

SDW1 2017 Spring Semester Project

## **Web Game - Whac A Mole**

### **System Design Specification (SDS)**

**Version 6.0**

**2017.05.02**

Zhenghao Wu (I630003054)  
Guozhen Wang (I630003048)  
Xianggao Gu (I630003015)

**Computer Science and Technology Program**

**United International College**



## 1. Document Change Log

<b>Change Date</b>	<b>Changed By</b>	<b>Version</b>	<b>Change Description</b>
02/24/2017	Zhenghao Wu	Beta 1.0	Prepared Document
03/11/2017	Zhenghao Wu	Beta 2.0	Add Basic Frame
03/17/2017	Xianggao Gu	Beta 2.5	Content modification
03/18/2017	Zhenghao Wu	3.0	Finish content
03/18/2017	Xianggao Gu	4.0	Finish all information
04/20/2017	Zhenghao Wu	5.0	Change Standard and Tools
05/04/2017	Zhenghao Wu	6.0	Change Game Description / Change Test Procedure



## 2. Table of Contents

<b>1. DOCUMENT CHANGE LOG .....</b>	<b>2</b>
<b>2. TABLE OF CONTENTS .....</b>	<b>3</b>
<b>3. OVERVIEW .....</b>	<b>4</b>
3.1. Purpose .....	4
3.2. Software Target Customer .....	4
3.3. Aim.....	4
<b>4. TOOLS AND STANDARDS.....</b>	<b>5</b>
4.1. Tools .....	5
4.2. Standards .....	5
<b>5. SYSTEM DESIGN .....</b>	<b>6</b>
5.1. Game Description .....	6
5.2. Interface Design .....	6
5.3. Event Diagram .....	8
<b>6. TEST PROCEDURE .....</b>	<b>9</b>
6.1. Special Requirements .....	9
6.2. Steps.....	9



## 3. Overview

### 3.1. Purpose

This is a web game called 'Whac A Mole' written by HTML/CSS/JavaScript. In this game, players should hit as many moles as they can to get scores. We will record and show players' scores at the end of game.

### 3.2. Software Target Customer

This is a casual game for gamers of all ages.

### 3.3. Aim

- Train player's response speed
- Relaxing and entreating



## 4. Tools and Standards

### 4.1. Tools

- *HTML & HTML5*
- *CSS & CSS 3*
- *JavaScript*
- *Bootstrap (V4.0.0 Alpha 6)*
- *jQuery*
- *PHP*

### 4.2. Standards

- Testing on latest stable version of Google Chrome browser (56.0.2924.87 (64-bit) or later).
- Using *HTML & HTML5* Standard.
- Using UTF-8 encoding Standard.



