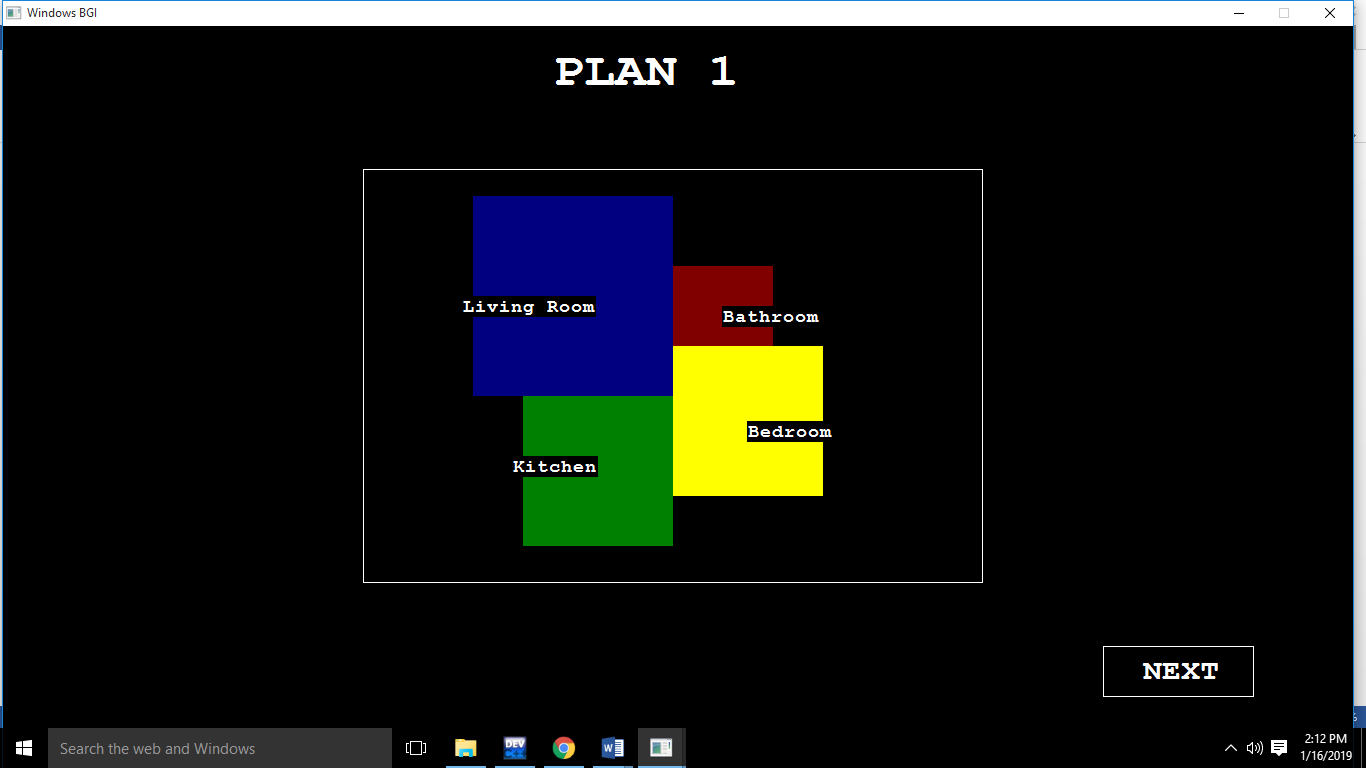
}

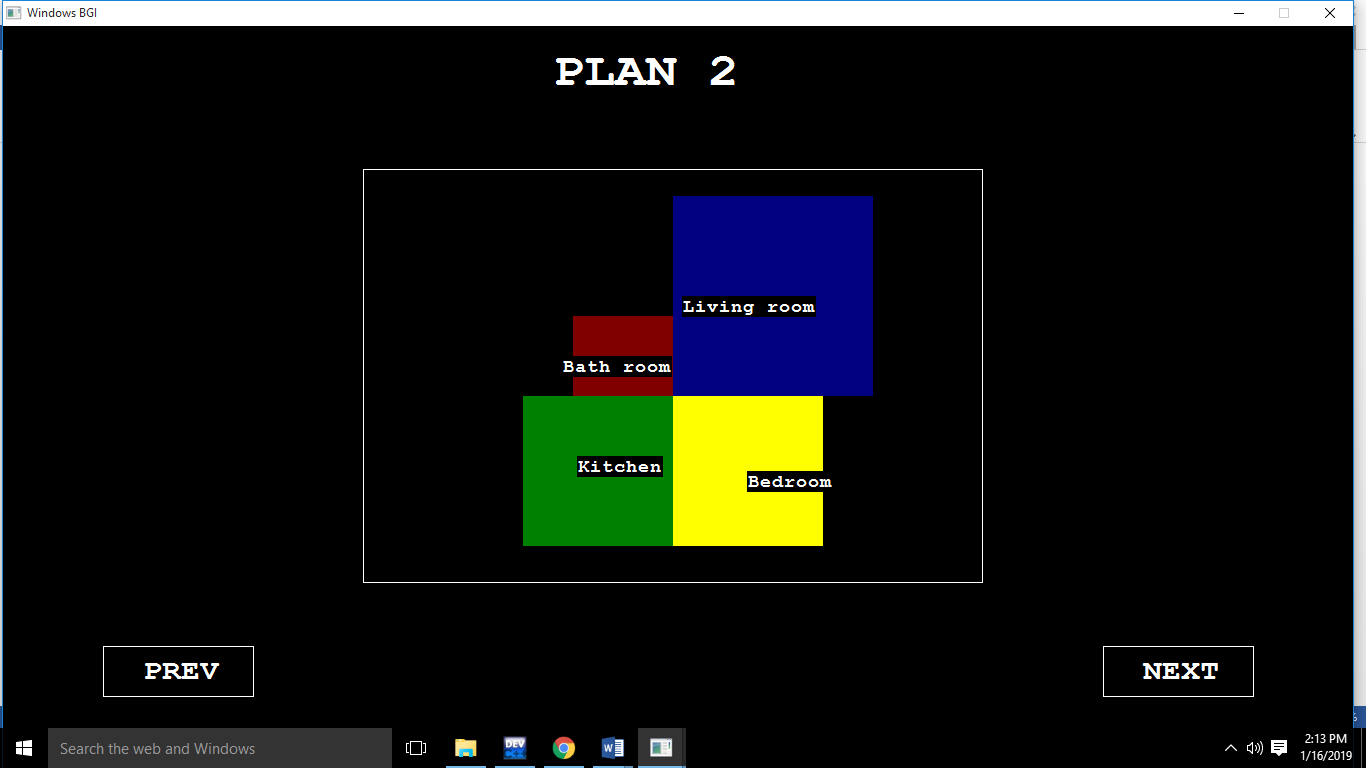
# Output Windows

