



# AUCares

AU Healthcare Mobile Application

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# Problem Description

In collaboration with the AU Health Studies department, and Professors Trina Ulrich and Jessica Yamamoto.

During this time of the pandemic and COVID-19, many people have concerns regarding their health and well-being.

Students may not have much knowledge of their health and the resources available to them.

Many students might want to pay more attention to their health, but they do not know how to start or have the motivation to do so.

# Motivations



PROVIDE  
EDUCATION  
AND  
ASSISTANCE



BETTER THE  
LIVES OF  
STUDENTS



FACILITATE  
LONG-TERM  
GROWTH AND  
DEVELOPMENT



LEARN ABOUT  
STUDENTS AT  
AU

# Project Overview

We have developed an app catered towards health and wellness, and the AU student body.



## Capabilities/ Functionalities

Connects the user to exercise, support, and social opportunities.

Daily truths and dares for the user to complete.

Progress visualized as wheels and pie charts.





# Implementation

Tools and Technologies

Frontend

Backend

Obstacles



# Tools



## Visual Studio Code

Programming in React Native and Node JS



## XAAMP

For Database manipulation



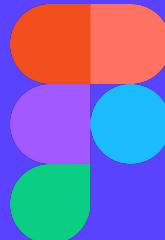
## Photoshop & Illustrator

For creating survey graphics



## Android Emulator/ Phones

For testing the application



## Figma

Used to create mobile applications designs

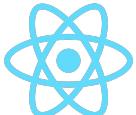


## Insomnia

Testing API endpoints



# Technologies



**React Native & Redux**

JavaScript



Express 

**Express**

Node JS with JavaScript



**MariaDB/MySQL**

SQL



# Frontend Implementation



# Frontend Interface Design - Color Scheme



Main color scheme



For the seven areas



# Frontend Interface Design

Login



Welcome!

Email

Password

**Submit**

Don't have an account?

**Sign-up**

Forgot password?

**Send Email**

**Login** **Sign-up**

Signup



Welcome!

Email

Password

**Submit**

Already have an account?

**Login**

**Login** **Sign-up**

Description of app



**Welcome to AUCares!**

**About**

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book.

**Our Goal**

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book.

1/3 >

Description of app 2

**How to use**

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book.

< 2/3 >

Description of app 3

**Section title**

**Section title**

**Get started!**

< 3/3 >

**First...**

Question

Question

Yes      No

Question

Question

Submit

Home View - Spinning W...



## Wheel of Wellness



Spin!



Home View - Spinning W...



## Wheel of Wellness

### Your challenge

Information goes here

Got it!



Home View - Spinning W...



## Wheel of Wellness

### Daily Check-in

Question?

Yes

No

Submit

Spin!



Progress Wheel View



Progress Wheel View (p...)



Challenges View

**Challenges** ✓

2/5 40%

Goals

Be awesome

Be awesome

Be awesome

Submit

Completed

Be awesome ✓

Be awesome ✓

Home Pie Download Settings

This screen displays a challenges section with a progress bar showing 40% completion. It lists three goals, all of which have been completed, indicated by checked boxes and green checkmarks. A red "Submit" button is present. At the bottom is a green navigation bar with standard icons.

## Settings



Username

- Profile**
- Resources**
- About**
- Notifications**
- Provide feedback**
- Logout**

[Home](#) [Profile](#) [Feedback](#) [Settings](#)

Settings View (profile)

Username 

Sleep zzz 

Info goes here

Physical Activity 

Info goes here

[Home](#) [Profile](#) [Feedback](#) [Settings](#)

Settings View (section)

Sleep zzz

Facts

Lore ipsum is simply dummy text of the printing and typesetting industry. Lore ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book.

Advice

Lore ipsum is simply dummy text of the printing and typesetting industry. Lore ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book.

[Home](#) [Profile](#) [Feedback](#) [Settings](#)



Settings View (resources)

Resources

Name of organization 

Short description  
(Phone number)  
(Email)

Name of organization 

Short description

Name of organization 

Short description

Name of organization 

Short description

Name of organization 

Short description

[Home](#) [Profile](#) [Feedback](#) [Settings](#)

Settings View (about)

About 

Same description as the one from the beginning.

[Home](#) [Profile](#) [Feedback](#) [Settings](#)

Settings View (provide feedback)

Provide Feedback

First Name

Last Name

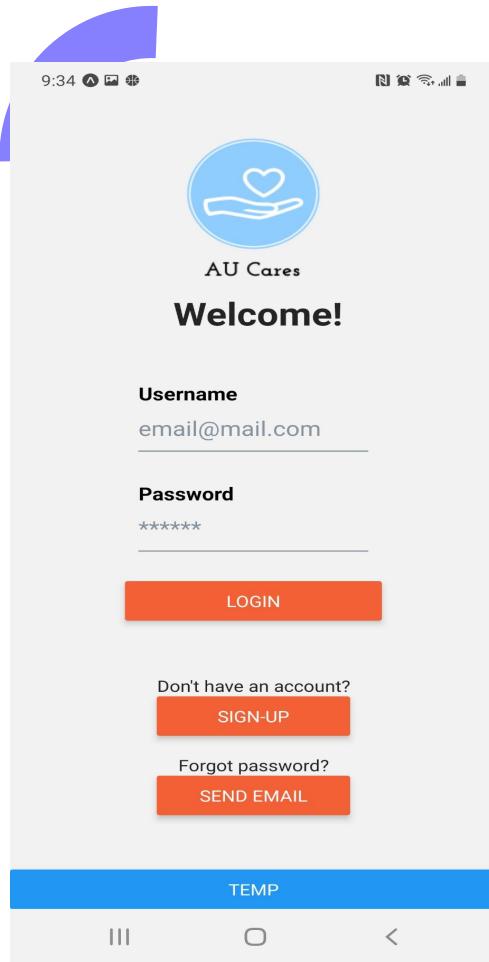
Email Address

Subject

Message

**Submit**

[Home](#) [Profile](#) [Feedback](#) [Settings](#)



## Welcome to AU Cares

### About

AUCares is a platform to help American University students to stay on top of their health and keep track of their well-being. We support positive behavior change, share educational tidbits appropriate for your personal development, give insight to resources at AU, and connect you to exercise and social opportunities.

### Our Goal

Our goal is to provide education and assistance, better the lives of the AU student body, and facilitate long-term growth and development.

**Continue**

### How to Use

Upon creating an account using your AU email, you will answer a series of initial questions so we can get an idea of your current state of well-being.

Through a daily log-in, you can spin a wheel to receive a dare that pertains to your current progress. You will also answer a question about your previous dare to determine how much you've improved.

You will be able to manage your goals and challenges in an organized manner. We will keep track of your overall progress through the Wheel of Wellness and provide you with advice and information that will help you to continue to advance in your areas of improvement.

### Target Use

AUCares strives to assist you in:

- Sleep
- Physical Activity
- Occupational Health
- Fruit and Vegetable Consumption
- Social Health
- Emotional Health
- Hydration

