Software Project Management Plan

Dungeons and Dragons Discord Bot
"DiscordPatron5e"

Nathan Russell

Introduction

Project Overview:

- The end goal of the project is to have a Discord bot that allows for a more streamline play for Dungeons and Dragons over a Discord chat. It will let players get together through Discord, roll random dice, add up damage and dice rolls, and look up information from some of the various Dungeons and Dragons rule books.
- The final product is for a Dungeons and Dragons group that I am apart of so if I am playing the game with them and playing with them, I can host the server.

Project Deliverables:

- The main deliverables for the project will be the final product and code, tutorials/documentation on the various command in the bot. There will be documentation in the code on how to run it to, as well as a help command that explains the commands for the bot while it is running.

Evolution of SPMP:

- Expected Change:
  o As time goes on this document can be updated as needed due to communication with clients and Professor Broadwater. (Last Updated 4/15/2021)
- Unexpected Changes:
  o Any unexpected changes will be communicated back to the clients.

Reference Material:

- When it comes to the requirements as an assignment, Professor Broadwater's slides and curriculum material will be used to analyze the work as a graded assignment.
- When it comes to building the bot, I will be utilizing the Discord.py documentation to
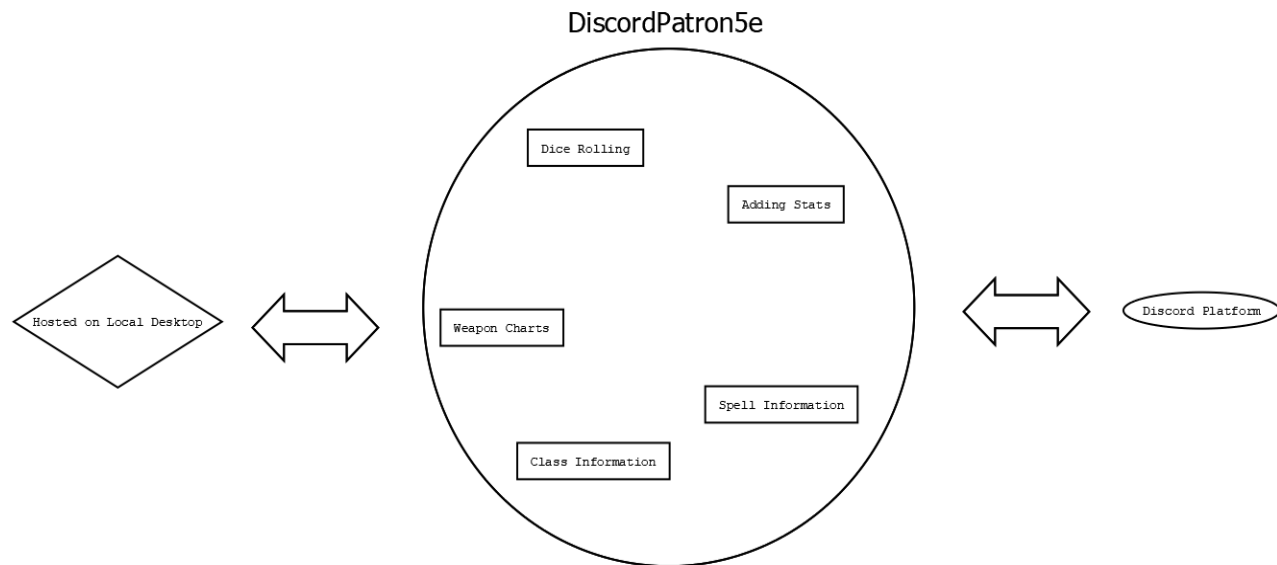
Definitions:

- SPMP- Software Project Management Plan
- HLA- High Level Architecture
- D&D- Dungeons and Dragons, a popular tabletop fantasy role playing game.
- Discord Bot- A automated program used on the chatting service, Discord, that allows users on a server that has the bot running that allows users to utilize extra commands not on the base chatting service.

Project Organization

Process Model:

- The project is going to be utilizing the Iterative Model, where I am constantly going back and testing new information and adding to the project as need be.

- The HLA Model is shown below.

DiscordPatron5e

Hosted on Local Desktop ⟷ (Dice Rolling / Adding Stats / Weapon Charts / Spell Information / Class Information) ⟷ Discord Platform

- The major accomplishments for the project are
  - Making the Discord bot infrastructure that runs on a server
  - Constructing the random dice rolling (d20, d12, d10, d100, d8, d6, d4, and d2)
  - Being able to add modifiers to dice rolls
  - Constructing the various charts of game information (weapons, spells, classes, sub-classes, races, backgrounds)
  - Turning in the code and presentation to class
 - Turning in the final product to the clients and running D&D sessions.

