Engenharia Informática e Multimédia

Portable Game Console

#12

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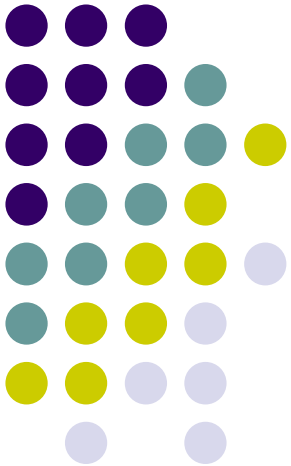

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Motivation

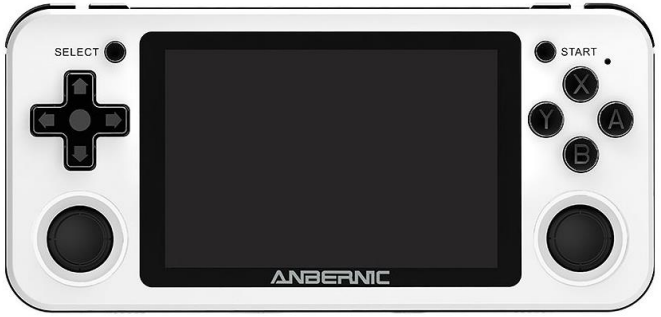
- Nostalgic consoles
- Learning by doing
- Using acquired knowledge in a real scenario

What already exists

PiBoy DMG

Retroid Pocket 2

Anbernic RG351P



What we want

We want our console to be different.

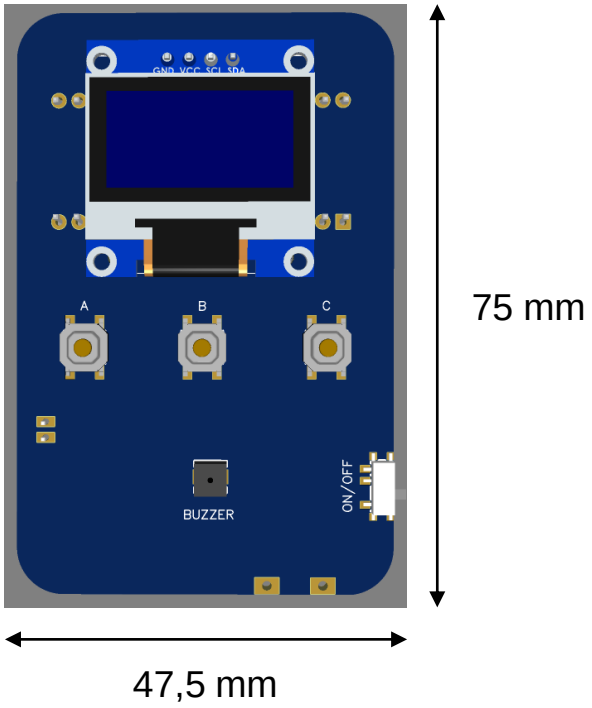
We want the player to be able to learn both the software and hardware aspects of the console.

The console must also be:

