Hungry_Shark_Design_Develop_Process&Colusion

Design && Pre-Dev

Firstly , I would like to analyze the requirements of the game:

1.**target users** : 7-8 years old children
- could read and write simple words
- could be attracted by colorful and cartoon style game objects and characters.
    - overall style: cartoon, colorful, adorable, simple
    - UI: better to use image for explanation game rules than using words

2. **game platforms** : From my understanding, most 7-8 kids would like to use tablets and smartphones. Maybe computer and keyboards are too early for kids in this age
- user input method: mouse click/ finger tap
  (but in today's test, since I used a desktop and keyboard to develop the simple game in a very short time, using keyboard to input is ok. But that could be improved later.)

3. **Functionalities**:
- a shark as the main character that could be controlled by the players.
    - init HP =200;
    - controlled by keyboard (a/s/d/w)
    - collide with target fish/ poison fish, gain/lose hp, fish/ poison fish destroy
- at least 2 types of fish:
    - target finish: shark eat the target fish gain hp (+50)
    - poison fish: shark eat the target fish lose hp (-20)
- Fish AI:
    - generating fish randomly from left to right/ right to left/ random position on the edge
    - destroy when move outside the screen border
- an hp bar shows the hp change in a visible way that better than numbers to 7-8 kids
- a series of UI images that shows the game rules
- a undersea background
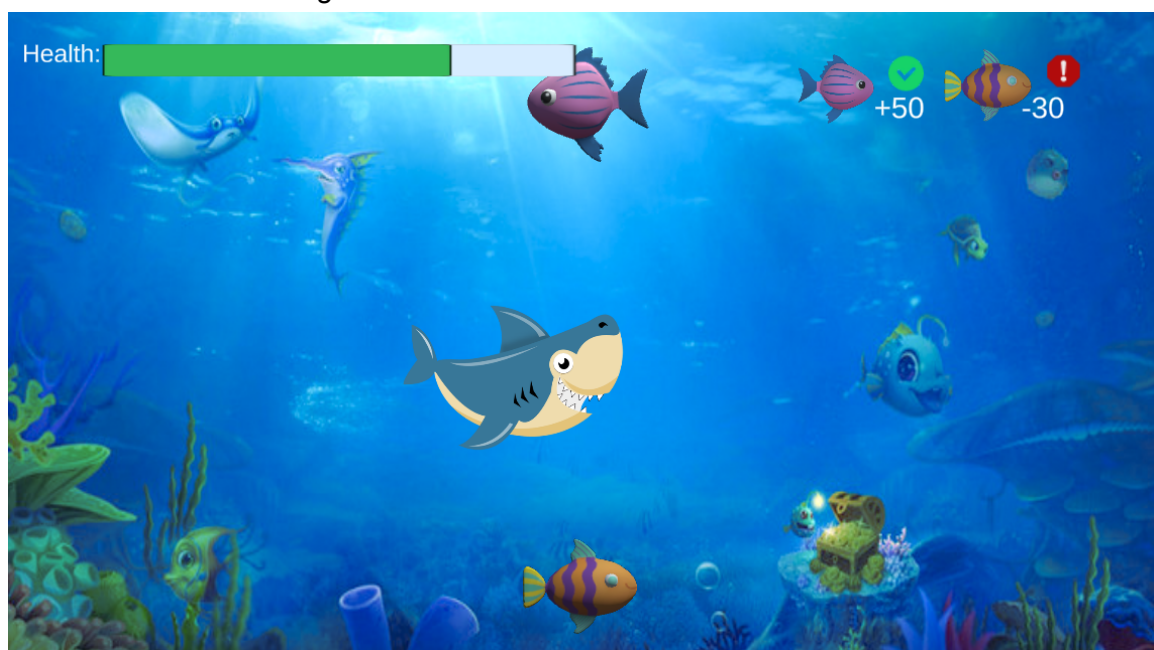
//====================New_Updated_after_submission===================

Design Process:

Firstly, I came up with the idea of using 3D assets IN 3D scenes, since 3D games are more popular among kids between the ages of 7 to 8. And that is the style the test company currently uses. So I start to find some 3D assets in the assets store, that takes some time.

But I changed my idea very soon because I realized that, if I made the game in 3 dimensions, that means a huge undersea world could be explored. That would be very cool if this is an adventure game. However this is a game developed for kids within 4 hours. The operation for an open explore world would be a little bit hard for a kid around 7 or 8. and the asset size would be huge for this test.

So I decided to use a 2D background with 3D fishes, for a better style and visual effects. Actually the change of the idea took a lot of time, since I have already added the 3D undersea scene with some scripts. However I believe the new version of the game works better for kids with a smaller size.

Conclusion & Could be improved:

I have achieved most features, the only feather I think I did not achieve is the health bar on the UI Canvas that did not change with the Hp value due to the time limitation. But I have implemented the calculation for health value functions in script.

Another problem is The shark's image is different from other fishes. Because I cannot find a 3D cartoon shark that is similar to the tropical fishes I found in the asset store, so I used a 2D image instead.

Exceed the Time Limit:

I am very sorry for the late submission. I thought this test would be an algorithm test, so I reviewed algorithms and data structures before the test. And recently I just updated my computer desktop to learn UnReal Engine. So the systems and software on my current computer are all new set. I had to download and install unity engine and git Desktop during the test, so it really took a long time.

I know that couldn't be the excuse. but I think I enjoy the process of solving problems for this test, and have worked out most of the features. I am a person who doesn't like to give up and would like to finish a work with a good beginning and good ending. So I understand my failure in the test exceeded the time limit. but I would like to submit it as a good ending and thanks for your company.

Updated by 2022_11_04 7:12pm