



Sustainify: Helping college students build a (more) sustainable lifestyle

MIMS 2023 Final Project

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Abstract

Sustainify aims to help college students make sustainable choices in their daily lives. This would serve as a one-stop platform for college students to get information, action plans, measurement, progress tracking, and community building for (a more) sustainable lifestyle.

Some core beliefs of the product include:

1. effects of climate change on vulnerable populations,
2. information overload and the need to simplify paths to get high-quality, reliable, personalized information,
3. shifting climate anxiety among youth into something productive and positive,
4. putting power back in the hands of the people through technological, informatics, and design interventions.

The core webpage and possible mobile application are constructed with the React and React Native frameworks respectively. For data storage, we are using an RDS database with Supabase as the provider.

Context and Project Description

OVERVIEW

Any context or background

College and university students face a unique set of challenges throughout this formative period filled with many life transitions. During this time, they encounter many pivotal moments of decision-making that have reverberating impacts on their personal lives, society, and the planet. Although there is a lot of information that is available, this information is not centralized, widespread, relevant, accurate, and timely, causing a lot of resources to be unnecessarily thrown away. Our aim is to meet the users where they are – providing them with the relevant information tools to meet their information needs with respect to sustainability practices.

WHAT

What is this? What isn't it (out of scope)? Now, Next, Later

A one-stop platform for college students to get information, action plans, measurement, progress tracking, and community building for (a more) sustainable lifestyle.

WHY

Why is this project a priority? What is the benefit to the business? What's the business hypothesis?

Climate change is urgent and it is imperative that we act on it right now. Students are hard-pressed for time and mostly find it difficult to build the discipline for consistently making sustainable choices, even though they want to do their part in tackling climate change.

HOW

How is this project going to be accomplished? Typically one short sentence.

We aim to encourage students to engage in more sustainable behavior through a software application that provides them with relevant information that integrates a mix of different social levers and 'nudges': internal validation, reducing friction in engaging in more sustainable behaviors, external incentives, and education offered on our platform.

Problem space

Sustainability has emerged as a crucial issue globally, with environmental degradation, social injustice, and economic inequality posing significant challenges to the present and future generations. As the world population grows, so does the need for resources and the impact of human activities on the planet. In this context, it is essential to engage individuals and communities in sustainable

practices and behaviors that reduce environmental harm and promote social and economic well-being. College students represent a significant segment of the population that can contribute to sustainability initiatives, but they face challenges and barriers that limit their engagement in such activities. This project explores the problem space of sustainability practices and college students and proposes speculative design as a tool to envision and explore alternative futures.

Chosen user group (college students) and sustainability

The problem space of sustainability practices and college students involves several factors that affect students' engagement in sustainability initiatives.

- 1) Students have limited time and resources to spare to learn about sustainability and modify their existing habits. Adjusting to life transitions, balancing academic workload with social lives, and other competing priorities limit their capacity to engage in sustainability practices actively.
- 2) Secondly, students' lack of knowledge, awareness, and skills related to sustainability and its impact on the environment and society hinders their engagement in sustainability activities.
- 3) Thirdly, the lack of infrastructure, support, and incentives from educational institutions and society to promote sustainability practices further limits students' engagement in sustainability activities.
- 4) Finally, the socio-economic and cultural factors that shape students' attitudes, values, and behaviors towards sustainability impact their willingness and ability to participate in sustainability initiatives – in this case, positively. Research has shown that college students, especially in California, are more receptive to learning new information and habits in order to improve the sustainability of their lifestyles.

Speculative Design as a Tool

Speculative design offers a promising approach to exploring alternative futures and envisioning new possibilities for sustainability practices and college students. Speculative design involves creating prototypes, scenarios, and narratives that challenge the status quo and stimulate discussions around future possibilities. Speculative design can help to envision future scenarios where sustainability practices are integral to college life and shape students' attitudes, values, and behaviors towards sustainability positively. By creating prototypes and scenarios that explore sustainability practices in innovative ways, speculative design can inspire students, educational institutions, and society at large to envision new possibilities for sustainable living and promote positive change.

