



Will Hero

CSE201: Advance Programming

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Design and Implementation

- The game is designed and implemented using Java and JavaFX along with Scene Builder.
- Designed Hero, islands and enemies using various javafx components such as ImageView, Image, group etc.
- Used the animation feature in javafx.Animation class.
- Solved the problem of detecting collision using intersection() and bounds method of javafx.Shape class and import javafx.geometry.Bounds respectively.
- Used the concept of stage and scenes in the game to switch between different screens.

- Used the scene builder and FXML files for the GUI part of the game
- Used Label component for showing score, ImageView component for holding images, Anchor Pane for the game base etc.

Used physics simulation for better and smoother GUI of the game.

- Used programming concepts like object-oriented programming, file handling, exceptional handling, serialization and deserialization, multithreading, event handlers, etc.

Design Patterns used- Factory: multiple types of nodes build using nodeLoader

Chain of responsibility: Game class gives responsibility to GameState class and so on.

Iterator: Using multiple array lists and their iterators.

Observers: Event handler for mouse clicking.

Individual efforts by teammates

- Movement of hero and scene: Siddhant Agarwal

- Behaviour and Collision between hero and :

 - Islands Top (i.e Jumping): Siddhant Agarwal

 - Enemies: Siddhant Agarwal

 - Chests: Samarth Raina

 - Weapons: Siddhant Agarwal

 - TNTs: Samarth Raina

- Serialization and Deserialization: Siddhant Agarwal

Animations: Siddhant Agarwal

Using Scene builder: Siddhant Agarwal & Samarth Raina

UML Class Diagram: Siddhant Agarwal

UML Use Case Diagram: Samarth Raina

- Sound Effects: Siddhant Agarwal

Presentation: Samarth Raina

Bonus feature- Samarth Raina and Siddhant Agarwal

Bonus Features

- Sound effects for player movement, the opening of chest, and game over.
- Endless mode- Do your best to score as many points as you can as the game never ends!!
- Special Chest- A hidden surprise, some of our chest make your hero 4 times as large for 10 seconds!!!