**Elevator Pitch**

A game about rolling two pairs of two dice and determining who wins by a calculation.

\*All items below subject to change for scope purposes and MVP set forth by customer Dr. Chang-Hyun.

**User Scenario**

As a user, I want this dice game to allow me to roll the dice alongside the computer and show who the winner is after a calculation. The computer and I will both roll two dice simultaneously. The computer will have two random numbers generated representing a random roll of two dice while I will select one number and have the second die generated randomly by the computer.

After both sets of numbers are input/generated, both dice (respectively) will be added together using a modulo six operator with six to find the remainder of the sum of the pairs of dice. Whoever has the higher number after the modulo is complete will be declared the winner. After a winner is declared, the game ends and replayability can be used. I can either choose to exit and quit the application or reroll for another game.

**MVP**: User loads the application, needs a way to enter a number, a win condition is upheld, user replays or quits.

**Stakeholders**: Customers (Dr. Chang-Hyun Jo), Product Owner (Derek Baker), Business Analyst (Maike Scherer), Developers, End Users.

**Features**:

* Full screen display (MVP)
* Windowed display (in scope)
* Input through text (MVP)
* Input through on-screen buttons (in scope)
* On-screen instructions (MVP)
* On-screen dice rolls (out of scope)
* On-screen totals, modulo result (MVP)
* On-screen declared winner (MVP)
* Replay button (MVP)
* Quit button (in scope)
* Tracking wins of user vs computer vs ties if multiple rounds are played (in scope)
* Displaying tracked scores (including a starting display of scores 0) (in scope)

**User Stories (numbers) & Use Cases (letters)**:

1. As a user I want to be able to put in a number 1-6.
   1. Keyboard input (MVP)
   2. On-screen selection (in scope)
2. As a user I want to be able to quit at any time.
   1. On-screen ‘quit’ button (in scope)
   2. Quit instructions (use UI to make obsolete)
3. As a user I want to be able to play again.
   1. Play again button, play again text (in scope)
   2. Reload automatically (not desired)
   3. Quit game button (identical to 2.a)
4. As a user I want to know how to play.
   1. Instructions in text (MVP)
   2. Walkthrough tutorial (out of scope)
   3. Instruction page before game starts (in scope)
   4. Help button that will popout instructions (in scope)
5. As a user I want to be able to see who won.
   1. Display “You won!” or “You lost!” (MVP)
   2. Highlight “dice” that won (out of scope)
   3. Different colors for win/loss (in scope)
6. As a user I want to see mine and the computer’s individual rolls.
   1. Display the number (in scope)
   2. Display dice (in scope)
7. As a user I want to see the totals.
   1. Display as text (not desired)
   2. Display as equations (not desired, add example in instructions)
   3. Display equations with dice/numbers (not desired)
8. As a user I want to see the modulo’s result.
   1. Show as text (MVP)
   2. Show as equation with dice/numbers (not desired)
   3. Explain modulo operator (in scope, add to instructions)
9. As a user I want to see why I won/lost.
   1. Text comparison (MVP see 8.a)
   2. Visual (dice) comparison (out of scope)
   3. Equations with visual representation (not desired)

**Possible Defects**: crashes on input handling, crashes on reloading, sprite displays non-functioning, endless loops if conditions are not exact

**Possible Future Enhancements**: Win loss records, cloud storage to save records, online competition, Mac port