



Wild Card Bot

Sprint 1 Planning Document

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Sprint Overview:

During this sprint, we hope to successfully create the modular function system and get both function upload methods working so we can make the other modules in later sprints minimal difficulties. Additionally we hope to successfully create a majority of the administration tools as they do not use the modular function system and therefore can be developed alongside it without interference.

Scrum Master: Nikolas Damalas

Meeting Plan: Monday/Wednesday/Friday @ 11:30am EST

Risks and Challenges:

Since this is our first sprint and the official start of building our project, a major challenge will be determining our workflow. Another challenge will be finding ways to test our modular function system to make sure we cover as many edge cases as possible. It is important that we stick to our user stories and design document to make sure that the modular function system and administration tools do what the user expects them to accomplish. These two pieces form the “core” of the Wild Card Bot that the rest of our project will be built upon, so we need to make sure it is as polished as possible.

Current Sprint Detail:

User Story #1

As a developer, I would like the bot to be able to interact with the Discord API.

#	Description	Estimated Time	Owner
1	Make connection to Discord API	1 Hr	Nikolas

2	Add to the server for testing	0.5 Hr	Nikolas
3	Create a function to generate a list of all of the users of the server.	2 Hrs	Kyle
4	Create a function to get all of the permissions and roles of all of the users of the server.	3 Hrs	Kyle
5	Create a function to create a list to store all of the commands.	2 Hrs	Kyle

Acceptance Criteria:

- Given that a connection to the Discord API was made, when I request to use a discord client, I will be able to connect the bot to a server.
- Given that the bot has been loaded onto the server, when I type a test command, the bot should respond with a simple message saying that the command was received.
- Given that the connection to the server was made, when I request information on a user, I should be able to receive that information from the list of users on the server.
- Given that the bot was created, when I request to see the existing commands, I should be able to view all of the existing commands on the bot via the command list.

User Story #2

As a developer, I would like to be able to dynamically load functions to the bot from separate files

#	Description	Estimated Time	Owner
1	Create function to load data from external function files	2 Hrs	Nikolas
2	Create listener to check for commands in chat for all external functions	3 Hrs	Nikolas
3	Determine the format that external functions need to be in to load in	3 Hrs	Nikolas

	correctly.		
4	Create function to send command arguments to the respective function and the execute it	3 Hrs	Nikolas

Acceptance Criteria:

- Given the command used exists in an external function, when the command is recognized, then the command executes with all the proper arguments in about a second.
- Given two functions use the same command, when the functions are loaded and the error is found, then the administrator is notified and the offending modules are not loaded.
- Given a command is not in any function, when a user calls the command, then the bot notifies the user the command does not exist.

User Story #3

As a Server Administrator, I want to add and remove functions from the bot via a function folder.

#	Description	Estimated Time	Owner
1	Create a directory locally that the bot can access labelled "Functions"	0.5 Hr	Nikolas
2	Create a function to reload the function list in the bot when the function folder is modified	2 Hrs	Nikolas

Acceptance Criteria:

- Given the user is in the bot directory, when a user wants to access the function folder there is a folder labelled "functions" is found in the same directory as the main bot file.
- Given the reload function works as expected, when a function is modified, then the bot successfully reloads within a few seconds when the function folder is modified.

- Given a file is put into the function folder that is not in the correct format, when the functions are reloaded, the improper file is ignored and a message is sent from the bot that a function is not formatted properly.

User Story #4

As a Server Administrator, I want to add functions to the bot using Discord's file sharing feature.

#	Description	Estimated Time	Owner
1	Determine how the bot can access files uploaded via discord chat	1 Hr	Nikolas
2	Create an admin level function to scan for files uploaded via discord and download them to the function folder	4 Hrs	Nikolas
3	Create function to check for command/alias collisions before installing the function	3 Hrs	Nikolas
4	Call the reload function to make sure the commands are loaded	1 Hr	Nikolas

Acceptance Criteria:

- Given a properly formatted function file, when a user with the right permissions uploads a function via file sharing, then it can be used within a minute of submitting the file.
- Given a file is properly formatted but conflicts with a currently installed function, when the user tries to upload the function then the bot will refuse and notify the user that there is a conflict.
- Given the bot is loaded on the server properly, when modules are added, the bot will reload the functions to make sure that the commands are loaded.

User Story #5

As a Server Administrator, I want to remove functions from the bot with a command.

