Overview

This project is to build a website allowing users to play a simple economic game.
The site will

- Collect simple text and multiple choice responses from users
- Display game elements as simple lightly-animated shapes and colors
- Collect user's decisions in response to the game over multiple rounds
- Use configurable static parameters to allow the game to be played with different rules
- Incorporate pre-determined random sequences to define game situations

Technology

We require the site to be written in PHP with front-end components using javascript and HTML5 components as necessary. Frameworks (e.g. code ignitor) and libraries (e.g. jquery) can be used as appropriate. Input parameters / configuration should be via plain-text and data storage should use MySQL. We can provide development hosting as desired and will host production on Ubuntu LAMP. Development ideally takes place via our github account. Code should be well commented and extensible to allow for future modifications by other developers.

Game Description

Users will play a simple game in which their goal is to collect coins. The number of coins they can collect depends on the size of the collector they have in the game. The game will consist of multiple "blocks" with each block will consisting of multiple rounds. At the beginning of each block the user decides how large of a collector to buy. In each round, a number of coins appears and the user can collect as many as their collector can hold. Users bank the coins they collect and have the option to spend them at the beginning of future blocks.

UI Screens

1. Task Description / Instructions
2. Collector Decision
3. Round Start
4. Coins Appear
5. Coins Deposited
6. post-block survey
7. post-game survey

User Flow through Site

1. User arrives via URL including User ID
2. Task Description / Instructions
3. For each block of game play
    a. Collector Decision
    b. For each round of game play
        i. Round Start
        ii. Coins Appear
        iii. Coins Deposited
    c. post-block survey
4. post-game survey

5. User forwarded to URL including User ID

Data to Collect

1. For each user
    a. User ID
    b. User IP address
    c. timestamp on entry
2. For each block
    a. block number
    b. collector size decision
    c. timestamp on submit
3. For each round
    a. block number
    b. round number
    c. coins available
    d. coins collected
    e. timestamp on submit
4. For each survey page
    a. response to each question presented
        i. radio buttons
        ii. slider input
        iii. numeric input field
        iv. text input field
    b. timestamp on submit

Configuration Parameters

1. Logistic parameters
    a. entry query string user ID variable name
    b. exit base URL
    c. exit user ID variable name
2. Game properties
    a. [int] number of blocks
    b. [int] number of rounds per block
    c. [int] number of collector choices
    d. [int] initial bank balance
    e. [array] collector sizes
    f. [array] collector prices
3. UI properties
    a. [bool] display cumulative coins available
    b. [bool] display cumulative coins collected
    c. [bool] display cumulative coins spent
    d. [bool] display bank balance
    e. [bool] display current round coins collected
    f. [bool] display current round coins lost
4. Pre-determined random series
    a. to determine the number of coins available each round, the site should pull from a table (or CSV) which specifies an integer between 0 and 10 for each user ID, block, and round.

Welcome to the Coin Collecting Game

In this game, your goal is to finish the game with as many coins as you can.

The number of coins you can collect is determined by the size of the collector you have.

This game will last *[number of blocks * number of rounds per block]* rounds. After every *[number of rounds per block]* you will decide how large of a collector you want to buy for the following rounds.

Are you ready to begin?

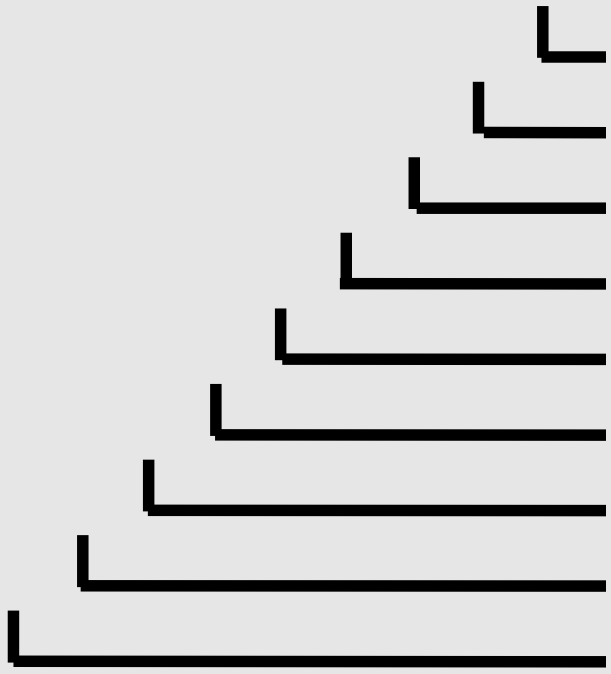
Begin

Collector Decision

Round 1 of 100

Total coins possible = 0
Coins collected = 0
Coins spent = 0
Coins in bank = 50

Please choose a coin collector from the choices below. Larger collectors cost more and can collect more coins per round. The collector you choose now will last only 10 rounds after which you will have to choose again.



