<u>Requirements Analysis</u>

Use Cases

1.

<u>Title</u>

Discord bot creates, edits and deletes a task board

<u>Preconditions</u>

Discord server admins have the discord bot running on a discord channel

<u>Main Flow</u>

Discord server admins can create a task board such as for a project or event they are organizing.

<u>Sub Flows</u>

[S1] User provides a /createTaskBoard command to create a task board in discord channel *X*

[S2] Bot creates and pins a task board to discord channel *X*

[S3] User provides an /updateTaskBoard command to update the name and style of the task board

[S4] Bot updates task board according to the User's input from S3.

[S5] User provides a /deleteTaskBoard command to delete the task board from discord channel *X*

[S6] Bot removes task board from discord channel *X*
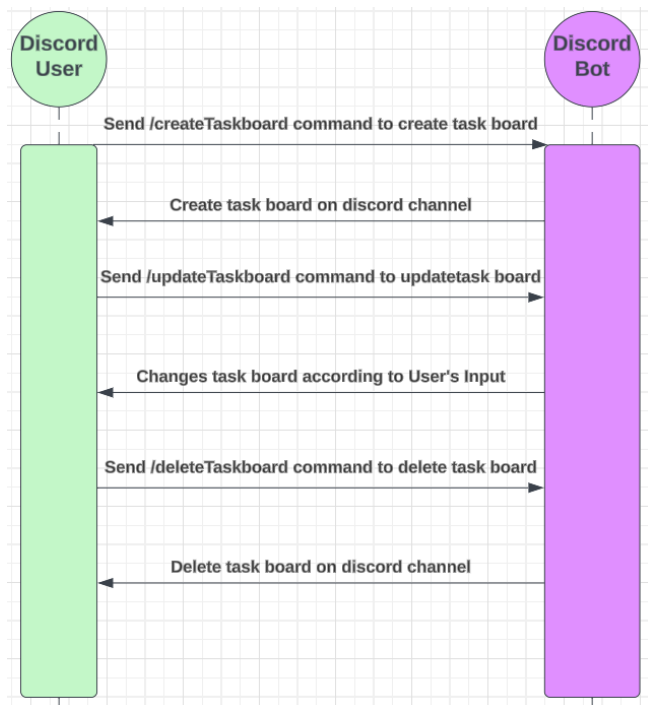
<u>Alternative Flows</u>

[E1] User does not have permission to create, modify or delete a task board

<u>Acceptance Criteria</u>

[AC1] User can create, edit and delete a task board in a discord channel

[AC2] User can specify the discord channel to place the task board

<u>Model – Sequence Diagram</u>

2.

Title

Discord bot sets, deletes, and receives reminders for deadlines

Preconditions

A task with a deadline has been added to the task board

Main Flow

Discord server admins will set reminders for a deadline. Discord bot will notify them of the deadline at a specified time before it occurs. Discord server admins can also view and delete reminders.

Sub Flows

[S1] User provides a /setReminder command with number of hours before deadline to remind, a list of @usernames, and optionally a task to attach the reminder to

[S2] User provides a /viewReminders command to see a list of numbered reminders ordered by date

[S3] User provides a /deleteReminder with a command number to delete a reminder

[S4] At the user specified number of hours before the deadline the bot will send a message with the upcoming deadline that included the @usernames of relevant members