#	Description	Estimated Time	Owner
1	Create a function to delete a command file given the name of the module or the filename.	2 Hrs	Nikolas
2	Call reload function to make sure commands are not still accessible.	1 Hr	Nikolas

Acceptance Criteria:

- Given the proper module or file name, when a user calls the command then the function is deleted from the function folder within a few seconds.
- Given a deletion is successful, when the deletion is finished then the commands list is reloaded to prevent removed commands from being called.
- Given an improper module or file name, when the user attempts to delete the file then the user is notified the given module is not found.

User Story #6

As a Server Administrator, I want to be able to edit the list of banned words.

#	Description	Estimated Time	Owner
1	Determine the most efficient way to store the list of banned words.	3 Hrs	Kyle
2	Implement the list of banned words into the main module.	3 Hrs	Kyle
3	Create a function that adds a word to the list of banned words via a command.	2 Hrs	Kyle
4	Create a function that removes a word from the list of banned words via a command.	2 Hrs	Kyle
5	Create a function that displays the list of banned words.	1 Hr	Kyle

Acceptance Criteria:

- Given the user is permitted, when the user adds or removes words from the banned list, then it happens within a second.
- Given a word is not on the list when trying to remove it, then the user is notified it is not found.
- Given a word is successfully added or deleted, when the action is completed, then the user is notified.

User Story #7

As a Server Administrator, I want the bot to automatically delete messages containing banned words.

#	Description	Estimated Time	Owner
1	Create a function to detect if a banned word has been used in a message efficiently.	3 Hr	Matthew
2	Create a function that deletes the message with the banned word before it is sent.	3 Hr	Matthew

Acceptance Criteria:

- Given that the banned words list is implemented correctly, when I send a message with a banned word, the bot should detect that a banned word was used.
- Given that the bot is loaded onto the server, when I send a message with a banned word, the bot should not allow the message to go through and it should be deleted.
- Given that a banned word was used, when the message was deleted, the bot should send a message saying that the message was deleted.

User Story #8

As a Server Administrator, I want the bot to warn users if they try to use a banned word.

#	Description	Estimated Time	Owner
1	Research key word detection and	2	Arun

	implementation in python using discord api		
2	Create a function to detect which user sent a banned word.	3 Hr	Arun
3	Research withholding/deleting messages specified to user that sent through the use of discord api/permissions	2	Arun
4	Create a function that warns the user of the word that they tried to use and tell them it is a banned word.	3 Hr	Arun
5	Create a function that restricts users from sending messages for a period of time specified by the server administrator when they send too many banned words in a short period of time.	4 Hr	Michael
6	Create a function that allows the server administrator to change the timeout period.	3 Hr	Michael
7	Test Key word detection and banned word functions of bot and fix any implementation problems	1 Hr	Arun

Acceptance Criteria:

- Given that bot is loaded onto the server, when a user sends a message with a banned word, the bot should be able to find out which user sent the message.
- Given that the bot is loaded onto the server, when I try to send a banned word, I should receive a warning from the bot.
- Given that the bot is loaded onto the server, when a user sends a lot of repetitive banned words, the bot will give that user a cooldown time where they won't be able to send messages.

User Story #9

As a Server Administrator, I want the bot to kick/ban users with a command.

#	Description	Estimated Time	Owner
1	Research discord api/permission for kicking and banning users based on certain criteria	2 Hr	Arun
2	Research standard formats for different variations of bans and kicks as a result of different actions	1 Hr	Arun
3	Create a function to kick a user from the server.	3 Hrs	Arun
4	Create a function to ban a user from the server.	3 Hrs	Arun
5	Create a banned list of all users that are banned from the discord server.	3 Hrs	Michael
6	Test kicking and banning functions and fix any implementation problems as well as the different criteria and notification messages along with this	1 Hr	Arun

Acceptance Criteria:

- Given that the bot is loaded onto the server, when I try to kick a user, the bot should kick that specific user from the server.
- Given that the bot is loaded onto the server, when I try to ban a user, the bot should ban that specific user from the server.
- Given that the bot is loaded onto the server, when I try to add a user back to the server, the bot should first check the banned list to see if the user is allowed back in.

User Story #10

As a Server Administrator, I want to assign and change user roles with a command.

