



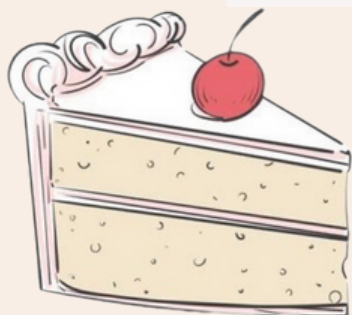
# CG BAKERY

## Cake Game

Instructor: Dr.Omniah Nagoor

Group members:

Name	ID	Group
Raghad Alsebayyil ( LEADER ) ✨		2
Sara Abdulmalek		2
Yusra Zain		2
Shooq Authaynani		2
Doha Alhazmi		2



# Table of Content

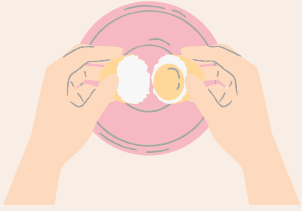


Content	Page #
Members' task table	2
Abstract ( General idea - goal )	3
Introduction ( Project Scope - idea in details)	3 , 4
User Manual	5 , 6
Functionality and the implementation details	7 , 8
Result ( screenshots with description )	9 , 10 , 11 , 12
Conclusion & future work	13
Reference	14



## Members' Task Table

Members	Drawing	Motion	Report	Prez	Texture
Raghad	✓	✓			✓
Sara	✓	✓	✓	✓	
Yusra	✓	✓			✓
Shooq	✓			✓	
Doha	✓		✓		



---

## ◀ Abstract ▶

The general idea of a cake game is to simulate the experience of running a bakery and creating delicious cakes. And enjoy the fun activity by making the customers happy with their orders. Players typically take on the role of a bakery owner and are responsible for managing various aspects of the bakery's operations, with a primary focus on baking and decorating cakes.

## ◀ Introduction ▶

### Project details and scope:

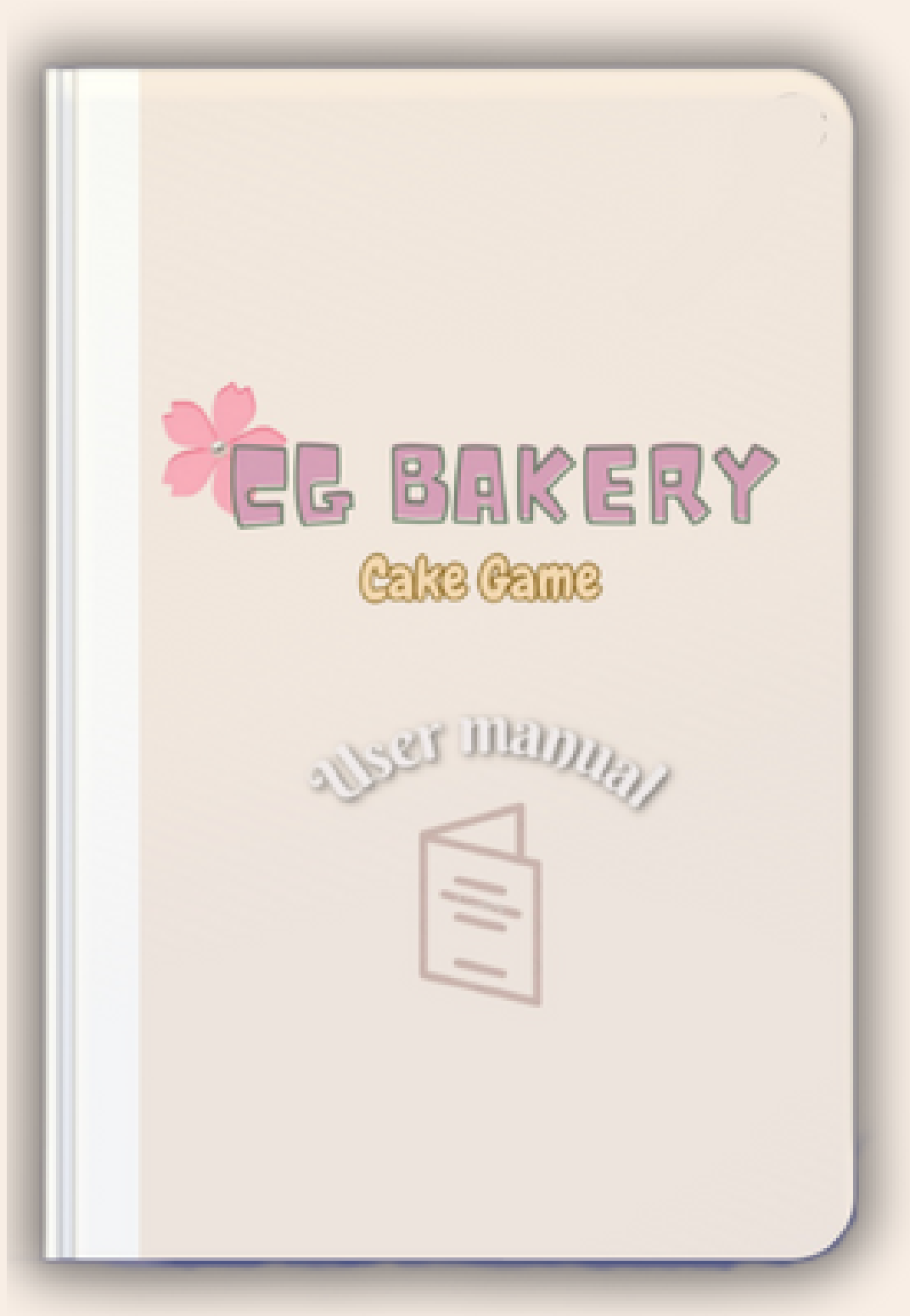
Cake baking is a combination of science and art. It's about precise measurements, following a recipe, and using your creativity to make a dessert that not only tastes great, but looks beautiful, too. As you gain experience, you can experiment with different flavours, fillings and designs, turning cake baking into a joyful and rewarding hobby. So, let's get started on your cake baking journey!