[E1] If there are no reminders in the bots list, the viewReminders command and deleteReminders command will notify the user
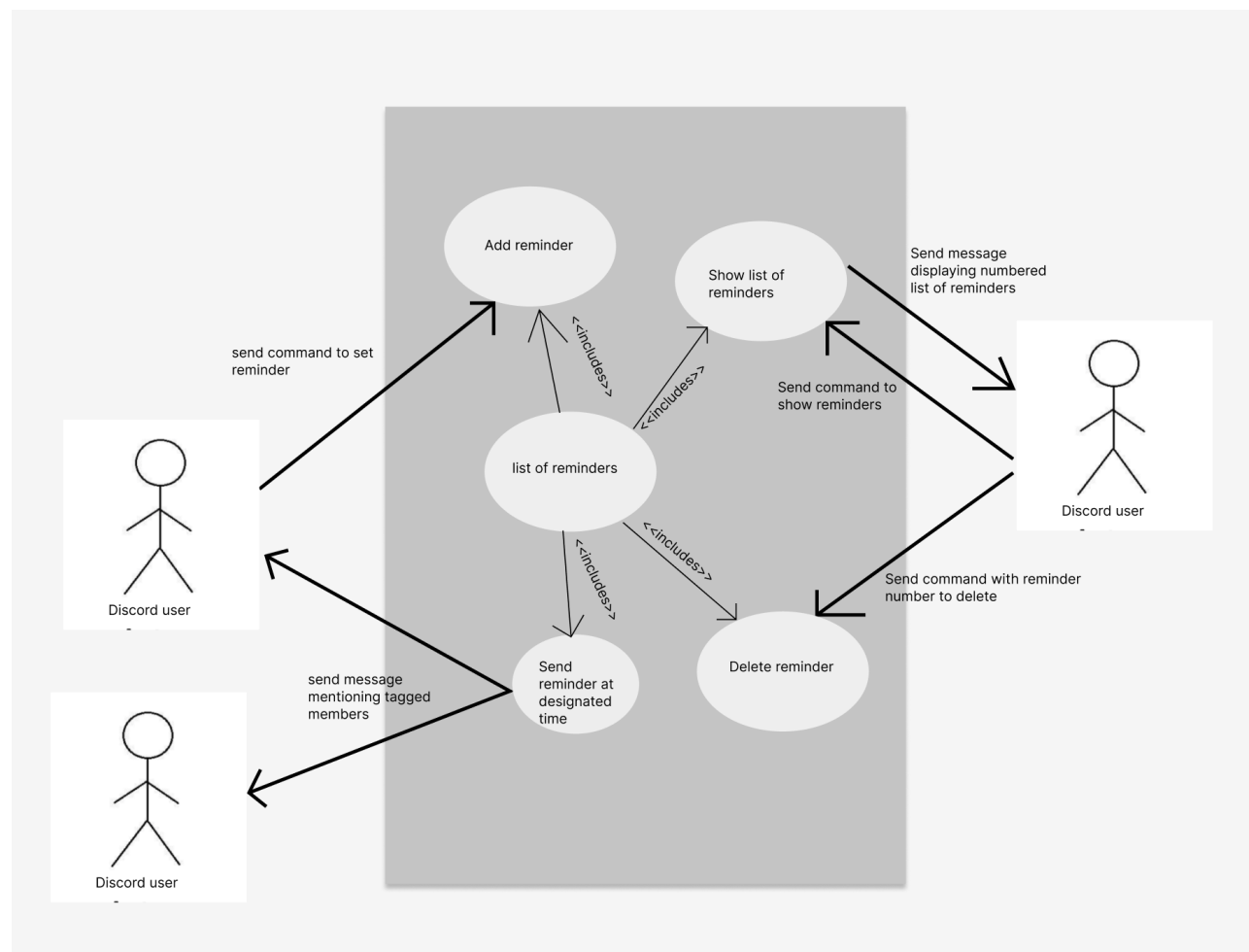
Acceptance Criteria

[AC1] User can create and delete reminders in a discord channel

[AC3] User can attach people and tasks to reminder

[AC4] Bot will send message at specified time before deadline including attached usernames and task descriptions

Model – Case Diagram

3.

Title

Discord bot creates, edit and deletes tasks on a task board

Preconditions

Bot permissions set up for task management, task list has elements.

Main Flow

Discord bot users can add and delete, as well as edit tasks on their task board.

Sub Flows

[S1] User invokes bot command to create a task.

[S2] Bot prompts user for task details.

[S3] User provides details.

[S4] Bot creates task on task board.

[S5] User can edit tasks by invoking bot edit command.

[S6] Bot prompts for updated details.

[S7] User provides updates.

[S8] Bot updates task.

[S9] User can delete tasks using bot delete command.

[S10] Bot confirms deletion with user and removes task.