Size	Cost	Buy
1	5 coins	O
2	10 coins	O
3	15 coins	O
4	20 coins	O
5	25 coins	O
6	30 coins	O
7	35 coins	O
8	40 coins	O
9	45 coins	O

Radio buttons, No default

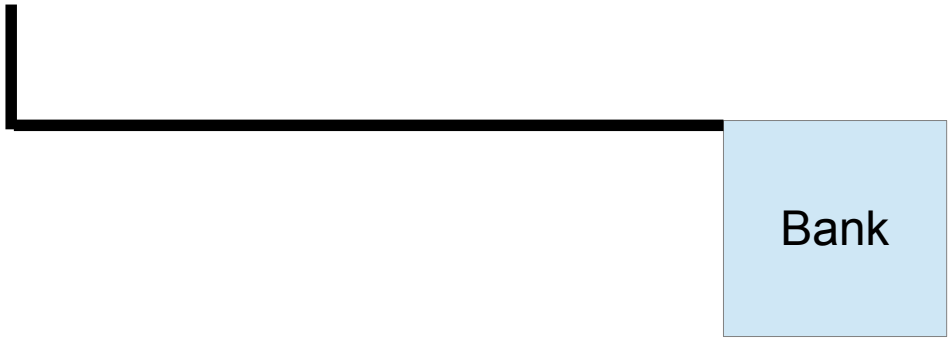
Buy Collector and begin

Validation: must select one

This Round:
Coins possible =
Coins collected =
Coins lost =

Round Start

Round 1 of 100
Total coins possible = 0
Total coins collected = 0
Total coins lost = 0
Coins spent = 25
Coins in bank = 25

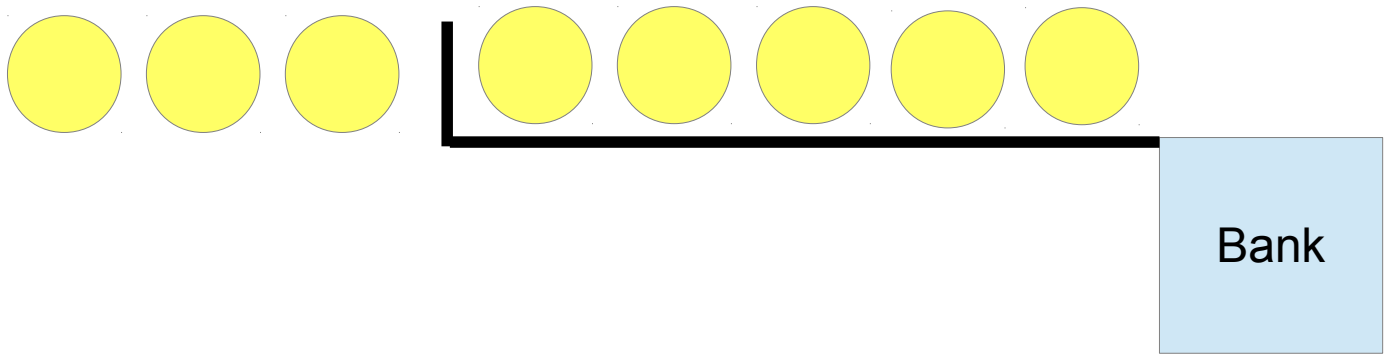


Size	Cost
1	5 coins
2	10 coins
3	15 coins
4	20 coins
5	25 coins
6	30 coins
7	35 coins
8	40 coins
9	45 coins

This Round:
Coins possible = 8
Coins collected = 5
Coins lost = 3

Coins Appear

Round 1 of 100
Total coins possible = 0
Total coins collected = 0
Total coins lost = 0
Coins spent = 25
Coins in bank = 25



