

Brock University

Computer Science Department  
COSC 4P02 – Software Engineering 2

Project Proposal

## HabitForge



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## Objectives

As a group, we discussed several different project ideas that were all interesting, though, we settled on and propose the idea of developing a habit tracker web application. There were several key factors that led us to settling on the idea of developing a habit tracker – one of the main factors is that a habit tracker is a useful application that can be helpful to many people. By using a habit tracker application, it helps with maintaining and establishing consistency, setting and achieving goals, reducing procrastination, and increasing motivation to complete a task. As an example, some people may find that they have bad habits that they need to get rid of, such as alcohol addiction, biting nails, etc. Conquering these bad habits are generally very difficult – however, if given a tool to track how long you have been avoiding a bad habit while also getting virtual rewards can help a person overcome their bad habits. Additionally, a habit tracker can also be used for creating new habits and integrating it into one's day to day life. Another key factor that led us to settling on the idea of developing a habit tracker is so we can create an intuitive design with a clean, minimalist interface that is not only aesthetically pleasing, but also very easy to navigate, which should ensure a seamless user experience.

There are plenty of features we will implement and develop for our habit tracker. A couple of the notable ones are listed down below. **Note:** There are plenty more features that will be added but are not listed below due to being insignificant compared to the ones listed below.

### Features:

- **Set/edit custom goals:** Enable users to define and setup their own goals.
- **Daily Logs UI:** Interface to allow users to log daily efforts and duration.
- **Streaks:** Tracks consecutive days of habit adherence.
- **Graphs:** Provides analytics to show and visualize user's journey.
- Users can create or join group challenges for communal habit formation.
- **Leaderboards:** Ranking of top individuals/groups with most coins.
- **Reward Shop:** For now, it will just consist of being able to stack up coins.
  - Each coin is earned by checking off the habit on the day its due
- **Privacy:** Check with google and whatever you want to share
- **Speech to text:** Allow users to say the habit they want to create, name of habit.
- **Audio/visuals:** Audio sounds and visuals occur when completing habits.

### Features that will potentially be added (not certain yet as we are still researching ways to implement these):

- **Reminders and motivational notifications:** reasoning is that it's a web app, will add if extra time, not a core feature as of now.
- **Share feature with AI:** Share progress on social media that creates a post with AI generation based on the habit name, so for example a no smoking would generate a picture that encapsulates no smoking.
- **Spotify Integration:** Integrate Spotify if given time.

Ultimately, our goal is to offer a fully functional, clutter free web application that will leave a user satisfied while being a feature-packed habit tracker application that has no critical features locked behind a paywall.

In the development of our habit tracker web application, we have decided that we will proceed forward with employing an agile software development approach, specifically the Scrum framework. The reasoning for this method is because it is iterative and incremental, meaning it is very adaptable, which will allow us to rapidly produce the habit tracker application.

The technical tools that will be used to develop the habit tracker application are:

### **Next.js**

- Next.js will be used as a frontend development framework for the habit tracker. It will be the main framework that powers the habit tracker interface. Since Next.js is built on top of React, it will allow us to use both React features and the capabilities of the Next.js framework simultaneously. React would allow us to create reusable components which speeds up the development process.

### **Tailwind CSS**

- Tailwind CSS will be responsible for styling the habit tracker. We settled on Tailwind as it simplifies a lot of the work that needs to be done because it has utility classes.

### **Firebase**

- Firebase will act as our serverless backend. It will assist in providing a range of different services such as authentication to the habit tracker application using Google, GitHub, etc. Firebase also has features such as cloud storage, and hosting. Cloud storage will host the data for our users and their habits. Hosting can also be used if we were to launch the product to the users.

### **ShadCN UI**

- ShadCN is used for the user interface of the habit tracker. ShadCN is a user interface component library that focuses on providing ready to use components that have been built with responsiveness and accessibility in mind.

## **Tasks / Group Members**

Our team consists of six members. Below is our project's public GitHub page and information about each group member such as name, ID, email, personal GitHub, and the role the group member will play throughout the development of the habit tracker.

**Project GitHub page:** [https://github.com/a-patel02/4P02\\_Winter\\_2024](https://github.com/a-patel02/4P02_Winter_2024)

- Member 1:  
**Name:** Abhi Patel  
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**Personal GitHub:** <https://github.com/a-patel02>  
**Role:** Scrum Master + Developer (Development team)
- Member 2:  
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- Member 3:  
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- Member 6:  
**Name:** Ahmed Yaser  
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**Personal GitHub:** <https://github.com/WestBorders>  
**Role:** Product Owner + Developer (Development team)

We decided to have a daily stand-up that should last around 15 minutes. If development problems are occurring and a member needs help, then the stand-up could potentially be longer. Additionally, on Saturdays we set up a weekly meeting from 12:00 PM to 3:00 PM to work on developing the habit tracker together. The meetings will take place virtually on a Discord server that we have created. Lastly, each sprint will be two weeks long.

## Breakdown of each person's contribution

- Each member in the group for the project proposal has done an equal amount of work. We got on a Discord call over the span of a couple days and each person took a turn sharing their screen and explaining their vision of the habit tracker. Then, together we compiled a list of features and decided on the roles of each member and the technical tools we plan on using. In order to keep it simple, we let one person create and setup the GitHub project. Specifically, Abhi has taken the role of setting up the project on GitHub and created the structure and readme while on a Discord call with the rest of the group. Moving forward, our plan is to continue working together and every member will have the opportunity to work with different aspects of the project.