SilverCoders

DIGITAL LITERACY IMPROVEMENT THROUGH EFFECTIVE LEARNING EXPERCIENCES FOR ADULTS

CHALLENGE #25
TANK

CODING TRAINING PROGRAMME
FOR +55 ADULTS

SILVER CODERS

ERASMUS+ No. *2020-1-SE01-KA227-ADU-092582*

Co-funded by the European Union

STRUCTURE OF THE CHALLENGE

DESCRIPTION

This game follows the xample of the cannon game, as we are trying to shoot some enemies using projectiles.

GENERAL GOAL

In this challenge you are going to create a cannon-like game in GDevelop

LEARNING OBJECTIVES

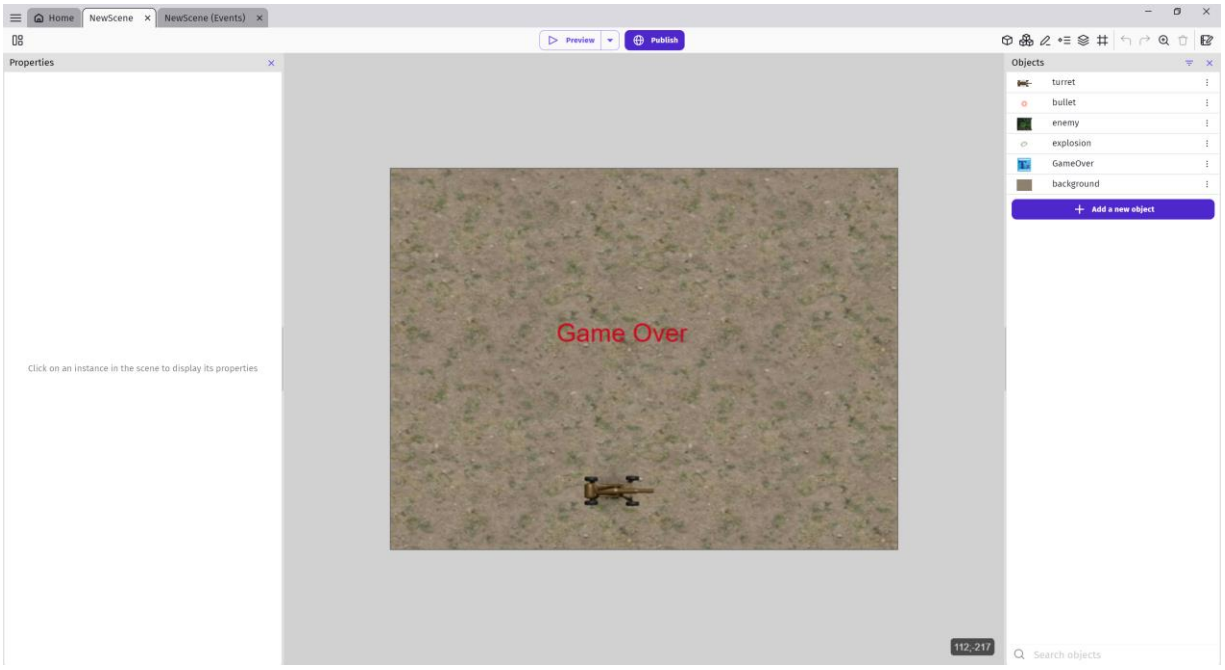
In the end of this challenge, you will be able ...:

- To have experience with a visual programming suite and be able to code standard small piece of software with it.
- Know what statements and command lines are and what they mean for a compiler.
- To be able to write instructions using correct syntax and with minimal errors.
- Know what operators are, what they do and which symbols stand for which operators.
- To be able to understand the assignment of values to variables and how to change them.
- To know all the basic arithmetic operations and how to use them.
- Recognize and know how to use all the data structures related to numbers.
- To know the structures linked to the use of text, such as strings and characters.
- To be able to use If statements correctly to execute code according to a certain defined fixed condition.