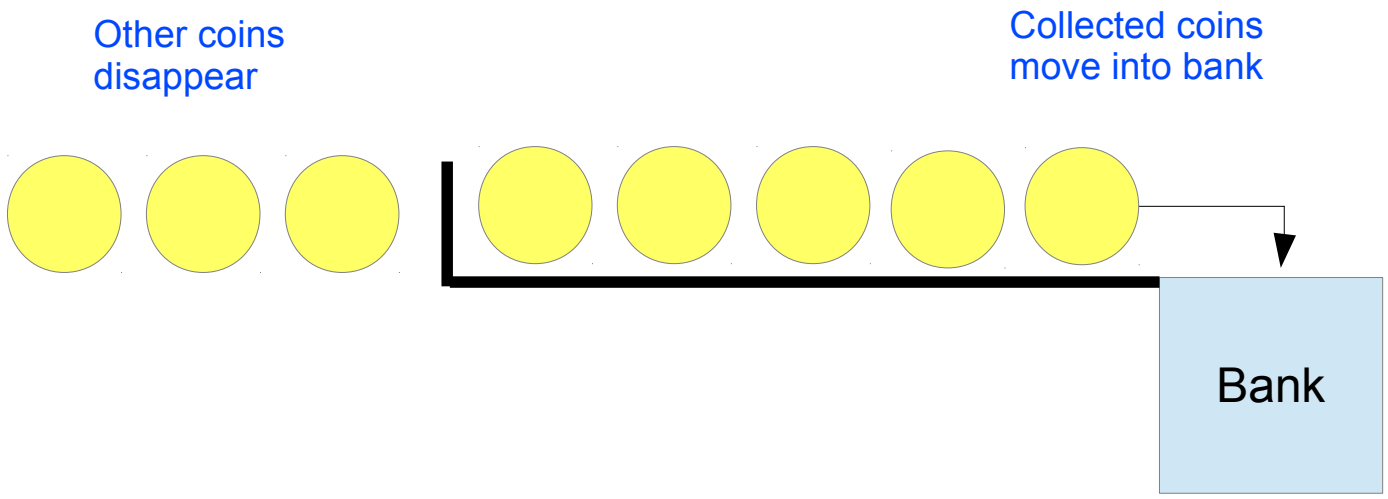
Size	Cost
1	5 coins
2	10 coins
3	15 coins
4	20 coins
5	**25 coins**
6	30 coins
7	35 coins
8	40 coins
9	45 coins

This Round:
Coins possible = 8
Coins collected = 5
Coins lost = 3

Coins Deposited

Continue to Round 2

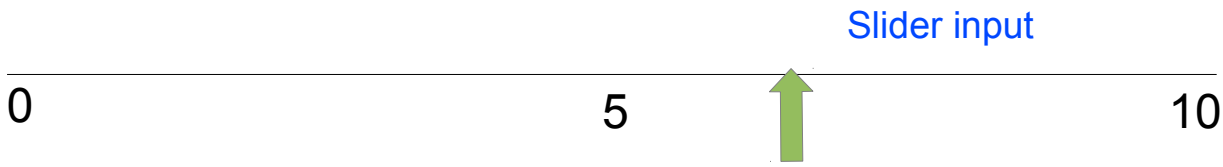
Round 1 of 100
Total coins possible = 8
Total coins collected = 5
Total coins lost = 3
Coins spent = 25
Coins in bank = 30



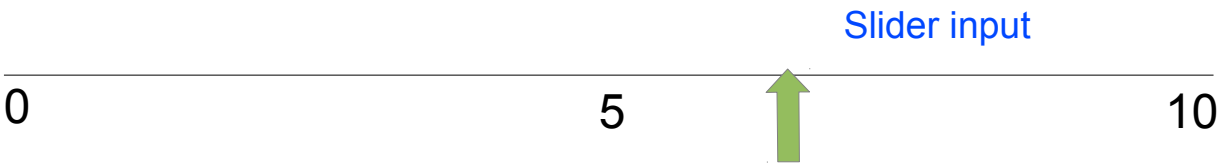
Size	Cost
1	5 coins
2	10 coins
3	15 coins
4	20 coins
5	25 coins
6	30 coins
7	35 coins
8	40 coins
9	45 coins

Post-block survey

What was the average number of coins possible per round over the last 10 rounds?

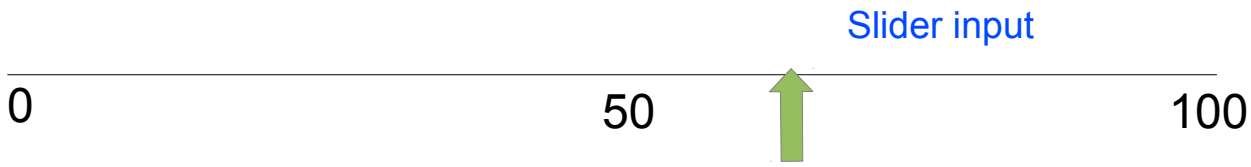


What was the average number of coins possible per round since the beginning of the game?



Post-game survey

How many times was your collector too small for the coins that appeared?



If you had to play again now and pick one collector for all 100 rounds, what size would you pick?