

Design Documentation – Paper, Rock, Scissors: Showdown

Software Engineering

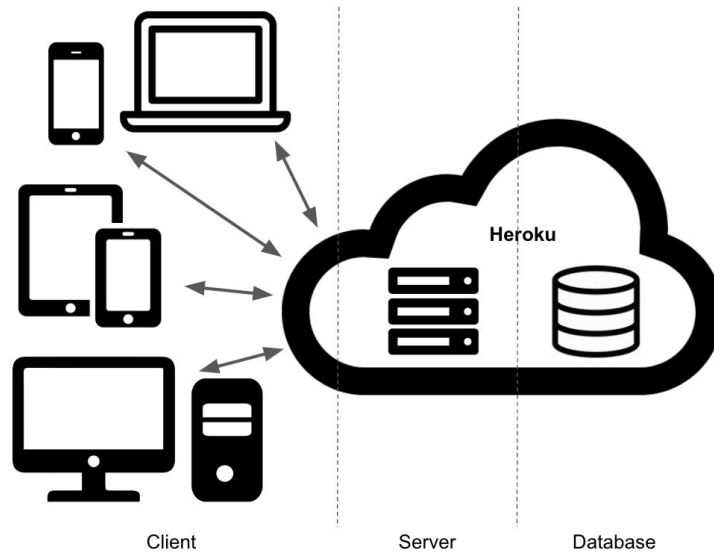
Paper, Rock, Scissors: Showdown is a web app that allows users to play the classic game against a collection of twelve villains. Each villain plays with a different strategy, so users can check the Stats page to determine which throws might be most appropriate for each villain.

1 Architectural Design

1.1 Overview

Our system design is the standard client-server architecture common in web apps. It consists of several high-level components:

- **Client:** Any HTML5-compliant web browser
- **Server:** Heroku
- **Database:** Node fs -> .csv tables



Data Diagram

2.2.1 villains.csv

```
name,paper,rock,scissors,paper_strategy,rock_strategy,scissors_strategy,wins,losses
Bones,0,0,0,0.33,0.33,0.33,0,0
Comic Hans,0,0,0,0.9,0.01,0.09,0,0
Gato,0,0,0,0.33,0.33,0.33,0,0
Harry,0,0,0,0.33,0.33,0.33,0,0
Manny,0,0,0,0.33,0.33,0.33,0,0
Mickey,0,0,0,0.33,0.33,0.33,0,0
Mr. Modern,0,0,0,0.33,0.33,0.33,0,0
Pixie,0,0,0,0.33,0.33,0.33,0,0
Regal,0,0,0,0.1,0.45,0.45,0,0
Spock,0,0,0,0.2,0.2,0.6,0,0
The Boss,0,0,0,0.1,0.8,0.1,0,0
The Magician,0,0,0,0.33,0.33,0.33,0,0
```

