Group 3 - Rivers

GITHUB LINK:

https://github.com/CMPT-276-SPRING-2025/final-project-03-rivers

Project Title: Focus Forge

Group Members:

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Overview:

Many people struggle to study or finish their day-to-day activities while leaving space for free time

This project aims to help people organize their lives into manageable chunks and get through the day with some music on the way and many backgrounds to choose from to provide a change of scenery.

This program is made to help those who struggle with organizing their life, especially students who have to catch up with assignments and deadlines every week or those with ADHD.

Persona:

Name: Alex Chen

Background: He is still in school and has bad time management skills, he also has loads of assignments and deadlines → Alex is a sophomore at SFU, majoring in Computer Science. He has a strong interest in software development and finance and hopes to make it in big tech one day. However, he often gets sidetracked from regularly applying to SWE internships due to his insane college workload. This is exacerbated by his poor time management and productivity. Additionally, He often finds himself studying for long hours with almost no time left to socialize, hang out with friends and truly pursue his other hobbies.

Age: 20

Grade Level: Sophomore in college

Goals:

- Maintain good grades (B+ average)
- Secure an internship at a tech company
- Develop skills in marketing and finance
- Build meaningful relationships with peers and professors
- Balance academic work with a part-time job and social life
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Challenges:

- Managing time between classes, studying, work, and personal activities
- Keeping up with coursework and assignments across multiple subjects
- Dealing with stress and anxiety related to academics and future plans
- Balancing independence as an adult with family expectations
- Staying motivated and focused throughout long semesters
- Procrastinates and leaves work right before deadlines.
- Scrolls on TikTok and Instagram for hours on end while needing to work
- follows an inconsistent and unorganized study schedule
- His sleep cycle has been drastically affected. He is a victim of excessive fatigue (especially in the mornings) and low motivation.

Technology Usage:

- Uses laptop and smartphone extensively for research, note-taking, and communication
- Familiar with productivity apps like Trello and Evernote
- Regularly streams music and podcasts through Spotify
- Active on social media platforms like Instagram and TikTok

Study Habits:

- Uses flashcards and concept maps for memorization
- Watches video lectures and online tutorials for supplementary learning
- Takes breaks every hour to avoid burnout
- Enjoy listening to music when doing homework/ assignments

Motivations:

- Excited about learning new coding languages and applying them practically
- Enjoys collaborating with peers on group projects
- Motivated by potential career opportunities in the tech industry
- Values independence and self-reliance as part of the college experience

Name: Bob Wilson

Background: Bob is a software developer at a mid-sized tech firm in Vancouver. He works remotely from his home office, which he finds both liberating and challenging. Despite his success in landing a job in his desired field, Bob struggles daily with

maintaining organization and structure in both his professional and personal life. His ADHD significantly impacts his ability to manage time, prioritize tasks, and maintain consistent work habits.

Age: 28

Current Role
      Position: Software Developer
      Company: Tech Innovations Inc.
      Work Arrangement: Full-time remote worker

Experience: 3 years in industry

Professional Goals
      Career Development:
            Advance to senior developer position
            Lead technical projects independently
            Mentor junior developers
            Develop expertise in cloud architecture
      Work-Life Balance:
            Maintain consistent productivity
            Reduce work-related stress
            Establish clear boundaries between work and personal time
            Improve time estimation for project tasks

Challenges
      Work-Related:
            Difficulty tracking multiple project deadlines
            Challenges in maintaining consistent work schedule
            Tendency to hyperfocus on interesting tasks while neglecting others
      ADHD-Specific Struggles:
            Working memory difficulties affecting task retention
            Time estimation challenges for project completion
            Difficulty maintaining organized digital and physical workspaces
            Struggles with prioritizing tasks effectively
      Personal Organization:
            Managing remote work environment
            Keeping track of personal and professional documents
            Maintaining healthy work-life boundaries
            Organizing daily routines and schedules

4 APIs:

1st API: [Todoist](#)

- **3 features:**
    - **Task tracker:** Helps users keep track of tasks they have inputted
    - **Project organization:** Helps split up a project into many issues, like the kanban
    - **Reminder and Due Dates:** set up reminders and due dates for when certain parts of a project are due, to help the user stay on track

2nd API: [Spotify API](#)

- **3 features:**
    - **Get a user profile:** get user information such as username,
    - **Get a user's playlist:** Accesses the user's private and collaborative playlists, which will be used to play songs on the website.
    - **Genre seeds (find specific types of music):** get a list of genres when a user requests a music recommendation.