Design evolution

From an abstract idea of wanting to help young people adopt better sustainability practices to the first implementation of Sustainify today, we have gone through a great journey.

Stage 1: Ideation

The ideation stage is the first stage in the design process, where we generated ideas and concepts for the product. This stage involved brainstorming, sketching, and exploring different possibilities and solutions. The ideation stage is critical as it sets the foundation for the rest of the design process. It was essential to generate as many ideas as possible during this stage and explore different possibilities and solutions.

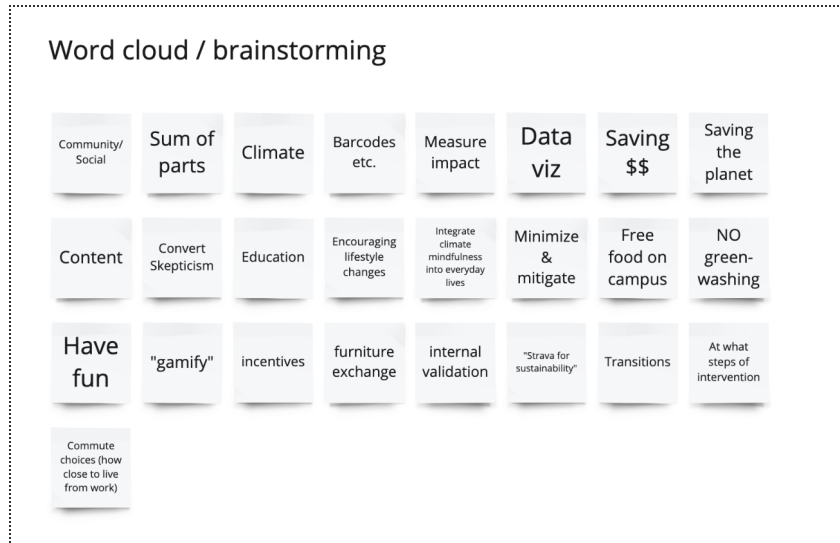


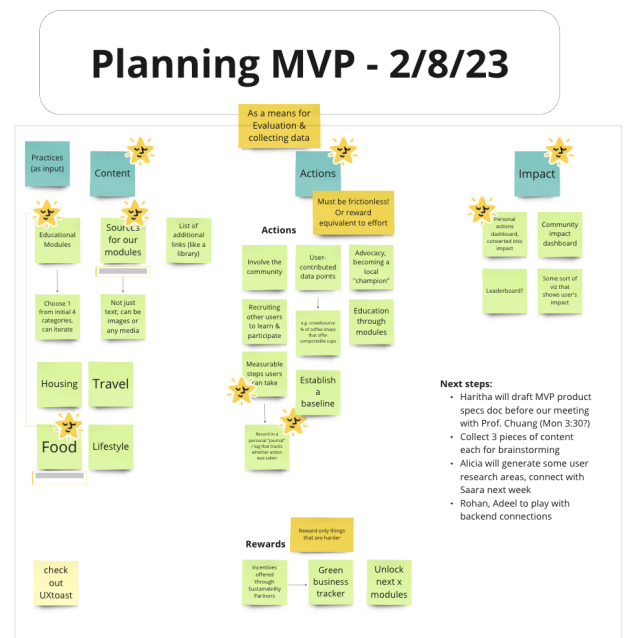
Figure above: Notes from an early group ideation session.

Stage 2: Concept Development

The concept development stage involved refining the ideas generated during the ideation stage and selecting the best concepts to pursue.

This stage involved evaluating the feasibility of the ideas, considering user needs and requirements, and defining the scope and parameters of the project. We came up with the Minimum Viable Product (MVP) definition at this stage.

Figure right: Result of an MVP planning session to define the core features of our product.



Stage 3: Design Development

The design development stage involved creating detailed designs and prototypes based on the selected concepts. This stage involved creating sketches, drawings, low-fidelity, and high-fidelity prototypes. We also collected user feedback at each sub-stage within the design development phase.

