REQUIREMENTS ANALYSIS
Segfaulters

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Provide an example of five hypothetical non-functional requirements for your system. Be sure to include the specific type of requirement discussed in class, with each requirement coming from a unique category.

1. The Pomodoro bot should start a timer within 2 seconds of the user initiating the session, ensuring minimal delay for user experience.
2. The user interface must be intuitive and accessible, allowing new users to start their first Pomodoro session without any prior instructions or tutorials.
3. The bot should maintain a 99.9% uptime, ensuring that users can depend on it for their time management needs.
4. User data, such as session history and preferences, must be encrypted to protect against unauthorized access and ensure user privacy.
5. The system should support at least 10,000 concurrent users without performance degradation, allowing for future growth.

Provide an example of five hypothetical functional requirements for your system.

1. The bot must allow users to start a Pomodoro timer for a specified duration (e.g., 25 minutes).
2. Users should be able to pause and resume the timer at any point during a session.
3. After the Pomodoro session, the bot must send notifications for scheduled short breaks (5 minutes) and long breaks (15 minutes).
4. The bot should maintain a log of completed Pomodoro sessions, allowing users to review their productivity over time.
5. Users must be able to customize timer durations and break lengths according to their preferences.

Write five formal use cases for your system and provide use case or sequence diagrams to represent each use case.

Use Case 1: Need to set a duration for Pomodoro timing

- Precondition:
    - PomBot is set and configured to a github repository
- Main flow:
    - Software developer selects option to set the PomBot timer [S1]
    - Pombot asks the developer to type work amount time and break durations
- Subflows:
    - [S1] User already has a time, and needs to increase/decrease it based on story length/business
- Alternate flow:

        - [E1] Invalid duration input: user enters a non-numeric value or invalid time

Use Case 2: PomBot needs to be configured to a project/repository

- Precondition:
    - The developer has a project, and stories that need to be completed
- Main flow:
    - Software developer searches for PomBot on Google Chrome extensions
    - Software developer installs PomBot
    - Software developer makes an account [S1]
    - Developer adds stories (tasks) to the PomBot account
- Sub flow:
    - [S1] Account already exists, so developer logs back in, and adds additional stories/tasks.
- Alternate Flow
    - [E1] The user attempts to install PomBot but encounters a failure due to compatibility issues

Use Case 3: Developer wants to start a focus session using PomBot

- Precondition:
    - Developer has project, PomBot account, and both are configured
- Main flow:
    - Developer opens the extension
    - Developer opens corresponding project[S1]
    - Developer starts the focus session [S2]
- Subflow:
    - [S1] The developer changes the timing settings to account for changes in required work paces
    - [S2] Developer ends the work session early
- Alternate Flow:
    - [E1] Developer tries to open the corresponding project, but PomBot fails to load it

Use Case 4: Developer wants to view daily summary

- Precondition:
    - Developer has a project, a PomBot account, and both are configured.
- Main flow:
    - Developer opens PomBot extension, if not already open
    - Developer goes to corresponding project
    - Developer clicks on the button that gives a summary of working times and breaks[S1]
    - PomBot showcases the productivity summary[S2]
- Subflow:
    - [S1] The developer has no work history, so PomBot prompts the developer to have more history

        - [S2]Developer clicks the option to have the summary saved to a PDF/HTML/document file of their choosing
    - Alternate Flow:
        - [E1] User clicks the option to save summary to PDF, but error occurs while generating

Use Case 5: Developer wants to resume/pause a PomBot session

- Precondition:
    - Developer has a project, PomBot account, currently working on a task
- Main flow:
    - Developer selects a pause that temporarily halts the focus/break session. Remaining time is preserved[S1]
    - Developer is ready to resume, so they click the resume option
    - PomBot session continues where the developer left off [S2]
- Subflow:
    - [S1] If the pause session is kept for too long, PomBot sends a notification to confirm whether to resume the session, or end it all together.
    - [S2] Session maintains time if paused.
- Alternate flow:
    - [E1] User clicks on resume button, but the button does not resume or starts a new session
    - [E2] Developer attempts to pause the session, but PomBot encounters an error and fails to pause the session.