WILL HERO GAME

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Design and Implementation

Challenges faced -

- Keeping track of object positions
- Coordination of resume/pause
- Moving all objects except for hero in backward direction
- Creating event-handlers
- Detecting collision
- Use of FXML files
- Jumping and falling of orcs and hero

Solutions implemented -

- Use of Arraylists and position class
- Use of timelines for animations and playing/ stopping as required
- Use of translateTransition methods on groups of objects
- Use of onAction in scene builder to connect to methods in controller class
- Use of getBoundsInParent() and intersects() methods
- Loading FXML hierarchy using load method of FXML loader to retrieve ImageViews of different game objects from it
- Use of Timeline and KeyFrames

Design patterns used:

1. Decorator pattern in serialization and deserialization using IO streams
2. Use of abstraction (use of abstract classes like Chests and use of static variables) , polymorphism (in ifCollides and collectChest methods), inheritance, template in division of labour among child classes.
3. Factory pattern in chest factory

Individual Efforts

Tarushi

- Hero and orc collision
- Some parts of jumping of hero and orc
- Falling platforms implementation
- Chest open and collect
- Some parts of Throwing knives and sword increasing level
- Sword swing and throw knife and collide with orc

Devyani

- fxml scenes and switching
- Arraylists to track positions
- Boss Orc methods
- Setting up chests, orcs
- Parts of some movements/ collisions
- Exception handling
- Methods to deserialize/serialize

Both of us spent substantial time in google meets to work and organize together