- **first Section:** Preparing a distinctive and fun cake for a specific occasion or purpose.
- **Second Section:** Choose one of the classic cake flavors, such as: carrot and red velvet.
- **Three Section:** The game user is shown all the ingredients he needs to bake the cake.
- **Four Section:** Then it goes to the stage of mixing all the ingredients.
- **Five Section:** Place the mixture on the tray mold.
- **Six Section:** Place the cake tray in the oven for 25 minutes at 160 degrees Fahrenheit.
- **Seven Section:** The user takes the cake out of the oven after it is cooked.
- **Eight Section:** The user must choose the cream he prefers for decoration, such as: vanilla and chocolate.
- **Nine Section:** showing the shape of the final cake after baking.



## ◀ User Manual ▶





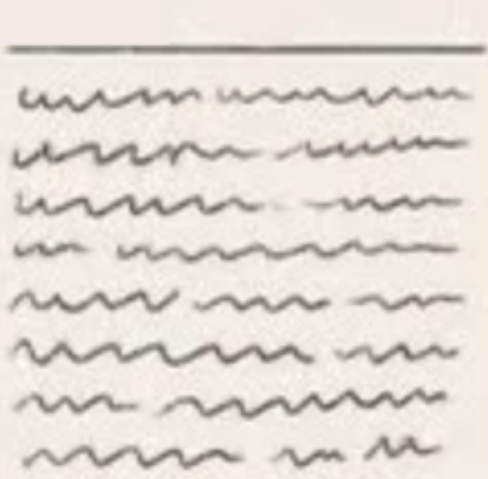

## ◀ User Manual ▶

*The lady*

*User Manual*  
*CG Bakery - Cake game -*

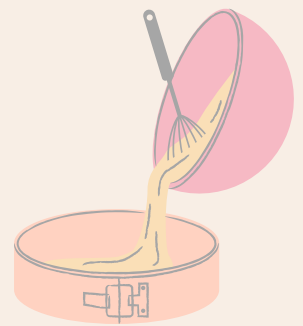
KINGDOM OF SAUDI ARABIA      NEW EDITION      21.OCT

- The user presses **"S"** to start the game.
- The user will be shown the types of cakes. If he wants to choose red velvet, press **"R"** , or Carrot Cake press **"C"**
- Then click the **right mouse** button to move to the next step of mixing the ingredients.
- Place the cake mold in the oven using the **arrow keys**.
- To take it out of the oven and decorate it, click the **right mouse** button to go to the next step.
- To decorate, choose one type of vanilla **"W"** or press chocolate **"B"**



---

## ◀ Methodology ▶



### Some used Libraries:

```
#include <OpenGL/gl.h>
#include <GLUT/glut.h> // handle the window-managing operations
#include <GL/glew.h> // A cross-platform open-source C/C++ extension loading library
#include <GL/freeglut.h> // handle the window-managing operations
#include <stdlib.h>
#include <iostream> // used for C++ input and output command
```

### The main methods:

#### **void glBegin()**

Specifies the primitive that will be created from vertices presented between glBegin and glEnd.