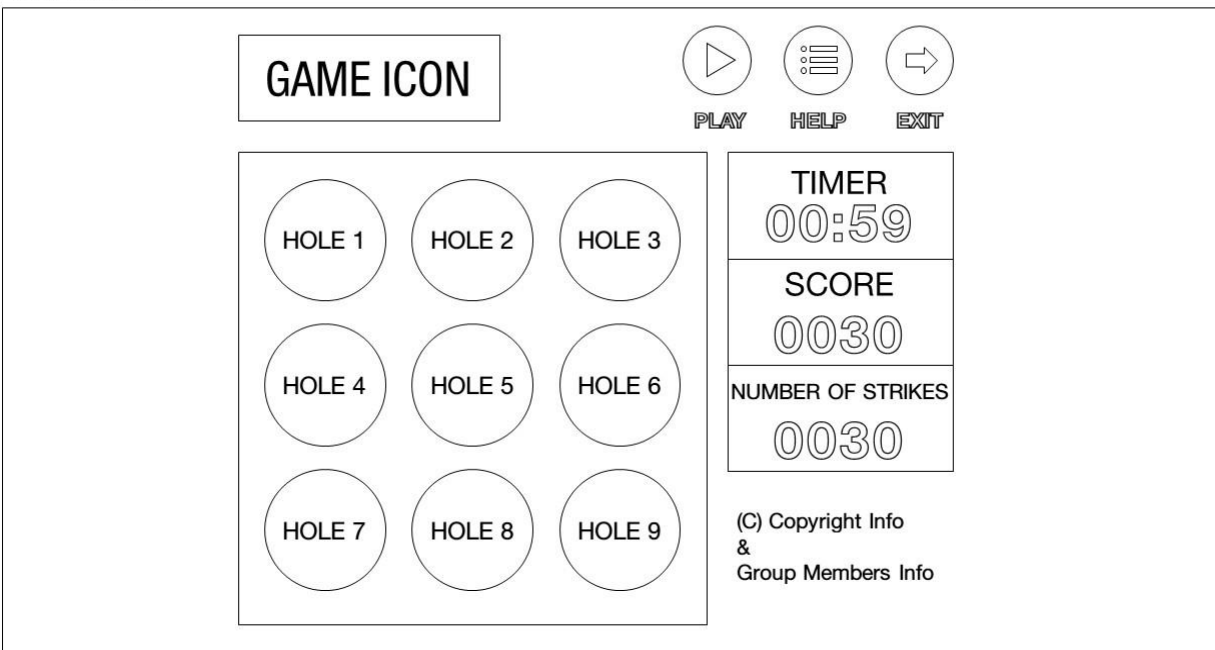
## 5. System Design

### 5.1. Game Description

- After All elements loaded in this page, a login page will pop up and request player to input their name. Player can also play anonymously.
- 'Game icon' is on the upper left corner of the game interface. The icon will link to this page.
  - There are three buttons on the right of the icon. They are 'PLAY', 'HELP', 'EXIT'.
  - After clicking 'PLAY' button, the moles will show and countdown begins. At the same time, the 'PLAY' button will be changed into 'RESET'.
  - After clicking 'HELP' button, there will be a floating window which can be closed. The introduction about the game will be there.
  - After clicking 'EXIT' button, a window will prompt and ask player whether to leave. If player confirms to leave, the web page will jump into UIC official website.
- There are nine holes under the icon. No use in clicking before the game start.
- 'TIMER', 'SCORE', 'NUMBER OF STRIKES' are under the buttons.
  - 'TIMER' records the remaining time of the game, and when the remaining time is 0, game over.
  - 'SCORE' displays player's current score. The initial score is 0. Every successfully hit at mole will lead score plus 1. A Bad mole will Random pop-up. If you click on it, score will minus 1.
  - 'NUMBER OF STRIKES' will plus 1 if you click the mole hole during the game time.
  - If your score reaches zero because clicked the bad mole, game will over.
- Copyright information and group information are on the bottom right corner of the page.
- At the end of the game, there will be a window showing the final score and the occurrence number of mole. And allow player upload their score to a global database.

