



# SNAKES AND LADDERS

PRESENTED BY RAYMOND DOAN



# SOFTWARE DEV PLAN

PURPOSE AND SCOPE



# PROBLEM STATEMENT

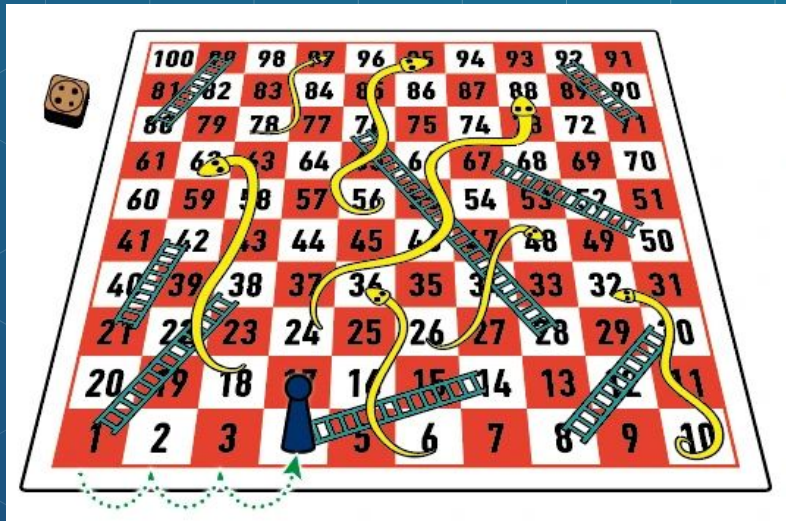
- ◇ Problem:

- ◆ No existing 'Snakes and Ladders' / 'Chutes and Ladders' gem that renders a board.

- ◇ Reason for Development:

- ◆ Visual representation of the game for a more user-friendly experience

# Purpose



Ray rolls 5

Ray has landed on 5

[99]	[98]	[97]	[96]	[95]	[94]	[93]	[92]	[91]	[90]
[80]	[81]	[82]	[83]	[84]	[85]	[86]	[87]	[88]	[89]
[79]	[78]	[77]	[76]	[75]	[74]	[73]	[72]	[71]	[70]
[60]	[61]	[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]
[59]	[58]	[57]	[56]	[55]	[54]	[53]	[52]	[51]	[50]
[40]	[41]	[42]	[43]	[44]	[45]	[46]	[47]	[48]	[49]
[39]	[38]	[37]	[36]	[35]	[34]	[33]	[32]	[31]	[30]
[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]
[19]	[18]	[17]	[16]	[15]	[14]	[13]	[12]	[11]	[10]
[X]	[1]	[2]	[3]	[4]	[X]	[6]	[7]	[8]	[9]

John rolls 1

John has landed on 1

[99]	[98]	[97]	[96]	[95]	[94]	[93]	[92]	[91]	[90]
[80]	[81]	[82]	[83]	[84]	[85]	[86]	[87]	[88]	[89]
[79]	[78]	[77]	[76]	[75]	[74]	[73]	[72]	[71]	[70]
[60]	[61]	[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]
[59]	[58]	[57]	[56]	[55]	[54]	[53]	[52]	[51]	[50]
[40]	[41]	[42]	[43]	[44]	[45]	[46]	[47]	[48]	[49]
[39]	[38]	[37]	[36]	[35]	[34]	[33]	[32]	[31]	[30]
[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]
[19]	[18]	[17]	[16]	[15]	[14]	[13]	[12]	[11]	[10]
[0]	[X]	[2]	[3]	[4]	[X]	[6]	[7]	[8]	[9]

Ray, your turn. Your position is square 5.  
Press [RETURN] to roll the die.

# TARGET AUDIENCE

- ◇ People who starting to get into coding
  - ◇ People who want to play their favourite game for free
  - ◇ Or both !
- 
- ◇ To interact with the application, they will be required to clone the repo and running the shell scripts in repo



2

# TERMINAL APP

INSTALLATION, WALKTHROUGH & CODE



# How it is used ?

- ◇ Clone from repo

```
$ git clone https://github.com/whywesmurfing/Snakes_Ladders.git
```

- ◇ Install the game:

```
$ bash install-game.sh
```

- ◇ Run the game:

```
$ ruby snakes_ladders.rb
```

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# **Terminal Application Walkthrough & Behind-the-Scenes Code for Feature**





3

# HIGH LEVEL LOGIC

FEATURES & CONTROL FLOW



# CORE FEATURES OUTLINE

## Portals

Changing the destination from one square to another, due to landing on a 'snake' or 'ladder' square.

