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Project Name: Time Page
SoftDev1 - pd1
Design Document

Roles:
Clement Chan - Groups, Database
Joseph Lee - API Integration, Priority
Yifan Wang - Project Manager, Credibility
Emily Zhang - Calendar Display, Functionality

Project Description: Crowdsource Calendar (Time Page)
  In the midst of all the work and extracurricular activities, it may be hard for a student to keep track of all of his/her responsibilities. We wish to design a platform where students can schedule their time and and crowdsource their assignments/deadlines with ease.
  On the website, students will have a fully customizable, crowdsourced planner. Students can view the tasks/events for "Today" ordered by priority assigned by the user. Students can also view what's going to occur/be due later in the week. Additionally, students can view their tasks/tasks on a monthly calendar. Their tasks/events can be added personally, but if you join classes/clubs/private groups, the tasks/events posted by other students in those groups will be also part of your planner. Lastly, we will have a "profile page" for each student where they can edit their information, such as name, email, and groups joined, and also view their credibility score. The credibility score will increase/decrease depending on the number of upvotes/downvotes on a person's posted tasks and the number of tasks a person posts.
  As our front end framework, our team has decided to use Bootstrap with additional HTML, CSS, and Javascript components. We chose Bootstrap over Foundation for the variability in its design, allowing us to customize our website. Also, Bootstrap is the framework that our team members are more familiar with and thus are more comfortable utilizing.

Site Features:
1. User must create an account and be logged in to use this site
2. Planner/"Due Tomorrow"/To-Do List
    - Default display: Today's To Do List, with options of weekly and monthly view (navigation bar)
    - Users can add personal tasks
    - Users can add tasks for groups they are part by selecting a group on the drop-down menu
    - To Do List
        - Tasks with name and optional description
        - Orders by user-defined priority. If priority is undefined, it is ordered from earliest to latest due date
        - Display the day a task was assigned/updated and due date (small, gray font)
    - Monthly
        - Displays tasks on a calendar
3. Priority for assignments
    - Assigned by the user
    - If not assigned, the task will be displayed below prioritized
4. Create public groups (classes/clubs) or private groups (group projects)
5. Join public groups (classes/clubs) through a search bar and a suggested list of groups
6. Admins can invite members to private groups
7. Calendar filters by groups and courses
    - Integration of Google Calendar API to sync and add in holidays
8. Upvote/Downvote are available to group tasks and affects user credibility
    - Tasks made by users with a low enough credibility will be put on the bottom with a font color of gray, unless it gains enough upvotes
    - Users with high enough credibility will be able to edit grayed out task descriptions from other members

