**Final Project Description**

**Title:** Fraction Runner

**Date:** November 19, 2015

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**Description:**

Fraction Runner will be game in which the player (some character/creature) lives on a board/maze and must run to and eat the correct answer to the fraction related question. The game will have multiple levels. Every level will display a question, a timer, and the player’s current score. The player must eat one/all correct answers before the timer runs out in order to advance to the next level. Each round the board/maze will be initialized differently and the “types” of questions the player will change.

**Testing Strategy:**

**Board Class Tests:**

* initialization from .csv file
* board dimensions
* solution placed in random cell (selected from a list of possible solution cells)

**Player Class Tests:**

* starting location
* name
* score
* movement

**GameEngine Class Tests:**

* initialized correctly?
* timer
* advancing to next level

**Fraction Class Tests:**

**QuestionBank Class Tests:**

* Question list correctly initialized?
* Solution correctly initialized?
* Questions match correct answers?
* We will need to test the function that determines whether submitted answer is the correct answer.

**Development Strategy:**

**Initial Failing Tests** (due 11/24/15)**:**

* All failing tests will be added
* All class stubs will be created
* Design phase should be completed by this date in order to begin on implementation

**Coding Part 0** [team deadline 11/28/15 (tentative)]:

* Majority of tests should be passing by now
  + Initialization of board and questionBank should work properly
* Begin implementing gameEngine loop, player movement and input handling
* Begin working on GUI so we can start testing input handling as soon as possible

**Coding Part 1** (due 12/2/15)**:**

* Pass all tests
* Player movement, input handling, and gameEngine loop should be completed
* GUI
  + Board and player should be drawn properly
    - Player should be redrawn properly during every update
  + Add other additional gui components (score, level, question, timer)
* Finish up remainder of game logic and finalize project

**Program Completion** (due 12/7/15)**:**

* Project should be completely finished by this point