

# CS 5410 – Mini-Game Test

## Introduction

A mini game is a game that lasts only a few seconds to a few minutes per play. Nintendo released an entire “game” made up of mini games called, “WarioWare”. Each mini game lasted at most 5 seconds; actually, these are called micro games.

## Mini Game

There are reports that Wiley Coyote is at it again, planting bombs all over the desert in an attempt to scare the Roadrunner out of his hiding place. It is your job to diffuse all the bombs he has planted.

Create a mini game that follows the mockup shown on the last page and meets the following gameplay and technical requirements.

## Gameplay Requirements

The game starts with a set number of bombs ticking down and the user has to click on each bomb to diffuse it. If diffused, the countdown stops, a green check mark is placed over the bomb, and the score is updated. If a bomb tick hits 0, it blows up in a shower of gravity controlled sparks (that means gravity affects the particles as they move) and has a yellow explosion marker shown on top of it. Bombs begin ticking down from a predetermined set of numbers, depending upon how many bombs there are in the level. This is a fast paced game, bombs tick down quickly, but still playable.

- Game starts with 6 bombs on the first level. If the user clears all bombs on a level, the next level contains 3 additional bombs, continuing until a max of 18 bombs is reached. If the user clears that many, the game is over.
- At the start of *each* level, display a “starting in X” (where X is 3, 2, and 1 in sequence) message to give the player a chance to get ready, then automatically transition to the gameplay. The layout for the next level should be visible during the countdown, giving the player a chance to quickly plan while the countdown happens.
- Scoring is based upon the number displayed on the bomb at the time it was clicked, along with a -5 for each bomb that goes off. The player's score can never go below 0.
- You can determine how fast the bombs tick down, this should be a fairly fast game (but playable). Remember that I have to grade these things, I need to see all the levels.
- The *assignment* of which countdown number on a bomb is randomly chosen from the set of countdown numbers for that level. In other words, each time the game is played, the selection of the countdown numbers for each bomb is randomly chosen from the same set of numbers. The location of the bombs is fixed, three bombs per row.

- Countdown numbers to use for each level. Once a number is randomly selected for a bomb, it is removed from the set of possible numbers. These were scientifically chosen by me guessing; I have no idea if they are “fun”.
  - Level 1: 3, 3, 2, 2, 1, 1
  - Level 2: 4, 3, 2 + All Level 1
  - Level 3: 5, 4, 3 + All Level 2
  - Level 4: 6, 5, 4 + All Level 3
  - Level 5: 7, 6, 5 + All Level 4

### ***Technical Requirements***

- HTML5 Canvas Rendering & JavaScript based; as we have been doing all semester.
- Menu and game screen system
  - New Game
  - High Scores
  - Credits
- Visual Components
  - I have provided graphics to use.
  - During countdown, display the bomb with a number on top of it.
  - When a bomb is diffused, stop the countdown and display the green checkmark.
  - When a bomb blows up, you must show a (tasteful) gravity controlled shower of sparks (i.e. particles) at the bomb location, then display the explosion graphic on the top thereafter.
  - Show the overall total time and total score during gameplay.
- High scores must persist to the browser's local storage.
  - Total Score (keep top 5)
  - Score for each level (keep top 5)
  - Total Time (keep top 5)
  - Time for each level (keep top 5)

## **Grading Breakdown**

- Menus: 10 %
- Gameplay Scoring: 5%
- High Scores: 15 % (Requires scoring)
- Correct use of Random Number Placement: 10%
- Correct Use of Countdown Numbers: 10%
- Level Start Countdown: 10%
- Bomb Countdown: 10%
- Other Gameplay: 10%
- Particles: 10%
- General Visual: 10%

## Gameplay Mockup