9. Filter their tasks/events by group
   - Checklist on the monthly calendar that allows user to select which group's tasks to display
10. Choose to post tasks to their personal calendar or to groups
11. Group creators are automatically admins and have extra authority to delete tasks, invite members, make members admin, and remove users from groups
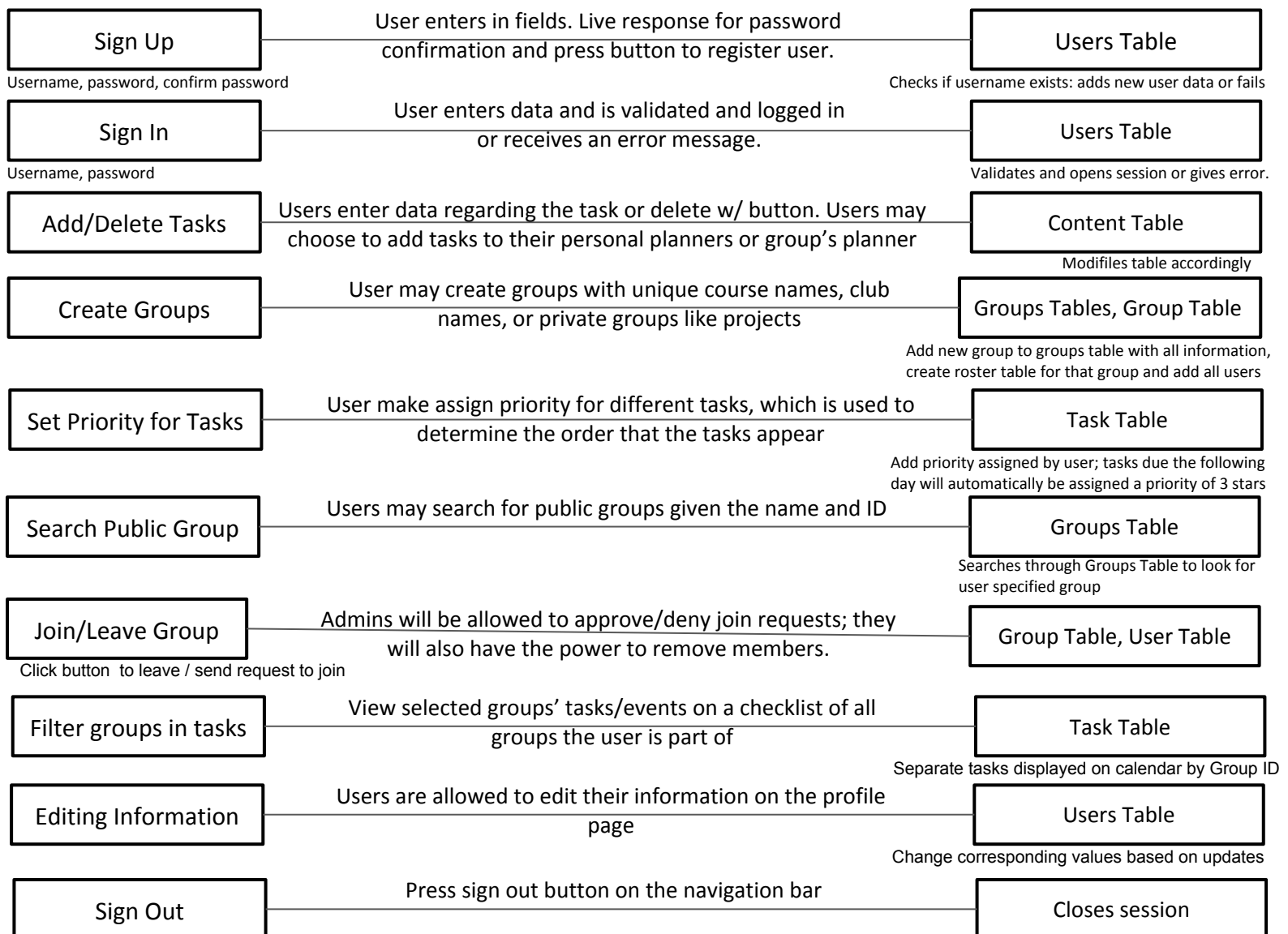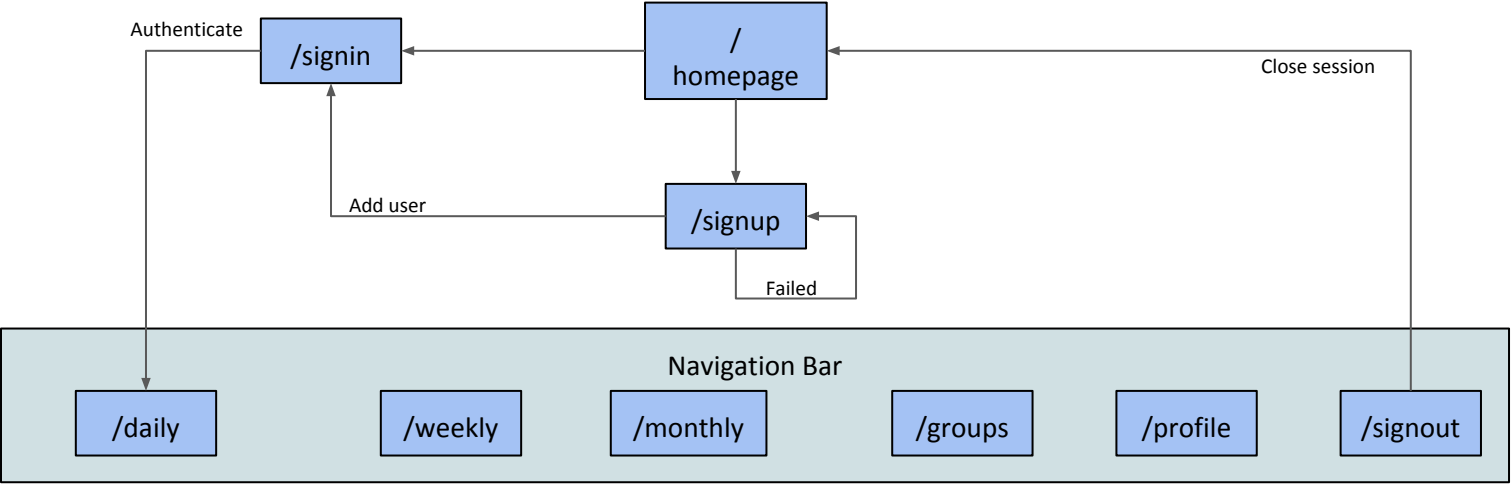
Component Map

