

Eatopia

An app to promote fruit and veggie intake
among young adults



The What

A gamified application for young adults to help increase their **Fruit and Vegetable intake** through Farm-to-Institution organizations.

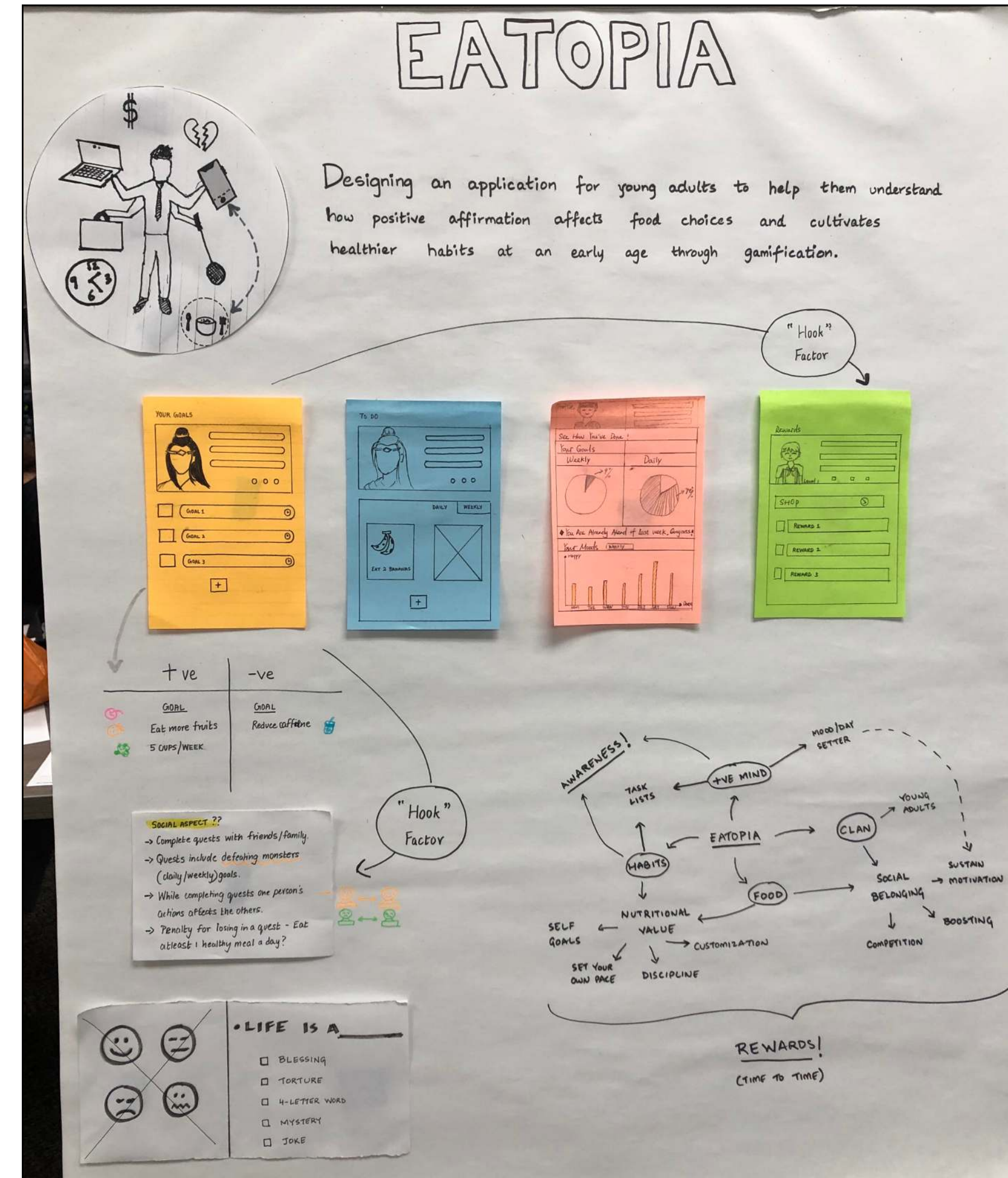
Initial Ideas

Initial Problem Statement

Designing an application for young adults to help them understand how positive affirmations affects food choices and cultivates healthier habits at an early age through gamification.

Feedback from the poster session

- More focus should be laid on food tracking
- Reduce the scope of the project
- Focus more on eating habits rather than habits in general
- How does mood aspect come into this?
- How do you keep a user motivated for longer in a social setting?
- How do rewards motivate users to keep tracking data?



Americans Are Eating More Ultra-Processed Foods

An NYU Study; Oct 2021

“The overall composition of the average U.S. diet has shifted towards a more processed diet. This is concerning, as eating more ultra-processed foods is associated with poor diet quality and higher risk of several chronic diseases,”

Ultra-processed food consumption grew from 53.5 percent of calories in the beginning of the period studied (2001-2002) to 57 percent at the end (2017-2018).

Research

Part 1a – Audience

Why young adults?

- Between the ages of **18-25 years** old.
- Young adults **diets change** because they move out of their homes for education and environmental stress contributes to their eating behaviours
- **Develop early autonomy** over their health behaviors
- WHO states that by setting healthy eating patterns at this age can help them carry on these behaviours in later stages which increase longevity reducing chronic diseases and heart problems

Part 1b – Audience

Existing Research – The importance of intervening behaviour patterns in young adulthood

Emerging Adulthood and College-aged Youth: An Overlooked Age for Weight-related Behavior Change

Melissa C. Nelson¹, Mary Story¹, Nicole I. Larson¹,
Dianne Neumark-Sztainer¹ and Leslie A. Lytle¹

Obesity (2008) **16**, 2205–2211. doi:[10.1038/oby.2008.365](https://doi.org/10.1038/oby.2008.365)

One defining characteristic of this life stage is the development of a self identity. Emerging adulthood is a time for the exploration of new ideologies and behaviors which allow individuals to express their individuality. Given previous research showing that identity (e.g., incorporating healthy lifestyle characteristics in the concept of one's

self) is an important indicator of lasting health behavior change, emerging adulthood may be a particularly important time for establishing and intervening on long-term health behavior patterns (2,3). In addition, other psychosocial attributes associated with beneficial health behaviors (e.g., self-efficacy) develop or become established during this period of emerging adulthood (4), providing support for the unique importance of this life stage in long-term behavioral patterning.

Part 1c – Audience

Existing Reserach – The effect of FV consumption in young adults

RESEARCH ARTICLE

Let them eat fruit! The effect of fruit and vegetable consumption on psychological well-being in young adults: A randomized controlled trial

Tamlin S. Conner¹*, Kate L. Brookie¹*, Anitra C. Carr²‡, Louise A. Mainvil³‡, Margreet C. M. Vissers²‡

FV show an improvements to their **psychological well-being** while reporting significant growth in vitality, flourishing, and flourishing behaviors.

At least five longitudinal studies found that dietary improvements including a diet higher in FV predicted subsequent **reductions in depression among adolescents, adults, and older adults**

