

The purpose of this test is to overview your skills and code practices using the Unity engine. For this test you should not make use of any plugins/addons from the unity asset store.

## **Description**

The test consists of implementing a prototype of a first person shooter game, where you need to kill as many enemies within a time limit (60 seconds). You as the player will shoot enemies wandering around a level. Each enemy kill will give you points!

You can get assets from the following sites:

[www.mixamo.com](http://www.mixamo.com) (for 3d models and animations)

<https://opengameart.org> (for props and other assets)

## *Mechanics Overview*

In this game you should be able to navigate the room and shoot at enemies that spawn at random spots.

## *The world*

It will consist of a simple room with 4 walls and obstacles (boxes) on the way.

## *Player Controls*

Player moves using keyboard (arrow keys and WASD). You use mouse to aim and shoot.

## *Enemies Characters*

Enemies should have the following animations:

- Idle
- Walk
- Attack
- Dead

## *AI Behaviour (Enemies)*

Enemies will wonder around the world, and only attack if they detect the player within their field of view.

Enemies will react and attack the player when shot. When enemies reach 20% of health they will run away from player.

You might implement the AI through an FSM or Behaviour tree system.

- **Wander:** Entities navigate through level while avoiding obstacles on the way and avoiding walls as well.
- **Search:** Similar to Wander, but entities will also search for a target. (player) Once target is found they will change to chase behaviour.
- **Chase:** Entities will follow a target (player) until they have reached it.
- **Run:** When enemies have reached 20% of health, they might run away.
- **Attack:** Once target is reached, they will play an attack animation.

### *Object Pooling*

Projectiles and enemies spawn/despawn should be handled by a pooling system.

### *Weapons (plus)*

You can pick up weapons on the go and equip it.

### *Items and Power ups (plus)*

You can pick up health kits, or grenades that you can throw at enemies.