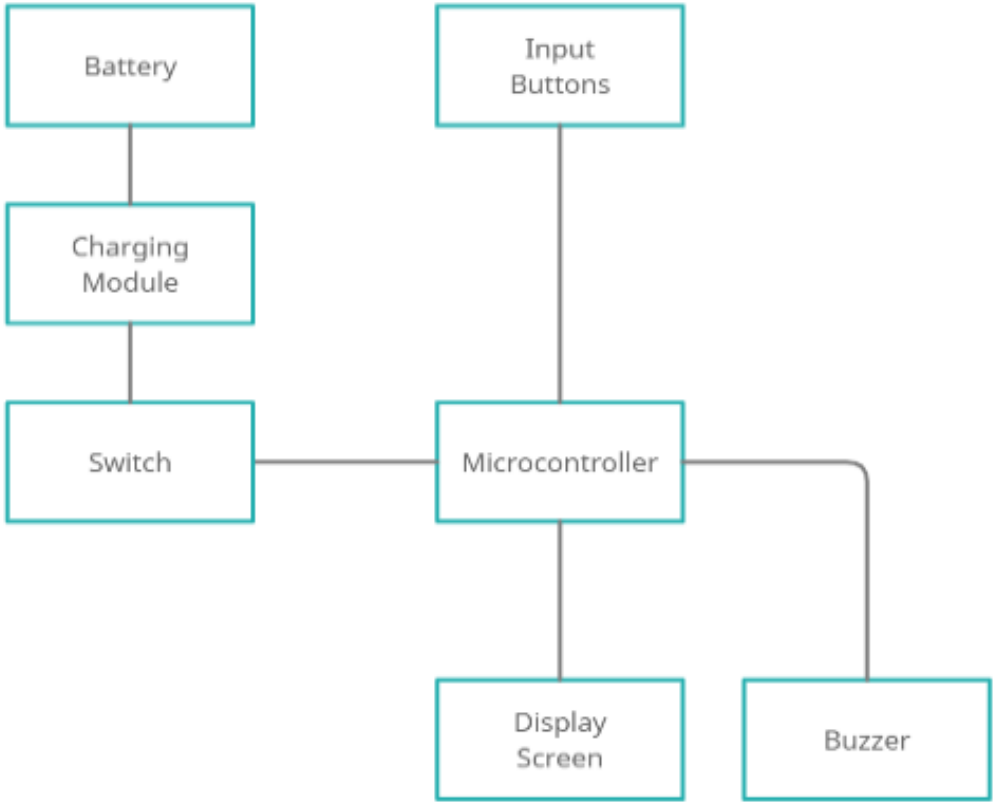
- Easy to use and learn
- Expandable
- Open-source
- Affordable

Target audience:

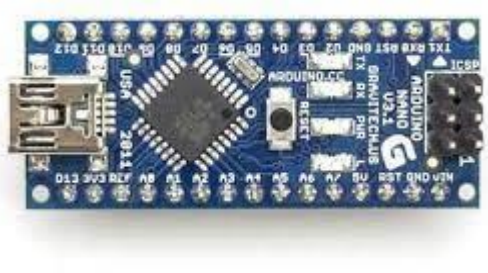
Children and young adults



Block Diagram



Components

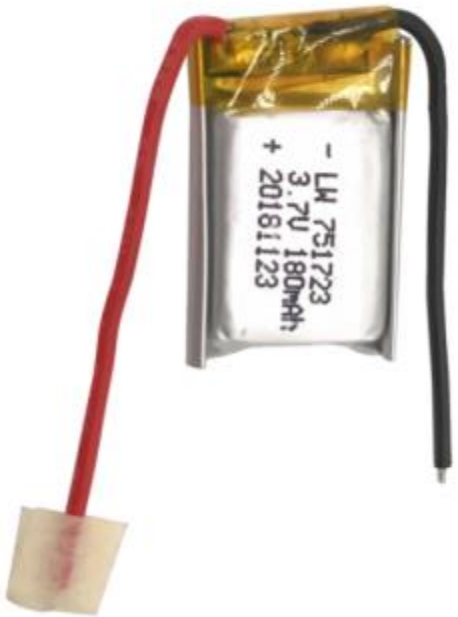


PCB Size	18 x 45 mm
Flash Memory	32 Kb
SRAM	2 Kb
EEPROM	1 KB
Analog Pins	8
Digital Pins	22

Color scheme	Black and white
Resolution	128 x 64 points
Dimensions	27 x 27 mm
Connection	I2C

