VLADIRINT by Uros Stanojkov

Game documentation

Hi! I am a student from the Faculty of Engineering Science in Kragujevac, Serbia, currently in the third year on Computer Science and Software Engineering course.

This is a documentation for project I have done for the 'Digital Electronics' subject.

The first submit I have made for this project was on 17th January. I finished the project a month later, doing it almost every day for several hours. To be exact, date when I finished is 15th February.

So, let me introduce you to the game.

When I was ready to start, I was a bit insecure what project to do. All I knew is that I wanted to develop custom 2D game. At the first, I didn't have any idea, should it be some kind of a maze game, or some 2D arcade. After I had decided what kind of a game I wanted (stay tuned), I didn't know what technology to use, where my work will be the most effective?

Last summer I started learning game development in Unity with C# technology, but at the beginner level. I hesitated, should I work with Unity or should I make 2D browser game with JavaScript. Finally, I decided to go with Unity and C#, even I had known that I chose a harder way. I have also used BFXR program to create and upload sounds in game.

About the game

It is a custom 2D maze game. I made 5 levels, each harder than the previous one. It reminds on 2D game PAC-MAN, with AI that is looking for the nearest path to kill the player and take player lives.

For the game, I have used script for path finding, which I had to change a lot, a few in-game sounds, AI and UI, for the Main menu and Game Over scenes. Let me show you first look of the game.

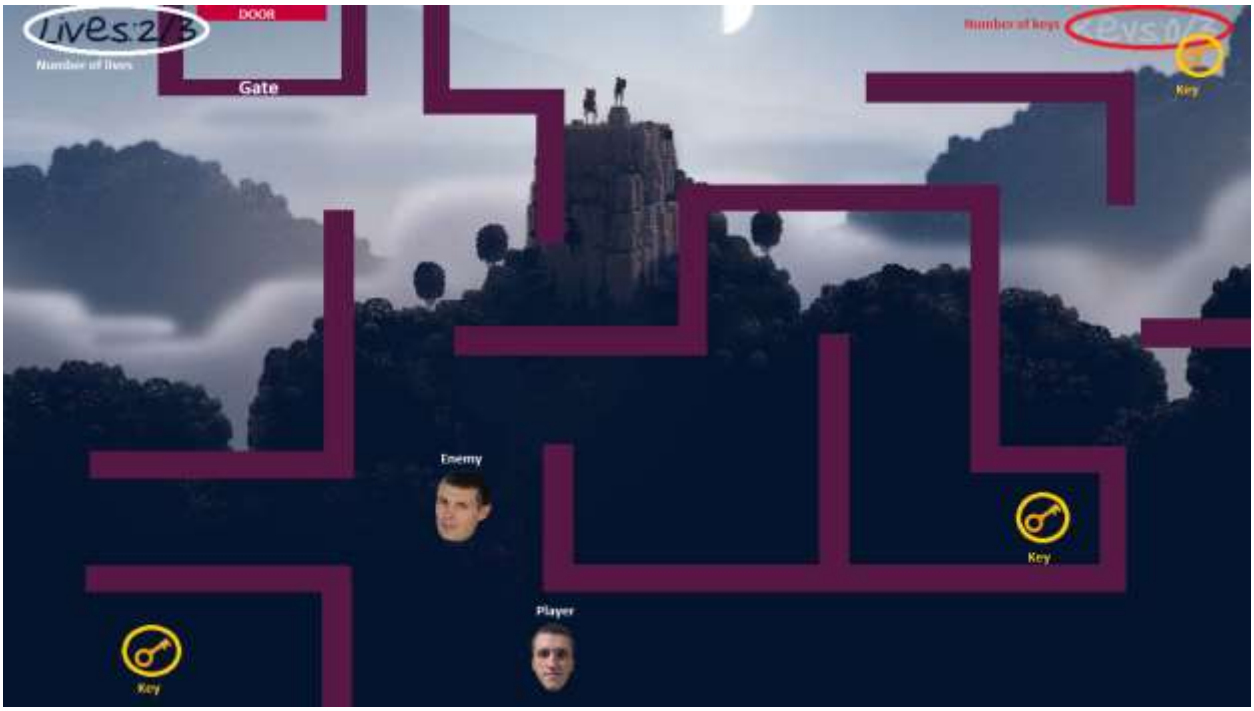
Picture 1.1

Gameplay

So, what is the point of the game, where are level scenes, what should player do to win?

When you start the game, you are starting from the first level. There are no options to skip levels or any 'cuts', if you want a win, you must deserve it.

