Zappy

User documentation

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     - **Epitech Promotion Nantes 2027. 2nd year.**

2. **Useful links (users)**
    a. Github: https://github.com/FppEpitech/Zappy

3. **The project**
    The Zappy is the 2nd year's end year project, realized in five weeks by a group of six students. The goal is to create a simulation, the world of Trantor, where the Trantorians play by teams. They are controlled by Artificial Intelligence. They eat food, collect stones, lay eggs to allow new players to join their team… the end goal is to get their team to level 8. When they have enough stones and enough players in the team, they must regroup and make an incantation to reach the new level. The project consists of a Graphical User Interface (GUI) in C++ allowing us to visualize Trantor, a server made in C to manage the simulation and an Artificial Intelligence (AI) in the language of our choice (Python) controlling a player.

4. **Dependencies**

Make sure the following requirements are installed on your system:

- G++ (C++ compiler)
- Make
- Raylib
- python3
- python3-virtualenv
- Coverage
- Git (Correctly set up)
    - In doc/ ai/ gui/, you can execute this shell command "**make install-deps**" to install some of the requirements if necessary.

5. **Install + run the Zappy**

You will find more details on how to run the zappy in the concerned folders ai/ gui/ server/

- Open terminal
- Type "**git clone git@github.com:FppEpitech/Zappy.git**"
- Type "**cd Zappy/**"
- To compile the Zappy type **"make"** or "**make re**"
- To run, you must launch the 3 parts of the project, open 3 terminals in the Zappy/ folder.
  - In one type "**./zappy_server -p 3200 -x 10 -y 10 -n name1 name2 -c 10 -f 10",** refer to server/README.md to discover more or "**./zappy_server -h**".
  - In one type "**./zappy_gui -p 3200 -h 127.0.01",** refer to gui/README.md to discover more or "**./zappy_gui -h**".
  - In one type "**./zappy_ai -p 3200 -n name1",** refer to ai/README.md to discover more or "**./zappy_ai -h**".

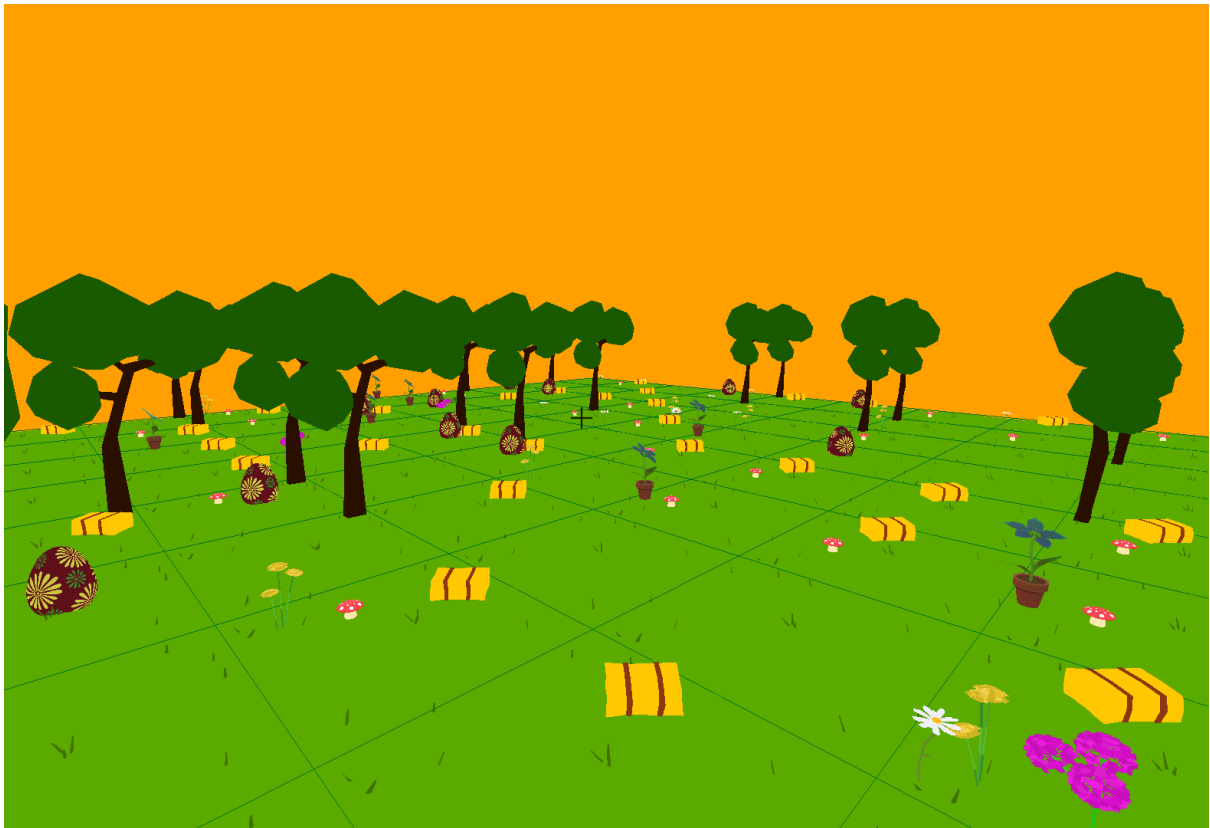You should now see a player on the Graphical Interface.

6. **How to play**

You can press the key "H" to see the keys in the GUI.

Global Controls

Z	Move the camera in the space
Q S D	
␣	Move the camera up
LSHT	Move the camera down
3 F3	Switch on/off the debug display
R	Reset the HUD from tile view to game view
H	Switch on/off the help HELP
J	Increase the render distance
K	Decrease the render distance
+	Increase the time unit
−	Decrease the time unit
🖱	Select the player point of view
🖱	Select the tile to display its HUD

Player Controls

4 FS	Change the player point of view
␣	Get off the player point of view
🖱	Switch to the next player
🖱	Switch to the previous player
V	Switch on/off the player vision

7. What you can see on the game

Tile
Food: 1
Linemate: 0
Deraumere: 0
Mendiane: 0
Phiras: 0
Sibur: 0
Thystame: 0
Players: 0
Eggs: 0

You can enjoy all those resources you can take, with the food.

Example of the map.

This is a player controlled by Artificial Intelligence.

8. How do trantorians evolve

Trantorians play by teams, to level up, the teams must have the following requirements before gathering together on a tile, dropping needed resources to achieve the invocation (Number of players, stones…).

elevation	nb players	linemate	deraumere	sibur	mendiane	phiras	thystame
1->2	1	1	0	0	0	0	0
2->3	2	1	1	1	0	0	0
3->4	2	2	0	1	0	2	0
4->5	4	1	1	2	0	1	0
5->6	4	1	2	1	3	0	0
6->7	6	1	2	3	0	1	0
7->8	6	2	2	2	2	2	1