

CSCI 321 – Game Programming
Spring 2016 - Assignment 1 – 2D Pygame

Ninjavenge

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Date: April 27, 2016
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Back Story:

The robots cowboys and jack-o-lanterns always feared ninjas. For many months they have tried to invade their homeland but succeeded. However, they have formed an alliance and have destroyed all the ninjas. All except for one.



The main character is a ninja named Ren. Ren was a peaceful ninja. However, since his homeland has now been invaded by cowboys robots and jack-o-lanterns, he must now leave his peaceful life and avenge his former home.

User's Guide:

Ren must seek revenge by eliminating all transiting cowboys, robots, and jack-o-lanterns between his homeland and everything else. There are four lanes in which the enemies move about. Use the up and down arrow keys to switch between lanes and use your attacks to stop the enemies.

Ren has two types of attack:



Pressing 'a' will use Ren's katana for a melee attack.



Pressing 's' will use Ren's kunai for a ranged attack.

If you haven't guessed from the title, there are three different types of NPCs.



Cowboys are simple humanoids who take only one attack from Ren's katana or kunai to be taken out. For every cowboy Ren kills, the next one that will spawn will be faster. Far into the game, his speed will surpass Ren's so it is wise to save your kunai attack for him.



Robots are mechanical beings who take no damage from Ren's kunai attacks. For each kill robot Ren kills, the next one that will spawn will be stronger and could take more katana hits than its predecessor. Its chances of making it to the end of the lane are slim given that its speed never changes. Its main goal is deflect kunais for either the cowboy or jack-o-lantern. Later in the game it could take 10 katana hits to take out a robot, forcing Ren to attack it early on either the very right or left side of the map. This is a perfect opportunity for a cowboy to zip past Ren, be careful!



The jack-o-lanterns are the weakest of the trio. Like the cowboys they only take one kunai or one katana hit from Ren. Their speed never increases, but they do get an extra life for each one you kill. Therefore, after you kill it, it may spring back to life and continue running towards the other side. Keep an eye on this guy! If you think you've killed it and move on to kill the other two NPCs you might miss it getting back up and taking one of Ren's health points away.



Ren gets three health points indicated by hearts on the top left of the screen. Each time an enemy reaches the end of a lane, a hitpoint is deducted and all enemies will despawn. New enemies will respawn with $\frac{1}{2}$ the difficulty of the previous enemies to allow Ren to recover from the loss.

The objective of the game is to get the highest score possible with the allowed health points. Each kill gives you points. Each time an enemy reaches the end of a lane the score does not change. However it brings Ren closer to his death.

The beginning of the game has a main menu. Here you can start the game, run the quick tutorial for Ren's moves, learn more about the game (a short version of this document) and an option to exit the game. In-game you can access a sub-menu by pressing the F1 key and then can access the main menu from there (note, you will lose all saved progress from this action). You can also quit the game from the sub-menu.

Coding Module:

All coding was typed on one python file. In this file we have code that was taken from the pygame example code for chimp.py for loading sound and images, as well as for incorporating the game loop.

Imported modules:

- OS
- pygame
- random

Cheats:

Ninjavenge is a never-ending game whose goal is to amass points. For testing purposes, simply let four waves of enemies pass by to test the GameOver() class.

Acknowledgements:

Animations:

ninja - <http://www.gameart2d.com/ninja-adventure---free-sprites.html>

robot - <http://www.gameart2d.com/the-robot---free-sprites.html>

jack-o-lantern - www.gameart2d.com/jack-o-lantern-free-sprites.html

cowboy - <http://www.gameart2d.com/temple-run---free-sprites.html>

Sound Effects:

grunt.wav - <http://freesound.org/people/JoelAudio/sounds/135855/>

laugh.ogg - <http://freesound.org/people/insanity54/sounds/325462/>

game_over.wav - http://freesound.org/people/SoundEffectsPodcast_com/sounds/256091/
punch.wav – pygame example data.
ugh.wav - <http://freesound.org/people/ecfike/sounds/135797/>
dink.wav - <http://freesound.org/people/Erdie/sounds/27858/>
attack.wav - <http://freesound.org/people/dermotte/sounds/263011/>
sound effects cont...
throw.wav - <http://freesound.org/people/braqoon/sounds/161098/>
jump.wav - <http://freesound.org/people/Robinhood76/sounds/328715/>
robot_dead.wav - <http://freesound.org/people/liquidhot/sounds/98369/>

Music:

ninja.mp3 - <https://musescore.com/user/954181/scores/466291>

Clip Art:

heart.png - <https://openclipart.org/detail/12890/heart>

Code:

Menu Loop (partial) - <https://nebelprog.wordpress.com/2013/08/14/create-a-simple-game-menu-with-pygame-pt-1-writing-the-menu-options-to-the-screen/>

About the Developer:

This is my first attempt with making a game in Pygame. The only other game developing experience I have was with a group of three other students where we created a GUI for a board game using JavaFX/Scene Builder.

In my experience making this game, pygame had a learning curve but it wasn't too bad. Most of my time was used making sure the animation of the characters looked smooth and that the event handler was top notch. Speed in this game is a big factor with winning or losing so I made ease of movement my highest priority. The toughest controller challenge I encountered was having the player be able to keep moving forward, while jumping, and attacking at the same time. I started the game with a fully functioning jumping ninja, but I soon changed my mind into incorporating lanes instead. It made the game more challenging and allowed me to easily set boundaries to the jump ability.

I plan to create future versions of this game, to where a player can choose to be the cowboy or robot or the jack-o-lantern and have different abilities as well. However that would also mean changing the story of the game.