Alternative Flows

[E1] If the bot encounters errors while interacting with the task board platform (e.g., connection issues, authentication errors), it should inform the user and retry the operation.
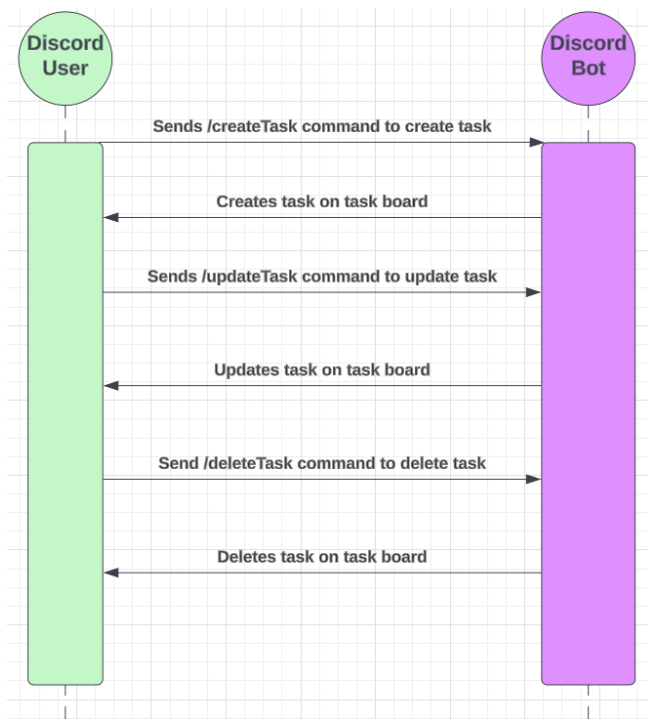
Acceptance Criteria

[AC1] Users should be able to create, edit, and delete tasks using the bot.

[AC2] Task details provided by users should be accurately reflected on the task board.

[AC3] The bot should handle errors gracefully and provide helpful feedback to users.

[AC4] The bot's interactions should be intuitive and user-friendly.

Model – Sequence Diagram

4.

<u>Title</u>

Discord bot sends Git Notifications for Bot

<u>Preconditions</u>

Discord user admins can set up git notifications for the bot to send in a particular discord channel.

<u>Main Flow</u>

Discord server admin may choose which git notifications to send to a channel in the discord server.

<u>Sub Flows</u>

[S1] User inputs command to set certain notifications from a git repo to a Discord channel

[S2] Bot returns response that the git notifications will be sent to the channel

[S3] User requests bot to provide summary of recent activity in channel

[S4] Bot automatically categorizes and formats different types of notifications sent for better readability

[S5] User requests bot to customize the format of notifications

[S6] Bot provides options for users to customize the format and appearance of git notifications

Alternative Flows

[E1] User is not authenticated to receive notifications from a private git repo.
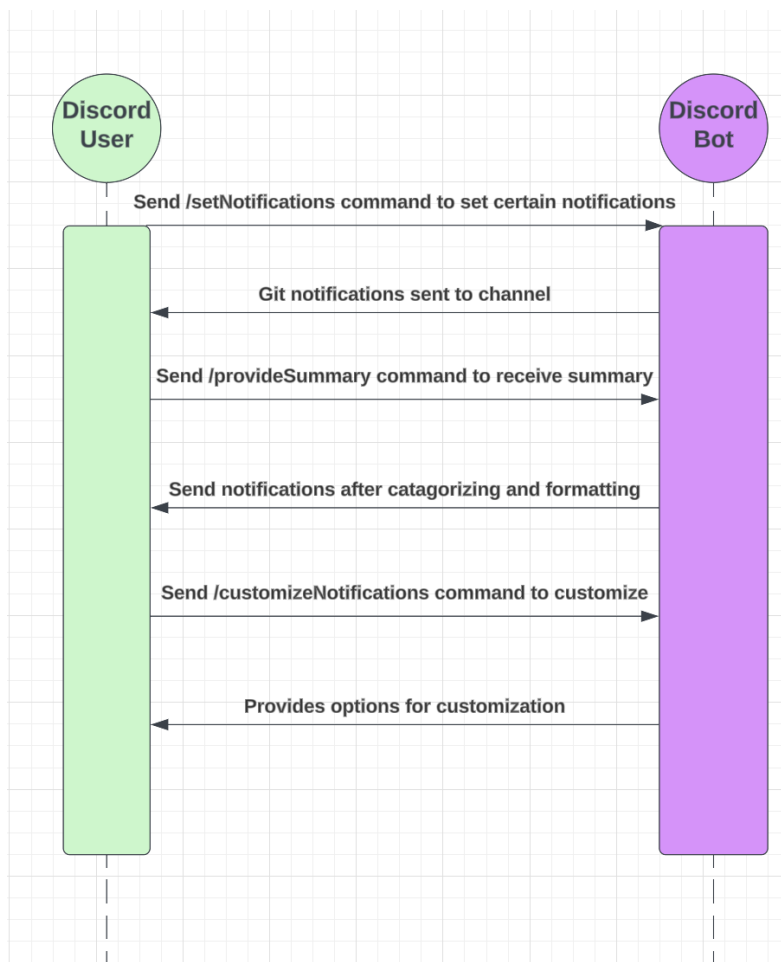
Acceptance Criteria

[AC1] Enable/disable git commit messages to all or specific branches.