FRONT END (client)	MACHINERY (includes functions, utl folder, templates.)	BACK END (server)
Sign Up Username, password, confirm password	User enters in fields. Live response for password confirmation and press button to register user.	**Users Table** Checks if username exists: adds new user data or fails
Sign In Username, password	User enters data and is validated and logged in or receives an error message.	**Users Table** Validates and opens session or gives error.
Add/Delete Tasks	Users enter data regarding the task or delete w/ button. Users may choose to add tasks to their personal planners or group's planner	**Content Table** Modifiles table accordingly
Create Groups	User may create groups with unique course names, club names, or private groups like projects	**Groups Tables, Group Table** Add new group to groups table with all information, create roster table for that group and add all users
Set Priority for Tasks	User make assign priority for different tasks, which is used to determine the order that the tasks appear	**Task Table** Add priority assigned by user; tasks due the following day will automatically be assigned a priority of 3 stars
Search Public Group	Users may search for public groups given the name and ID	**Groups Table** Searches through Groups Table to look for user specified group
Join/Leave Group Click button to leave / send request to join	Admins will be allowed to approve/deny join requests; they will also have the power to remove members.	**Group Table, User Table**
Filter groups in tasks	View selected groups' tasks/events on a checklist of all groups the user is part of	**Task Table** Separate tasks displayed on calendar by Group ID
Editing Information	Users are allowed to edit their information on the profile page	**Users Table** Change corresponding values based on updates
Sign Out	Press sign out button on the navigation bar	**Closes session**

Site Map

Database Layout

users

user_id	INTEGER
username	TEXT
password	TEXT
cred_score	INTEGER

user_id

group_ids	INTEGER
task_ids	INTEGER

tasks

task_id	INTEGER
due_date	BLOB
priority	INTEGER
time	BLOB
title	TEXT
description	TEXT
upvotes	INTEGER
downvotes	INTEGER

private_groups

group_id	INTEGER
name	TEXT
admin_ids	TEXT

group_id

task_ids	INTEGER
member_ids	INTEGER
admin_id	INTEGER

public_groups

group_id	INTEGER
name	TEXT
admin_ids	TEXT

APIs

API	What is it used for?
Google Calendar API	This API will be used to sync and add in holidays

Database Tables:

Users:

(determined by a User ID prefix)

- User ID
- Username
- Password
- Credibility score

User: (named by user ID)

- Groups(the user is a part of)
- Task IDs (for tasks this user authored)

Public Groups:

(courses, clubs)

- Group ID
- Group name
- Admin

Private Groups:

(groups for group projects)

- Group ID
- Group name
- Admin

Group: (named by group ID)

- Tasks (list of task IDs)
- Members (user IDs)

Task: (named by Task IDs)

- Due Date
- Priority
- Time
- Title
- Description
- Upvotes
- Downvotes

Table naming conventions: eg. u000000

u - user
g - group
t - task

For example, a table for task with id number 123456 would be named t123456