Sample size of survey

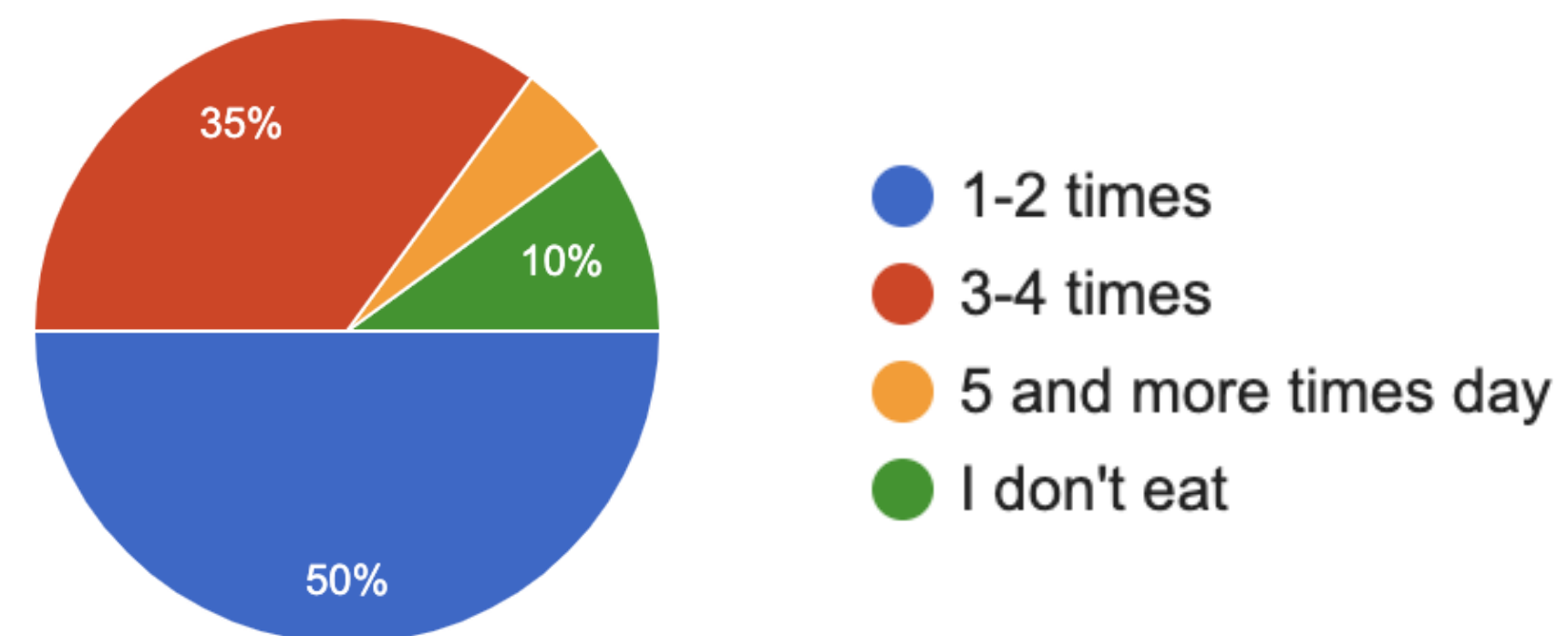
20 Participants
between **18–25 years old**
from the **United States** who
are **currently in schools**

Survey insights from young adults

How have your eating habits changed since you moved to college?



How often are fruits and vegetables part of your meal?



Part 2a – Current Barriers

Existing Research – Decreased consumption

Only 1 in 10 Adults Get Enough Fruits or Vegetables

[Print](#)

Men, younger adults, and people living in poverty get fewest fruits/vegetables

Just 1 in 10 adults meet the federal fruit or vegetable recommendations, according to a new study published today in [CDC's Morbidity and Mortality Weekly Report \(MMWR\)](#).

Depending on their age and sex federal guidelines recommend that adults eat at least [1½ to 2 cups per day of fruit](#) and [2 to 3 cups per day of vegetables](#) as part of a healthy eating pattern. Yet **in 2015, just 9 percent of adults met the intake** recommendations for vegetables, ranging from 6 percent in West Virginia to 12 percent in Alaska. Only 12 percent of adults met the recommendations for fruit, ranging from 7 percent in West Virginia to 16 percent in Washington, D.C. Results **showed that consumption was lower among men, young adults, and adults living in poverty.**

High cost, limited availability and access, and perceived lack of cooking/preparation time can be barriers to fruit and vegetable consumption.

Part 2b – Current Barriers

Existing Research – Disparities in access

Improving Fruit and Vegetable Accessibility, Purchasing, and Consumption to Advance Nutrition Security and Health Equity in the United States

Bailey Houghtaling ^{1,2,3,*} , Matthew Greene ² , Kaustubh V. Parab ⁴  and Chelsea R. Singleton ^{5,*}

FV consumption among adults and children are disproportionately lower among socially/economically disadvantaged and historically resilient populations, including people with lower incomes, racial and ethnic minority groups, certain members of the LGBTQIA2+ community and people residing in rural areas

Statistics show how significant inequities in FV accessibility, purchasing, and consumption exist, contributing to the growing unhealthy dietary patterns.

Part 2c – Current Barriers

Existing Reserach – It's Expensive!

Why eating healthy is so expensive in America

Produce that helps health hurts wallets.

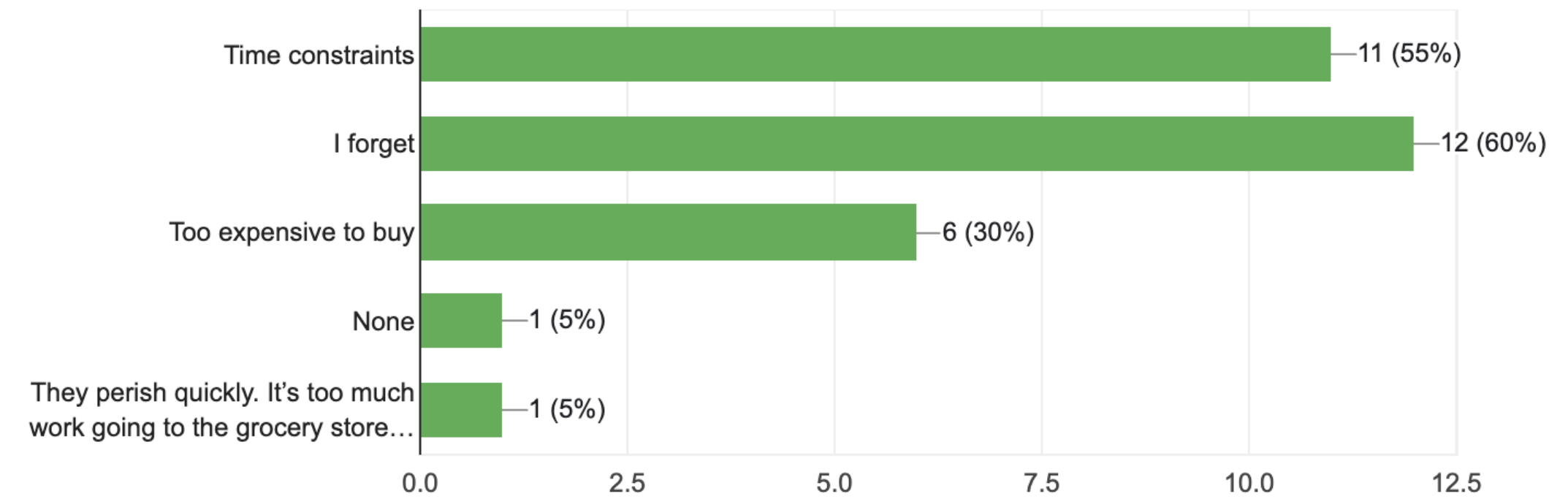
By Dorotea Sotirovska and Elizabeth Philip | Mar 22, 2018, 1:30pm EDT

The American plate has **increasingly lacked** nutritious food. This eating trend has serious consequences: **There is a strong link between diets low in fruits and vegetables and obesity and diabetes.**

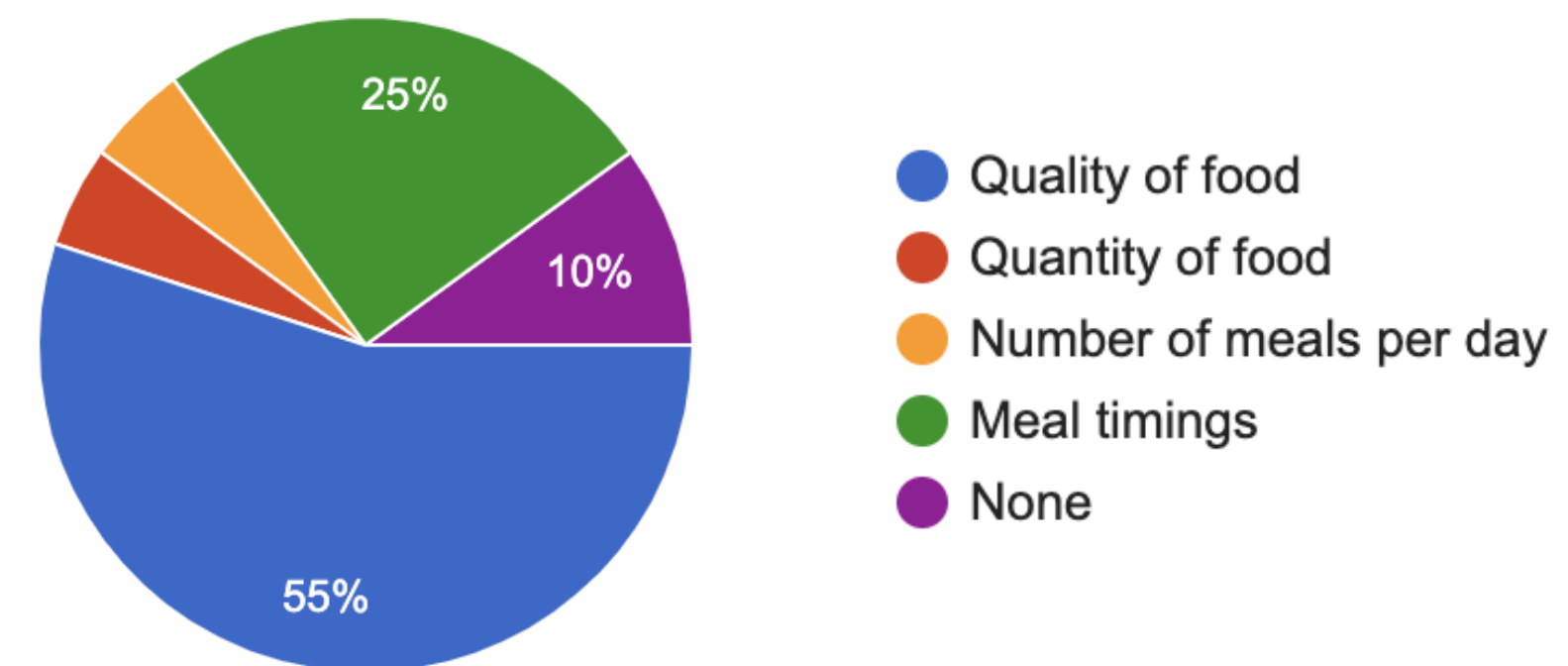
One reason why Americans tend to choose less healthy options is simple: cost. Processed foods tend to have a lot more calories at a lower price; that's more bang for your buck than **fresh food if you're on a budget.**