#### **GLuint LoadTexture(const char\* filename, int width, int height)**

#### **glGenTextures(GLsizei n, GLuint\* textures)**

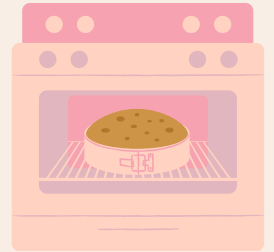
OpenGL will generate **n** texture names and store them in the **textures** array

#### **glBindTexture(GLenum target, GLuint texture)**

**target:** Specifies the target texture. It can be one of several predefined targets, such as GL\_TEXTURE\_1D, GL\_TEXTURE\_2D, GL\_TEXTURE\_3D, GL\_TEXTURE\_CUBE\_MAP.

**texture:** Specifies the name (ID) of the texture object to bind.





**void OvalHollow(GLfloat x, GLfloat y, GLfloat radius)**

**void OvalFilled(GLfloat x, GLfloat y, GLfloat radius)**

**void drawFilledCircle(GLfloat x, GLfloat y, GLfloat radius)**

**void drawHollowCircle(GLfloat x, GLfloat y, GLfloat radius)**

**void drawStrokeText(const char\* text, int length, int x, int y)**

use to write a text in the screen.

**void DrawCurve(float cx, float cy, float r, int num\_segments, float arc\_length)**

**void glTranslatef(GLfloat x, GLfloat y, GLfloat z)**

This function translates an object by the specified amounts along the x, y, and z axes.

**void glRotatef(GLfloat angle, GLfloat x, GLfloat y, GLfloat z)**

This function applies a rotation to an object around the specified axis by the specified angle.

**void glScalef(GLfloat x, GLfloat y, GLfloat z)**

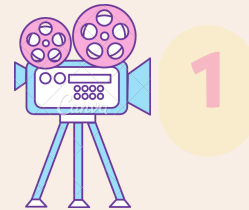
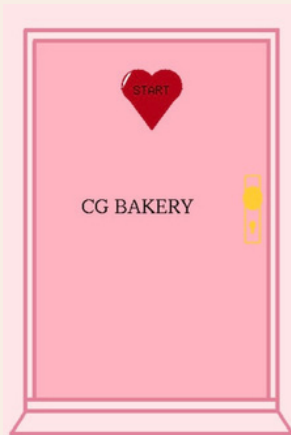
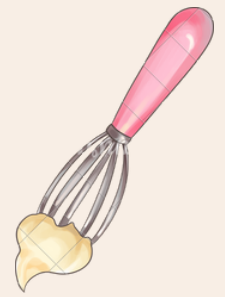
This function scales an object by the specified scaling factors along the x, y, and z axes.

**static void mouse(int button, int state, int x, int y)**

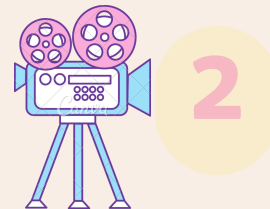
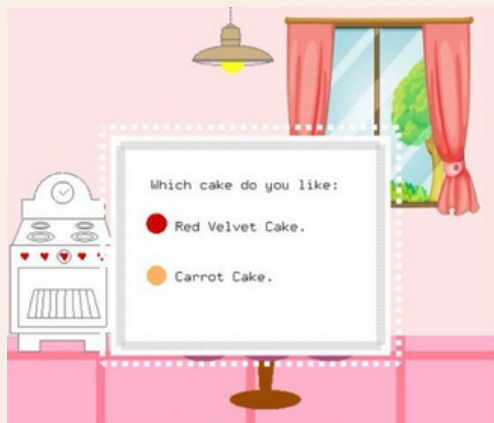
**static void key(unsigned char keyPressed, int x, int y)**

**static void special(int key, int x, int y) //handle special keys**

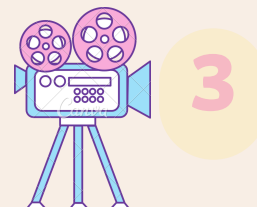
## ◀ Result ▶



In the first scene the kitchen door will appear when you run the project,  
The user must press the letter "S" or "s" to move to start the game.



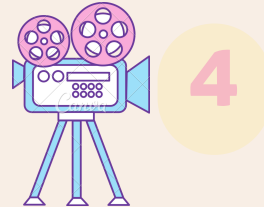
In the second scene, you have two flavor options:  
Press "R" or "r" for ( **Red velvet** )  
Press "C" or "c" for ( **Carrot** )



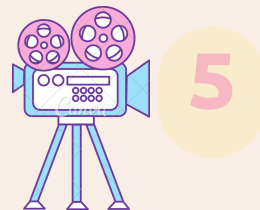
Now all the ingredients will be prepared  
to start baking the cake



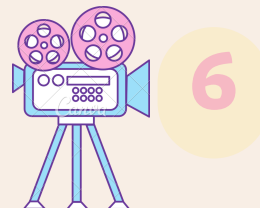
## < Result >



then we begin with putting 100g of butter in the bowl



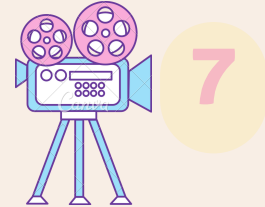
Now put 2 eggs yolks by clicking the left mouse button



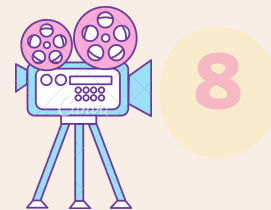
add 70g milk into the mix of egg and butter by clicking left mouse button



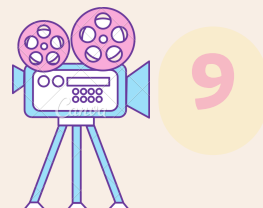
## < Result >



add 90g of flour into the mix by clicking left mouse button



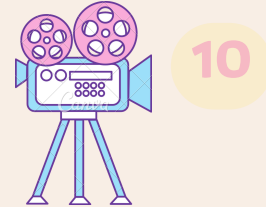
using a whisk we mix all the ingredients together.



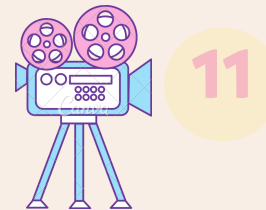
after the cake mix is being ready to bake we pour it in the mold then you can put the cake mold in the oven using the arrow keys , we should bake it in preheated oven at 160c for 25 minuts.



## < Result >



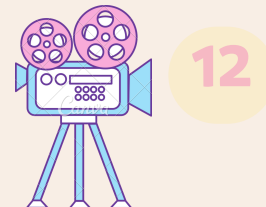
the cake now ready to add some decorations to be more festive.



In this scene, you have two cream color options:

Press "W" or "w" for ( White )

Press "B" or "b" for ( Brown )



The last scene we show the final result of the user cake.

---

## ◀ Conclusion & future work ▶



### Conclusion:

Cake baking is a delightful culinary art that offers a wide range of flavors and designs to suit different tastes and occasions. It involves a combination of precise measurements, high-quality components, and creative decor. Whether you're a novice or experienced baker, mastering cake baking skills can be a rewarding endeavor

### Future work:

- **Experiment with new flavors:** Keep exploring and experimenting with different cake flavors and fillings to create unique and exciting combinations.
- **Advanced Techniques:** Master advanced cake decorating techniques such as fondant making, sugar sculpting, and cake sculpting to elevate your cake decorating skills.
- **Online Presence:** Consider starting a cake baking blog, a social media presence, or an online store to share your creations and perhaps turn your passion into a business.
- **Culinary School:** If you are truly passionate about baking cakes, you may consider enrolling in culinary school to receive professional training and certifications.



**Remember** that cake baking is a versatile and creative field with endless opportunities for growth and innovation. Your journey into this culinary art can be as unique as the cakes you make



## « Reference »



write a text in the screen in opengl



Rotation of shapes in opengl in computer graphics





What  
- AI -  
sees



about  
our  
bakery!