Photo Diver

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CSS 450 Final Project Proposal

Purpose

Photo Diver is a simple interactive game where the player's objective is to photograph different fish without getting eaten by sharks. There is a required number of photos that the player must accumulate to advance to the next level.

World Objects

The world contains Divers, Sharks, Fish, and decorations. The decorations are non-interactive. These can include seaweed and other vegetation.

Diver Object

The diver is under constant user control. It can move up/down, left/right and can photograph a fish. To photograph a fish, the camera is readied. Readying the camera will cause the diver to slow down, but the capture area is displayed. The user can then issue a photograph command, which will capture any fish within the capture area. The fish will flee quickly off screen after being captured (and will not interact with the environment)

Diver Controls

- Up – Up arrow and "w" key
- Down – Down arrow and "s" key
- Left – Left arrow and "a" key
- Right – Right arrow and "d" key
- Ready Camera – Spacebar
  - Position Camera – Use the mouse to indicate the orientation of the capture area
- Photograph – Spacebar (after ready)
- Return to Boat – Swim up to the surface, near the boat to replenish air supply
- Advance to next level – Return to boat with enough photographs

Animation

The diver will continuously kick his legs.
When the photograph command is issued, the arms will move forward with the camera and a white triangle will show the area that will be photographed. The photograph will fill in the white triangle with white and then the fish will flee.

Movement

As the diver moves around, the main view of the screen will stay locked on the diver. If the diver is close to the edge of the main view, then the main view will pan in the world view to keep the diver within the main view's area.

The diver can not swim below the ground nor can the diver swim out of the water. There will be a world left and right boundary that will be displayed to the user through different colors. The diver will stop moving when attempting to move beyond the world boundaries.

Sounds

The diver's camera will hum when readied.
The diver's camera will make a camera-click sound when a photograph is taken.
Bubble sounds could be added as he breathes out.

Sharks

Sharks roam around under the ocean eating fish and divers. The shark will respect the same top and bottom boundaries as the diver. It will ignore left and right boundaries. It will also ignore other sharks.

Sounds

Sharks make a chomping sound whenever they eat something that is in the main view.

Fish

Fish roam around under the ocean. The fish will respect the same top and bottom boundaries as the diver. It will ignore left and right boundaries. It will also ignore other fish and divers (unless the diver has photographed the fish).
If the fish is photographed, then it will flee away from the diver at a high speed.

Levels

As the game progresses, there are more sharks. All the fish and sharks move faster. The diver uses air more quickly.

User Interface
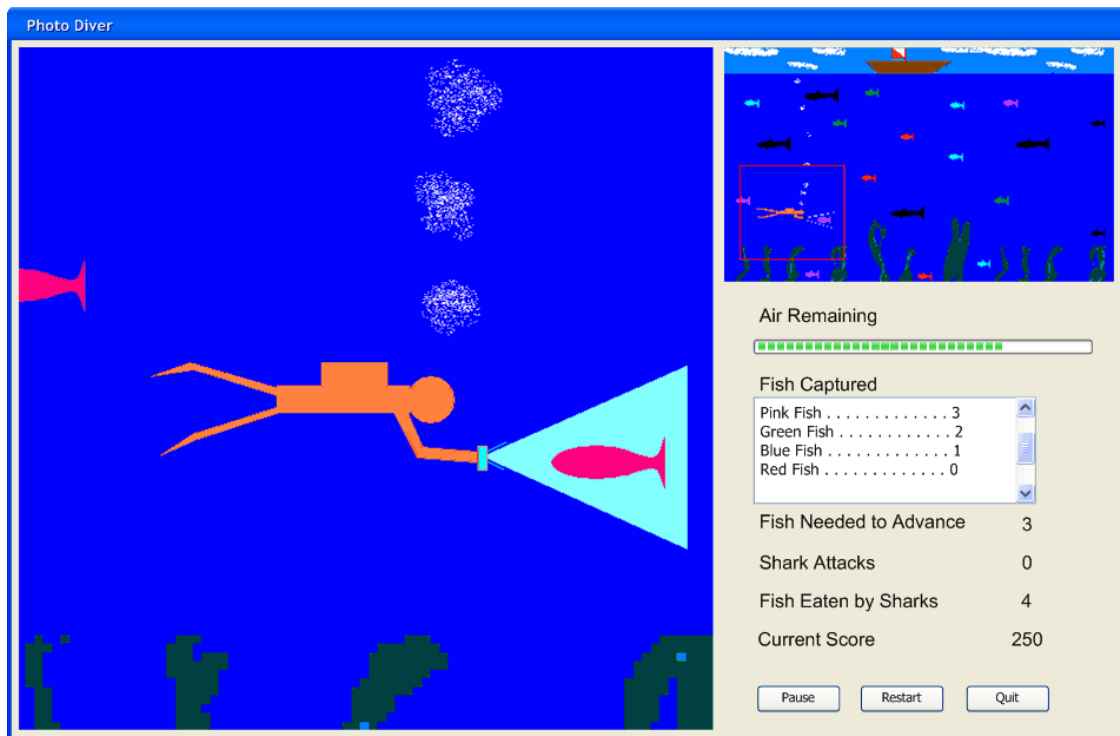
The Main View/Controller is on the left side. This view allows the user to zoom in and zoom out. Also it pans with the diver's movement. The World View/Controller is on the upper right.