Collaborative Final Project

Game Design document

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FORMAL ELEMENTS

OVERVIEW
Infinity Fish is a 2D educational game about math. The player clicks through the game answering the questions that pop up.

NARRATIVE PREMISE FOR THE GAME
You are collecting sea creatures to add to your aquarium. Learn about the creatures in your collection with fun facts and using them to develop your math skills.

VISION STATEMENT
The players are delivered the following experiences:
- Learning math
- Simple play

GENRE
Educational game.

FEATURES
2D game
Third person view
Single player
Fixed camera view
4:3 ratio screen
Mobile Friendly

PLATFORM
This game will be a web-based game in HTML 5 format, or uploaded as a SCORM package to a learning management system.

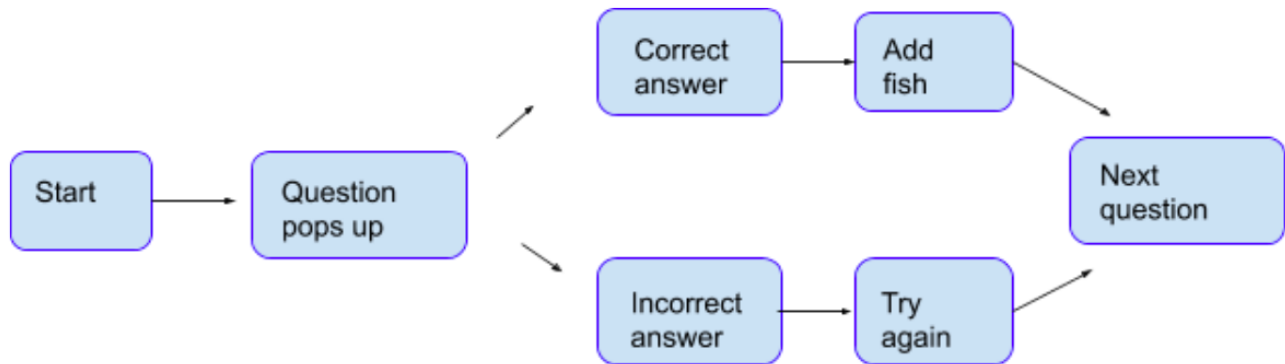**LANGUAGE**
This game is in English

SOUND
The music and sounds are for the enhancement of the underwater game experience. Questions are narrated by the designers.

PLAYERS
The target audience for this game is children in Grades 3 - 6 (addition, multiplication). The game is a single-player experience and the player controls no characters.

OBJECTIVES
The game objective is to collect various sea life to add to the aquarium by answering questions correctly. The educational objective is to master numbers and math.

Start → Question pops up → Correct answer → Add fish → Next question

Question pops up → Incorrect answer → Try again → Next question

PROCEDURES

1. Navigate to the URL in your favourite browser
2. The Splash page loads
3. Voice narration and background music introduce the game
4. Hit the green "START" button to begin.
5. First question appears and voice narrates a "fun fact" and a math question
   a. Did you know that crabs have only 6 legs?
      If you have 2 crabs in your aquarium, how many legs are there?
   b. Player types in their answer using the keyboard number keys
      i. Correct answer (value of 12 is typed in) player presses "CHECK" button
         1. Window pops up to congratulate player
         2. Automatically advances to the next question
      ii. Incorrect answer (value other than 12 is typed in)
         1. Window pops up to prompt player to try again. (loop back to question, player does not move forward until the correct answer is input, mastery)
6. Next question appears and voice narrates a "fun fact" and a math question
   a. Did you know that an octopus has blue blood and 3 hearts?
      If you have 3 octopuses in your aquarium, how many hearts are there?
   b. Player types in their answer using the keyboard number keys
      i. Correct answer (value of 9 is typed in) player presses "CHECK" button
         1. Window pops up to congratulate player
         2. Automatically advances to the next question
      ii. Incorrect answer (value other than 9 is typed in)
         1. Window pops up to prompt player to try again. (loop back to question, player does not move forward until the correct answer is input, mastery)
7. Play continues through all questions
8. End of game shows all creatures in the players aquarium

RULES
Correct answers result in sea creatures being added to aquarium. Incorrect answers, none added.

RESOURCES

This game uses graphics as a virtual manipulative to allow players to count or solve the math question being presented. Voice elements will read the question to eliminate any literacy obstacles.

The primary resource is the sea creatures that the player "collects" for their virtual aquarium.

CONFLICT
The player could be in conflict with the game if they enter incorrect answers.

