# COLOR SWITCH

We implemented the infinity version of the popular game COLOR SWITCH using Java & JavaFX. The objective of the game is to collect as many stars as possible by manoeuvring the obstacles. If you hit any obstacle, you can continue with your earned stars or the game ends and you have to start from the beginning.

-Anoushka Narang
2019235

-Madhav Rangaiah
2019251
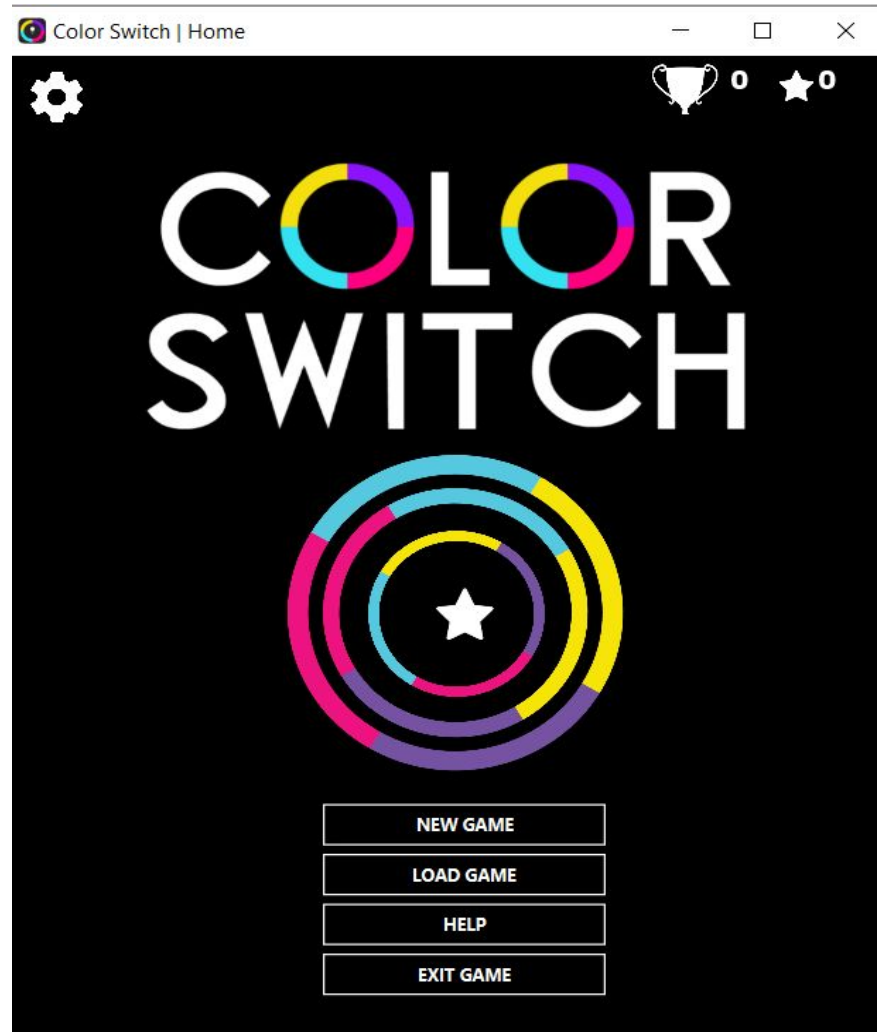
DESIGN

- Screens- Home, New Game, Load Game, Settings, Pause, Save Game, Game over, Help using stages, scenes and other components of JavaFX.
- Home screen- New game, load game, Help, Exit game, Settings button, high score, total stars
- New game screen- Pause, restart, up button, score
- Load game- to load a game from the given list
- Help- Game instructions, feedback button, tutorial video, home button
- Pause game- Button to save, resume, go back to home
- Settings- Option to switch mode- light/dark, Manage Choose level- Easy/Medium/Difficult, back to Home.
- Exit Game- this button closes the game
- Saved Games- A list of games to choose from
- Game over- Option to exit/resurrect
- Obstacles- square, line,cross consisting of 4 colors
- In game- for each frame, a random set of 2 obstacles will appear, with 1 or 2 star, and color switches.
- The color of ball(a circle) changes on collision with the switch.

IMPLEMENTATION

GAME PLAY-There will be an infinite number of frames and each frame will have a random set consisting of 2 obstacles(rotating), with 2 stars and 1 color switch. The score will automatically get updated on collision of the ball with a star and color will get changed on collision with a switch. The speed of the obstacles will increase as the game proceeds. On pressing the "UP" button, the ball will move up by a fixed distance. Implemented using Translate Transition(rotation & motion), Line, Circle(for obstacles) and ImageView(for star, switch) in JavaFX

Other options- Opening & closing of screens using `stage.show()`& `stage.close()`. Pause, resume, restart are operations done on state of the game-position of ball & obstacles. Saving game is done using serialization, Loading game using de-serialization. High score, total stars are also recorded in a file. Feedback & tutorial video using `getHostServices()`, Sound using `javafx.scene.Media()`. The speed of level of obstacles is adjusted according to the level chosen, by default it's set to easy. Changing the mode changes the background images & color of scenes.

OUR CONTRIBUTION

- Home screen, Pause screen, Load Screen, Help-Screen & Settings screen GUI & functionality
- High score & in-game score
- In game options- save, pause, restart, resume implementation, score calculation
- resurrection
- Multiple game save & serialization
- BONUS components**(mode,level, high score, in-game instructions, tutorial video, feedback tab)- GUI & functionality**
- presentation

-Anoushka

- Ball creation, movement & color change
- Creation & rotation of obstacles, and unique set of obstacles for each frame
- Frame/Camera change
- Collision with obstacles, switch, star
- Color change

-Madhav

BONUS COMPONENTS

- ## HIGH SCORE RECORD
-You can set a record by scoring the highest. It will get updated on the Home Screen.

- ## GAME MODE
-Light & Dark mode available. The background color and images change accordingly

- ## TOTAL STARS
-Total stars collected till now

- ## OBSTACLES
-Four different types of obstacles.

- ## LEVEL
-Three levels available- easy, medium, difficult. The speed of the obstacles will increase in proportion to the level chosen.

- ## HELP/GAME INSTRUCTIONS
-To let you know what's the game about.

- ## TUTORIAL VIDEO
-It will lead you to a youtube video tutorial showing the game-pla

- ## FEEDBACK OPTION
-The feedback button will open your mail-box with our email-id where you can write to us.

Color Switch | Home

COLOR SWITCH

NEW GAME
LOAD GAME
HELP
EXIT GAME

PLAY

0

HELP

COLOR SWITCH
Ultimate Guide

TUTORIAL VIDEO

Color Switch has a very simple goal.

-- Tap, Tap, Tap to get the ball past each obstacle.
-- Follow the color pattern to cross each obstacle.
-- Timing and Patience are the keys to victory.
-- Earn stars to unlock new balls.
-- Beat Every Challenge to get a High Score!

We'd love to hear your feedback!
You can write to us below

Color Switch | Settings

Customize Your Way!

SELECT MODE

CURRENT LEVEL

EASY   MEDIUM   DIFFICULT