

Superman Target Practice



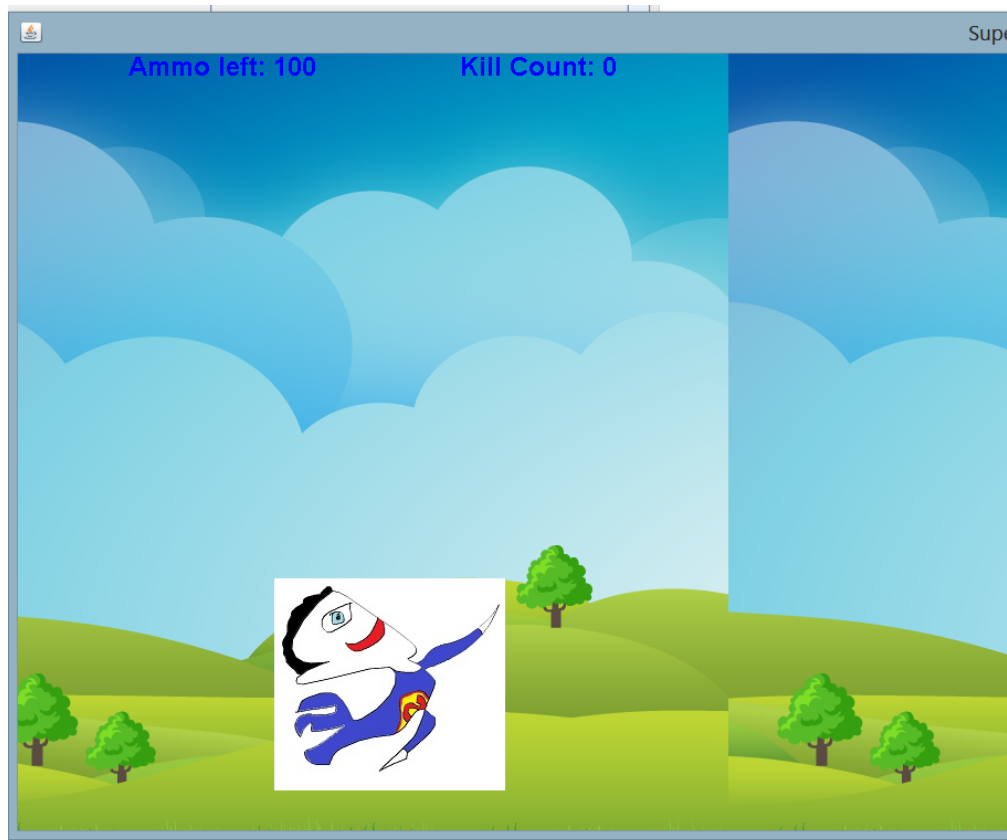
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Where We Started

- 2D Superhero Sidescroller with multiple characters
- Special abilities for each character
- Multiple levels
- We were very ambitious

Problems along the way...

- Scrolling & refreshing background
- Adjusting code for different characters
- Collision detection
- Frame rate issues
- Threads