BOUNDARIES
The game is a closed system available online. player must progress sequentially through the questions as they are presented.

OUTCOME
Game is over when all questions have been answered correctly and the virtual aquarium is populated.

POSSIBLE EXPANSIONS
- Ability to choose a math strand and each level could progress through that strand
- Using a database driver, the educator could customize questions
- Multilingual?
- Multi-platform?
- Customized Avatars?
- Moveable Manipulatives
- Questing format for various levels?
- Choice of narration voice
- Choice of Scene (water, land, space, time)

System Generated Design Document

1. Untitled Scene

1.1 Untitled Slide
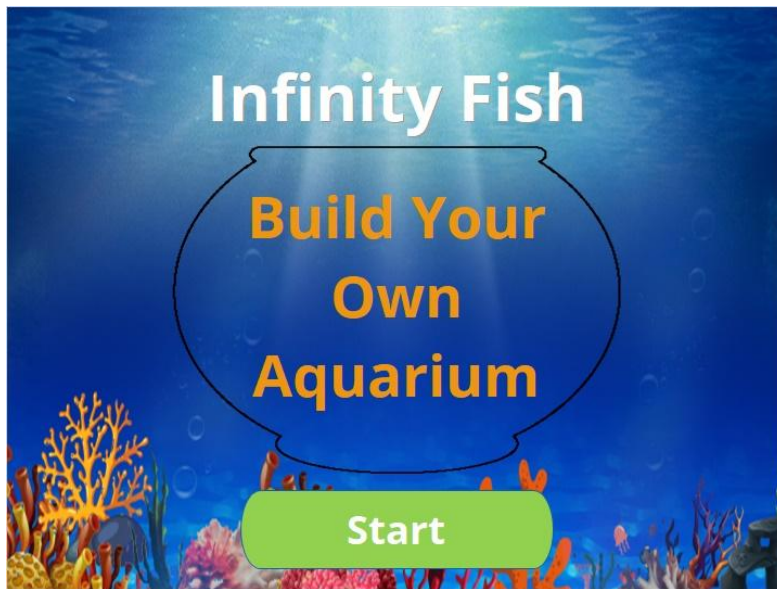
Notes:

1.2 Did you know crabs only have 6 legs!

If there are 2 crabs in your aquarium how many crab legs are there?

(Numeric, 10 points, unlimited attempts permitted)

