Narratives

**Introduction**

Hello my name is Jordan Schlinger, and I started attending SNHU’s computer science a year ago. This is my capstone, and I hop you enjoy it! I had limited things to work with as I went so quickly, but I enjoyed every moment!

**Self Assessment/Reflection**

I’m going to be honest: I am not the best, or the brightest, coder. It took me one year to finish this school: and I did it for one reason, because I am a lawyer (or rather, about to be) and wanted to go into Patent Law. Having a STEM degree was a requirement. However I rapidly discovered that I *enjoyed* coding. If I could I would do it for a job.

Collaborating in a team environment has also allowed me to gain an appreciation for the ability to have a new pair of eyes review my work. Often I can get too close to a project, and lose the ability to look at my work objectively, but having another reviewer can reveal previously unseen mistakes and advice for possible improvements. Additionally the ability to communicate with stakeholders and and discover what they want in a project, has been a focus of my work in this class and has reinforced my belief that the most important part of the software development lifecycle is when the requirements for the project are being decided on during discussion with stakeholder, programmers, project leads, and end users.

**Enhancement One: Software Design and Engineering**

The first thing I worked on was the design itself. It was extremely basic- a map, combined with a few items, and then the ability to escape. Now the original assignment had called for 6 items, 6 rooms, and a “win” condition. I had already improved it. However, in my changes, I did a heck of a lot.

First, I added in a stat system (more on that later), as well as a level up system. I added in enemies which would fight the protagonist and took away the instant win condition. I wanted to make sure people could resume where they left off so I added in a save system. All of these combined to make a better game. The adding in of an option to access a map was the cherry on the cake.

**Enhancement Two: Algorithms and Data Structures**

Still working on the same thing the first thing I did was, literal, algorithms- adding in a (very) simple XP system, as well as adding in a method to calculate two types of damage- magic and physical. I made sure there were plentiful enemies of course, but not too many- the starter room for instance doesn’t have one. I also made sure the items had various stats.

One other thing I did was add in music to it. I made sure it automatically started on gamestart, drawing from Jagex’s Runescape. I also added in music for literally any and every action as a way to make it seem “real”. This was designed in an effort to make the game seem more realistic.

Moreover the XP system works in conjunction with the HP system that was put in (player\_health), which allows for one to completely restock their health upon leveling up. This, combined with the difficulty options, means players are often given hard choices on what to do when choosing where to go next- maximizing their “maximum” (that is- the total health they can get in a game) health such that they can beat the final boss!

**Enhancement Three: Databases**

CRUD is what I learned *simultaneously* with this course- indeed I was learning databases while doing the capstone! It is rare for a student to do this but I was able to expedite my training. However, because of this, I had no native databases to work with.

I worked on this with the ivarious items. I made each item have a variety of properties, as opposed to the original program which said, in essence, if the player had six items they won, and if seven (and this was going above and beyond in the original) they would get a super victory,- and with 8 a “true” victory.

But it wasn’t enough. I wanted a “hat” to be different than a “tunic”. Those I had a basic database in the .py itself- one that was able to assign the various items one after another to the player character and remove them from the list of items that could be assigned. You obviously can’t get a tunic twice- but if you do you get a massive stat boost which helps in fighting the final boss *and* which helps in defeating the various enemies along the way.