

## **C481 B581 Homework 11**

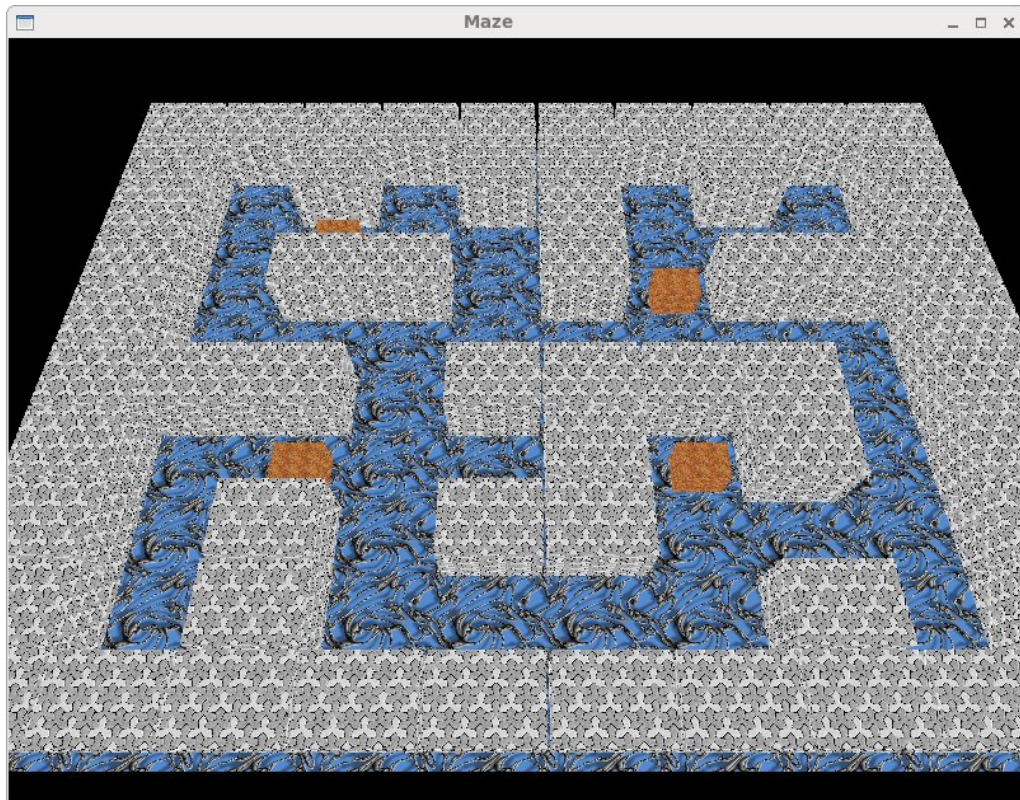
**Due date:** Monday, April 17, 2017.

In this homework we'll write a game where a player controls a character moving through a maze.

**Ex. 1** Download the following files in a dedicated folder:

glheader.h  
main.cc  
bitmap.cc  
bitmap.h  
interface.cc  
interface.h  
Box.cc  
Box.h  
Maze.cc  
Maze.h  
Player.cc  
Player.h  
Makefile  
tiles.bmp  
pattern.bmp  
marble.bmp

Compile the program with the command `make` and run it with the command `maze`. Here is a snapshot of the program:



**a.** Finish the implementation of the class `Player`. You can use a box for the player or a `glut` object. Design your own texture for the player and apply it to this object. Note that the texture file must be a `bmp` file with dimensions equal to powers of 2.

You can use a play list for the `Player`, in which case you should initialize it in the function `draw`. Or if you use a `Box` object, declare it as an attribute in the class `Player` and initialize it the `draw` function.

In the `Player` class, when the player runs over a food item, make the player eat it, and then grow in size by 0.1. Start with a player size no larger than 0.5.

**b.** Modify the maze to have it at a size of 15x15. Design your own maze for the bigger size, but leave the existing part as is except for the walls that should be moved to the outside border. Add a few more food items in the maze.

**c.** This interface is designed not to be moved with mouse and keyboard - instead, the arrow keys move the player. Modify the interface such that when the player is about to get out of site, the values of `trans[0]` and `trans[2]` are modified to keep it in sight.

**Note.** You can adjust the speed of the player in the interface if it's too slow or too fast, and add the `WASD` keys to the movement if you want/

**Upload to Canvas:** all the files you add or modify, including the texture file for the player.