#	Description	Estimated Time	Owner
1	Research Role creation/deletion/assigning	1Hr	Arun

2	Research standard format for permissions and commands for role related actions	1 Hr	Arun
2	Research Role permissions and api for shortcuts in changing roles through commands	1 Hr	Arun
3	Create a function to assign a role to a specific user.	3 Hr	Arun
4	Create a function to remove a role from a specific user.	3 Hr	Michael
5	Test that the Wildcard Bot assigns users correct roles	3 Hr	Arun
6	Test role permission through commands and shortcuts and fix any implementation problems	2 Hr	Arun

Acceptance Criteria:

- Given that the bot is loaded onto the server, when the server admin or a privileged user wishes to assign a role to a user, the bot should assign the role to that user.
- Given that the bot is loaded onto the server, when a user is assigned a role, the bot should respond with a message to the entire server saying which role was assigned.
- Given that the bot is loaded onto the server, when the server admin or a privileged user wishes to remove a role from a user, the bot should remove the role from that user.

User Story #11

As a Server Administrator, I want the bot to have the ability to remove messages with links in certain channels.

#	Description	Estimated Time	Owner
1	Create a function to recognize links and remove messages with them.	2 Hrs	Matthew

2	Create a command to allow users to choose which channels should and should not be monitored for links	2 Hrs	Matthew
3	Test that the bot can recognize links and only removes messages with links in channels requested.	2 Hrs	Matthew

Acceptance Criteria:

- Given that the bot is loaded onto the server, when a user types a message with a link in the message, the bot should recognize that the message contains a link.
- Given that the bot is loaded onto the server, when the bot recognizes a message with a link it should have the ability to remove it.
- Given that the bot is monitoring a channel, when a user gives the command to stop monitoring, then users can send links in the channel again.
- Given that the bot is not monitoring a channel, when a user gives the command to start monitoring, then links will be removed from future messages in the channel.

User Story #12

As a Server Administrator, I want to create text and voice channels with a command.

#	Description	Estimated Time	Owner
1	Create a function that can create a text channel.	2 Hrs	Matthew
2	Create a function that can create a voice channel.	2 Hrs	Michael
3	Test using a Discord server that a text channel or voice channel is properly created	4 Hrs	Michael

Acceptance Criteria:

- Given the user has permission, when the user gives a valid text channel name, then the text channel is created.
- Given the user has permission, when the user gives a valid voice channel name,

then the voice channel is created.

- Given that the functions for creating text channels and voice channels are properly implemented, existing text channels and voice channels should not be affected.

User Story #13

As a developer, I want functions to be able to use libraries not found in the main bot.

#	Description	Estimated Time	Owner
1	Create a function to find libraries that are in a specific folder.	4 Hrs	Michael
2	Create a function to load the commands from the libraries into the bot so that they can be used by users.	4 Hrs	Michael

Acceptance Criteria:

- Given a function contains a library not in the main bot, when the function is loaded in the main bot then the bot will import the required libraries in order to be able to execute the function.
- Given a particular library causes an error in the bot, when the library fails to import then the user will be notified that the module was not loaded correctly.
- If a particular library is marked as deprecated but does not cause an error in the bot, the user will be warned that their module relies on a deprecated library and should consider other options.

User Story #14

As a developer, I want to know what format to code commands in.

#	Description	Estimated Time	Owner
1	Determine the standard format for commands to be written in	2 Hrs	Michael
2	Include the formatting in the README.md	1 Hr	Michael

Acceptance Criteria:

- Given someone wants to develop a command, when they open the readme file in the bot then they will see the standard function format given.
- Given someone without the bot downloaded wants to develop a command, when they go to the projects github page they can access the readme file which contains the standard function formatting information.
- Given someone wants to develop a command, the standard function format should be intuitive and not require extensive additions on top of the base code.

User Story #15

As a developer, I want to know what languages I can code commands in.

#	Description	Estimated Time	Owner
1	Research compatibility of external modules written in other languages (e.g. JavaScript) with the python base bot.	2 Hrs	Matthew
2	Create a prototype module in each potential compatible language and test how it links with the base bot.	8 Hrs	Matthew
2	Create a function that displays compatible languages and steps needed to do so.	2 Hrs	Matthew

Acceptance Criteria:

- Given other languages are compatible with the modular function system, when users request what languages are compatible then the bot will provide them.
- Given a user wants to develop a function in another language, when they specify the language they want to use to the bot then the bot will provide the basic information needed to make a function in that language that is compatible.
- Given a user wants to develop a function in another language, when they request the limitations of a language then the bot will provide what limitations exist for commands in the given language.

User Story #16

As a Server Administrator, I want to know if the function I am adding uses the same command as a currently implemented command.