A player has a mission to collect on every level three different keys and after that gate will open and a player has to run to it and go on the next level. By default, a player has three lives when the game begins. Player can collect on only one level a hearth, it will give him bonus life.



Picture 2.1

Scenes

As I said, there are five levels in the game. Five scenes for the levels, Main menu scene and two scenes, one when a player loses and another one when a player wins.

The first scene, when a player enter game is Main menu scene (Picture 1.1).
There you can see background with two pictures on screen. One picture, on the left, represents a player, another one represents an enemy.

On the bottom, user can see instructions how to play a game and what is the point, how to win.

There are also canvases, presented as two buttons and a game name. Press on the first button, user will start the game, and press on the second button user will exit the game.

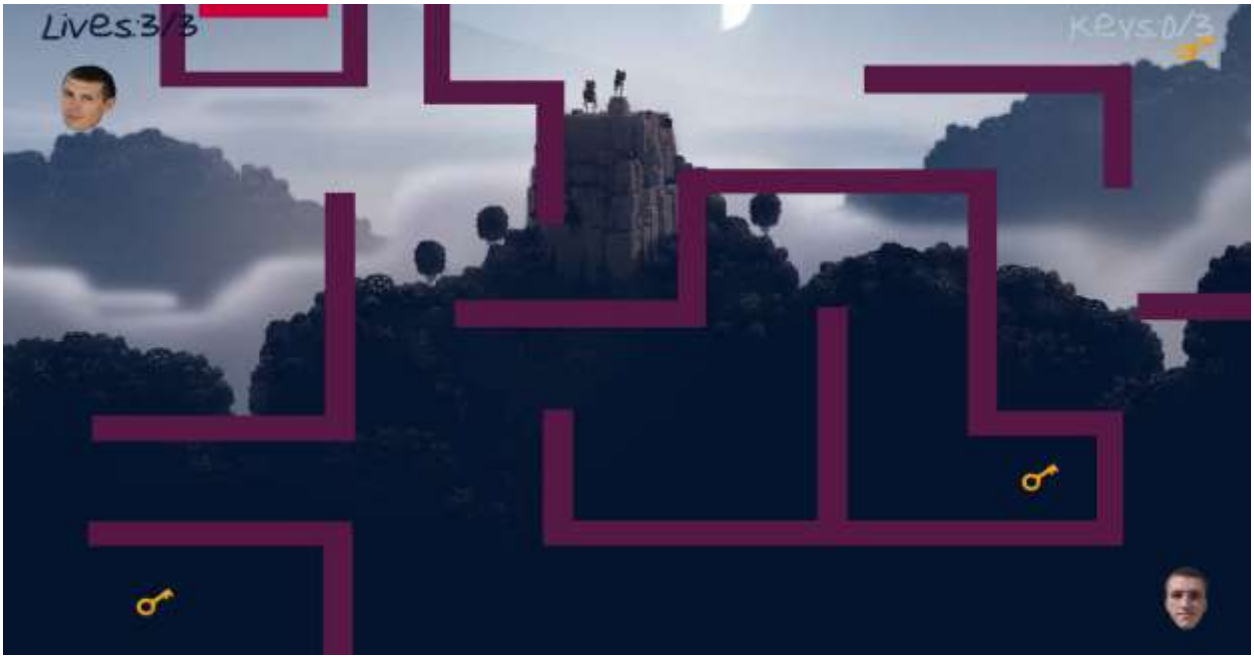
All pictures were taken at the start of the scene.

Level 1

Level 1 - Picture 3.1

This is the game view of the very first level. In the Picture 2.1, I have marked all the objects in game. The purple walls give meaning to the game. Both, a player and an enemy have collider functions called 'Box Collider 2D'. When the program detect collide with the Wall, it will not let neither player nor enemy to pass through them. AI will detect every Wall object on the terrain and it will avoid them.

