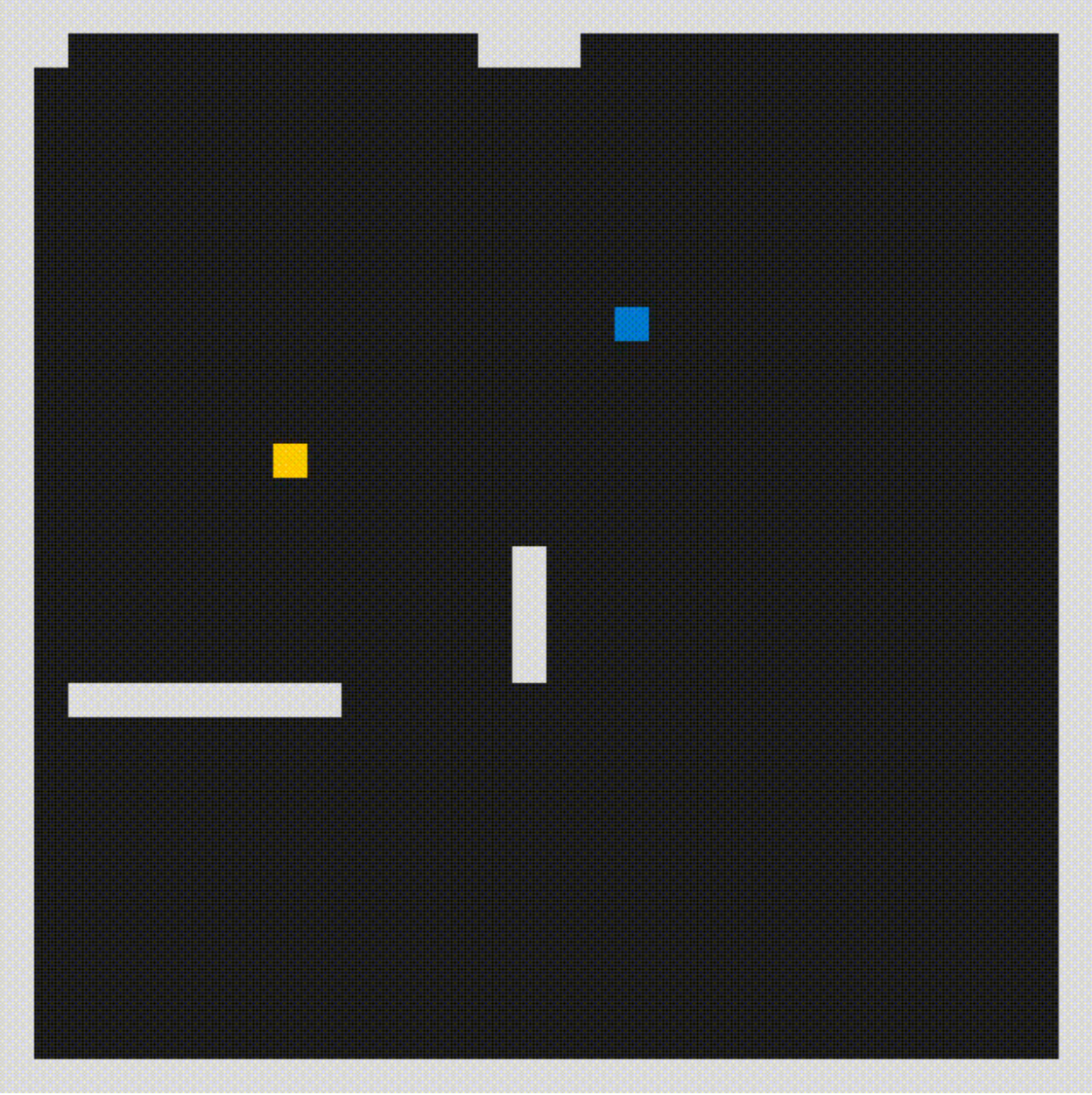
Snake Game using libsdl2



Extended snake game to support custom maps and ability to create maps using tilemaps.

Game Featurs

This game have the following features:

• Ability to control the snake direction using the keyboard arrows (Up – Down – Right – Left).

