

FIT2099 - Object Oriented Design & Implementation - Semester 1, 2017

Assignment #2 - Star Wars - Roguelike One Design Changes

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Introduction

In accordance to the overall assignments of FIT2099, Assignment 1 instructed The Zappers team (consisting of James and Michael) to draft a set of UML and sequence diagrams to prepare implementation of code modifications in Assignment 2. Since then, whilst developing, the team has had to make decisions to change the intended way of implementing these functions. Therefore our UML and sequence diagrams are changes, as well as other things that will be mentioned from here on out. Mentions of already defined features are typically there to deliver context to the change.

Changes to The Force

The force is an entity. It isn't 'take'-able and users who have it can't lose it. The Force has a Power which is accordance to your affinity to the force and it's recognition of your cognisance. The force can only belong to a SWForceActor who has embellished their soul with the force. A force actor gets a special title to their name according to the force power. A force character like Ben Kenobi and Player are now extending SWForceActor. A player with the force can perform mind control. The power level to unlock mind control is set in the forceEntityInterface. It's default is 10. Once a player (who starts at 5 by default) trains their forcePower to an adequate level, meeting another character that isn't wise in the ways of the force (weak minded) allows that player to control their movements for a turn. The weak minded folk all have the Obey affordance which allows them to be subject to Mind Control and performs the logic of that process, a process done through the *scheduler*. Using an obey affordance was the most useful here to allow us to disable if when needed, and allow flexibility when interacting with other characters.

Changes to Lightsabers

Lightsabers are now a Force entity.
A force entity has certain requirements to accomplish tasks.
A lightsaber is a weapon so it has a 25 point requirement before it's able to be successfully wielded as a weapon. Until then, it is just carried with the player as a doovalacky
A lightsaber performs the same as a regular weapon except for wielding restrictions.
There is now wielding in the game. A player will carry an item, and they may also wield it afterwards - only when the item is a weapon, and only when requirements are met to wield.

Changes to Force Training

Due to aforementioned Force Perks, namely the forcePower attribute, force training functions as follows. It'll also provide something a bit more fun than it already is.

On the beginning of the game, the player is notified of his hitpoints, and also his force power. He has a natural affinity towards the force, but hasn't been trained. The player found he could do certain things as a child others couldn't, but didn't really think much about it. Now he is thrown into a world where ben kenobi can train him. This 'Master Jedi' can train him, but is a busy man so he scurries off into the mist to do other stuff. The player, on training with ben, will be graded according to the productivity of the training consequently increasing the Player's force power. It's a random number between 1 and 6.

Changes for Droids:

Slight variations and changes of the implementation and design have been made to the Droid class that implements regular Droids - and the two special Droids, namely, R2-D2 and C-3PO (as required by the extra functionality of the design of Assignment #2).

First off, it was made that Luke (the player character of the game) is able to Take Ownership of any Droid (even R2-D2 and C-3PO), and is able to heal them (if he holds an oil can - using the HealDroid action), dismantle them (into Droid Parts using the Disassemble action) and repair Droids (using the Repair action). In the healing action, the requirement of having a oil can is strict - without it, Luke will not be able to heal the Droids!

Both Ben Kenobi and any Tusken Raider that is created by the SWWorld class was designed not to be able to be interactive to any Droids. It is seen that Tusken Raiders are the bane of the Star Wars universe - so they are seen as roguelike entities that only known one thing - attacking those who are not one of them. Also, Ben lives in the Badlands in his hut - training the ways of the Force - as seen by the Force implementation, so it would make sense if he does not have the time to focus on Droids!

Droids themselves have set actions that they will undertake in the game. They move randomly (or follow their owner) once per turn, while constantly searching for an oil can. If they find one - it is possible they will pick it up and try and heal themselves.

R2-D2 and C-3PO are two special instances of the Droid class that implement two extra feature sets to the game. C-3PO (while not owned), stays still and rambles 1 of 10 quotes if initiated. R2-D2 (while not owned) - patrols 5 east then west steps - while constantly looking for Droids he can Disassemble and Repair - coming from his nature as the 'Repair Droid'!

Changes for Healing:

Healing remained relatively similar to the original planned design that was seen in the first part of this Assignment - albeit with slight alterations.

It was designed that Tusken Raiders are so savage that they will not attempt to heal

themselves if they are hurt, or if they find a Canteen. They (like the above stated) know only one thing - attack those who are not part of their Team.

Ben Kenobi (as described as a requirement in the extended functionality) is designed to look for a water canteen if he is not at 100% HP. If he finds a full Canteen, he will drink until he is at 100%, or the canteen runs out. Note this occurs on successive turns - as per the requirement specified in Assignment 2's extended functionality needs).

Droids (namely R2-D2) is able to heal other Droids in his path that need it. This will occur if R2-D2 and another Droid are on the same tile - and the target Droid has taken damage to their HP.

Apart from these changes, the implementation of healing for Luke remained the same as per the original design. He can heal himself, other Droids, and fill/dip a found Water Canteen in healing himself.

References

Javatpoint 2017, *Java Switch Statement*, viewed 10 May 2017,
<https://www.javatpoint.com/java-switch>

Stack Overflow 2011, *Getting random numbers in Java [duplicate]*, viewed 10 May 2017,
<http://stackoverflow.com/questions/5887709/getting-random-numbers-in-java>

Stack Overflow 2010, *In Java, how do I check if a string contains a substring (ignoring case)? [duplicate]*, viewed 7 May 2017,
<http://stackoverflow.com/questions/2275004/in-java-how-do-i-check-if-a-string-contains-a-substring-ignoring-case>

Stack Overflow 2010, *In Java how does one turn a String into a char or a char into a String?*, viewed 10 April 2017,
<http://stackoverflow.com/questions/2429228/in-java-how-does-one-turn-a-string-into-a-char-or-a-char-into-a-string>

The Internet Movie Database 2017, *Quotes for C-3PO (Character)*, viewed 10 April 2017,
<http://www.imdb.com/character/ch0000048/quotes>