Level 2



Level 2 – Picture 3.2

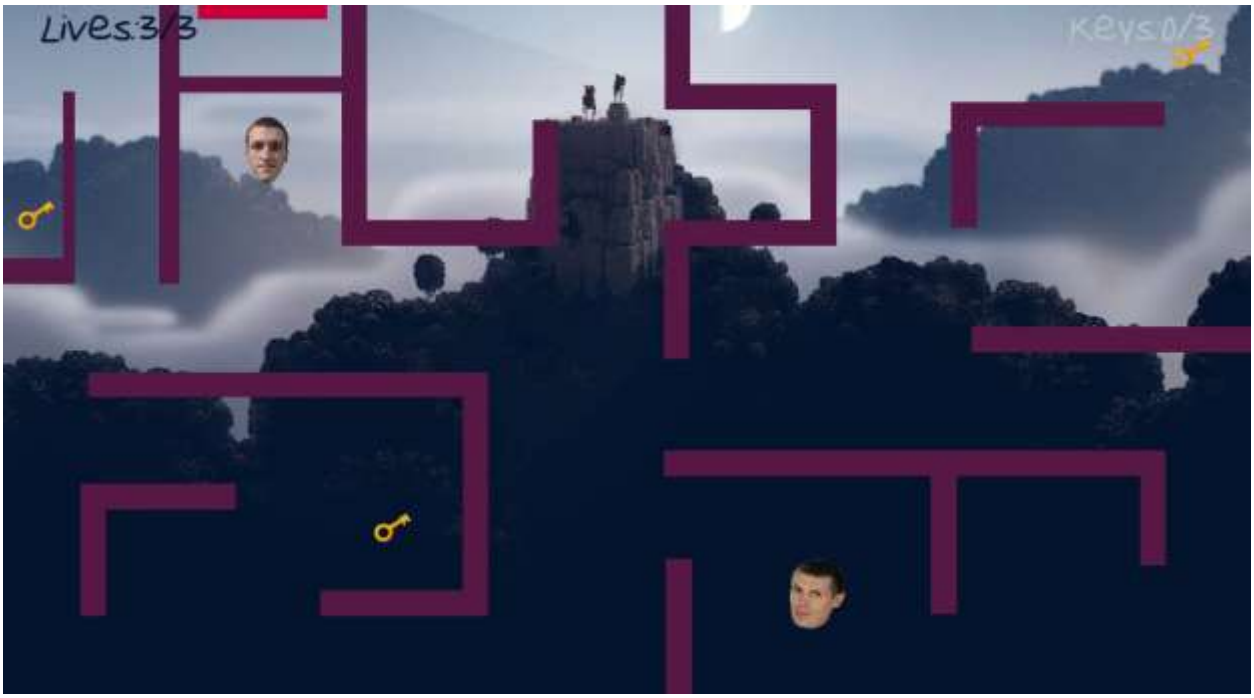
For the Level 2 (Picture 3.2) there is not much to say. Only level design is changed, everything else is same.

Level 3

Level 3 – Picture 3.3

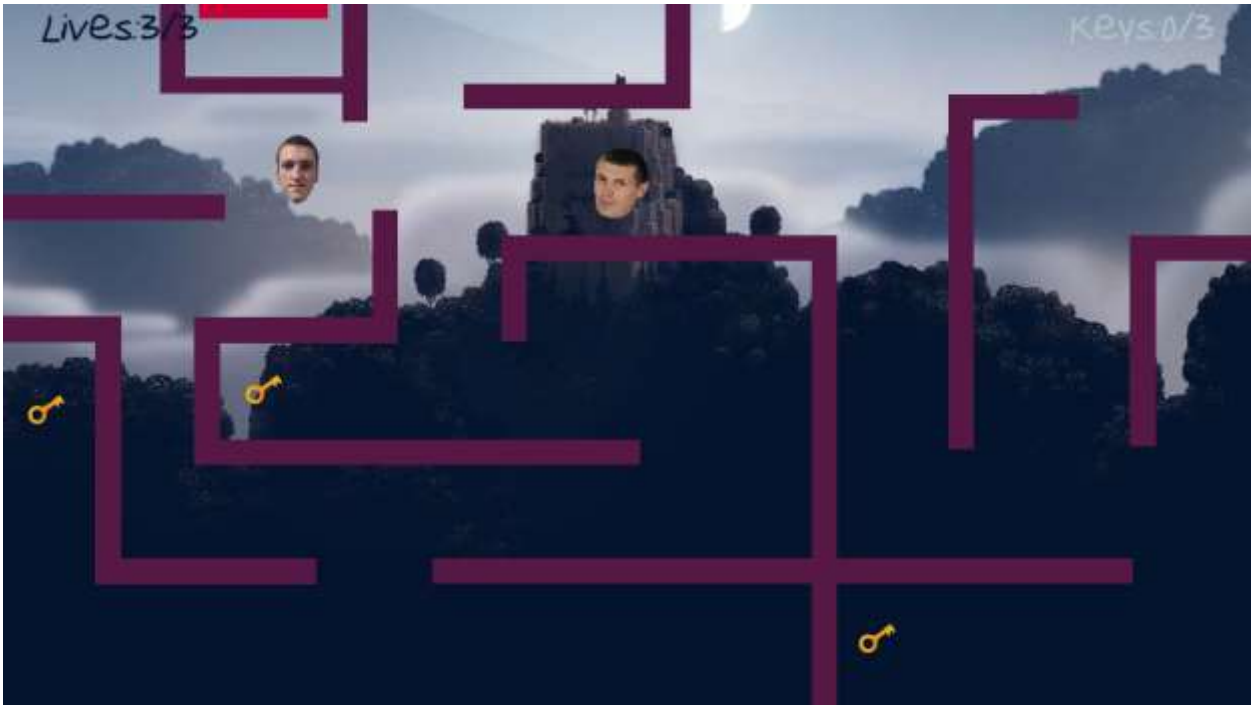
Things got complicated? There is a chance for bonus life, but be careful, Vlada runs fast.