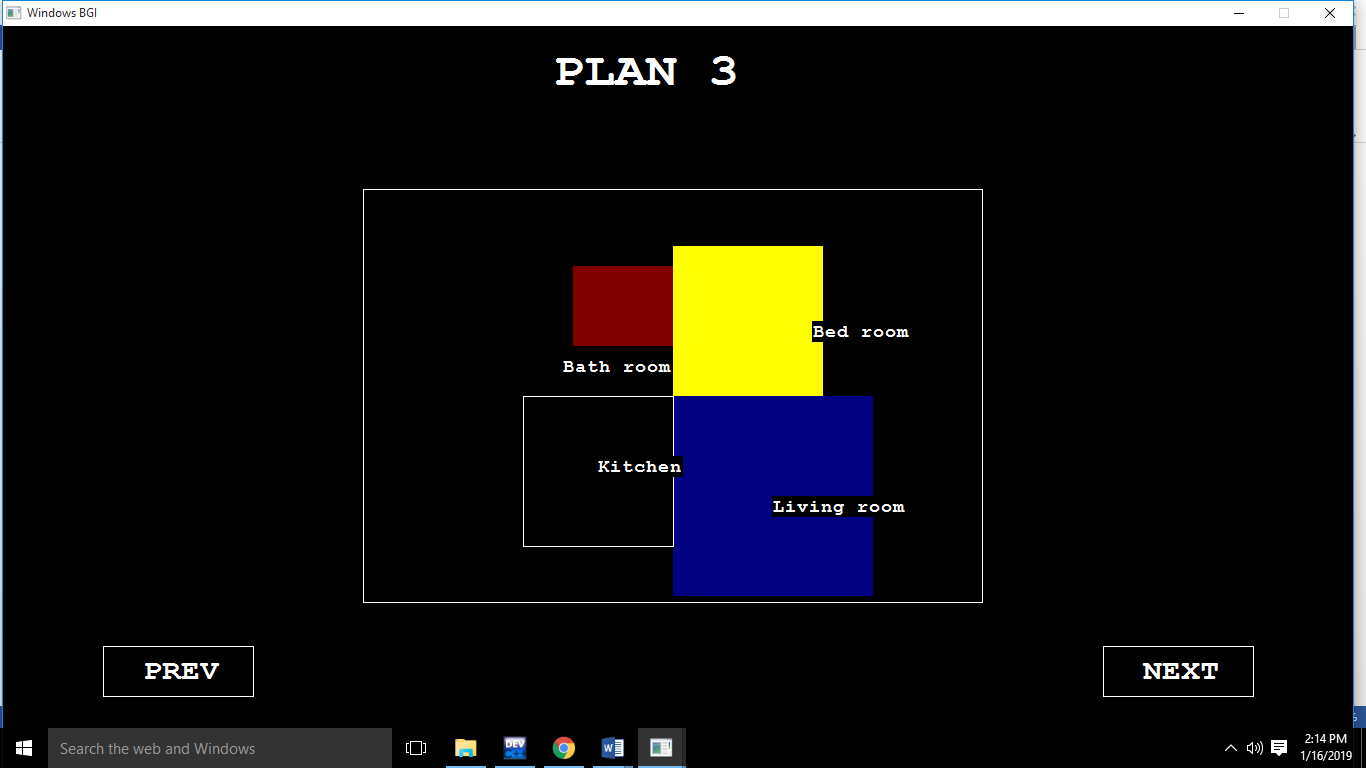


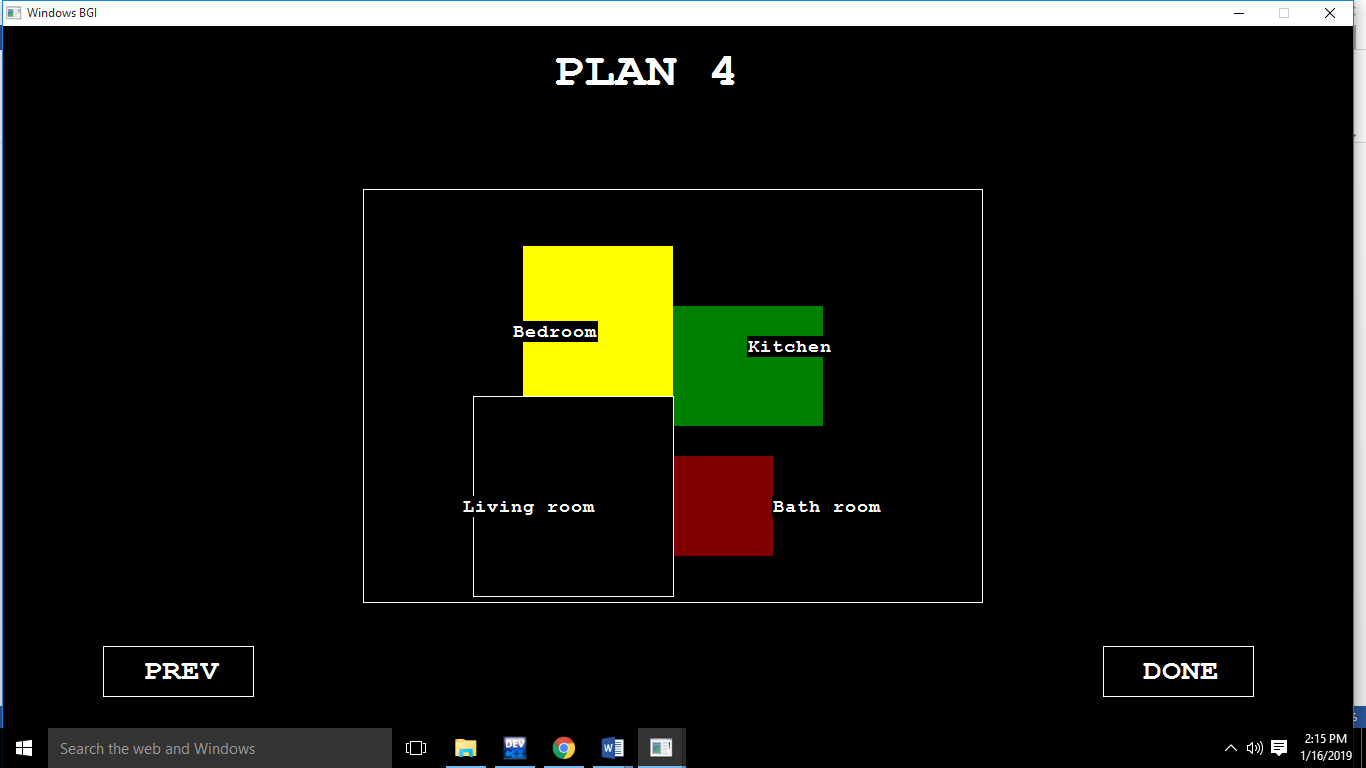


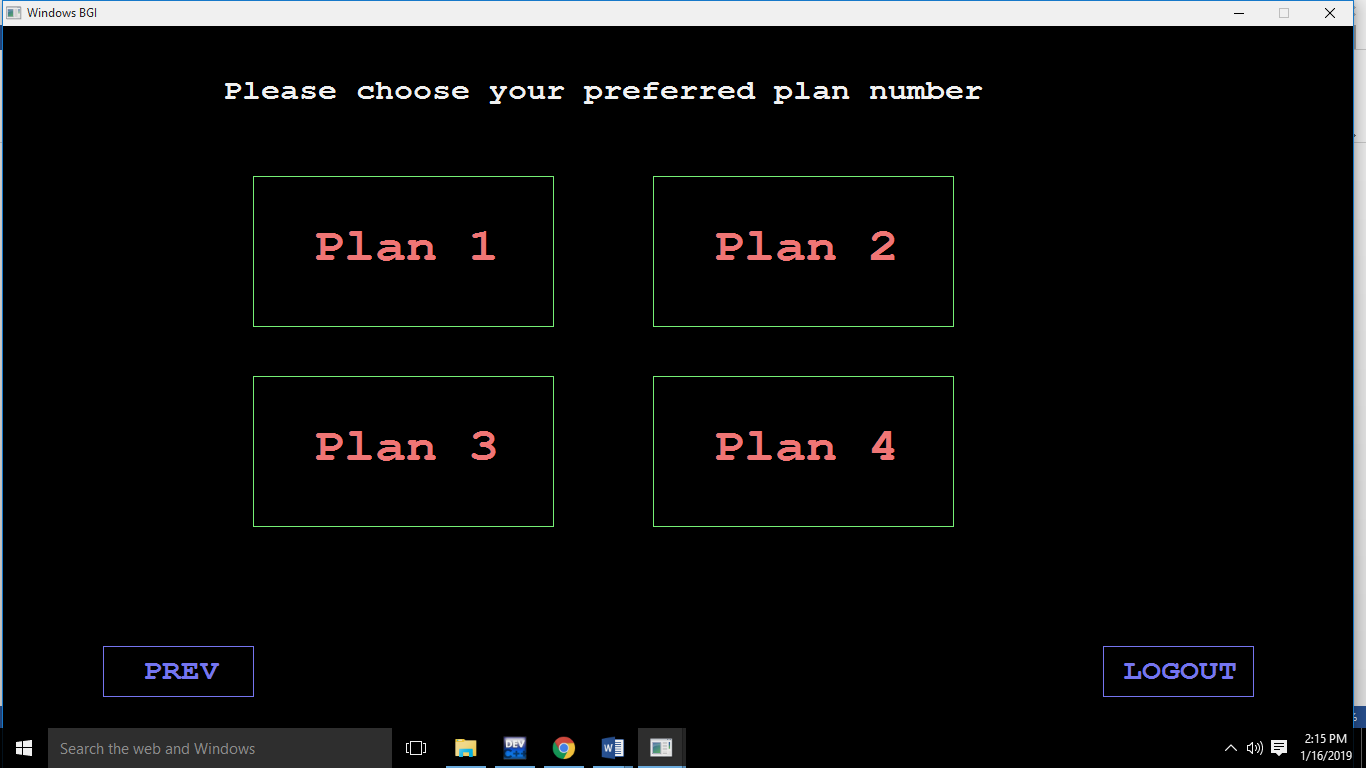