Survey insights from young adults

What are your current barriers, if any, in eating more fruits and vegetables per day?



What do you want to change about your current food habits?



2 cups of Fruit and 3 cups of vegetables = 5 A Day

5 A Day is any of various national campaigns in developed countries such as the United States, the United Kingdom, France, and Germany, to encourage the

consumption of at least five portions of fruit and vegetables each day, following a recommendation of

WHO

Up to 2.7 million lives could be saved annually with sufficient fruit and vegetable consumption. Low fruit and vegetable intake is among the top 10 selected risk factors for global mortality.

Part 3a - Solutions

Existing Research - 5 A day

Part 3a – Solutions

Existing Research – CDC Solutions

Strategy 3. Start or expand farm-to-institution programs in schools, hospitals, workplaces, and other institutions

Definition

Farm-to-institution programs and policies allow regional farms to sell fruits and vegetables directly to community institutions such as schools, universities, hospitals, faith-based organizations, and government and nongovernment work sites to facilitate convenient and regular access to fresh produce. Program structure primarily consists of institutional purchasing of locally and regionally grown fruits and vegetables for use in cafeterias, restaurants, and catering services and at meetings, conferences, and special events.

Programs and policies can incorporate education about fruits and vegetables, food preparation, or agriculture. Farm-to-school programs also can include activities that provide students with hands-on learning opportunities, such as food preparation and cooking classes, school gardening and composting, and farm visits.

Strategy 4. Start or expand farmers' markets in all settings

Definition

A farmers' market is a recurring gathering of farmers selling their food products, including fruits and vegetables, directly to consumers. Farmers' markets can be held on public or private land and in temporary or permanent structures. Farmers' markets can be set up in community locations, health clinics, places of worship, schools, and workplaces. They generally supply produce for purchase by community members, but they also can supply produce to local restaurant owners.

Populations that have previously lacked access to fresh produce may need education on how to use and store these items. Food and nutrition assistance programs such as SNAP, WIC, and the WIC Senior Farmers' Market Nutrition Program (SFMNP) can offer nutrition education programs to meet this need.

Part 3a – Solutions

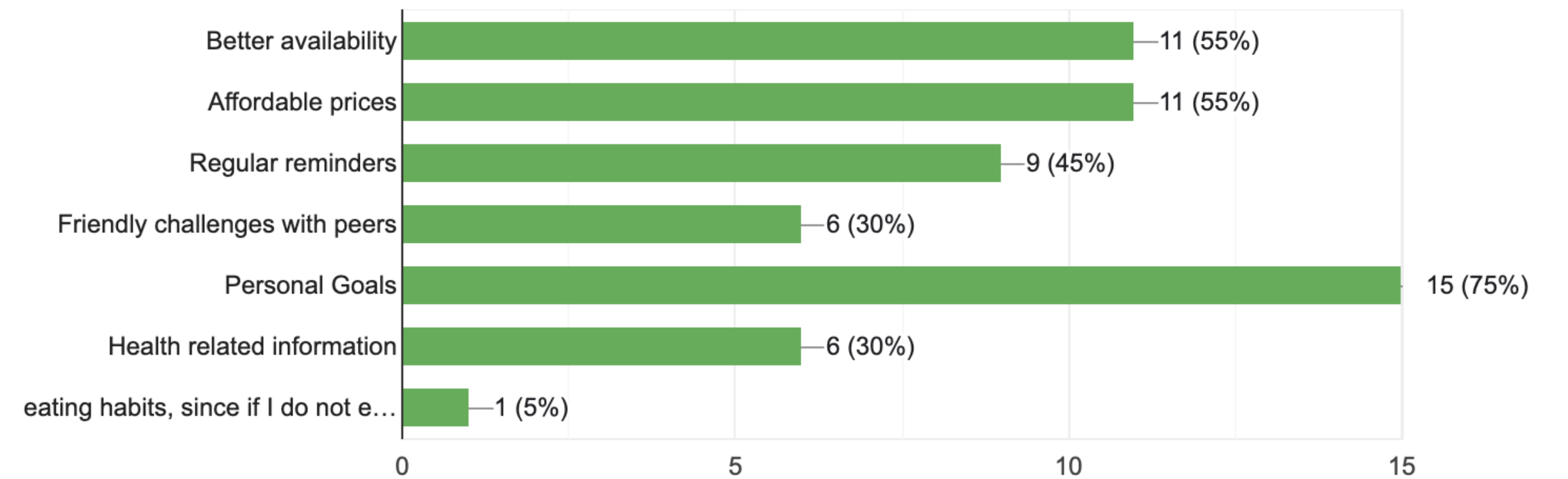
Existing Research – CDC Solutions

Increasing farm-to-institution programs and expand farmer's markets respectively.

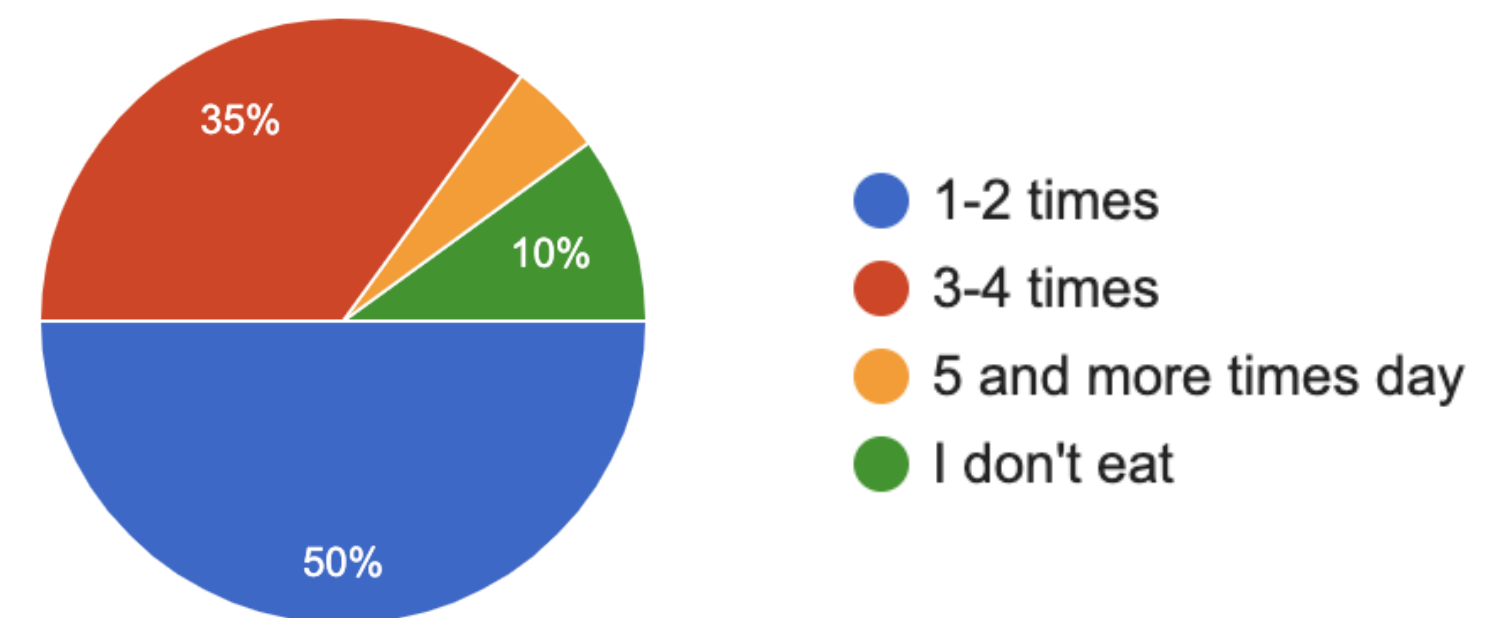
- 1- Institutions are the largest places which have young adults, there are more chances of developing health habits at an early age in a social setting than later.
- 2 – An institution is an equal space, for individuals from all socio-economic backgrounds. This gives all individuals an equal opportunity for a healthy and long life.

Survey insights from young adults

As a college student what would motivate you to follow a healthier eating lifestyle?



How often are fruits and vegetables part of your day?



The Why

To cater to the “Young Adult Lifestyle”

Young adults’ diets change because they move out of their homes for education and the environmental stress contributes to their eating behaviours

To promote healthy eating at an early stage

WHO states that by setting healthy eating patterns at this age can help them carry on these behaviours in later stages which increase longevity reduce chronic diseases and heart problems

To make food discipline fun

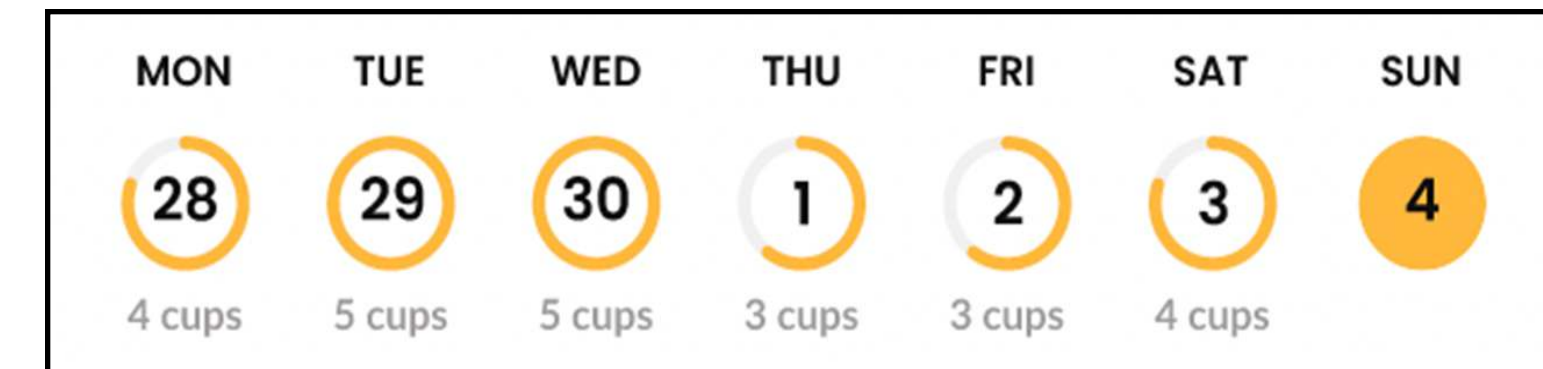
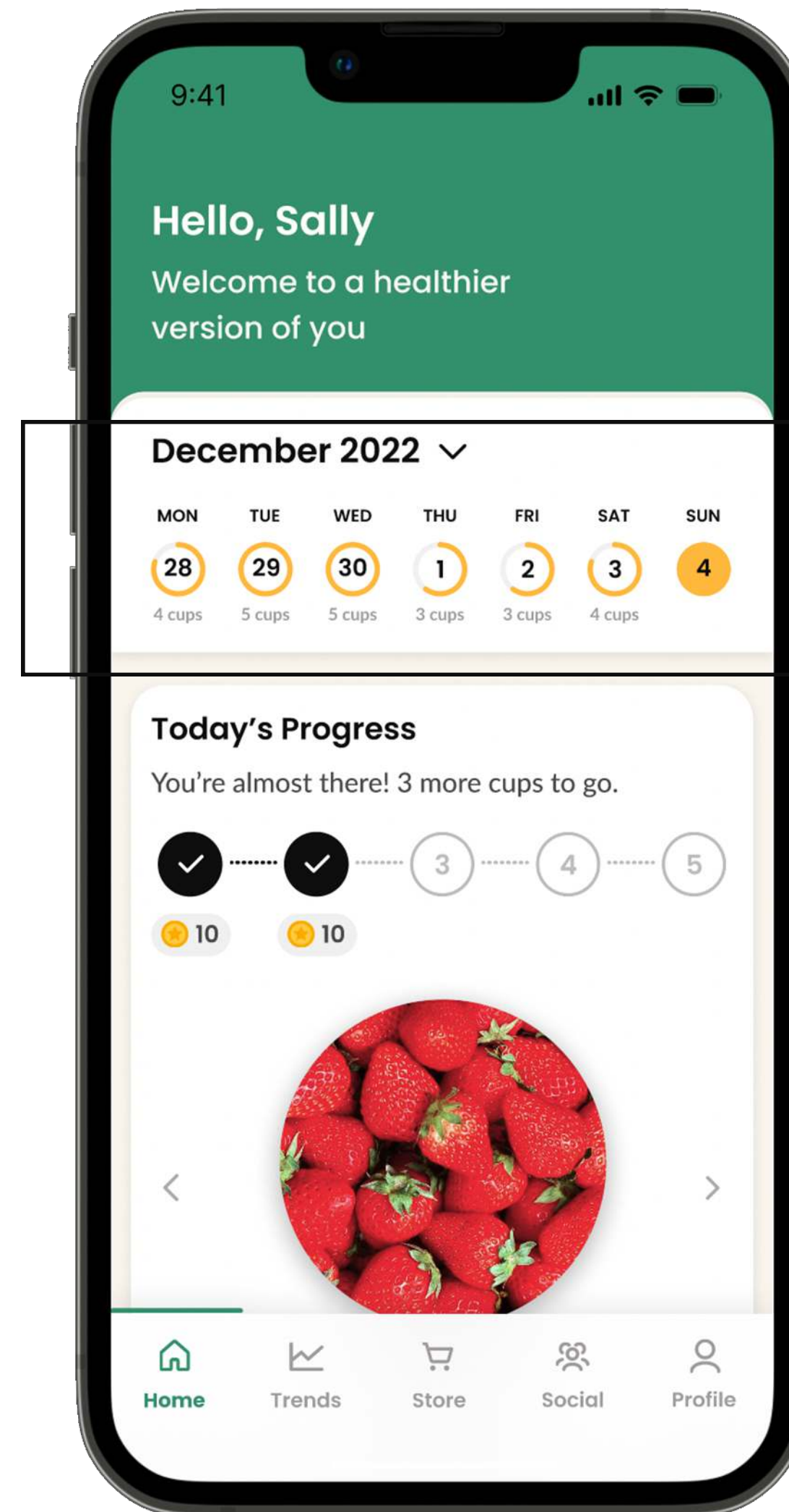
Gamification to improve eating habits.

The Core

Part 4a - The Core

Increase the intake for FV consumption

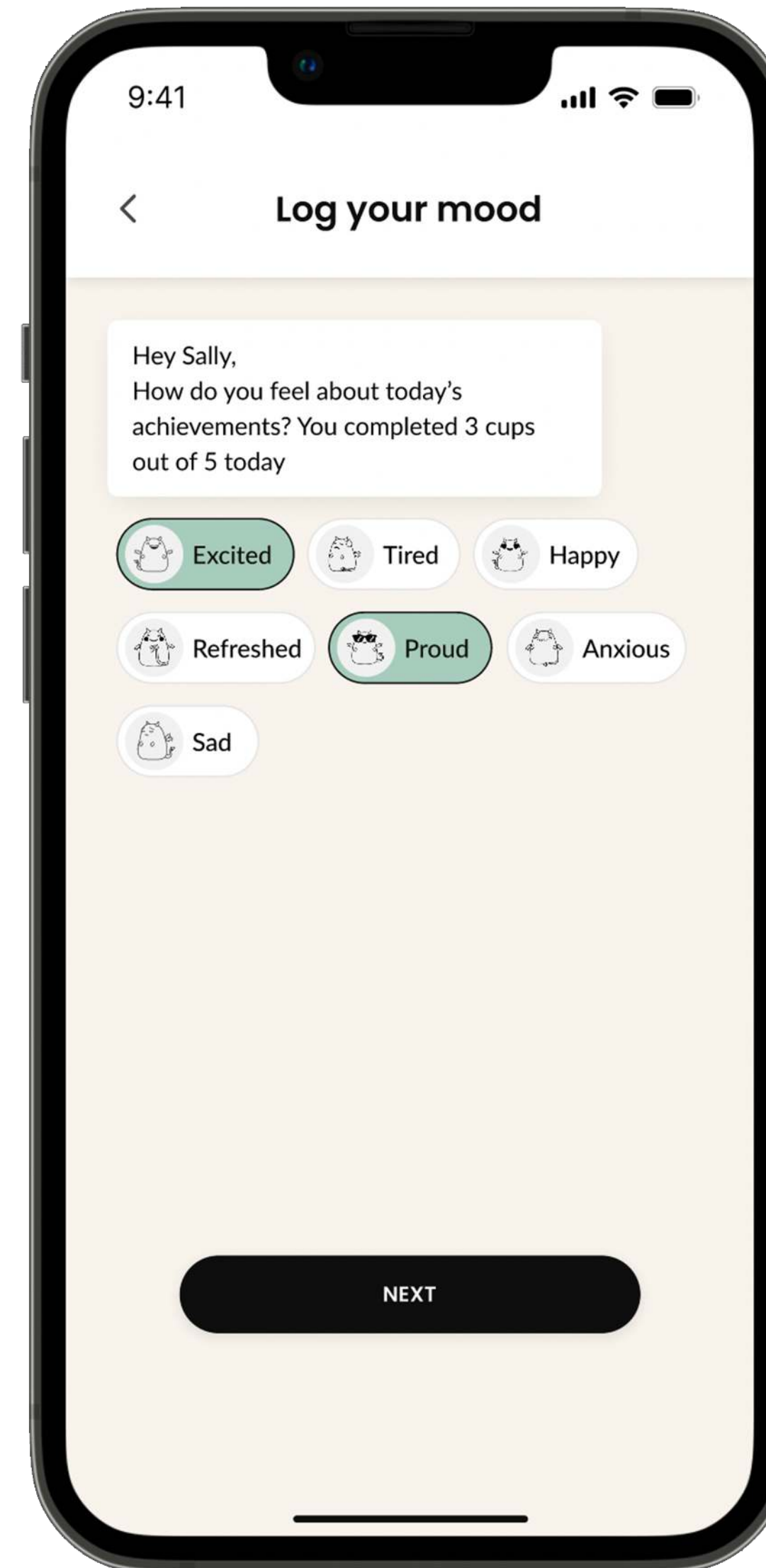
- The application helps users track their fruit and vegetable intake (2F & 3V) while educating them of the benefits of logging and consumption
- Each day's input leads to a collection of certain number of coins on completion (Rewards)



Part 4b – The Core

Awareness of their self-perception

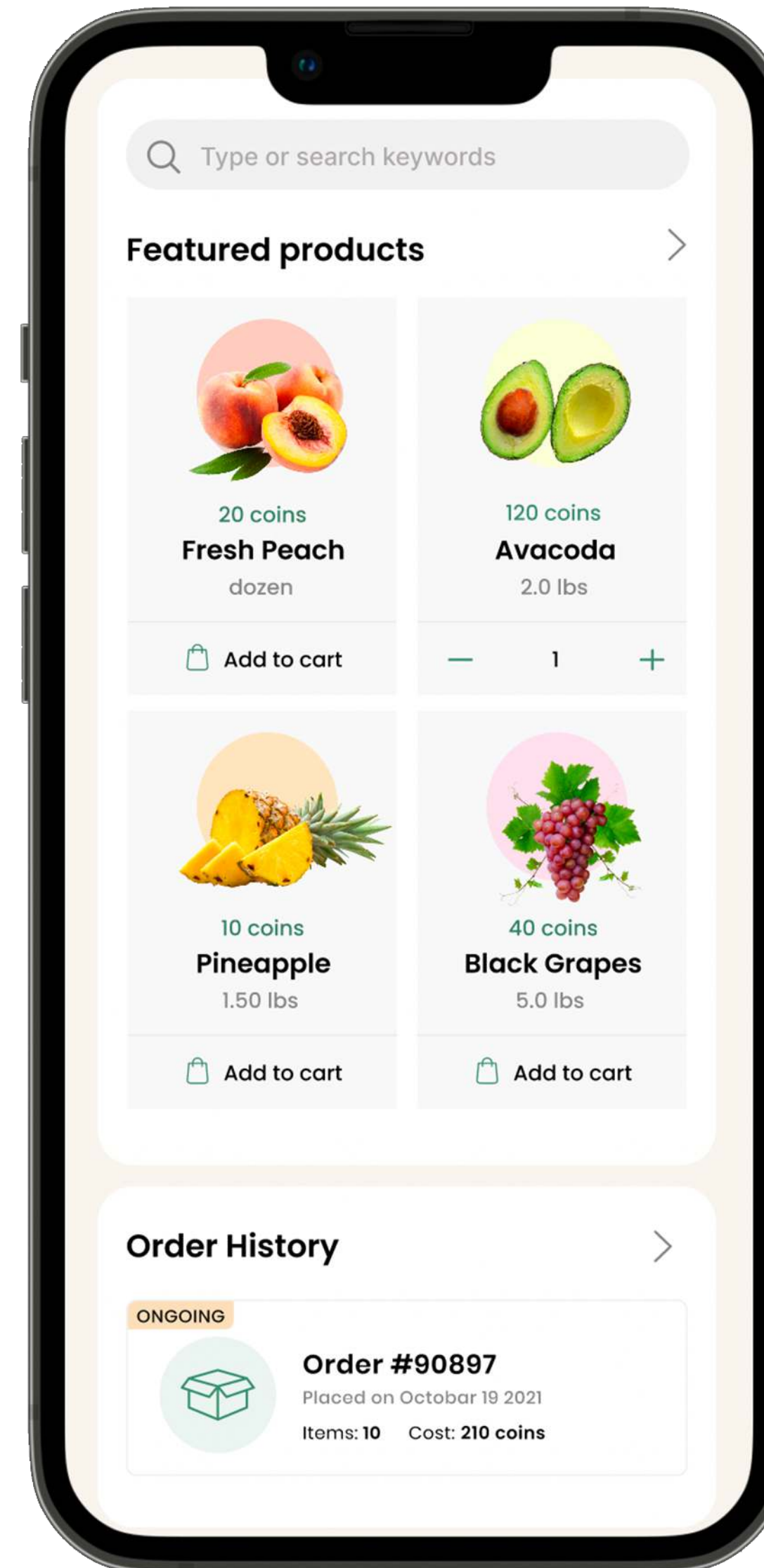
- At the end of each day users are asked to capture their emotional well being through multi-select options like Anxious, Hopeful & Stressed
- After the selections users are encouraged to reflect on their day and achievement through a conversational UI setup



Part 4c – The Core

Increasing the affordability of FV

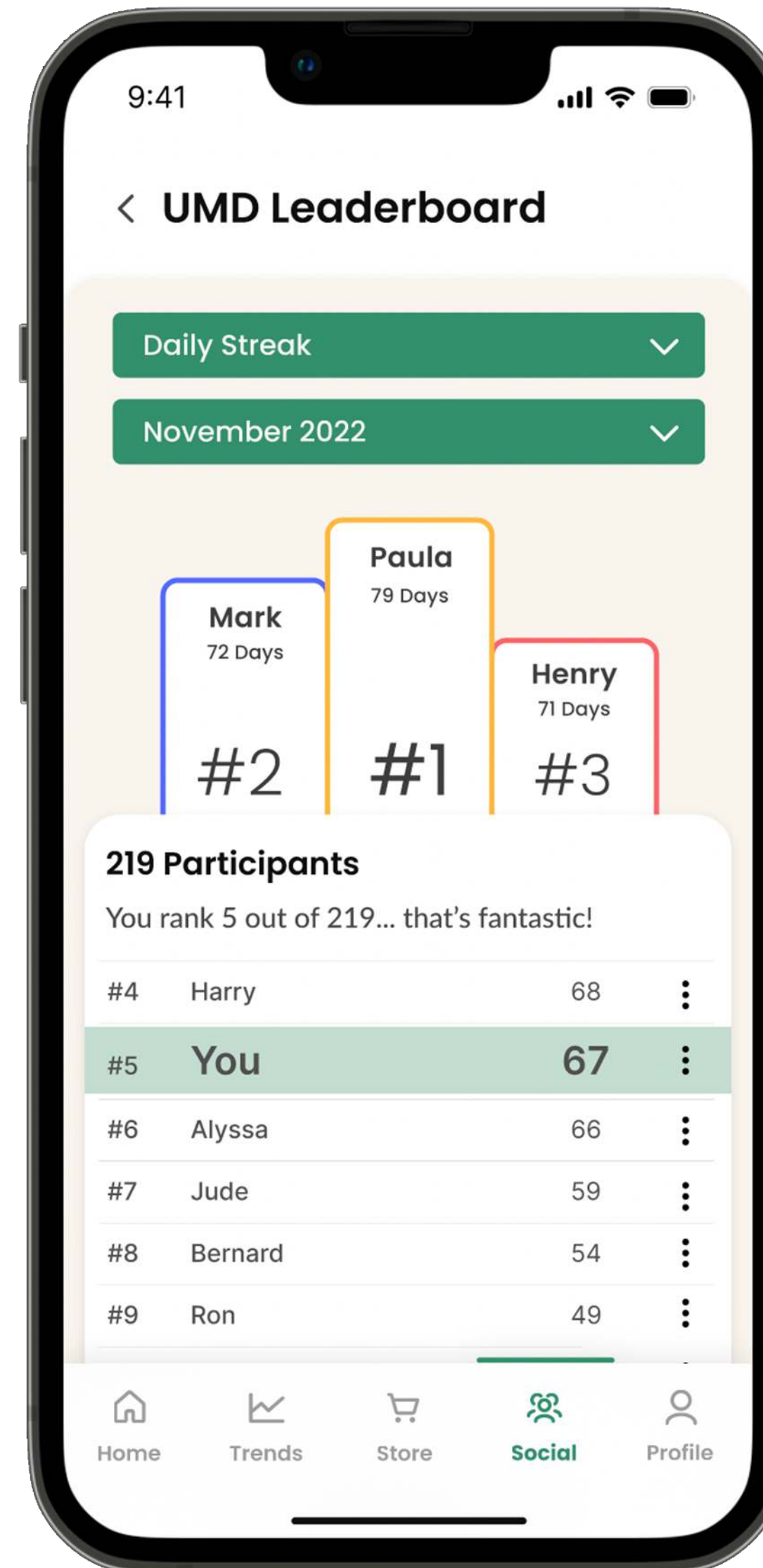
- The application connects institutions (Universities/ colleges) with their local farmers to provide a subsidized pricing
- An equal access for all students
- The coins collected through the platform by logging their data are encouraged to be used to redeem at the store for the purchase of fruits and veggies



Part 4d – The Core

Social Motivations

- Add/ Invite your institutional friends to challenge them for a league or dual.
- Create your own leagues with 3 or more people to form their own social group
- Each win leads to a rewards of coins which is added to their daily earned rewards.



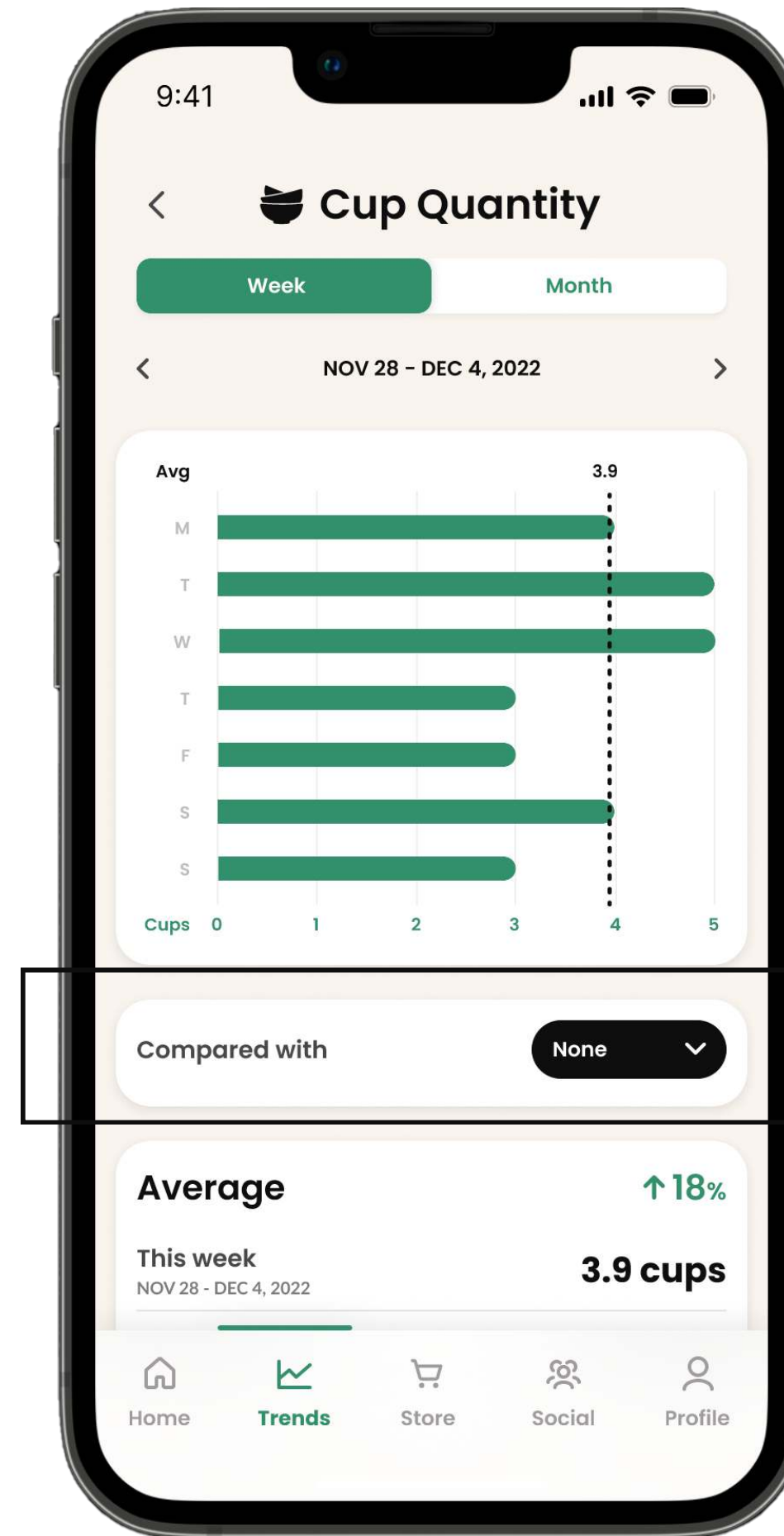
The Catalyst

Reflection 1

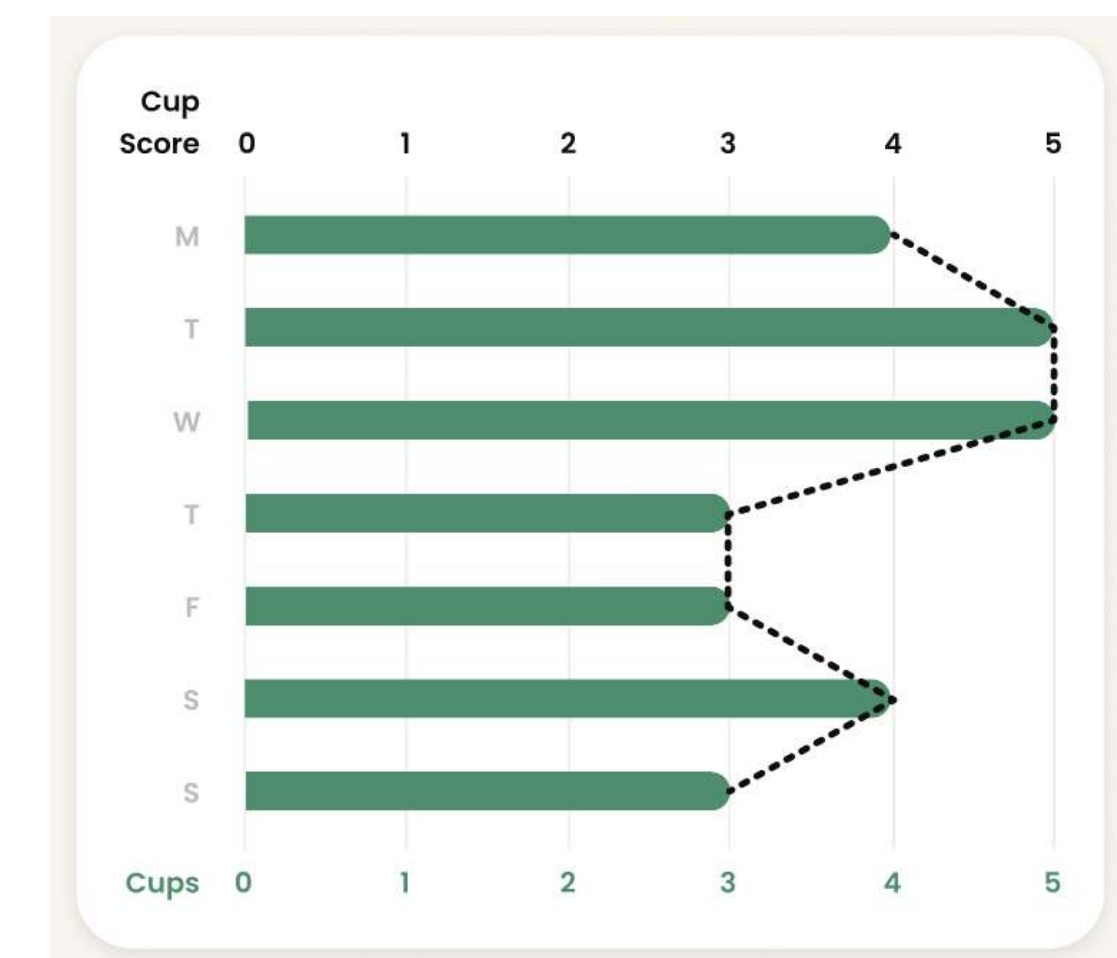
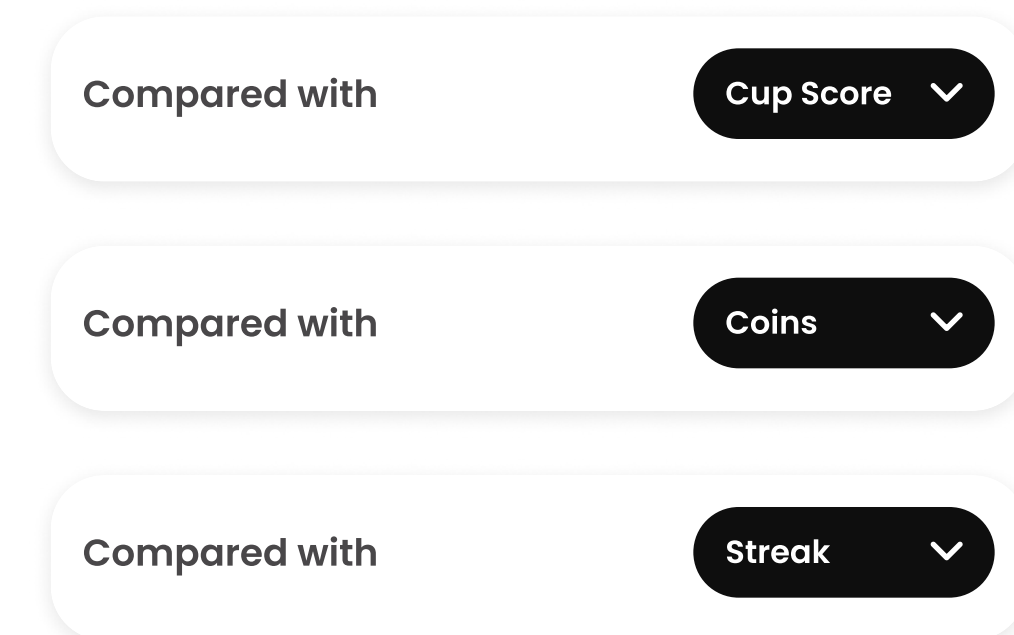
Cup Quantity

Since the main focus of our app is to track users' fruit and vegetable intake (2F 3V) 5 cups in total, we provide data on their daily, weekly and monthly cup consumption patterns.

The current week's progress is compared with last week's progress to help them feel a sense of achievement or reflect on what went wrong thus helping them feel more aware.



There is also a “Compared With” option to visualise cup quantity with Cup Score, Coins and Streak.



Reflection 2

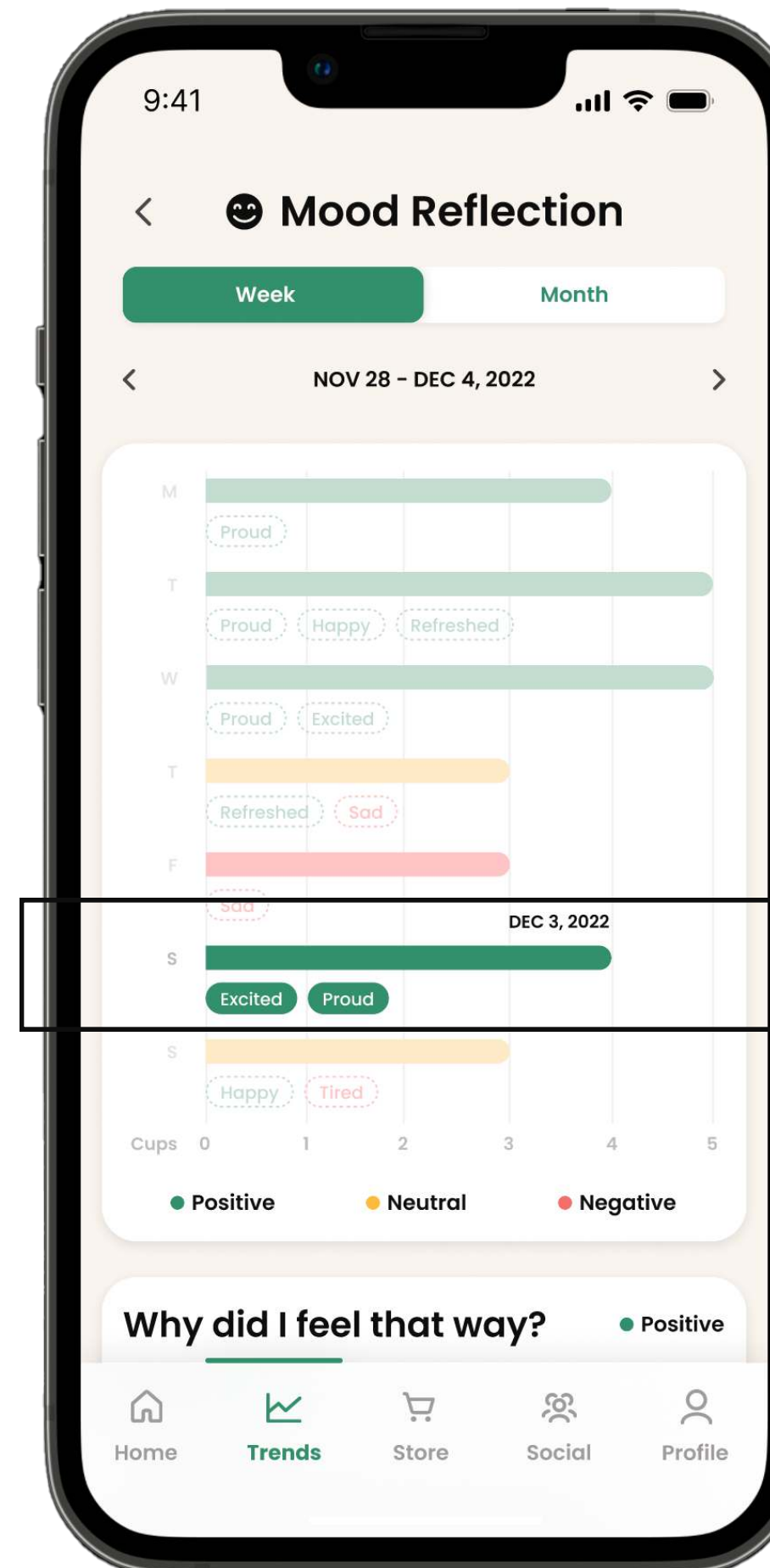
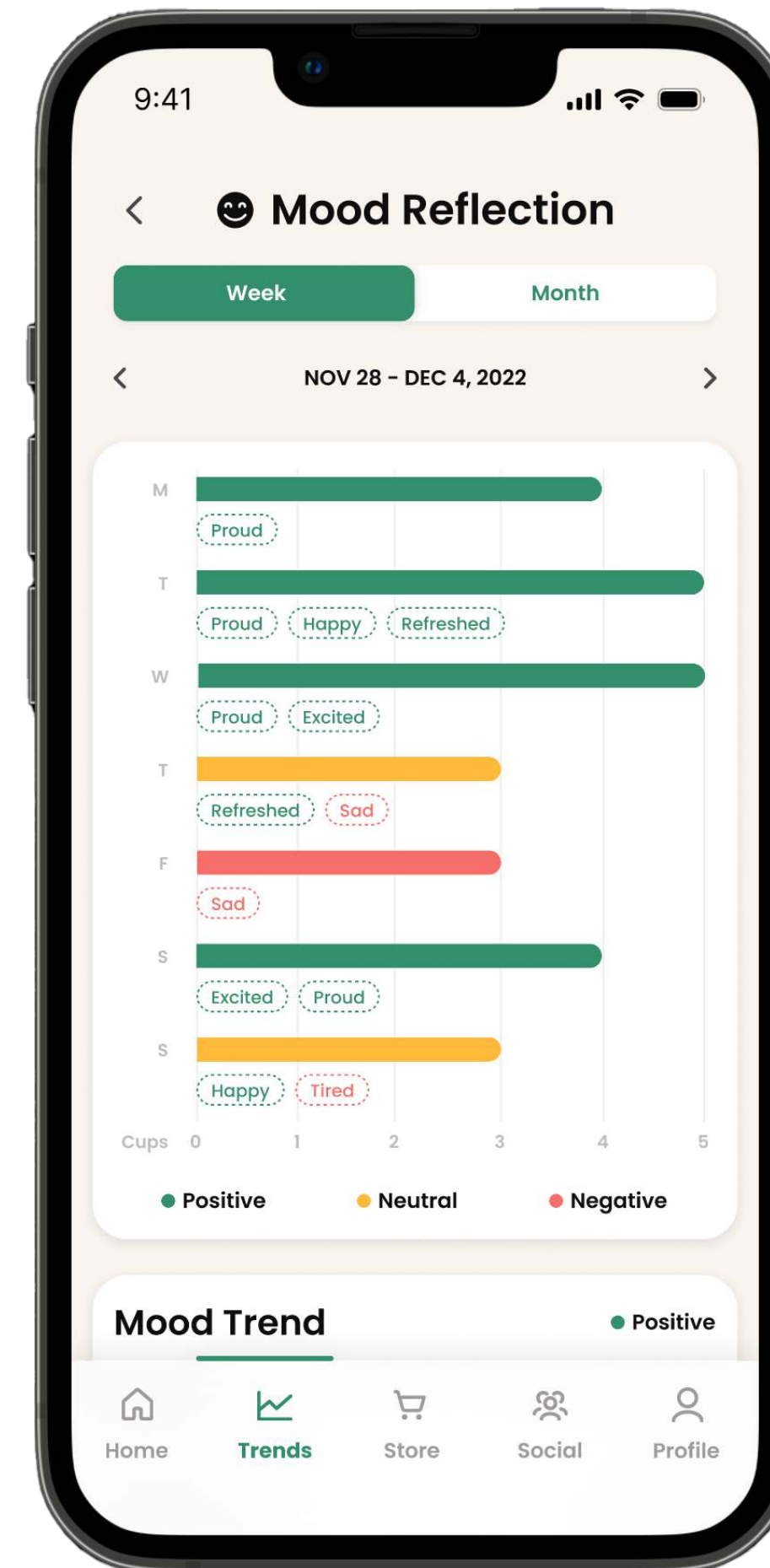
Mood Trends

