

RACE²



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Introduction

RACE ²

The typical human reaction time is between 200 and 300 milliseconds. In some situations the reaction speed can be critical. Luckily we can train and enhance it. That is exactly what our game is trying to achieve, while combining the useful with the pleasant. What seems to be just an easy, fun game does, in fact, also train one's reaction speed. What keeps the player truly entertained is being able to keep track of their progress with the help of scores, among other things.



FEATURES

Our game, a retro style arcade racer, brings a lot of features, such as:

- Multiple cars with their own handling
- Maps from different biomes
- Appealing pixel art graphics
- Pleasant music
- Brightness adjustment (for both LEDs and display)
- Scoreboard to keep track of your improvement

Install Instructions

(If you're not using your PyBadge for the first time, some of these steps might be unnecessary)

Step 1: Install the Arduino IDE and the necessary „Adafruit Arcada“ packages for the PyBadge.

<https://learn.adafruit.com/adafruit-pybadge/using-with-arduino-ide>

Step 2: Connect the Micro-USB Port to a power source and turn on the power button (see next slide).

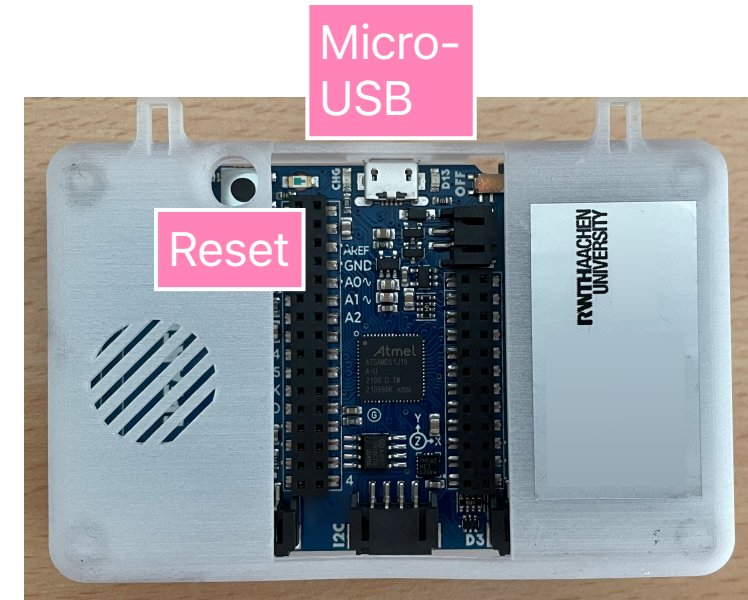
Step 3 (if you want music): Install CircuitPython, move the attached audio file (music.wav) to a /music folder on the device.

<https://learn.adafruit.com/adafruit-pybadge/installing-circuitpython>

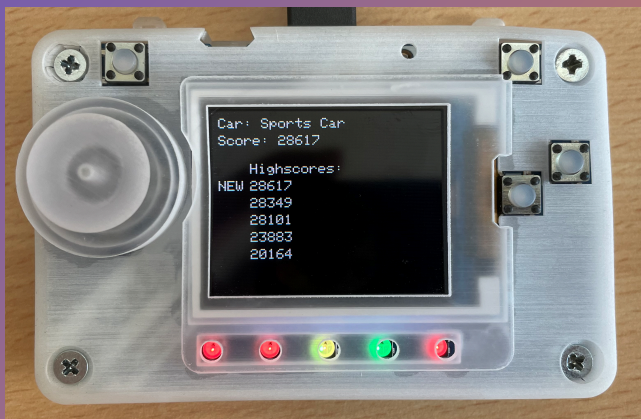
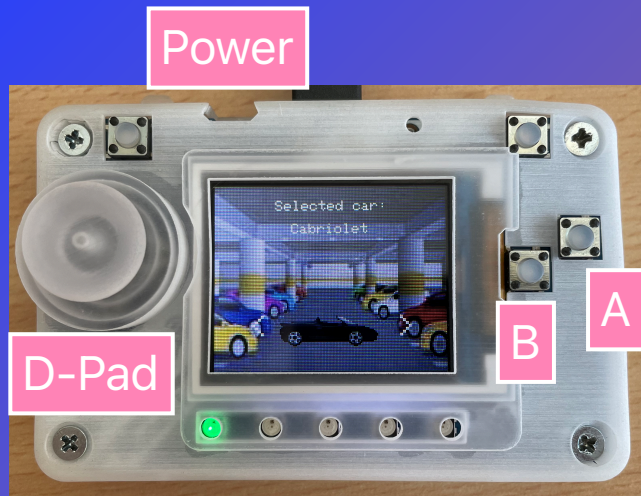
Step 4: Update the Bootloader.

<https://learn.adafruit.com/adafruit-pybadge/updating-the-bootloader>

Step 5: Upload the RacingGame.ino with the attached .h files in the same directory to the PyBadge.



For using a boot loader and on crashes, the Reset-button is your best friends



How to play

When first starting the game, you will find yourself in the main menu.

You can **navigate** through it by the **D-Pad** on the left, and additionally the buttons **A (Select/Confirm)** and **B (Back/Cancel)** on the right.

Here you can start the actual gameplay, select a car in the garage or change some settings.

During the gameplay, you will find that your car **accelerates by itself**, but is unable to shift the gear. This will be your job!

The 5 LED's on the bottom of the device will subsequently turn on.

You will find that when the **green (4th) LED** lights up will be the right time to shift the gear by pressing the **A button**.

If you're too fast, your engine will rev too low and you won't accelerate fast enough.

If you're too slow, you will waste precious time on high revs, while you could be accelerating faster.

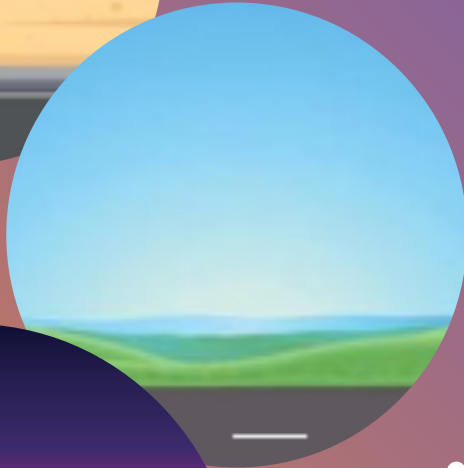
Will you master your gears?

RACE²

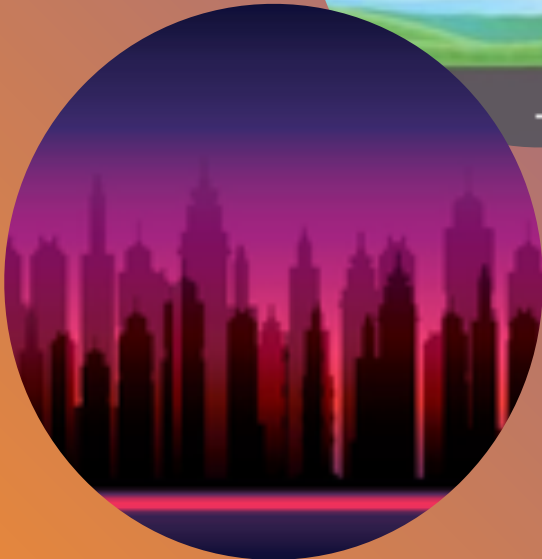
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This game has been created during the
Multimodal Media Madness (M3) practical lab
at **RWTH Aachen**

Sources:

<http://clipart-library.com/>

<https://opengameart.org/>

<https://downloads.khinsider.com/>