## Board Visualisation

Rendering the array of squares into a 10x10 grid format, whilst displaying the 'location' ID on screen

## Player colour selection

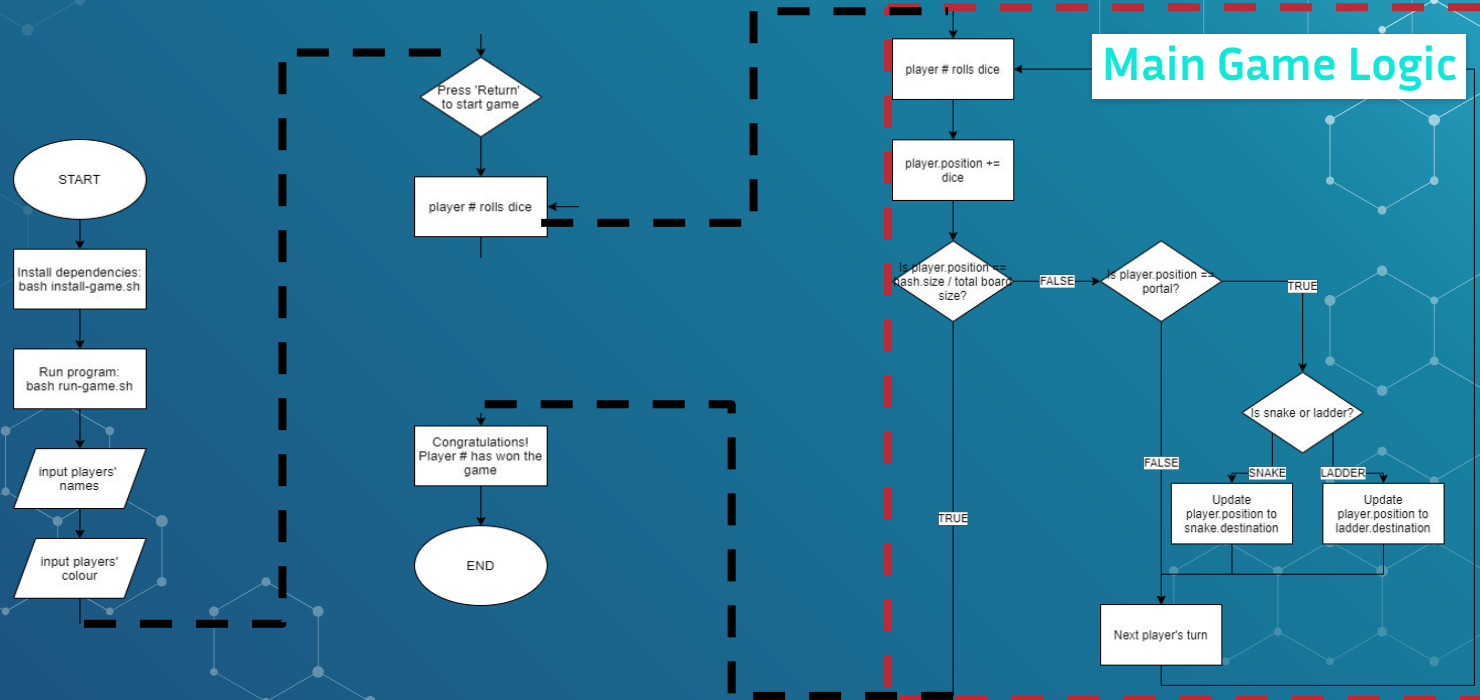
Player can choose their colour of choice to represent their piece on the board.



# INTEGRATION OF FEATURES

- ◇ Board Visualisation + Rendering
  - ◆ Player Colour
  - ◆ Player Tile/Square
  - ◆ Squares showing 'location' ID
    - ◆ Portals for Snakes and Ladders

# CONTROL FLOW DIAGRAM





4

# DEVELOPMENT PROCESS

CHALLENGES, FAV PARTS & ETHICS



# TECH STACK

- ◇ Source/Version Control: Git
- ◇ Language: Ruby ver. 2.7.1
- ◇ Gem Used:
  - ◆ 'bundler' for managing gems
  - ◆ 'rspec' for testing
  - ◆ 'colorize' for colour in terminal
  - ◆ 'tty-table' for board visualisation



# DEVELOPMENT PROCESS

## Challenges

- ◇ Initial design vs initial coding -> Ruby is not very strong in visual aspects, became an overly ambitious game
- ◇ Parsing variables from Game instance back to Square, hence the Square design.
- ◇ Warping/Portal effect: Updating player's position once they have landed on a snake or ladder

## Favourite Parts

- ◇ Adding colour to the terminal based on the player's input
- ◇ Array#unshift method-> allowed me to create the alternating rows
- ◇ Warping/Portal effect ! Loved how this was made possible

## Ethics

- ◇ Unlikely but potential copyright infringement for creating the Snakes and Ladders game
- ◇ Otherwise, none!

# THANKS!

ANY QUESTIONS?

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