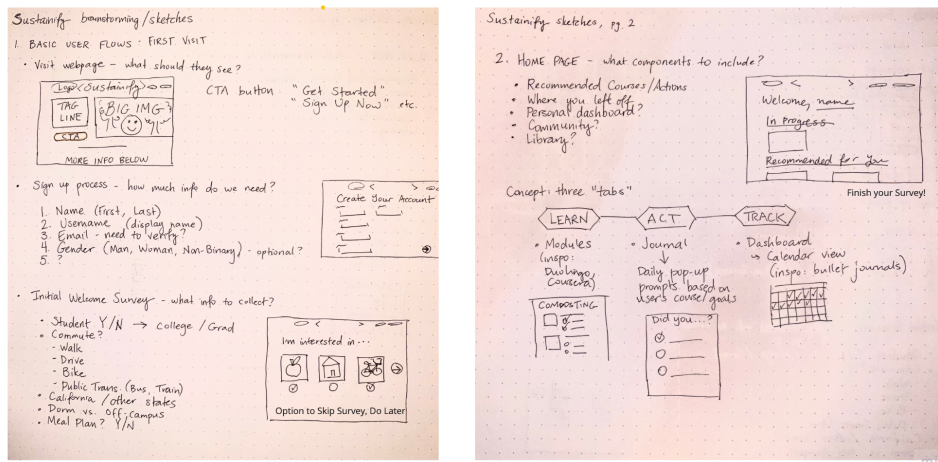


Figure above: Initial sketches of the product flow

Stage 4: Testing and Iteration

The testing and iteration stage involved evaluating the high-fidelity design prototypes and making iterative changes based on feedback from users and stakeholders. This stage involved user testing, usability testing, and other methods to evaluate the effectiveness and usability of the product.