#	Description	Estimated Time	Owner
1	Create a function that scans the newly added module for commands and compares the commands to the current command list.	4 Hrs	Kyle
2	Create a function that prompts the user telling them that there are overlapping commands.	2 Hrs	Kyle
3	Create a function to rename the commands that were named the same.	2 Hrs	Kyle
4	Create a function to call the functions from external modules with the new given command name.	4 Hrs	Kyle

Acceptance Criteria:

- Given that the bot is loaded onto the server, when I try to add a module to the bot, the bot should scan the new commands added to the command list and ensure that there are no overlapping names.
- Given that the bot is loaded onto the server, when I try to add a module with overlapping commands, the bot should prompt me to rename the commands that are overlapping.
- Given that the bot is loaded onto the server, when I try to rename a command, the bot should only rename this command in it's command list and call the command in the module as desired.

User Story #17

As a Server Administrator, I want to specify and change which roles can use a command.

#	Description	Estimated Time	Owner
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1	Create a function that can limit specific commands to specific roles.	2 Hrs	Matthew
2	Create a function that would allow specific roles to use specific commands.	2 Hrs	Matthew

Acceptance Criteria:

- Given that the bot is loaded onto the server, when a user tries to use a command, the bot should ensure that the user has permission to use that command.
- Given that the bot is loaded onto the server, when a user with an appropriate role uses a command, the bot should perform that command.
- Given that the bot is loaded onto the server, when a user that doesn't have permission to use a command call it, the bot should send an error message telling the user that they don't have access to that command.

User Story #18

As a Server Administrator, I want to know where I can download additional modules.

#	Description	Estimated Time	Owner
1	Research searching functionality and linking external module functionality	2 Hrs	Konstantin
2	Create a command that provides the infrastructure for links to other external modules.	3 Hrs	Konstantin
3	Use a Google Search functionality with the command alongside the links and display top results.	8 Hrs	Konstantin
4	Test that the command using placeholder links as well as the associated Google Search result.	2 Hrs	Konstantin

Acceptance Criteria:

- Given that the function is correctly loaded and infrastructure is correctly written, when the user asks for locations to download additional modules then the bot will generate and display a list of links to download locations of interest.
- Given that the Google Search functionality is properly configured, when the user asks for locations to download additional modules then the bot will display the top results obtained from the Google Search.
- Given that the infrastructure and Google Search functionality are correctly implemented, both the top results obtained from Google Search and the links from the infrastructure are displayed to the user upon using the command.

User Story #19

I want to know what commands are available to use with the bot.

#	Description	Estimated Time	Owner
1	Research creation of discord API lists and how to display with command.	2 Hrs	Konstantin
2	Create a command that displays the command list and the roles required for each command.	3 Hrs	Konstantin
3	Tests that the command list and roles required call works as intended and shows an accurate list of update commands.	2 Hrs	Konstantin

Acceptance Criteria:

- Given the permission data is correctly loaded, when users request the command permissions information then the bot will provide the permission levels associated with each command.
- Given the functions are loaded correctly and populated with the right data, when the user requests the command list then the bot will provide the list of available modules and the commands they contain.
- Given a specific module is given, when the user requests the given modules commands the bot will only return the commands found in that module.

User Story #20

I want to know what a command does and ways to invoke it.

#	Description	Estimated Time	Owner
1	Research ways to display discord commands using discord API as examples	2 Hrs	Konstantin
2	Create a function that can display what a specific command does.	3 Hrs	Konstantin
3	Create a function that displays how to and different ways to use a specific command.	3 Hrs	Konstantin
4	Test that the function call works as expected and also shows examples of commands accurately.	2 Hrs	Konstantin

Acceptance Criteria:

- Given a function has command usage information, when users request the usage information then the bot provides the usage information in the function.
- Given a function has command usage information, when users request the different ways the command can be used then the bot provides the information from the function.
- Given the user provides an invalid function, when users try to find usage information then the bot will notify them the function does not exist.

Remaining Backlog:

Functional Requirements

1. Modular Function System:

- ~~As a Server Administrator, I want to add functions to the bot using Discord's file sharing feature.~~
- ~~As a Server Administrator, I want to remove functions from the bot with a command.~~
- ~~As a Server Administrator, I want to add and remove functions to the bot via a function folder.~~
- ~~As a developer, I want to dynamically load functions and features to the bot from separate files.~~
- ~~As a developer, I want functions to be able to use libraries not found in the main bot.~~