INSTRUCTIONS

This is your initial setup. In this case we just provided the basic objects that you'll need for the game. These are:

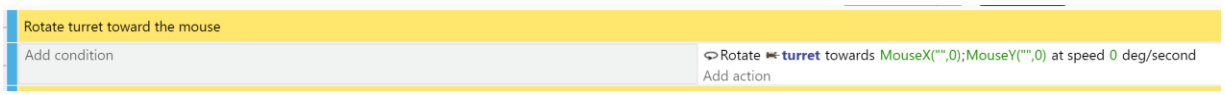
- **turret**: our tank
- **bullet**: the bulletes we fire
- **enemy**: the enemy tanks
- **explosion**: the effect when we hit an enemy
- **GameOver**: a text box that appears when the game ends (but you can see it now!)
- **background**: the ground for the battle



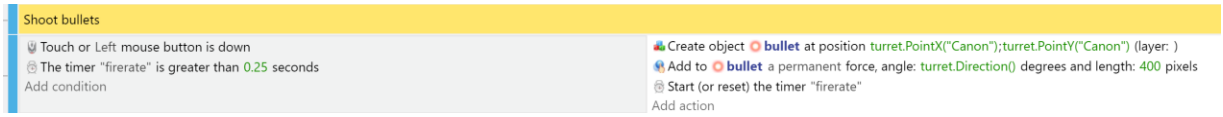
Our objective is to create a game where enemy tanks will appear and will try to destroy our tank. The game will have just one level of difficulty but you can try to add more difficulty levels yourself.

In the Basic game scenario we left comments as hints for the events we are going to need. Let's start!

Our initial code relates to the actions of our tank. The firs one relates to guiding the cannon of our tank towards an enemy. We will make the cannon follow the mouse cursor position.

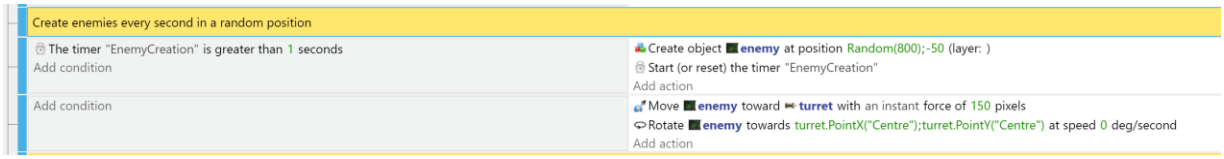


Next we deal with firing the cannon. When we press the left mouse button, a bullet is created at the cannon endpoint and we will apply a force to it in the current cannon direction.

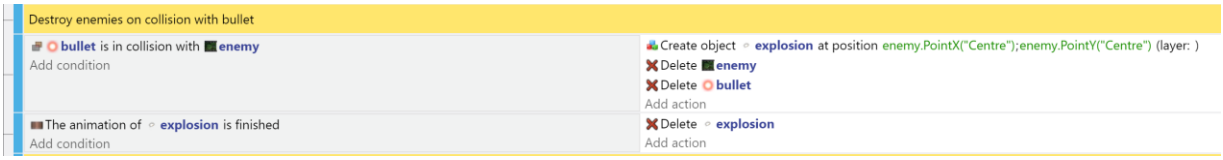


We also added a timer to it. Can you explain why?

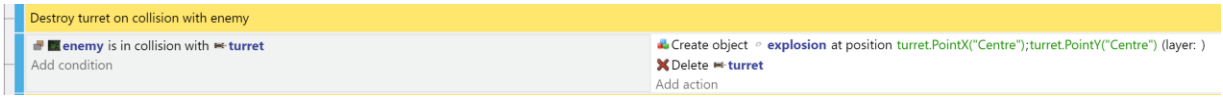
Next we are creating the enemies. They will spawn every second (the timer “EnemyCreation” is there for that) on a random position slightly above the image. Then we will make the enemies move towards our tank.



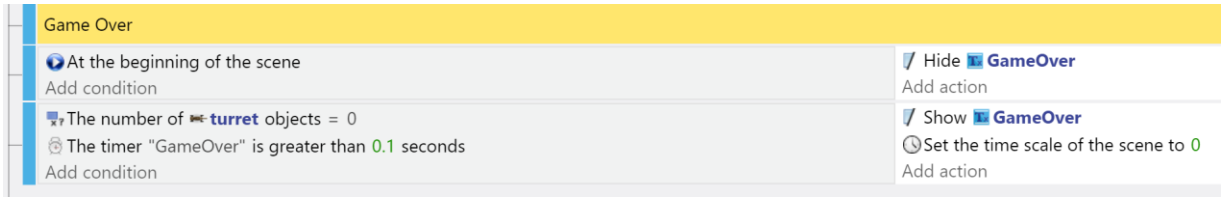
Did we hit any enemy? Let’s destroy it and the bullet and show the explosion.



Did the enemy destroy us?



It is Game Over...



How about creating a score that counts how many enemies we destroyed?

For the more advanced ones: what happens to the bullets that do not hit any enemy? What should we do with them?

RESOURCES

Challenge 25 (Basic)