

# T-JAV-501

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## Description

Project name	2D Game
Suggested Team size	2-3 students
Theme	Dev OOP
Suggested language	Java
Specific hardware needed	no
Specific resources needed	no

## Goal

This project is a 2D Tower Defense game. Your main challenge for this game will be to create a nice and smooth user interface.

Your game must follow the following rules:

- The player is a builder who must defend his castle,
- Enemy waves will regularly appear from one side of the playground,
- The player must buy and place buildings on the playground grid to kill enemies,
- When the castle is reached by an enemy, it takes damages,
- If the castle reaches 0 hit points the player loses.

## Requirements

### Mandatory

- the game manages the input from the mouse click and/or keyboard.
- the enemies have to move in a pattern (e.g. line).
- Towers and Enemies have to respect Oriented Object concepts (Abstraction, Interface, etc...).

### Must

- different types of towers (e.g. normal, slow, fire, long range, zone)
- different types of enemies (e.g. basic, speed, large, boss)
- the way the enemies move, can be different than the line pattern (e.g. U turn, left right turn)

### Could

- a starting menu with at least two buttons, one to launch a game, and one to quit the game.
- an **escape** key to pause the game when launched.
- a menu when the game is paused with at least three buttons, one to resume the game, one to go to the starting menu and the one to leave the game.

- ## Map example

[illegible]