Final Project Planning Document

The main purpose for this project is to create a game that addresses the core learning standards for fractions in fourth grade. The game will include a board (likely a 1D array) with a different problem at each index. The problems at each index will address one of the core standards and will either be generated randomly or picked randomly from a set. The player will advance an index at the start each turn must solve the given problem. If the answer is correct, the player will advance, otherwise the computer player will move forward. The player wins the game by reaching the last index prior to the computer player.

The initial testing design for this project will ensure that the basic components are functioning properly. This means the board initializes and displays, players display and move as intended, and problems are generated correctly. High level testing will check that the logical components of each method are correct so that in later stages of the project, development will focus on implementing the gui and user interactions.

Major functional aspects of the program include the user interface, a problem generator, computer player actions, and game displays. The user interface must include a way to begin the next turn, input an answer to a given question, and submit the answer. Problem generator will output a question from a hard coded set or from an algorithm that generates a random question. There may or may not also be a visual display, e.g. the equivalence of can be shown with slices of pizza.