Preliminary Project Proposal

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Part 1 Overview

Write a few paragraphs that provide an overview of the software engineering project that your team would like to do and answers all five of the numbered questions.

1. What will your project do?

Our team plans to work on a daily manager application. Our daily manager will allow users to organize their to-do lists, to study with a focus timer like pomodoro, to study together with friends and family online.

2. Who or what will be its users?

Since we are thinking of providing a one-stop-shop experience for students or workers, our users would be anyone who wants to have a multifunction daily-manager on their sides to better organize their days and boost their efficiency. For user registration, we plan to have user login/logout via their google accounts because of the level of security google provides. If a user wants to use the application, they will need to register a google account first.

3. **What do you think you'll be able to show in your demo?**

We plan to design a GUI to show our demo. And our demo will show the following function:

- Authenticated login and logout by using google accounts
- Task list creation
- Pomodoro timer creation

- Event creation and invitation link generation
- Users can join the event via invitation link.
- Share current location with other participants

4. **What kind of data do you plan to store?**

We plan to build a database for data persistence. We will store the following data:

- The events scheduled by the users. The related attributes include event id, event title, user id, date, and event categories.
- Tasks and task lists created by the users. The related attributes include task id, task list id, user id, task name and categories.
- The configured Pomodoro timers. The related attributes include timer id, title, user id, start time, duration and categories.
- The information of study meetings. The related attributes include meeting title, contents, participants id.
- The time spent by users comes from events and pomodoro timers.

5. **What API do you plan to use and what will you use it for?**

We plan to use the following apis:

Google Sign-in

- Link: https://developers.google.com/identity/sign-in/web/sign-in
- We plan to enable users to login the application with their Google Accounts with Google Sign-in

Google Maps API

- Link: https://developers.google.com/maps/documentation/?_ga=2.175162977.2109522 614.1603747936-1515591832.1603747936&_gac=1.93836399.1603747944.Cj0 KCQjw59n8BRD2ARIsAAmgPmJFxEpZxqj4fVlj4Ihl-52A4H7FYPJkB3dU4Es3iV_ SS4_E1vxfAZQaAI4MEALw_wcB
- We plan to enable users to see the locations of the participants in a shared event like a study meeting

Part 2 User Stories

- **Daily Schedule:** As a user, I want to schedule my daily events so that I can better manage my day.
  Conditions and satisfaction:
    - Should be able to enter events with detailed information such as time, duration, timeline, and side notes, etc.
    - Should be able to see all my daily events created.
    - Should be able to edit or delete my created events.

- **Pomodoro Timer:** As a user, I want to have a pomodoro timer for my event so that I can pace myself and boost my work efficiency.
  Conditions of satisfaction:
    - Should be able to create a Pomodoro timer with options to select a start time, name, and duration
    - Should be required to select the start time again if he or she have chosen a past time point
    - Should fail if a user create a timer which has overlaps with other existing timers
    - Should see a message when a timer is created
    - Successfully created timers can be seen as a schedule on the dashboard page
    - A timer can start counting down at the configured time

- **Share Event:** As a user, I want to be able to generate a link for my meeting so that my friends and families can join my meeting using the link.
  Conditions of satisfaction:
    - A join link should be generated for the meeting.
    - Another user should be able to use the link to join the meeting.
    - The event should be seen on both users' dashboard.

- **Task List:** As a user, I want to create a task list so that I can have a holistic overview of what is left to do.
  Conditions of satisfaction:
    - Should be able to create a daily task list, weekly task list, or monthly task list.
    - Should be able to add/delete tasks at any time.
    - Can mark tasks as completed or incomplete.
    - Can review all previous task lists.
    - A task list should not contain the same tasks

● As a user, I want to check current locations of all joined users, so that I can know where my friends currently are.
Condition of satisfaction:
- Should be able to check locations in a map shown in the "Meeting Details" page.
- Users should be able to choose to show their locations or not.

Part 3 Acceptance Testing

1. Daily Schedule:
Acceptance testing plan:
(1) Let a user try to create an event or task, with detailed information such as date, duration, deadline, and notes, etc.
Expected results to accept:
- The user should be able to see the task created.
- The user should be able to see a drop-down list of all the tasks.
- The information entered should be correct.
- The user should be able to delete or edit the task after its creation.

(2) (Exception) A user tries to enter an inconsistent time duration, for example, the event will start from Aug.12 to Aug.10.

Expect results to accept:
- The user will be prompted for a message suggesting invalid time.
- The event will not be created and the user will be brought back to the time duration section to make modification.

2. Pomodoro Timer:
Acceptance testing plan:
(1) Let a user try to create a Pomodoro timer, with a title, start time, and duration by using the form shown on the UI. The start time will be set to be a time starting within a few minutes.

Expected results to accept:
- The user can see a message that indicates the timer has been successfully created
- The newly created timer can be seen on the user's dashboard
- When it approaches the start time, the user will be able to see a countdown

(2) (Exception) Let a user try to create a Pomodoro timer with inappropriate values: try to select a past time point or set the duration as 0

Expect results to accept:
- The user will see messages on the UI that indicates the inputs are invalid
- The timer will not be created and will not be seen on the users' dashboard

(3) (Exception) Let a user create a Pomodoro timer which overlaps with an existing Pomodoro

Expect results to accept:
- The user will see a message on the UI that indicates there is an overlap and must select the start time and duration again.

3. Share Event:
(1) Let a user try to share the link for the event he/she created, and see if the other party can join smoothly.

Expected results to accept:
- The first user will be redirected to the created event.
- The second user can see an invitation link ready to be shared and join the event.
- The event can be seen on both user's dashboards.

(2) (Exception) Let a user share a link for the event he/she created, the second user fails to join the event since the link is invalid or copied improperly.

Expected results to accept:
- The second user will be prompted with a message saying that the link is not valid and suggest to the users that he/she should check with the event creator again.
- The second user will remain on the same page and directed to any event yet.

4. Task List:
Acceptance testing plan:
(1) Let a user try to create a task list with task list id, task list name. We assume that this user has many tasks that he wants to add to this task list.

Expected results to accept:
- Users can add tasks successfully.
- Users can delete tasks successfully.
- Users can change the name of the existing task or task list.

(2) （Exception）Let the user try to add an existing task to the task list.
Expected results to accept:
- The user will see a message on the UI that indicates this operation is invalid because this task already exists.

5. Location Sharing:

Acceptance testing plan:

    (1) Let a user try to check the map of location for the participants in the current event.

        Expected results to accept:
- Users can see all the locations of all the current participants in the event on the map.
- Users can turn off the location sharing for privacy concerns.

    (2) （Exception）Let a user try to disable the location sharing funciton. Then let other users try to get his current location.

        Expected results to accept:
- Other users won't be able to access the location of users who do not have their location sharing function on.

Part 4 Technology Chosen

- ➢ IDE: pyCharm
- ➢ Build tool: npm for javascript frontend, pip for python
- ➢ Unit testing tool: Pytest
- ➢ Style checker: Pylint, Sonarqube: https://www.sonarqube.org/ https://www.pylint.org/
- ➢ BugFind: Pylint, Sonarqube
- ➢ CodeCoverage: coverage.py https://coverage.readthedocs.io/en/coverage-5.3/