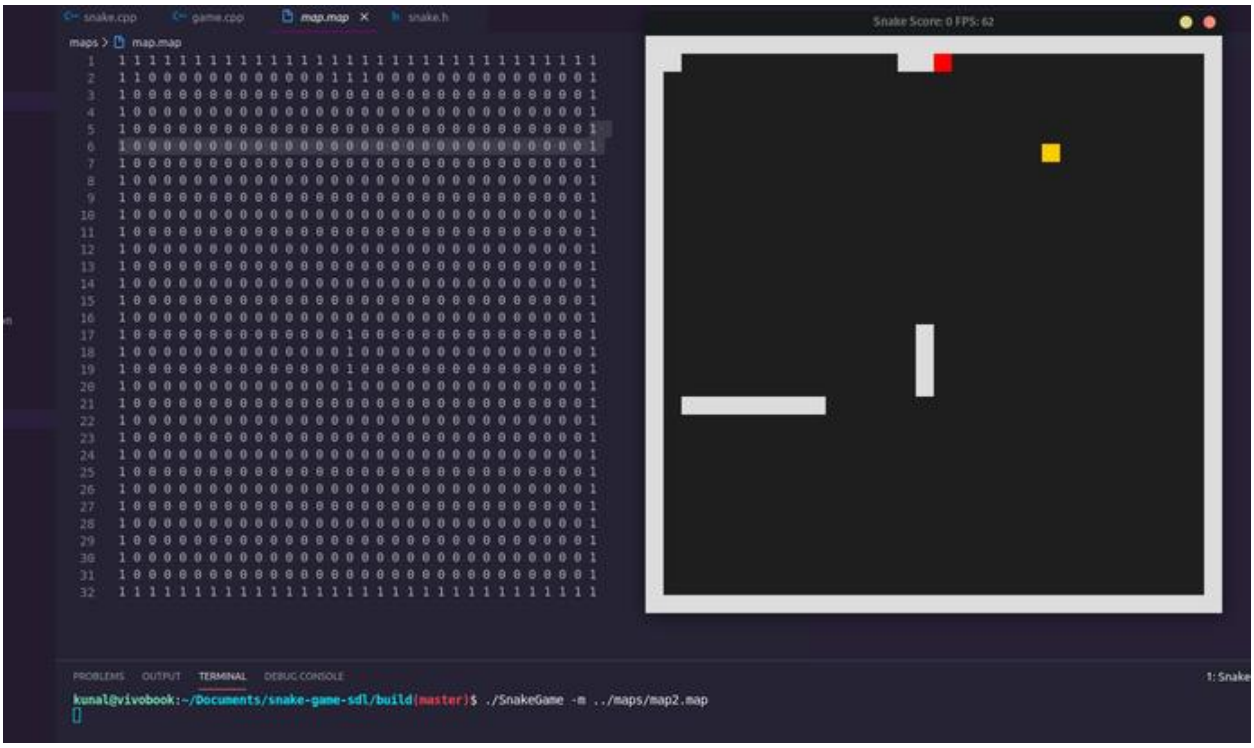
• Food is placed randomly everytime the snake eats it.

• A bouns food is randomly placed everytime the snake eats it. Also the bonus food makes all Asteroids disapper for sometime.

• The snake dies when it’s hit by an asteroid or the snake tries to eat itself.

• There is no win, User tries to get the highest score possible without dying.

What's new?



* You can now create custom maps for the game.

* The map is saved in a text file.

* The map is a 32x32 grid of elements.

* Each element in the map is a 0 or 1 which represent a block of a maze and blank space respectivly.

* See running instructions for steps on how to load a custom created map.

* The map directory contains a couple of example maps. If no map is specefied the game will load map.map from map directory by default.

* If no map is specefied normal game will start without any maze.

Dependencies for Running Locally

* cmake >= 3.7

  * All OSes: [click here for installation instructions](https://cmake.org/install/)

* make >= 4.1 (Linux, Mac), 3.81 (Windows)

  * Linux: make is installed by default on most Linux distros

  * Mac: [install Xcode command line tools to get make](https://developer.apple.com/xcode/features/)

  * Windows: [Click here for installation instructions](http://gnuwin32.sourceforge.net/packages/make.htm)

* SDL2 >= 2.0

  * All installation instructions can be found [here](https://wiki.libsdl.org/Installation)

  * Note that for Linux, an `apt` or `apt-get` installation is preferred to building from source.

* gcc/g++ >= 5.4

  * Linux: gcc / g++ is installed by default on most Linux distros

  * Mac: same deal as make - [install Xcode command line tools](https://developer.apple.com/xcode/features/)

  * Windows: recommend using [MinGW](http://www.mingw.org/)

Basic Build Instructions

• Navigate to CppND-Capstone-Snake-Game/

• Make a new directory to build the project: mkdir <folder>

• Navigate to the folder you created: cd <folder>

• Run cmake to generate the makefile: cmake ../

• Now use make command to build the project: make

• To run the project type: ./SnakeGame

• Navigate to CppND-Capstone-Snake-Game/

Running

Run it: `./SnakeGame`.

You can specify a map file using `-m ` flag and spcefiy a .map file.

Example: `./SnakeGame -m ../maps/map.map`

Rubric points covered

| Point | is Covered |

|---|---|

| The project demonstrates an understanding of C++ functions and control structures. | yes |

| The project reads data from a file and process the data, or the program writes data to a file. | yes [map is loaded from a file saved in disk] |

| The project accepts user input and processes the input.| yes [accepts user input for map file path]|

| The project uses Object Oriented Programming techniques.| yes|

|Classes use appropriate access specifiers for class members.|yes [each member is marked explicitly in map class in map.h]|

|Class constructors utilize member initialization lists.|yes [map path is passed using initializer list]|

|Classes encapsulate behavior.| yes [map class encapsulates all map related behavior]|

|The project makes use of references in function declarations.| yes [renderer is passed using reference]|

|The project uses move semantics to move data, instead of copying it, where possible.| yes [std::move is used to move an rvalue in game.cpp]|