### 5.2. Interface Design

User Interface



Class	Element Name	Element ID/Class	Attributes	Value

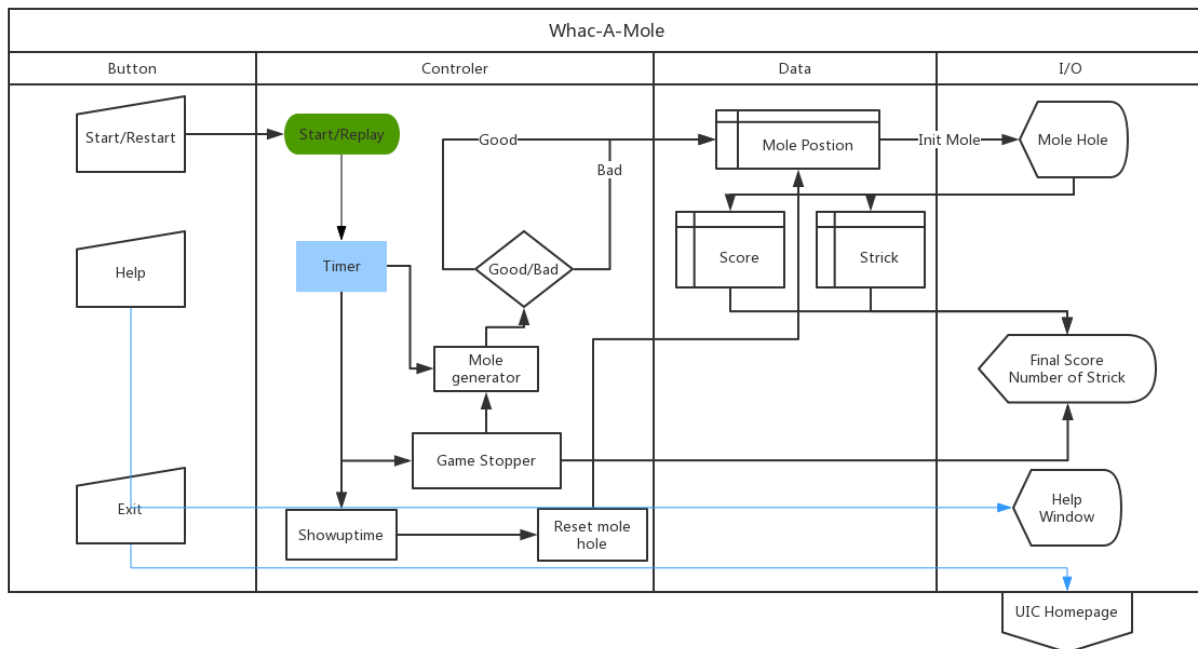
body	body	body	Font-family	"Segoe UI", Roboto, "Helvetica Neue", Arial, sans-serif;
<b>Heading Area</b>	Heading container	headingContainer	Margin/padding	0 20%
<b>Images</b>	Logo/Icon	game_icon	Width/Height	200px/75px
<b>Button Group</b>	Play & Replay Button	playBtn	Width/Height	50px/50px
	Help Button	helpBtn	Width/Height	50px/50px
	Exit Button	exitBtn	Width/Height	50px/50px
<b>Hole Area</b>	container	holeContainer	Width	65% of the container
			margin	25px
	Mole Hole	Hole_i	Shape/width	Square/ 33.3% of the holeContainer
	Timer	InfoTimer	margin	10px
	timertitle		width	20% of the container
<b>Info Area</b>	time	InfoTimerTime	Align/Font-size	center/25px
			Font-size	45px
			padding	10px 30px 10px 30px
	Scores	infoScore	Align/Font-size	center/25px
	scoretile		Font-size	45px
<b>Copyright Area</b>	Score		padding	10px 30px 10px 30px
	Number of strikes	InfoNumberOfStrikes	Align/Font-size	center/25px
			Font-size	45px
<b>Copyright Area</b>	Copyright info	copyrightFooter	Align	left

Resources

NAME	ABOUT
hole.png	A normal mole hole
hole_goodmole.png	mole hole with a hittable mole
hole_badmole.png	mole hole with a "bad mole"
btn_play.png	Play button
icon.png	Game icon



## 5.3. Event Diagram





## 6. Test Procedure

### 6.1. Special Requirements

- *Manual*
- *Test environment:*
  - *Google Chrome browser (56.0.2924.87 (64-bit) or later).*
  - *UTF-8 Encoding Browser*

### 6.2. Steps

- Syntax test
  - There is no error alert in the Chrome Developer Tools console.
- Browser test
  - Make sure all elements can be shown regularly.
  - All hyperlinks can link to scheduled website.
  - “Start Reset” “Help” and “Exit” buttons can work.
    - ◆ ‘Help’ window can be closed
    - ◆ Exit button will be linked to UIC Homepage
  - Timer can work
  - Each time there are three moles appear.
  - Number of Strikes counter will plus one if you click once.
  - When you hit the mole, the Score counter will increase 1.
  - Non-hit mole will disappear after “show-up-time” occurs.
  - When bad mole was hit by the user, scores will decrease 1.
    - ◆ When scores reach to 0. Game Over.
  - When countdown ends. Game Over
    - ◆ Score and Number of Strike window will pop up.
  - Score and Number of Strike window and user’s info can be Can be normally upload.
  - When you click ‘Reset’. The game will be initialized.