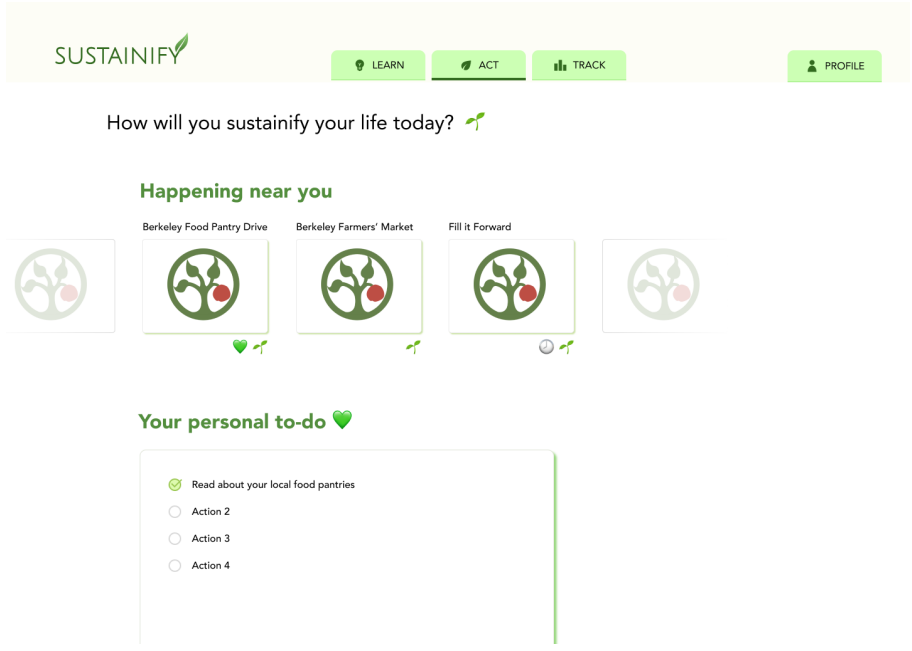


Figure above: Sample image of Low-fidelity prototypes for user testing

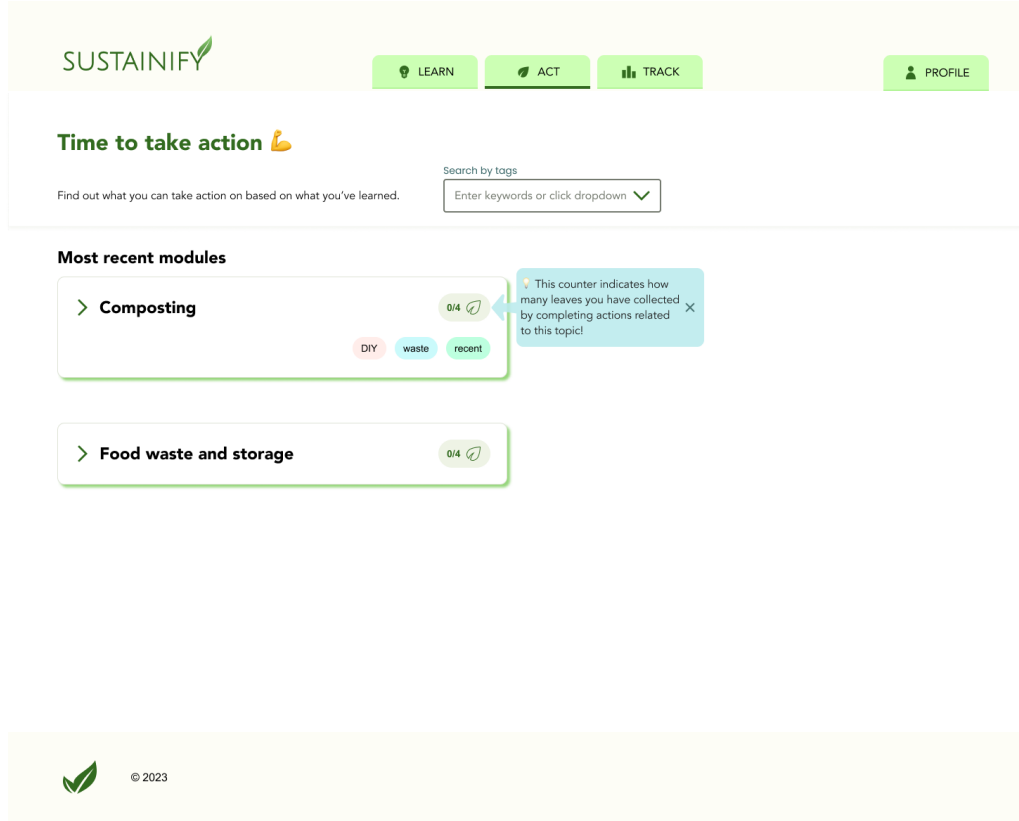


Figure above: Sample image of High-fidelity prototypes for user testing

Stage 5: Implementation and Delivery

The final stage involved taking the designs and The final product delivery stage involves delivering the final product to users and stakeholders. This stage involves manufacturing, packaging, and distribution of the product. The final product delivery stage is critical as it ensures that the product is delivered on time and meets the quality standards and requirements.

Process Overview

Generative Research & Scoping

- Gather resources
- Conduct generative research
 - Desk research & literature review
 - Competitive analysis of existing solutions
 - Survey distribution among college students
- Scope platform content
 - Information, actions, impact measurement, partnerships

Prototyping

- Front-end
 - Sketching & Lo-fi designs
 - Hi-fi Figma prototypes & iterative design
- Back-end
 - Agile development process

Testing & Validation

- Test, validate, iterate
 - Usability testing with target demographic

- Internal bug bash

Technical overview of Sustainify's platform

Front End Application

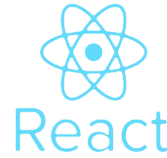
- React (Web Application)

Back End

- NodeJS Express Server (Supporting API)
- Amazon EC2 (Hosting the NodeJS Server)

Database

- Supabase (Possible Open Source RDS DB)
- AWS RDS (Cloud RDS DB)