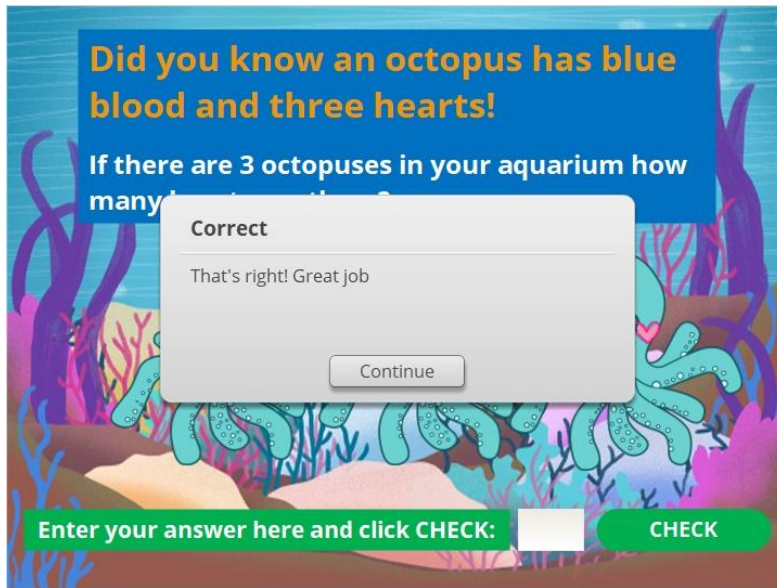| Acceptable numeric values	
Equal to	12

Feedback when correct:
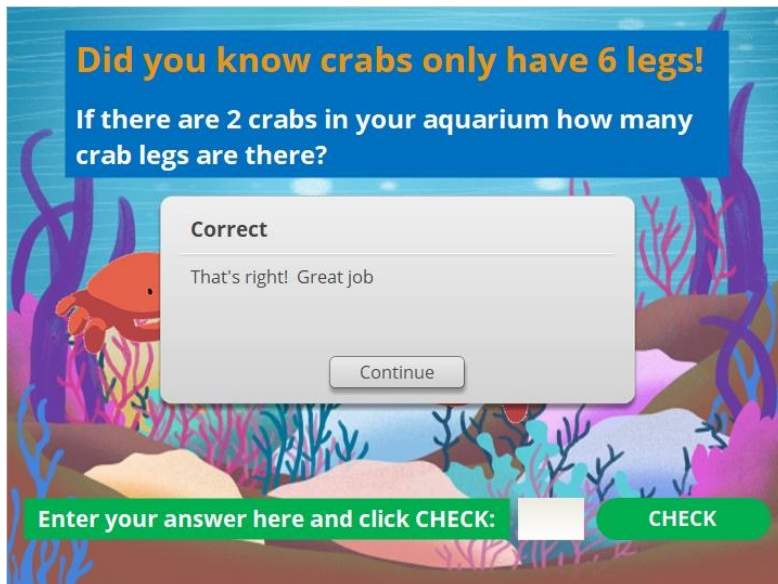
That's right! Great job

Feedback when incorrect:

You did not enter the correct response. Please try again.

Correct (Slide Layer)

Try Again (Slide Layer)

Incorrect (Slide Layer)
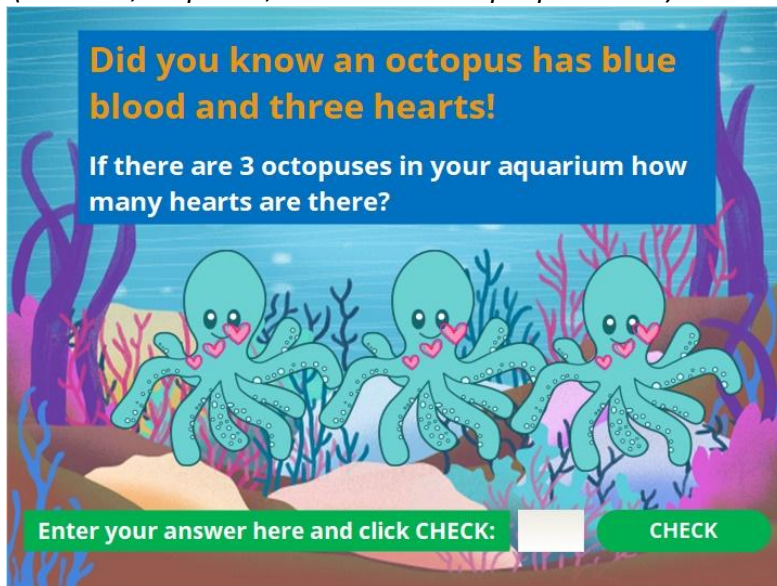
1.3 Did you know an octopus has blue blood and three hearts!

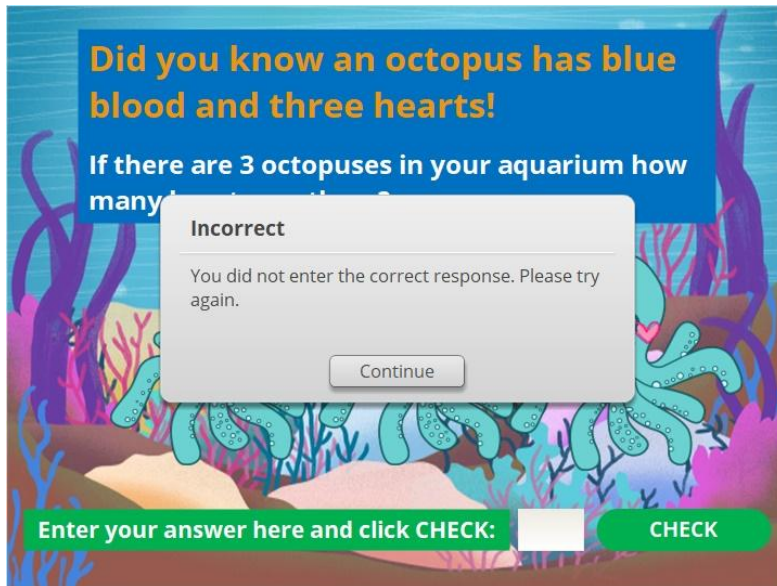## If there are 3 octopuses in your aquarium how many hearts are there?

(Numeric, 10 points, unlimited attempts permitted)

Acceptable numeric values	
Equal to	9

Feedback when correct:
That's right! Great job
Feedback when incorrect:
You did not enter the correct response. Please try again.

Notes:

Correct (Slide Layer)

Try Again (Slide Layer)

Incorrect (Slide Layer)

1.4 Untitled Slide

Notes: