

Our team is proposing the design and implementation of a table-top role play game (TTRPG) 'bot' for Discord, a multi-use free messaging and VoIP application. Discord supports the development of automated helpers (or 'bots') that assist users with a wide range of functionalities. In this case, our bot would provide assistive tools for users seeking to engage in major games such as Dungeons & Dragons and Pathfinder. Due to current global circumstances including the pandemic COVID-19, demand for remote social interaction is at an all-time high. People want to engage with their friends and meet new people, but social distancing mandates that people in at-risk areas should avoid physical interaction whenever possible. Consequently, we feel that a tool to encourage safe, but meaningful interaction between users would be in high demand. Furthermore, due to globalization, people are increasingly looking for ways to connect with people worldwide. We believe that even after the pandemic is over, this tool would still be in high demand as people want to connect with their friends and family who might live worlds apart.

The primary intended users for this tool are players and game organizers (or game masters) who are looking to consolidate gameplay tools and reduce the clutter of their gaming suite. Additionally, this tool will prove useful to users that are simply curious about TTRPGs and their mechanics and facilitate their entry into the TTRPG space. As such, the needs we will attempt to meet include some of the most fundamental aspects of the game, including dice rolling, combat initiative tracking, and other important features such as information lookup.

Our team is aware that similar bots already exist in the space; the most widely used implementation is closed-source and thus unmodifiable by players and other developers, and as a result changes for player-made content (homebrew) is not currently feasible. Additionally, very few competitors combine the specific combination of features that our requirement development

process found to be essential. Avrae, a Discord D&D bot, has key functions such as dice rolling, initiative tracking, and importing character sheets, but it is lacking features that we found to be essential. For example, the bot does not allow for homebrew character creation, dice fudging, or manual input for dice rolls, and the lookup functionality is behind a paywall. As such, we believe that we are well positioned to create a novel bot that brings a unique combination of desirable features to market, with an open-source solution that allows community members to easily and comprehensively modify for use at home.

The development team has undergone a requirements development process, through which we have gained valuable feedback from in-person interviews with real players and game masters, as well as strong engagement on posts delivered to popular content host, Reddit, where our bot proposal gained significant engagement (over 100 ‘votes’ and over 20 unique comments). Because of this, we believe that we have a strong grasp of which tools users prioritize, and have outlined them below:

- Full suite of dice rolling tools
 - Support custom player-specific ‘macro’ commands
 - Support ‘dice fudging’ feature that allows DM to discreetly ‘fix’ dice rolls
 - Support for manual dice input for players wishing to use physical dice
- Player turn (initiative) tracking with dynamic turn-end prompting
- Database compendium lookup for important game aspects like items and monsters

Dice rolling is the centerpiece of TTRPGs. Many pivotal game moments are determined by the roll of a 20-sided die, and as such, it was the first thing we thought of when drafting features. Thankfully, potential users strongly agreed with us during all points of our requirement gathering, and we believe implementation will be relatively risk-free and be a truly valuable

feature. The other bots on Discord do not allow for manual input to dice rolls which, through our elicitation execution, we found out was essential to the potential users. Long time players want to be able to use their custom dice and other physical objects they might have. Initiative tracking is another core TTRPG mechanic, allowing players to track turn order during important game moments such as combat. This was another strongly requested feature and we believe that we are able to be able to implement this as well. Finally, compendium lookup for important game aspects such as class features, racial traits, background traits, monsters, and spells will likely be one of the most challenging aspects of this project but will yield the highest reward. New players are oftentimes unfamiliar with game content, and a lookup feature will drastically improve the new-player experience. This part of development will depend on availability of third-party tools such as APIs. During research, we found a free D&D API called “D&D 5th Edition API” which allows users to look up spells and other information needed to play the game. For this reason, we believe we are also able to add this feature.

We believe that there is a big market for our product, especially during a time where people are looking for ways to connect with others while still staying safe. From our interviews and surveys, we believe that we can bring features to the TTRPG community that the other bots were lacking or hid behind a paywall. While doing research, we discovered that the Discord bots can be coded using Python. All the developers in our team all have multiple years of coding experience with Python. Because other bots have some of the features that we want to achieve, we believe that this project is feasible and are confident that we can implement these functions. For these reasons, we believe that we can create a product that will make the remote TTRPG gaming experience simpler, clutter-free, and overall, more enjoyable.