Final design of the product

Prototype link

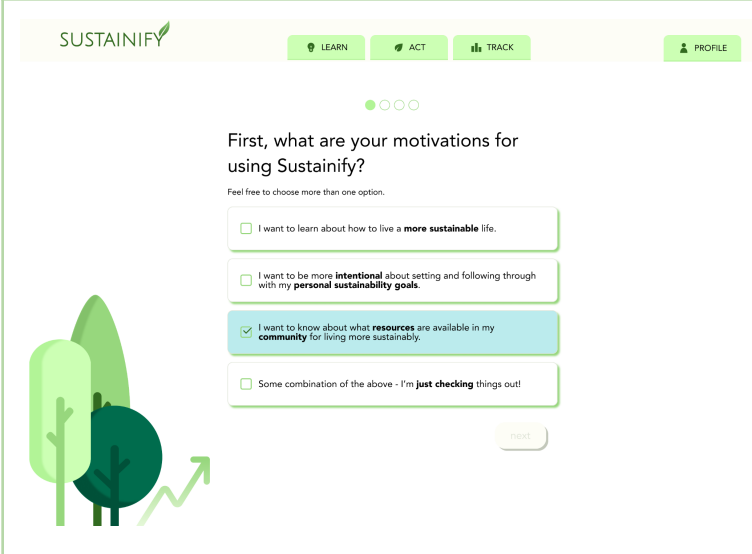
- [Link here](#)

Selected screenshots

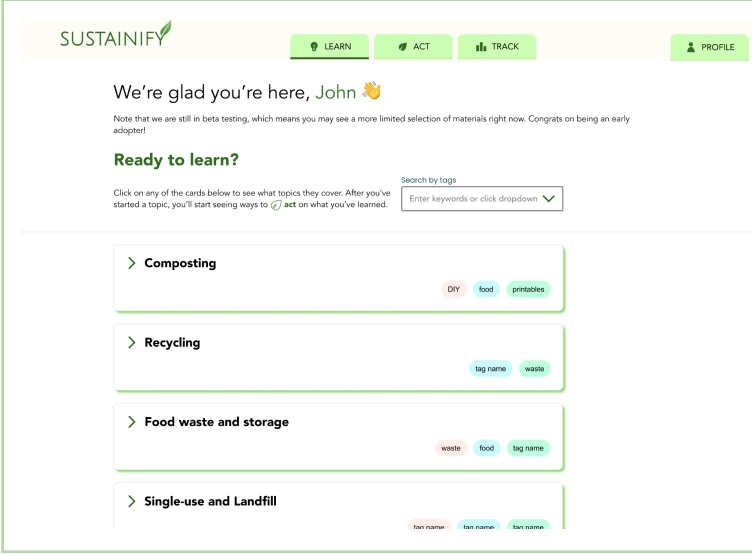
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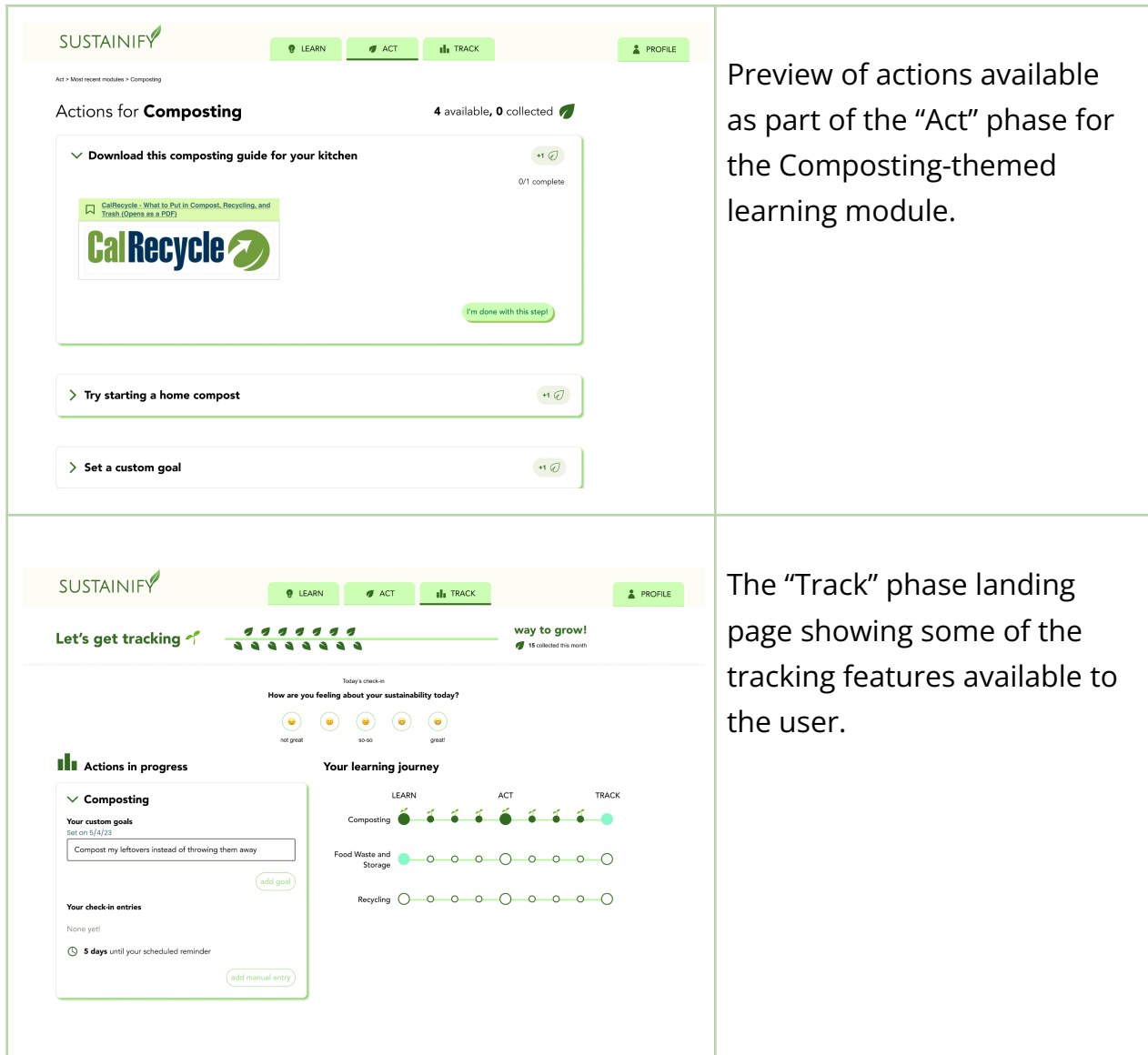
The Sustainify desktop landing page.