Early problems with the background



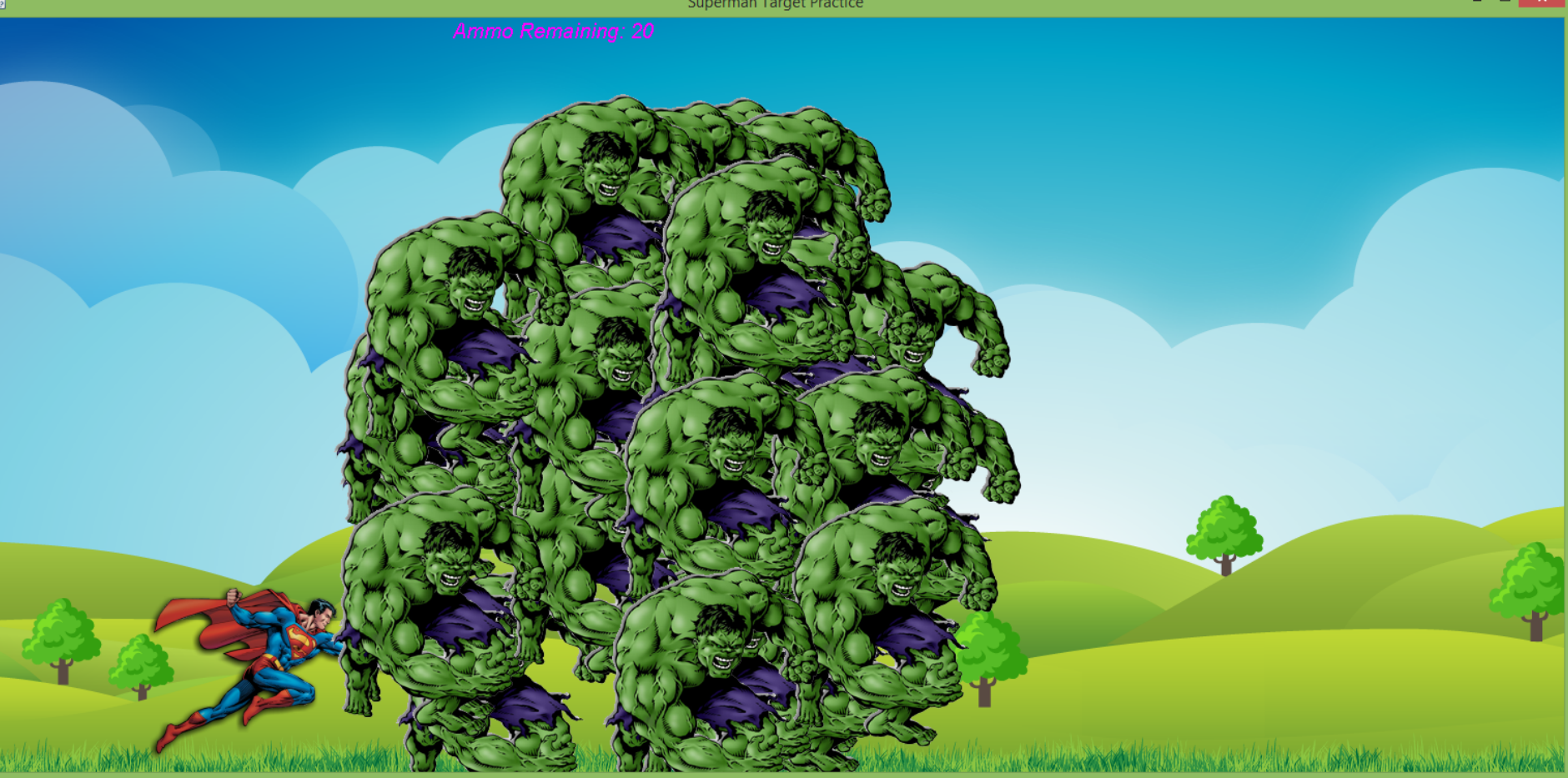
Problems @ Javadoc Declaration Console

<terminated> Frame [Java Application] C:\Program Files\Java\jre8\bin\javaw.exe (Jun 5, 2014, 9:39:11 AM)

```
Exception in thread "AWT-EventQueue-0" java.lang.NullPointerException
    at OurGame.Board.checkCollisions(Board.java:72)
    at OurGame.Board.actionPerformed(Board.java:49)
    at javax.swing.Timer.fireActionPerformed(Unknown Source)
    at javax.swing.Timer$DoPostEvent.run(Unknown Source)
    at java.awt.event.InvocationEvent.dispatch(Unknown Source)
    at java.awt.EventQueue.dispatchEventImpl(Unknown Source)
    at java.awt.EventQueue.access$400(Unknown Source)
    at java.awt.EventQueue$3.run(Unknown Source)
    at java.awt.EventQueue$3.run(Unknown Source)
    at java.security.AccessController.doPrivileged(Native Method)
    at java.security.ProtectionDomain$1.doIntersectionPrivilege(Unknown Source)
    at java.awt.EventQueue.dispatchEvent(Unknown Source)
    at java.awt.EventDispatchThread.pumpOneEventForFilters(Unknown Source)
    at java.awt.EventDispatchThread.pumpEventsForFilter(Unknown Source)
    at java.awt.EventDispatchThread.pumpEventsForHierarchy(Unknown Source)
    at java.awt.EventDispatchThread.pumpEvents(Unknown Source)
    at java.awt.EventDispatchThread.pumpEvents(Unknown Source)
    at java.awt.EventDispatchThread.run(Unknown Source)
```

90% of our tries at collision testing

Ammo Remaining: 20



How it Works

- Player controls Superman in his quest to destroy Hulk targets.
- Given limited amount of laser ammo, hit as many Hulks as you can.
- Upon completion, given information on how well you performed. (# of kills, accuracy, etc)

Screen Class

- The main JPanel class of our program, where the bulk of the code is.
- Includes logic for scrolling background, as well as the painting of all images.
- Also includes information for certain interactions such as the Hero's jumping ability, and the bulk of the collision detection code.

Hero Class

- Includes logic for the movement of the hero
- Includes information on hero positioning used for other classes
- Includes the laser firing logic
- Establishes Hero picture and collision box size

Laser

- Establishes the speed of the firing laser.
- Establishes picture and collision box size for the laser image

Enemy

- Establishes Image and hit box size for enemies.
- Allows for movement of enemies along with the sliding background
- Establishes logic for checking if enemy is still alive

How Work was Divided

- Whole team worked collaboratively on the success of the program.
- Generally one driver writing code, while other members researched and thought ahead.
- Certain parts of the project (UMLs, menu development, powerpoint) split up for the times when we could not work together.