Organization Structure:

- As the only developer on this project, I am expected to do everything regarding this project so there can't be much of a structure to myself. The major structure comes between me as the developer and the clients with communication, whether it be with more features.

Work Breakdown Structure:

- Research Discord.Py should be due by 4/12
- Setting up a running bot on a Discord server by 4/17
- Write the code for the *roll command by 4/18
- Write code for *add by 4/20
- Write code for *lookup by 4/22
- Write code for *help by 4/23
- Testing and debugging by 5/2
- Create presentation and practice Presentation by 5/4
- Final Turn in and Presentation by 5/3

Projected Timeline:
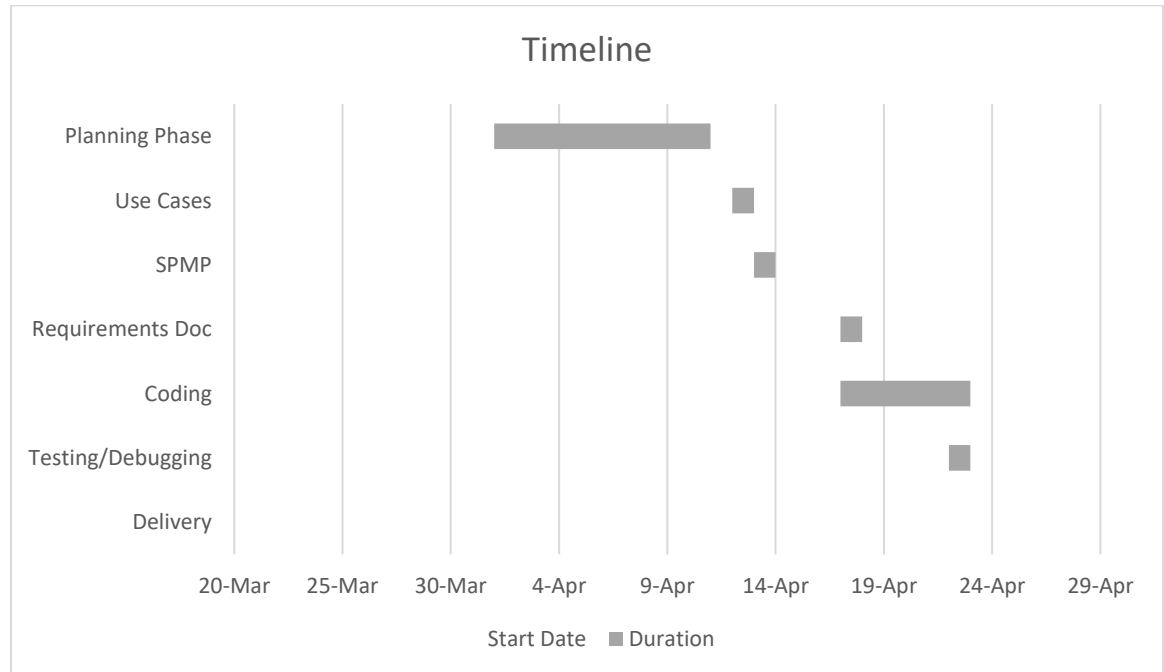
Managerial Process

Project Constraints:

- I feel the most detrimental constraint is a lack of skill and experience. This is the first time I have ever written a bot for Discord and I already don't consider myself the best with coding as a software engineer.
- Time is also an important constraint when it comes to the assignment. The project code itself is due on the 24th of April.
- The final constraint that comes with the project is outer workload. This is not the only project that is being worked on at this time and juggling the multitude of assignments can lead to a decrease in quality for what is being worked on.
- When it comes to hardware constraints, there aren't any major issues.

Risk Management:

- When it comes to risks, though it will only need to run as a tool while I am also playing, if I am ever absent for a session, the group will have to use either other online dice rollers, or roll physical die and do the math themselves. This could be solved by having the bot be hosted somewhere, but I was specifically told by the clients that no money was to be spent on this project.

Technical Process

Methodology and Tools:

- Operating System: Windows 10
- IDE: Spyder
- Language: Python
- Libraries: Random.py, OS.py, Discord.py
- Hosting: Local Desktop

Software Documentation:

- SPMP
- HLA
- Requirements
- Use Cases
- Help commands

Project Support Functionality:

- Discord is used for communication with clients
- Github repository has project code, documentation, and other progress.