Screen from the user onboarding survey that doubly serves as personalization and a measurement baseline.



Screenshot of the "Learn" phase landing page.



Preview of actions available as part of the “Act” phase for the Composting-themed learning module.

The “Track” phase landing page showing some of the tracking features available to the user.

Discussion and Future Work

Sustainify as an information platform is ripe with potential to reach wider audiences beyond college students. For the immediate future, we aim to expand scope in the following ways:

- Mobile app
Sustainify will soon be available also as a mobile app so you can learn, act, and track on the go.

- Partnerships for 'Act'
We are working on creating partnerships with green and sustainable organizations to help with incentives for act.
- Integrations
Integrations for calendars, and other apps to set custom actions and reminders.
- Original content and new categories
Design revamp with original bite-sized content for additional categories.

Conclusion

Building Sustainify as an information platform for college students to learn about developing sustainable habits has truly been a capstone experience to our time at MIMS. Throughout this project, we found ourselves referring back to concepts, frameworks, and methodologies acquired over the past two years. From a technical standpoint, we applied both development and design skills towards creating an engaging and user-friendly platform.

In addition, this project tested more than just our technical abilities. It deepened our understanding of the importance of sustainable living and the challenges involved in promoting behavior change. Through our many phases of research and development, we have come to appreciate the importance of getting user feedback early and often, and the broad range of approaches towards fostering sustainable habits.