2.2.2 users.csv

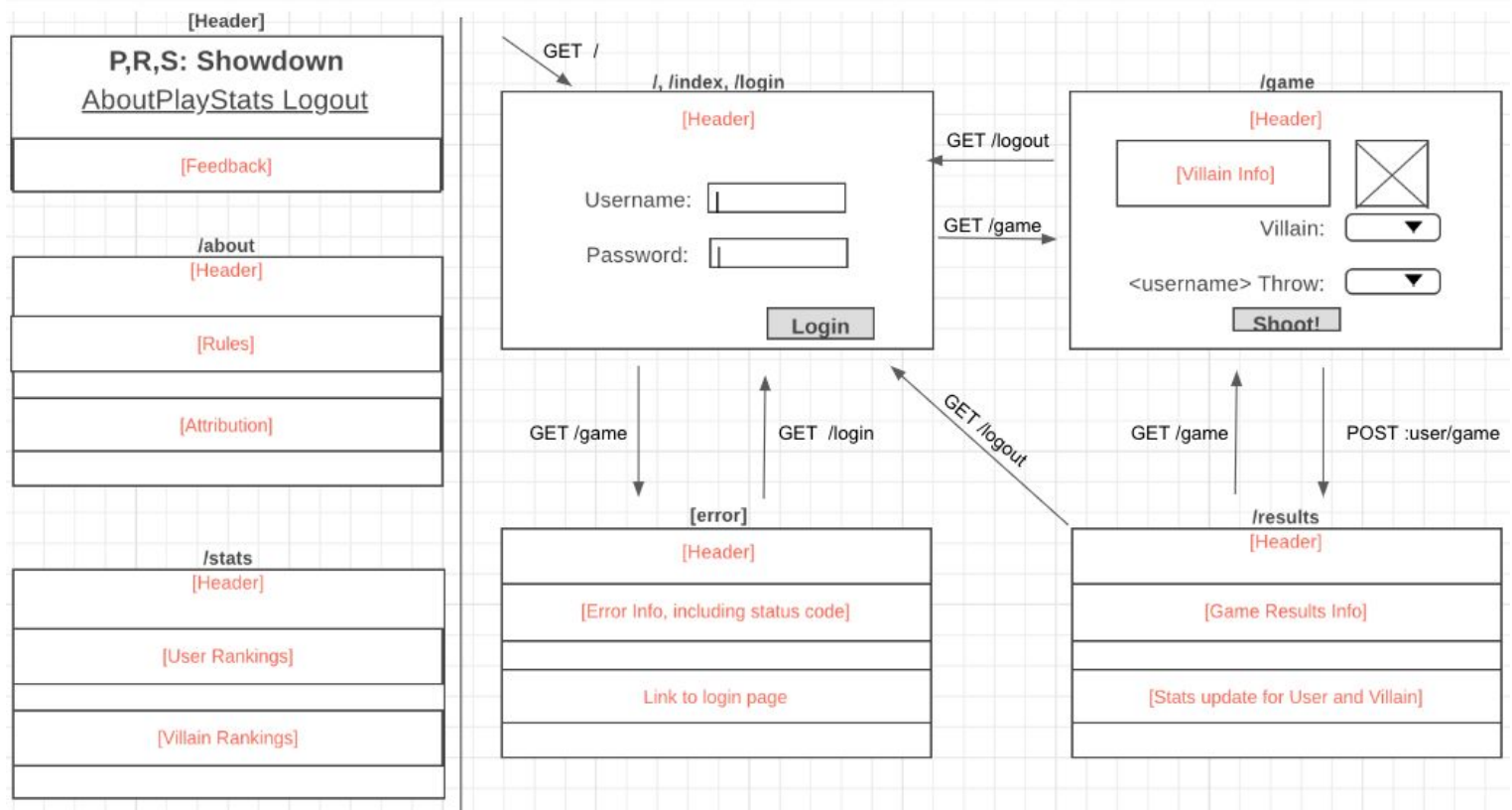
```
name,games_played,games_won,games_lost, password
mario,10,0,8,1234
luigi,9,2,6,green_machine
toad,8,8,0,i<3nyc
peach,7,5,1,xoxoxo
```

2.2.3 game_results.json

```
{
  user_data:{
    name: "luigi",
    wins: 2,
    losses: 1,
    ties: 1,
    Game: "You won."
    weapon: "Paper"
  },
  villain_data:{
    villain: "Bones",
    wins: 3,
    losses: 1,
    ties: 2,
    weapon: "Rock"
  }
}
```

3 User Interface Design

3.1 Wireframe



<https://wireframe.cc/RCWpmN>

Routing Tables

<u>HTTP ACTION</u>	<u>Route</u>	<u>Body</u>	<u>Result</u>
GET	/, /logout, /login	n/a	login.ejs
GET	/stats	n/a	stats.ejs
GET	/about	n/a	about.ejs
GET	/game	n/a	game.ejs, error.ejs
POST	:user/game	n/a	results.ejs

Development Timeline

<https://docs.google.com/spreadsheets/d/1xfwVFvBJqm1pHjzHCP3jqpWWegvW3vhwaCF3Dae8v8/edit#gid=0>