Description of the test:

Implement a mini game. The visual aspect will not be evaluated so please use plain colors and basic forms.

Send to jesus@virtuallylive.com:

- Link to a public git repository with the project (github or bitbucket for example). If you don't know how to use github you can send a zip with the project.
- A zip with a windows x64 executable.

Notes:

- The code must be written for Unity 2017.2 or higher, in C#, targeting the stable runtime.
- You cannot use third-party plugins or the Unity standard assets. You can use frameworks or modules written by you.
- Be ready to explain anything related to the project.
- Take all the time you need until you are happy with the result and you are confident that it portraits your skills as a programmer.

The game:

The player will have to defend a position of the attack of some evil cubes during a time.

<u>The player</u>

- It will be in a central point of the stage
- Cannot move, but is able to look freely around: First and Third person cameras are available.
- Have a point of sight to aim, and will be able to shoot clicking with the left button
- Have a 'rear-view mirror', with which he will see what happens behind his back

<u>Enemies</u>

The evil cubes will appear around the player and they will move towards him in cube 'steps'. A step means that the cube have to rotate over an edge to advance changing the face of the cube touching the floor.

As the player depletes the cube health points with their shots, the color of the cubes will be fading, until the color has gone and then they will die.

If a cube reaches the player, it will die and cause the player to lose a variable amount of life, depending on the type of cube.

The cubes must not overlap each other. If one cube blocks the path of another cube, the cube must wait for the path to be free.

Types of enemies:

- **Simple cubes:** average size and average speed. They go towards the player in a straight line. They have an average amount of life and they deal average damage.
- **Small jumping cubes:** Small size, with small amount of life and they do little damage, but are occasionally able to jump.
- **Zig-zag Cubes:** They move a number of steps towards the player, changing direction to the left or right (alternating), and after another number of steps in that direction, they continue advancing towards the player, and repeat sequence. Average amount of life, average speed, and Average damage.
- **Titan Cubes:** Huge, very slow, and with a lot of life. Only one of these can appear at a time, and after eliminating a certain number of other cubes. It will do a great deal of damage.

Each type of cube will have a probability of appearance, except for the Titan, which will be based on eliminations of cubes. There will be an interval of appearances, and a maximum of live cubes on the screen, all configurable.

Weapons:

- **Machine gun:** High firing rate, each projectile deals low damage, average projectile dispersion.
- **Sniper:** Low firing rate, each projectile deals high damage, very low projectile dispersion.
- **Shotgun:** Average firing rate, throws several projectiles per shot, medium projectile damage, high dispersion.

You can change weapons using the keyboard or the mouse wheel.

Menus

The application only need a main menu with a 'Start Game' button and the game scene.

During the game, hitting the escape key will pause the game and give you the option to go to the main menu or resume the game.

The UI should reflect what is happening on the game, using Unity's basic labels and buttons.

Ending

The game ends when the player loses all his life or kills the titan.