

**SilverCoders** EMPOWERING SENIORS

DIGITAL LITERACY IMPROVEMENT THROUGH EFFECTIVE

LEARNING EXPERCIENCES FOR ADULTS

# Challenge #21 Cannon

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

**CODING TRAINING PROGRAMME FOR +55 ADULTS**



STRUCTURE OF THE CHALLENGE

## DESCRIPTION

You were provided with a setup that is meant for you to recall the most important elements of the Gdevelop environment: the scene, objects, forces and the sheet of events. The events available allow you to move the cannon and shoot a ball. You will then be asked to improve the game, making it more dynamic (the player has to destroy a target).

## GENERAL GOAL

In this challenge we are going to add some obstacles to the game and then create a game to destroy them.

## LEARNING OBJECTIVES

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

* To understand how code is treated by a computer and what is the role of a compiler.
* To be familiar with the concept of low and high level languages and understand what their differences are and what is required to code in either of them.
* 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.
* To understand the concept of Force

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| INSTRUCTIONS |
| Use the **File** menu to **open** the Challenge 21 – Basic game  This should be what you get   * Press the **Preview** button to play the game. You can move the cannon and shoot balls to get a feel how it works * Repeat the game as many times as you want. To repeat you have to close the game window and press the **Preview** button in the editor. * Now that you know what are the game mechanics (what you can do in the game) let's see how it is done.    * The first event moves the cannon towards the X and Y position of the mouse cursor * The second event checks for a press on the left mouse button and then creates a ball and shoots it in the direction of the mouse cursor by applying a **Force** to the ball. * Let's create now a target for the cannon. Do **Add new object, Search Asset Store** and choose a rock from **Foliage Pack.** Call the Sprite **Rock.** Place it between the crate piles. * Now, we must check if the cannon hits the rock.      * Play with the value of the **Force** so that the ball is not fired so high. * Now, it is up to you to do the following   + Create a counter to know how many balls were fired until we hit the rock   When the player successfuly destroys the rock give him/her the option to restart the game or to exit. Go back to Challenge 20 for information. |

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| RESOURCES |
| Challenge 21 (Basic) |