Requirements for Power-ups - S2

By group 26 - The Fishermen

In assignment 2 we are allowed to create our own feature for our game Fish.io. The feature we've chosen is power-ups!

      The requirements are listed in the same way as our game, so we will use the MoSCoW method. Firstly, the functional requirements of the power-ups are listed as must, should, could and won't haves. Secondly, the non-functional requirements are listed.

Functional Requirements

1.1 Must haves

- The game must place certain entities, in the future to be called "power-ups" on the playing field from once every 30 seconds (that value may be subject to change).
- There must exist at least three different types of power-ups, possible power-ups can be found under 1.3 Could haves. There aren't better possibilities than others, therefore it doesn't matter which three are picked. What is important is that there is a variety of power-ups.
- When the player fish collides with a power-up, the effect of that power-up type must take place. The effects of different power-ups can also be found under 1.3 Could haves.
  - The effects of the power-ups must be positive for the user.
- Each different power-up type must have its own sprite, so that the user can distinguish between different effects that will take place. The sizes of these sprites must be the same.

1.2 Should haves

- The sprite should contain a symbol in its middle that corresponds to the effect of that power-up.
- The power-ups should move across the playing field from top to bottom or bottom to top, so that the user will have a more difficult time picking them up.
- There should exist at least five different types of power-ups.
- The logger of the game should support every event to do with power-ups.
- The help screen should inform the user of the different types of power-ups they can obtain.

- Possible power-up types (with approval from other team members, more possibilities could be added to this list) :
  - A power-up that freezes all enemy fish for a short period of time.
  - A power-up that makes sure that all enemy fish that spawn, will have a size smaller than the player fish, for a short period of time.
  - A power-up that greatly increases the acceleration and maximum speed of the player fish for a short period of time.
  - A power-up that increases the acceleration of the player fish by a small amount, permanently.
  - A power-up that increases the maximum speed of the player fish by a small amount, permanently.
  - A power-up that increments the amount of lives the player fish has left, if it's not maxed out already.
  - A power-up that makes the player fish invincible for a short period of time.
  - A power-up that makes all enemy fish smaller than the player fish swim towards the player fish for a short period of time.
  - A power-up that makes all enemy fish larger than the player fish swim away from the player fish for a short period of time.
- The user could get certain achievements from picking up power-ups.

1.4 Won't haves

- A power-up that instantly increases the score.
- A power-up that instantly increases the growth of the player fish.
- Power-ups that affect the game speed (ticks per second) or render speed (frames per second).
- Power-ups that have a negative effect.

Non-functional requirements

- The powerup classes will have to adhere to the same non-functional requirements of Fish.io itself (except for the date of delivery).
- A first, fully working, version of the power-ups shall be ready and submitted to the staff of the course on the 25th of september.