- ~~f. As a developer, I want to know what format to code commands in.~~
 - ~~g. As a developer, I want to know what languages I can code commands in.~~
 - ~~h. As a Server Administrator, I want to know if the function I am adding uses the same command as a currently implemented command.~~
 - ~~i. As a Server Administrator, I want to specify and change which roles can use a command.~~
 - ~~j. As a Server Administrator, I want to know where I can download additional modules.~~
2. Administration Services:
- ~~a. As a Server Administrator, I want the bot to automatically delete messages containing banned words~~
 - ~~b. As a Server Administrator, I want the bot to warn users if they try to use a banned word.~~
 - ~~c. As a Server Administrator, I want to be able to edit the list of banned words.~~
 - ~~d. As a Server Administrator, I want the bot to kick/ban users with a command.~~
 - ~~e. As a Server Administrator, I want to create text and voice channels with a command.~~
 - ~~f. As a Server Administrator, I want to assign and change user roles with a command.~~
 - ~~g. As a Server Administrator, I want the bot to have the ability to remove messages with links in certain channels.~~
3. Basic Bot Usage: As a user,
- ~~a. I want to know what commands are available to use with the bot.~~
 - ~~b. I want to know what a command does and ways to invoke it.~~
4. Music Function: As a user,
- a. I want to play songs from youtube by providing a youtube link.
 - b. I want to queue multiple songs to be played.
 - c. I want to add and remove songs from the queue.
 - d. I want to view the queue.
 - e. I want to clear the queue.
 - f. I want to skip a song.
 - g. I want to have a private channel where I can listen to music without the interference of other users.
5. Decision Maker: As a user,
- a. I want to have the bot randomly pick between a set of options to help me make decisions.
 - b. I want to have the bot to randomly generate a number between a range of values.

6. Poll Maker: As a user,
 - a. I want to have the bot generate a poll that members of the server can vote on.
 - b. I want the bot to announce the result where the poll was created with voting statistics.
7. Google Search: As a user,
 - a. I want to get a google search result in the server with a command.
 - b. I want there to be an option to jump to the search in my browser from an extra command.
 - c. I want there to be an option for the bot to give me a short answer rather than extra unneeded information.
8. Basic Financial Info: As a user,
 - a. I want to see basic stock information when I enter a ticker in chat
 - b. want to see expanded stock information.
 - c. I want to get a link with more info about the stock.
9. Voice Interaction: (If time allows) As a user,
 - a. I want to speak to the bot telling it to do different commands.
 - b. I want the bot to talk back to me. (Optional feature)
10. Game statistics display (Riot and Steam (If time allows)): As a user,
 - a. I want to display my overall game statistics for a game of choice.
 - b. I want to actively know what games my friends play.
 - c. I want to be able to see when me or my friends have sales on their wishlist.
 - d. I want to know what games me and my friends have in common.
 - e. I want the bot to share my game statistics with others on the server.
11. Riot API Integration (League of Legends)
 - a. I want to display information for the game I'm currently in.
 - b. I want to get information on a specific champion.
 - c. I want to get information on a specific account.
 - d. I want to see my recent match history.
 - e. I want to see my champion mastery score.
 - f. I want to see information about an in-game item.
 - g. I want to see what pro players build on my champion.
 - h. I want to see what jungle pathing is the best.
 - i. I want to see the matchup rates of my laners to know which lanes to focus and help.
 - j. I want to see my teams individual win rates to know who can carry and which players to enable.
 - k. I want to see tips for laning on how to manage minions in all forms: slow pushing, hard pushing, freeze and what to do in each situation.

- I. I want to see if there are any ongoing in-game events or special modes.
- 12. Code Manual Documents (If time allows: Java, Python, C): As a user,
 - a. I want to display code documentation.
 - b. I want to be able to easily access the code documentation.
- 13. Clock Integration: As a user,
 - a. I want to be able to run a stopwatch on the server.
 - b. I want to be able to set a timer for a specific length of time on the server.
 - c. I want the timer to have an alarm when it is done.
 - d. I want to type a command to give a timezone in a certain city.

Non Functional Requirements

- 1. Architecture:
 - a. I want to develop the program in python with the Discord API.
- 2. Performance:
 - a. I want the bot to respond within a second of requesting something from it.
 - b. I want the bot to be available 24 hours of the day.
- 3. Usability:
 - a. I want the bot to be easy to download, set up, and customize for my server.
 - b. I want to be able to set up the bot easily with no previous experience with discord bots.
 - c. I want to never have to interact with code while running my bot.
 - d. I want to be able to know which commands I can use.
 - e. I want to use commands easily.
- 4. Security:
 - a. I only want trusted individuals to be able to upload functions to the bot.