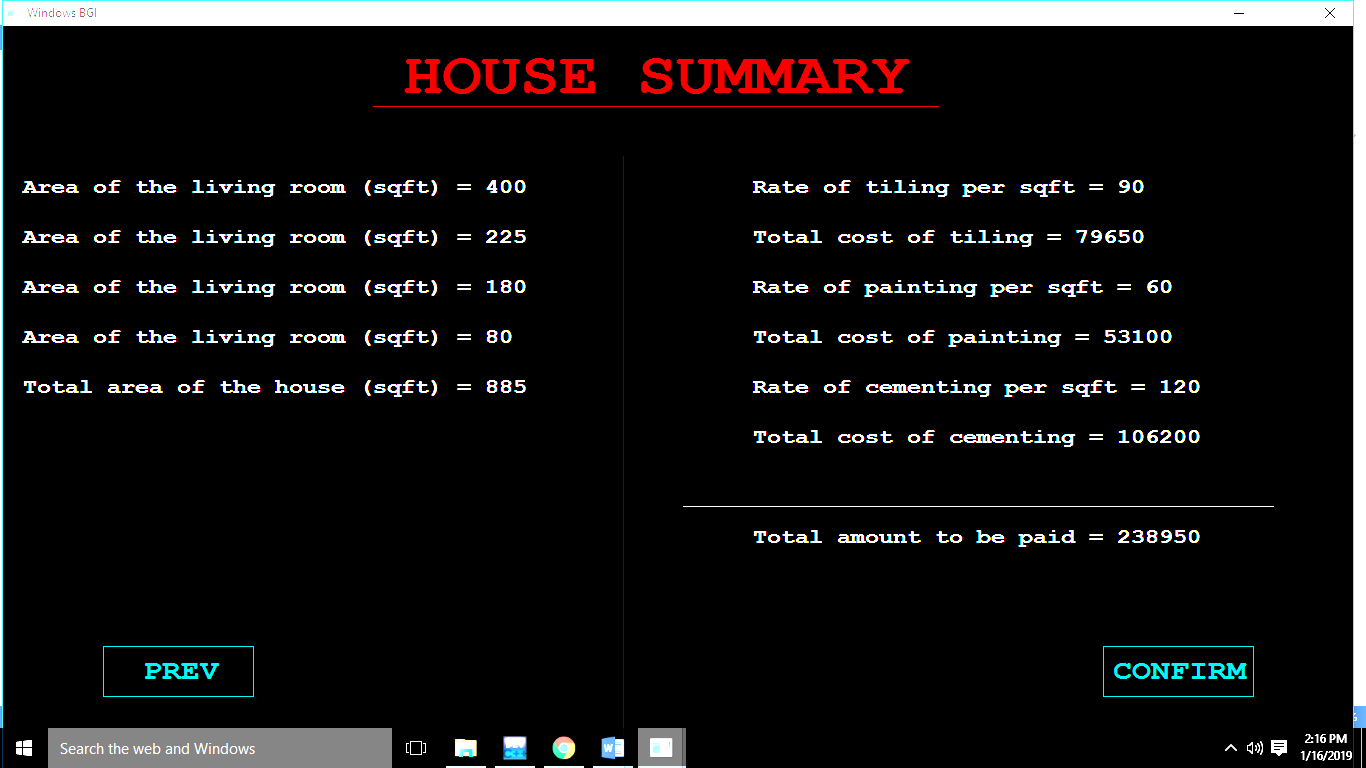


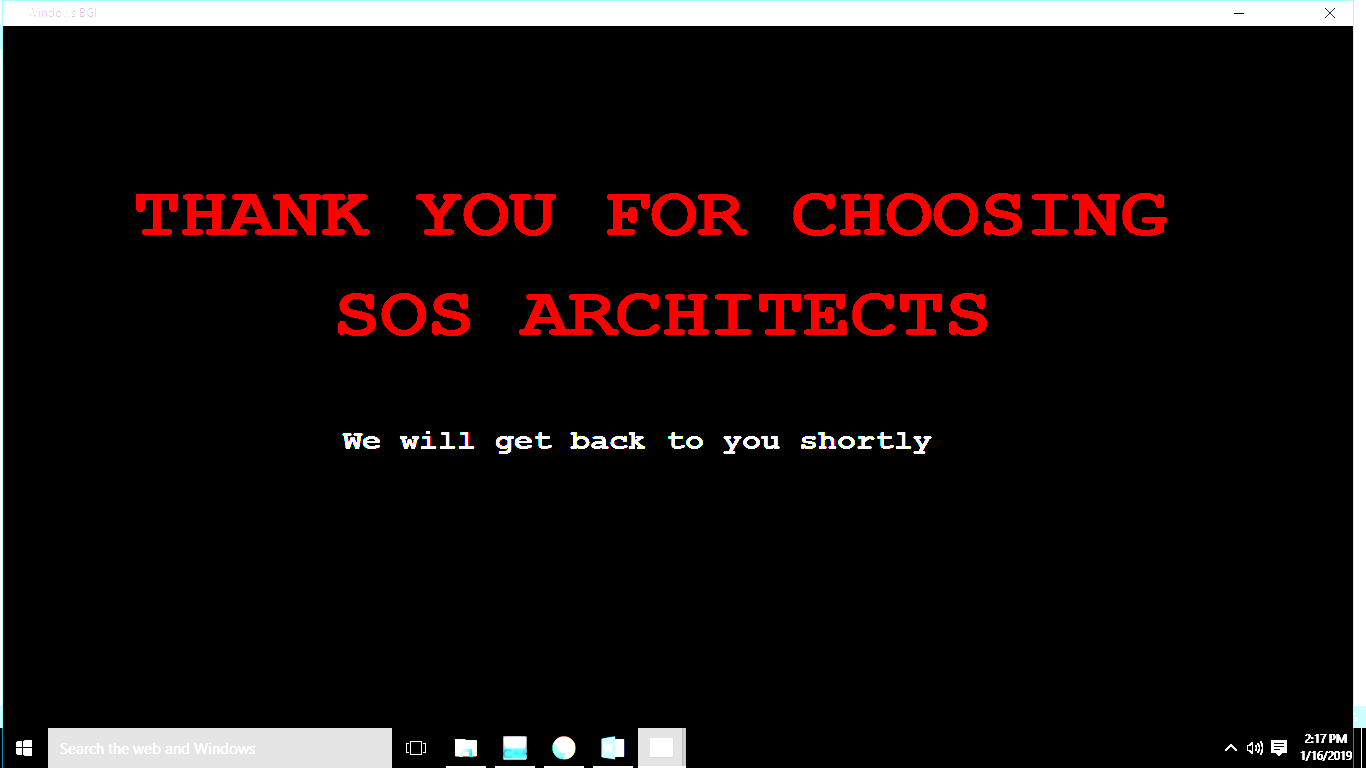












# Scope for Improvement

* Could add more rooms/spaces
* Could make more than 4 plans
* Could add an account for the Architect
* Option to change username and password

# Bibliography

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* 2. Computer Science with C++ for Class XII – 2017 by Sumita Arora
* 3. stackexchange.com