Readme

Laurie freva 340885284

Emmran Barhoum 318630217

The objective of the game is to bring Dave to the end of the last level. To complete a level, the player have to grab the gold cup, and he have to reach, with this cup, the exit door.

Dave can move and jump. He can also shoot, if he finds an antidote(picture), and fly using a jetpack, after collecting it and only for a limited time. These two pieces of equipment are lost at the end of each level, so player have to recover them again. Another possible goal for the player is to get the highest possible score.

Each level offers a specific type of viruses that must be destroyed with a antidote or avoided. Each type of viruses has its own movement and shooting routine. When Dave dies, he reappears, if the player has a life left, at the beginning of the level, but he keeps everything he has collected and the level remains in the same state as before his death.

* Main.cpp

main file that runs the game.

* Controller:

The controller starts to read from files and runs the menu. It handles events and manages the game.

* -Menu:

Represent main menu of the Menu

Inheritance from Menu: startMenu and EndMenu

* LoadFromFile:

Static singleton class that load pictures.

* Animation:

represents all objects that move by animation.

* board:

open and read the levels from file

* DataBar:

represents informations of the dataBar with level, jet time, score and number of lives

**GameObject**:

* **DynamicObject:** Abstract class Inheritance from GameObject that represents the dynamic objects.

-Virus: Abstract class that represents a Virus.

coronavirus : Inheritance from Virus - move horizontally and shoot in direction of dave .

FluVirus: Inheritance from Virus - move vertically and shoot in one direction

-DoctorDave: class of Doctor Dave

-Bullet: class that represents bullet of antidote.

* **StaticObject :** Abstract class inheritance from GameObject that represents objects that don’t move.

Fire, Door, Wall, Rock: Inheritance from StaticObject.

* **CatchableObject**: Abstract class inheritance from GameObject represents catchable objects.

Inheritance from CatchableObject:

Jetpack: with it, dave can fly for a limited time

Diamond : increase the score

Antidote(picture) : to kill viruses

Trophy : to pass the door

DaveMotion:

Assistance class for movements of doctor dave.

**Data Structure:**

vector<unique\_ptr<Monster>> m\_viruses

vector<unique\_ptr<StaticObj>> m\_StaticObject

vector<unique\_ptr<CatchAbleObject>>m\_tools;

vector<unique\_ptr<CatchAbleObject>>m\_bulletVirus;

**Design Patterns:**

**Factory Templates:**

For the production of all objects in the game

**Singelton:**

For the resources class of the game

* Comments:

-Doctor dave can shoot bullet of antidode one by one and after that the last one disappears.

-We have added an another difficulty for the player: if he got the jet Pack, it is possible that the jet time decrease after not using it in a limit time. It's happening something, not a lot, so it is a "surprise" for the player. We added this to boost him to finish the game faster. Jet time is not that short for that.