SDW1 2017 Spring Semester Project

Web Game

Software Requirement Specification (SRS)

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2. Introduction

2.1. Purpose

The purpose of this project is to design a web game using html, css, and javascript. Please choose one game from the three given web games and design it according to the game description.

2.2. Requirements

- The design of the project should strictly follow the basic rules of the game description; otherwise marks will be deducted.
- Under the basic rules, you may feel free to design the UI, component layout, and interaction for the game.
- A software design specification (SDS) is required to present your design. The SDS template is available on iSpace.
- 20% of the codes need comments.
- Besides the required techniques html, css and javascript, html5, jQuery, and Bootstrap are allowed.
- All English only.
- Once your project is implemented, make sure you are able to pass the game yourself. Every group should make a video to present the process of passing the game yourselves.

3. Games Description

3.1. Whac-A-Mole

Whac-A-Mole is a classic arcade game. In this game, moles randomly show up from their hole within a certain time. The player will get scores if he strikes one mole before it sinks back into its hole.

3.1.1. Basic Rules

1. Duration of one round: 60 seconds (The game will last for 60 seconds before it is over.)
2. Number of holes: 9
3. Number of moles showing up at a time: 3
4. Duration of moles showing up at a time: 1 second
5. Position of a mole (Which hole?): randomly decided
6. When a mole is stricken, the score will increase by 1.
7. Information displayed during the game:
    a. **data**: remaining time, number of strikes, scores
    b. **functions**: replay and exit buttons for player to replay or exit the game.
8. Expected information shown when game is over: number of strikes, scores.

Figure 1 "Whac-A-Mole" for reference

Note: Figure above is just for reference. No need to use the same elements.

3.1.2. Extra points

1. Add one “bad guy” that randomly appears in the game. If the player strikes it, the score will decrease by 1. Once the scores are decreased to 0, game is over.
2. Accelerate the game every 20 seconds by reducing the current duration of moles showing up to half.

3.2. Fruit Pair

The purpose of the game is to match fruits with their words. There are several pairs of cards randomly arranged in the game area. The fronts of the cards are the same while the backs of them are printed with different pictures and words. Half of the backs have pictures while the other halves have words. At the beginning of the game, all cards look the same because of their fronts up. The player has to turn a card over by clicking on the card to see what's printed on its back. Let two continuous clicks on two different cards be one turning over. If two cards are unmatched in one turning over, these two cards will be recovered as fronts up after limited time. Otherwise, these two cards will be disabled (backs up with no response to click), and the player can go ahead for the next turning over. The player passes the game if all pairs are disabled.

3.2.1. Basic Rules

1. Number of pairs: 8
2. Number of cards in one turning over: 2
3. Duration of backs up if unmatched: 1 second
4. Matched cards have to be disabled.
5. Information displayed during the game:
    a. **data**: consuming time, number of turning over
    b. **functions**: replay and exit buttons for player to replay or exit the game.
6. Expected information shown when game is over: consuming time, number of turning over

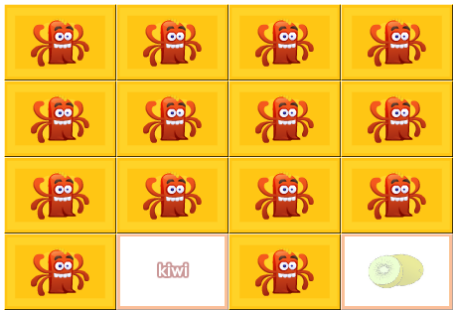


Figure 2 "Fruit Pair" for reference

Note: Figure above is just for reference. No need to use the same elements.

3.2.2. Extra points

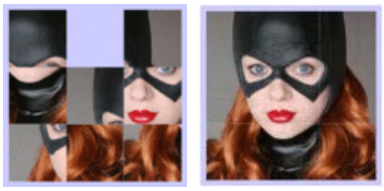
Offer three game levels for players according to the number of pairs at the beginning of the game. The number of pairs of these three levels should be 2, 8 or 18.

3.3. Sliding Puzzle

A sliding puzzle is a combination puzzle that challenges a player to slide pieces along certain routes on a board to establish a certain end-configuration. The pieces are imprinted with numbers or sections of a larger picture. The purpose of this game is to use mouse to slide the disordered pieces back into order.

3.3.1. Basic Rules

1. Number of picture to be ordered: 1
2. Number of grid in the board: 9
3. Number of piece: 8
4. Number of empty grid in the board: 1
5. The position of the empty grid at the beginning: randomly decided
6. The movement of the piece: When a piece is clicked, it will move to the position of an empty grid which is adjacent to it, otherwise it will keep still.
7. Information displayed: consuming time, number of movement
8. The original picture should be shown beside the board in the game area.



(a) To be ordered (b) Original

Figure 3 "Sliding Puzzle" for reference

Note: Figure above is just for reference. No need to use the same elements.

3.3.2. Extra points

1. Offer more than 1 original picture for players.
2. The designer is able to pass the game.