In order to study mood trends, we categorise the mood for a day as either positive, negative or neutral based on the mood log data.

We then provide data on the dominant mood of the week, comparison of this week's mood to last week's and when they felt the most positive or negative or neutral.

There's also a feature to give positive affirmation to the user based on the cups consumed on the days they felt positive.

Presentation Link

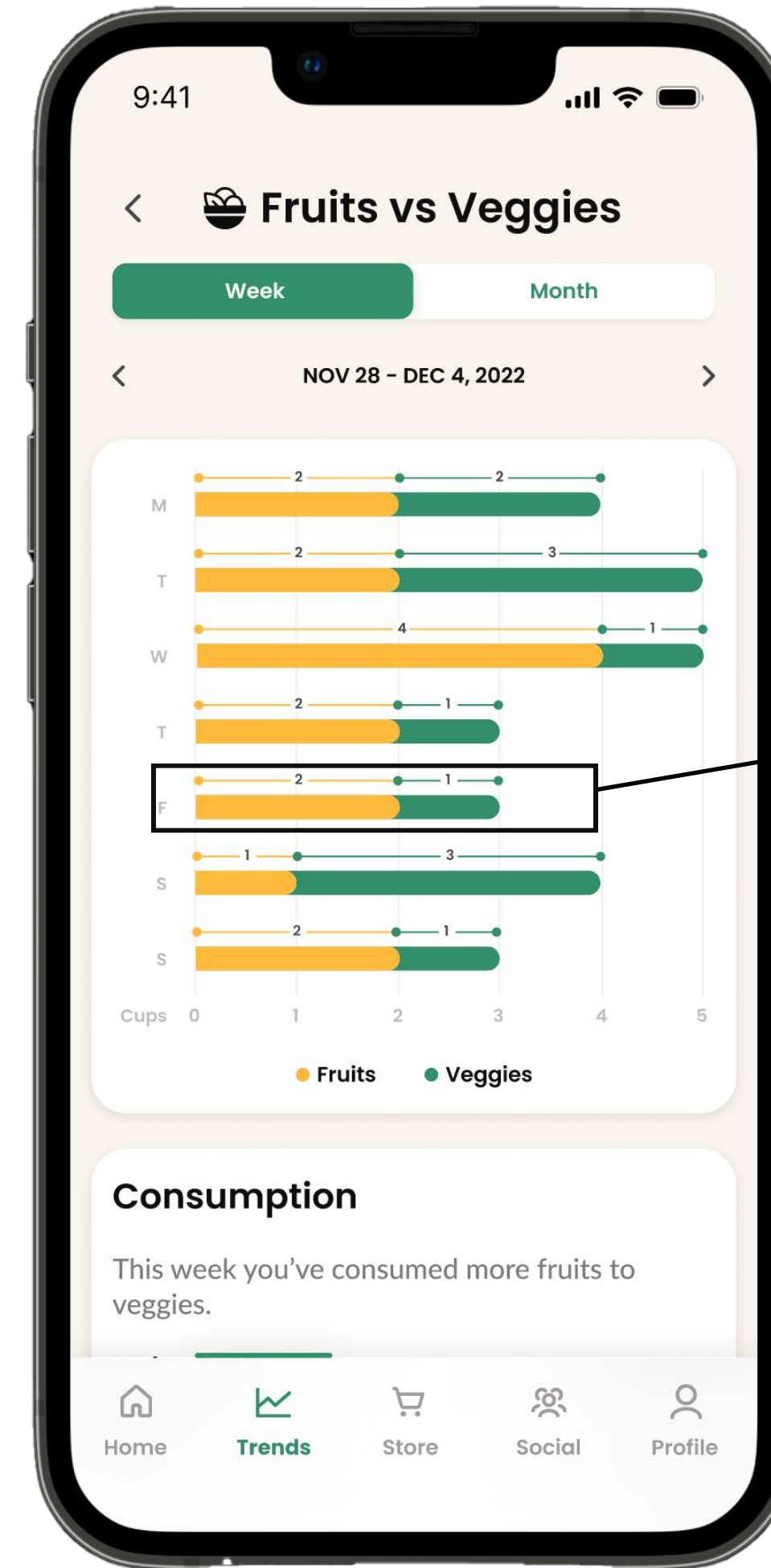


Interact with individual data

Reflection 3

Fruit vs Veggie Intake

The user can get daily, weekly and monthly data on the fruit and veggie cups they've consumed. This makes them more aware of what they're eating more or less, so they could strive to find a balance for a healthier diet.



The stacked bar graph helps them compare both quantities visually.

Numbers on the graph to make it easily understandable.

The Test



[Link to the prototype](#)

References

1. Nelson, M. C., Story, M., Larson, N. I., Neumark-Sztainer, D., & Lytle, L. A. (2008). Emerging adulthood and college-aged youth: An overlooked age for weight-related behavior change. *Obesity*, 16(10), 2205–2211. <https://www.proquest.com/docview/1030421134?pq-origsite=gscholar&fromopenview=true>
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3. Strategies to prevent obesity and other chronic diseases-the CDC guide ... (n.d.). Retrieved November 1, 2022, from <https://www.cdc.gov/obesity/downloads/strategies-fruits-and-vegetables.pdf>
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5. Conner, T. S., Brookie, K. L., Carr, A. C., Mainvil, L. A., & Vissers, M. C. M. (n.d.). Let them eat fruit! the effect of fruit and vegetable consumption on psychological well-being in young adults: A randomized controlled trial. *PLOS ONE*. Retrieved October 31, 2022, from <https://journals.plos.org/plosone/article?id=10.1371%2Fjournal.pone.0171206#sec002>

Thank You!