3rd API: [LOCALAI](#) (need to figure out another AI, deepseek should work???)

- **3 features:**
    - **Chatbot:** talks to the user, and assists users if they have any questions
    - **Mood checker:** figures out how the user is feeling, which can be used to prompt Spotify API genre seeds
    - **Study helper:** summarizes text into notes, quizzes based on notes

4th API: [DeepSeek AI](#)

- **3 features:**
    - **Chatbot:** talks to the user, and assists users if they have any questions
    - **Assignment helper:** Writes assignments for the user by plugging in the criteria (We assume the user uses it responsibly)
    - **Coding Partner:** Help the user figure out why their code isn't working

1 user story per feature:

"As a [user type], I [want to], [so that]."

Write 1 user story for each feature you plan to implement

STORIES FOR FEATURES TO BE IMPLEMENTED:

- As a music lover that's studying, I want access to my Spotify playlist while studying, so I can refresh my brain for the next study session.
- As a Spotify user that's studying, I want to be able to log into my own Spotify account for music, so that I can have my personalized playlists
- As a person with ADHD, I want to have background white noise so that I can concentrate more easily.
- As a student that's working on large assignments, I want to be able to organize my project, so I don't feel overwhelmed by nearing deadlines and piles of work.
- As a student that's studying, I want to be able to set up reminders and due dates for my assignments, so I won't forget to hand in my work or do it.
- As a procrastinator, I want to complete tasks in order of their priority and rank on my to-do list so that I can remain on track with deadlines

STORIES FOR BACKUP FEATURES:

- As a student that's doing coding, I want to talk to a chatbot so that I can perform rubber duck debugging. (This is for both API 3 and 4)
- As a student that likes music, I want to know what I'm feeling like to know the music that best fits my mood.
- As a student with trouble studying, I want to be able to summarize my resources into notes and quizzes so I can absorb the information faster
- As a student that's coding, I want to have an AI to help me check my code so I know what's going wrong with it.
- As a student with lots of homework, I want to be able to see an AI do my homework to give me a rough idea as to how I should complete it.

NOTE: 3rd and 4th APIs have a similar feature (chatbot) but we only plan to use either one of them as a replacement/backup API (not both together).

FEATURES:

1. **Task Prioritization:** A Priority List with tasks arranged/listed priority-wise (1 being most important)--> Drag and drop functionality for list elements

   Integration: Spotify Playlists etc.

   Concentration Music: White Noise for Studying

   AI assistance: Easily Accessible Chatbot for increased productivity.

Customization: Changing/setting colour themes according to one's preferences

Text Summarizer: Summarize stupid long pieces of info accurately

Front-end tech stack:

We will be using **React** for this project as it is:

- React is based around JSX and HTML
  - objects are immutable, only change when rendered again
  - You can create components like variables
  - ```react
    <div id="id01">Hello World!</div>
    <script type="text/babel">
    ReactDOM.render(
    <h1>Hello React!</h1>,
    document.getElementById('id01'));
    </script>
    ```

    This is how React looks like (a bit more lengthy than HTML, but easier to use)
- We will do styling with an external stylesheet
- Easy to pick up
- Jobs are still hiring using it, unlike Angular
  - The support community will be larger if we need troubleshooting
- Some of our members somewhat know how to use it already, due to events held at SFU
- There are open-sourced React libraries, which will allow us to get "inspiration" on pieces of code that we need
- Easier integration with APIs

Tech Stack

- Spotify API has commands to grab user account, playlist, and search for music via genre seeds (This will be fairly easy to implement).
  - To log into our page, as we don't have a backend, it would be easier to just ask the user to log into their spotify account
- For todoist

- ○ Task trackers are easiest to implement, we just send a request to the web app.
  - ○ a Kanban would be the side effect of implementing Todoist, as you can create projects on Todoist and make tasks under it.
  - ○ A task can already have a due date, however, projects won't inherently have a due date. As such, to create the illusion of when a project is due, we will create a parent task in the project to include the due date.
- React:
  - ○ Build a smooth user interface.
  - ○ Event handling and API calls, useEffect for API calls to Spotify and Todoist.
  - ○ React Router: handle routing and navigation, create different views for music playlists without having to refresh the page.

Low-Fidelity Storyboard: