

# Stick Hero Game Project

## Introduction

We have created a game inspired by Stick Hero using JavaFX and object-oriented programming (OOP) principles. Our game replicates the core mechanics of Stick Hero while incorporating our own creative elements.

## Game Summary

This Project involves developing a complete game where a character named stick-hero navigates between platforms by extending a stick. Length of stick is variable and is controlled by the user. Along the way, the character can collect cherries as rewards while reaching the goal.

## Game Mechanics

1. Character Control: Players can control stick-hero, maneuvering the character between platforms and extending a stick to bridge gaps between pillars.
2. Multiple Pillars: Incorporate various pillars of differing widths to add complexity and challenge to the game.
3. Reviving Feature: Implement a feature allowing the player to revive once by using a specific number of collected cherries. Deduct cherries upon revival.
4. Precision Timing: Players must time the stick extension accurately to land on the next platform. Failure results in the character falling and the game ending.
5. Reward Collection: Enable the character to collect cherries by flipping upside down while moving between platforms. These collected rewards contribute to the player's score.
6. Scoring System: Design a scoring mechanism that encourages players to aim for higher scores by collecting more rewards.
7. Progress Saving: Include an option for players to save their progress (last score, highest score, total cherries) during gameplay.
8. Enhancements: Utilize graphics, sound effects, and animations to elevate the overall gaming experience.

## Notes

We have used core concepts like Design patterns like singleton and Factory design, JUnit test cases, JavaFX and other OOPs concepts throughout this projects.

## Bonus Marks

We have added multiple new features as bonus points. Below is the list:

- Reviving feature
- Variable size of platform
- Multithreading
- Additional Obstacle
- Jumping Feature

## **CONTROLS**

Press SPACEBAR TO START EXTENDING THE STICK

Press ENTER TO STOP THE EXTENSION

While CHARACTER IS MOVING OVER THE STICK, PRESS SHIFT TO FLIP THE CHARACTER IN ORDER TO COLLECT THE CANDY

BONUS COMMAND IMPLEMENTED- Press SPACEBAR TO START JUMPING WHILE OVER THE STICK AND PRESS ENTER TO STOP THE JUMP AND GET BACK OVER THE PLATFORM

Project by:-

**Shaurya Thapliyal**  
(2021201)

**Piyush Kumar**  
(2021180)