Level 4



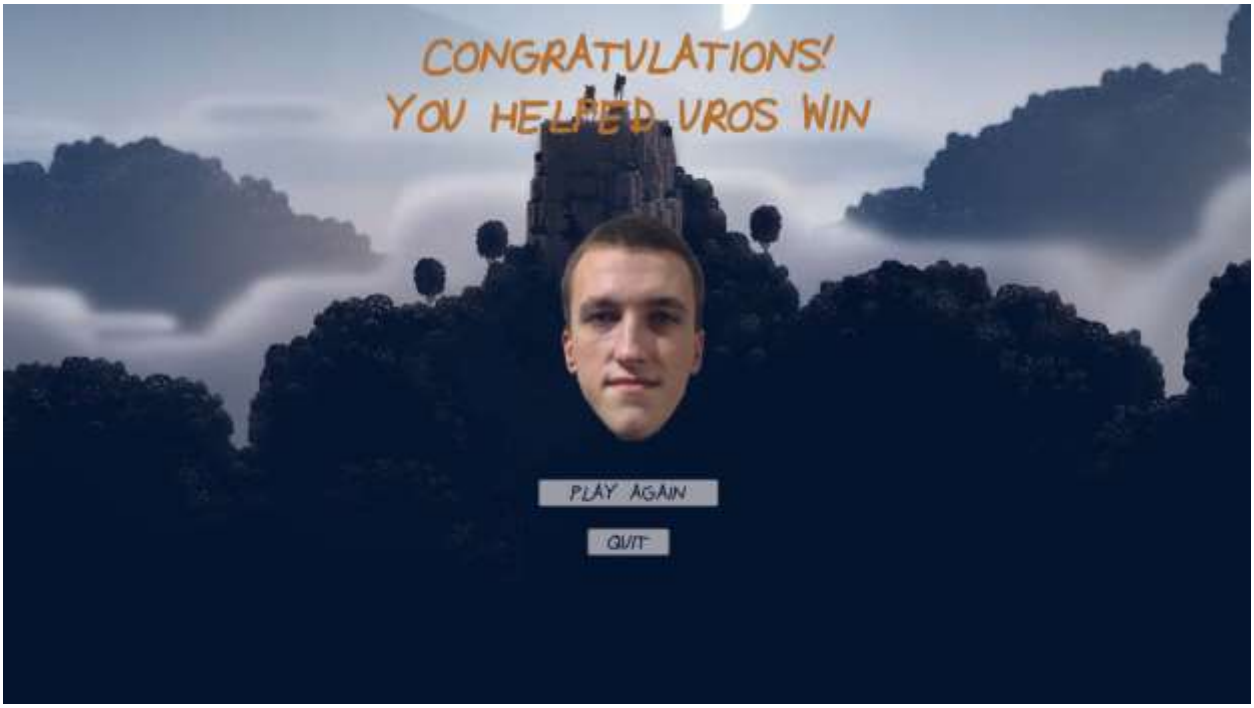
Level 4 – Picture 3.4

Level 5



Level 5 – Picture 3.5

Game Won Scene



Game Won Scene – Picture 3.6

Using only canvases on the scene. Options to play again or to exit the game. I have used canvases for the message on the top, two buttons and for the picture.

Game Over Scene

Game Over Scene – Picture 3.7

To make this scene I had to stop the game and to make a canvas on that screen. User interface is same, options for play again and to quit the game. This scene will be different, depends at what level you lost.

What sources I have used

Like every programmer, I have used a lot of sources to complete my game. I will list them.

-Unity Manual – Unity 2D (sprites, movement, physics, etc.), User Interfaces (UI), Animation, Unity Audio, and a lot more

-YouTube – I found almost everything what I needed on YouTube channel – Brackeys - https://www.youtube.com/user/Brackeys

-Stack Overflow – last, but not least. Everything what I have missed, or any bugs that I had, I searched on Stack Overflow.

While working on this game, I have upgraded my skill to build games in Unity with a C# technology. It was a nice journey, because I only knew the basics of the Unity, and I hope I will find time to upgrade it more.