

Desenho e Desenvolvimento de Jogos Digitais

## **Preliminary Project - TEUP to Survive**

Grupo A1

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# Description

TEUP's (Tuna de Engenharia da Universidade do Porto) mascot (a tiger) tries to become stronger and dominate FEUP's garden, picking up instruments for the tuna, getting some beers and scaring off people trying to avoid that. Be careful out there, it roars when it's angry to reach its goal!

Our background consists in FEUP garden, with some changes to avoid some graphical illusion with the pattern. The scenario moves with a tiny speed (or scroll) increment.

Our player is the TEUP's mascot: the tiger Camilo. It can "shoot" roars and move up and down, just like a jetpack.

For collectibles, we chose a variety of instruments and objects related to the tuna. All of them have a rotation animation to avoid some rigidity playing the game. When the player catches a collectible, there is a pop-up informing the score increase with that catch.

We have 3 types of power-ups:

- Continuous Fire, represented by a beer, increases the fire rate ("roar" rate) of the tiger from 0.5 to 0.2 for 5 seconds;
- Temporary shield, represented by a bottle of water, giving a shield against every obstacle and enemy for 5 seconds;
- Magnet, that magnet collectibles for 5 seconds.

On the last 3 seconds of every power-up, we added a blink effect to warn the player that the power will end soon.

We have 2 types of obstacles:

- Ground Obstacle, represented by rocks and trees. The size of the trees can vary. These obstacles are static and stuck to the ground.
- Flying Obstacle, represented by red and white birds. These obstacles have wings and movement animations, just like collectibles, to avoid rigidity.

Player shots cannot destroy any obstacle but the shots are destroyed by the obstacles when they hit them.

There is 2 types of enemies:

- Security Guards: they also use a jetpack and can shoot at the player. Player shots can only destroy the enemy itself, and not their shots. It stays alive until the player destroys it.

- Teachers: they follow player movement for a while and then shoot 2 rows of pens in player direction. Player shots cannot destroy either the enemy or the pens.

Regarding spawn structure we created 3 complete templates to spawn containing obstacles, collectibles and power ups and we also created 5 templates only for collectibles. Our logic is the following: we randomly generate elements of the complete templates, after we generate 10 or more elements we spawn one of the two enemies. While the enemy is alive we spawn collectibles or power ups, collectibles are spawned with a chance of 75%. Then we repeat all the logic.

As our theme is about music, we cannot do a game without sound. We decided to only put background music instead of using a specific sound for every game action, to give more emphasis to the theme.

Our score system gives 2 points per second to the player and 10 points for each collectible caught. We do not have any decrease in points, because we do not have any life system to do that.

We have 6 menus: Main Menu, Leaderboard, Controls, Pause, Game Over and New Highscore. The Main Menu appears when we initiate the game and from there we can play the game, access the Leaderboard Menu that shows the leaderboard, access the Controls Menu that shows the controls to play the game and we also can quit the game. The Pause Menu can be accessed when we are playing the game and we press ESC, when we are there we can Resume the game by pressing either ESC or selecting Resume option, we can access Main Menu, Controls Menu or quit the game. The New Highscore Menu shows up when the player loses the game and he reaches one of the top 5 scores in leaderboard, in here the player has to enter a name that will show up in the leaderboard with the score obtained. The Game Over Menu appears when the player loses the game and he has not reached a top 5 score, or after he entered the name in New Highscore Menu.

If the player does a Top 5 score on the leaderboard, the game asks for player name input to put it there. If it is not the case, there is a game over message and consecutive transition to the main menu.

# Installation

1. Download the game from: <https://diogoabnunes.itch.io/teup-to-survive>
2. Unzip the game
3. Run "TEUP to Survive.exe"

# Instructions

- SPACE: player jetpack movement (up and down)
- ENTER: player fire
- ESCAPE: pause and resume the game
- MOUSE: menu actions (start game, pause, leaderboard, controls, exit)

# Resources Used

## Sprites:

- Tiger (<https://opengameart.org/content/tiger-0>)
- Tiger Shield (<https://opengameart.org/content/shield-aura-effect>)
- Teacher (<https://opengameart.org/content/teacher>)
- Security Guard  
([https://www.spritters-resource.com/game\\_boy\\_advance/heyarnoldmovie/sheet/72573/](https://www.spritters-resource.com/game_boy_advance/heyarnoldmovie/sheet/72573/))
- Security Guard Shots  
(<https://opengameart.org/content/bullet-enemy-game-character>)
- White Bird (<https://opengameart.org/content/bird-cute-bird>)
- Red Bird (<https://opengameart.org/content/bird-and-explosion>)
- Rock (<https://opengameart.org/content/rock-pile>)
- Tree (<https://opengameart.org/content/tree-with-roots>)
- BackGround  
(<https://opengameart.org/content/bevouliin-free-beach-game-background-for-game-developers>)
- Musical instruments (<https://opengameart.org/content/cc0-music-icons>)
- Power-Ups:
  - Water (<https://opengameart.org/content/bottle-of-water>)
  - Beer (<https://opengameart.org/content/beer>)
  - Magnet (<https://opengameart.org/content/magnet-animated>)

## HandMade Sprites (using the above resources):

- Made in Paint3D
  - BackGround
- Made in Piskel (<https://www.piskelapp.com>)
  - Tiger with JetPack
  - Tiger Shots
  - Unstoppable Effect
  - Magnet Effect
  - Security Guard with JetPack
  - Teacher with JetPack
  - Teacher Shots

## BackGround Music:

- TEUP- Engenharia ([https://www.youtube.com/watch?v=qoW02pJb\\_Zs](https://www.youtube.com/watch?v=qoW02pJb_Zs))