[AC2] Send/not send git messages if the pipeline passes/fails.

[AC3] Send/not send messages when a merge/pull request is made.

[AC4] Mention discord members linked from their GitLab/GitHub account if their specific git commit caused the pipeline to pass/fail.

Model – Sequence Diagram

5.

Discord bot supports the pomodoro technique

Preconditions

Users are engaged in tasks that require time management.

Main Flow

Discord user initiates pomodoro sessions through a command, which the bot provides notifications, timers and options for breaks.

Sub Flows

[S1] User starts the pomodoro session with a '/startPomodoro' command. User specifies duration of the pomodoro session and can also add a task description

[S2] Discord bot notifies the user when the sessions start and provides a countdown timer. [S3] After pomodoro session ends, discord bot triggers a break phase and sends the notification to users.

[S4] User can then choose to extend the break or start a new pomodoro session

[S5] User can pause/resume the session with a '/pausePomodoro' or '/resumePomodoro' command

[S6] User provides a '/checkProgress' command to see the number of competed Pomodoro sessions and total time spent.

Alternative Flows

[E1] If the user fails to specify a duration for the Pomodoro session, the bot defaults to a standard duration and notifies the user.
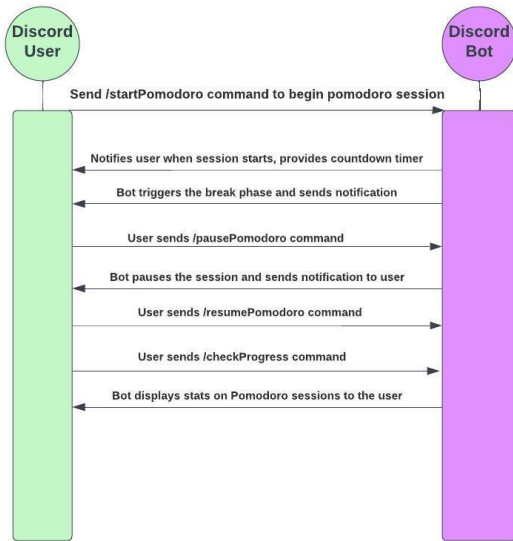
Acceptance Criteria

[A1] User can initiate and manage Pomodoro sessions with specified durations

[A2] Bot notifies users at the start of each session as well as during breaks.

[A3] User can pause and resume Pomodoro session

[A4] User can check progress regarding completed sessions.

Model – Sequence Diagram

Process Deliverable

Scrum Meeting Notes

In our meeting we discussed how to split the tasks for the discord bot project.

Shreya Aravindan

I worked on making the use case for configuring git notifications for the discord bot. I will be creating a use case diagram for configuring git notifications. I will then begin implementing this feature.

Justin Turkiewicz

It was decided that I will be working on the task board feature. I will start with drawing a design of what the task board will look like in a discord channel and present it to the team in the next meeting. Additionally, I will be beginning the implementation portion of the feature starting with the creation and deletion of a task board in a discord channel.

Geethika Abhilash

I worked on making the use case for setting reminders for tasks. I will be making a use case diagram for setting reminders. I would then begin the implementation of creating reminders

John Byman

I will be working on adding functionality for tasks that will exist on the task board. First, I will write the code for the command to create a task on a task board. Then, I will work on the update and delete functionality for tasks.

Sheril George

I worked on making the user case for the pomodoro feature of our discord bot. I will create a diagram for different notifications and available commands to the user. I will start implementation of the pomodoro feature.

Arav Tripathi

I decided I will be working on the documentation of the discord bot. I will write a general description of what the discord bot does, its features and how to set it up on your own server. In addition, I will add documentation for every command that the discord bot supports including what the command does, its parameters and examples of how to run it.