Components

Main board designed with EasyEDA



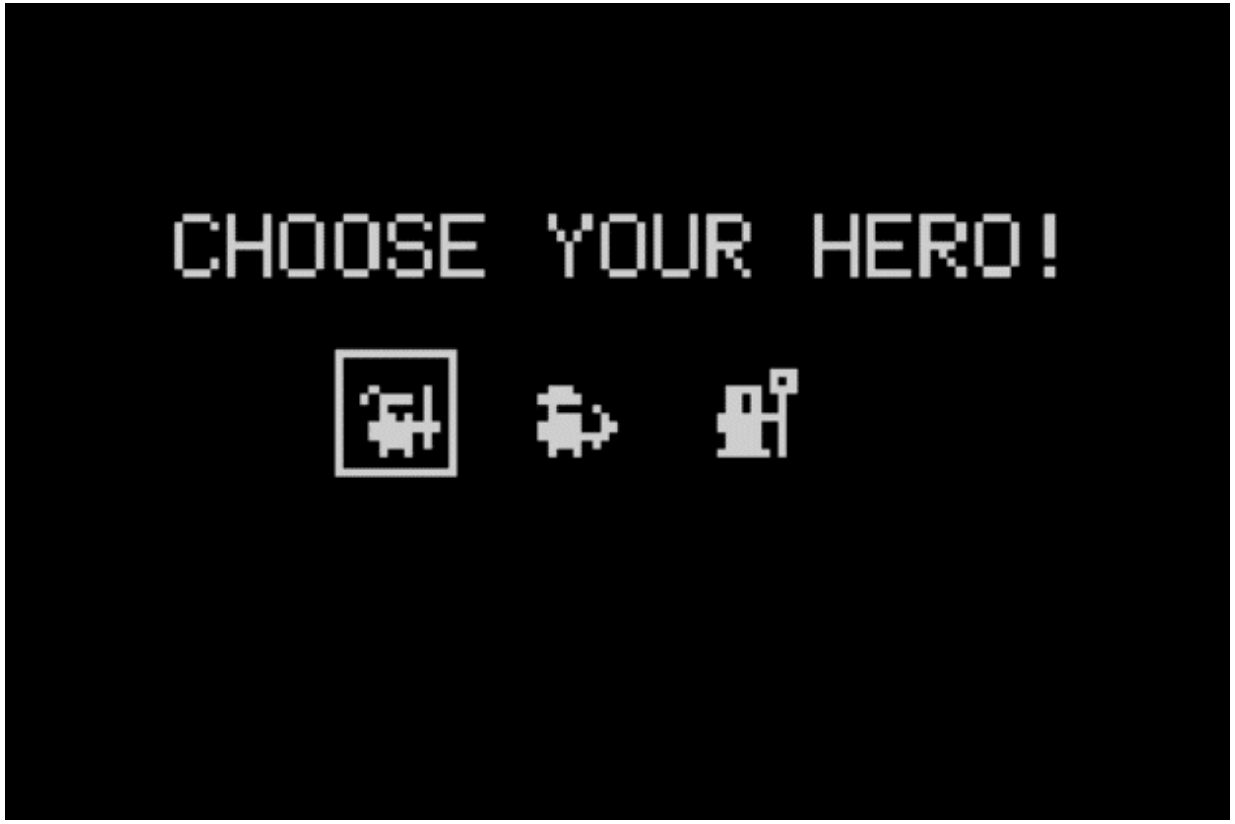
Other components to explore…

Game development

Apart from the console, we are developing a game

- Arduino IDE, C++
- Arduboy library
  - Uses the Arduino architecture
  - Easy graphics and animation design
  - Extensive documentation
  - Active online community

Game



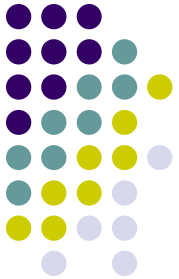
In conclusion

What we have done

- Designed an initial version of the PCB
- Developed the basic mechanics of the game
- Tested everything with limited components

What comes next

- Iterate schematic and PCB design
- Order and test main board and components
- Implement game features:
  - New enemies, items and interactions
  - Reward system
  - Balancing the combat system
  - Highscore table



Thank you!