**Back** **Continue**

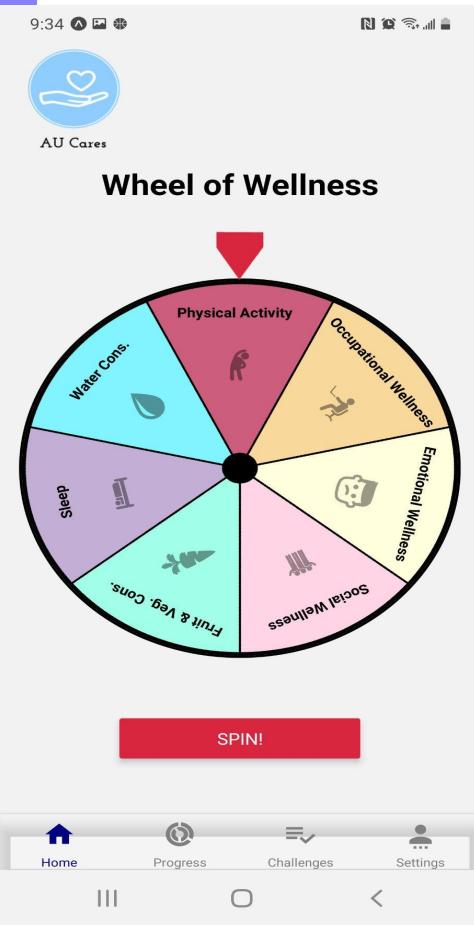
### Questionnaire

**Question 1**  
Question 1

**Question 2**  
Question 2

**Subject**  
Subject

**Back** **Finish**



## Select a challenge for Social Wellness!

Truth	Dare	Question
-------	------	----------



## Select a challenge for Social Wellness!

Truth	Dare	Question
-------	------	----------

How many hours a travel

ACCEPT CHALLENGE!

## Select a challenge for Social Wellness!

Truth	Dare	Question
-------	------	----------

We dare you to go out and have unch with one new friend this week

ACCEPT CHALLENGE!

## Select a challenge for Social Wellness!

Truth	Dare	Question
-------	------	----------

Is there a way around a challenge your facing right now that involves doing more of the challenge:  
Social Wellness?

ACCEPT CHALLENGE!

# Survey Graphics



# Stages of Change

Precontemplation

Contemplation

Preparation

Action

Maintenance

Relapse

# Categories

Fruit & Veg Intake

Hydration

Sleep

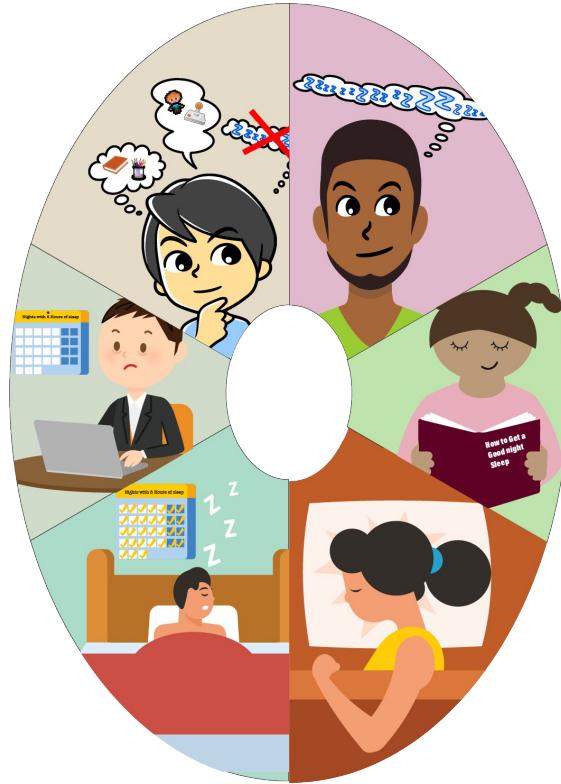
Occupational  
Health

Social Health

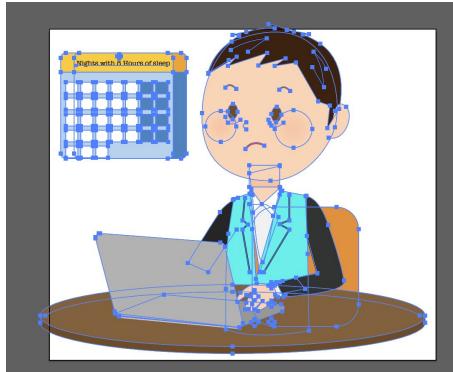
Physical Activity

Emotional Health

# Initial Designs ---> Final Product



# Design with Future Devs in Mind



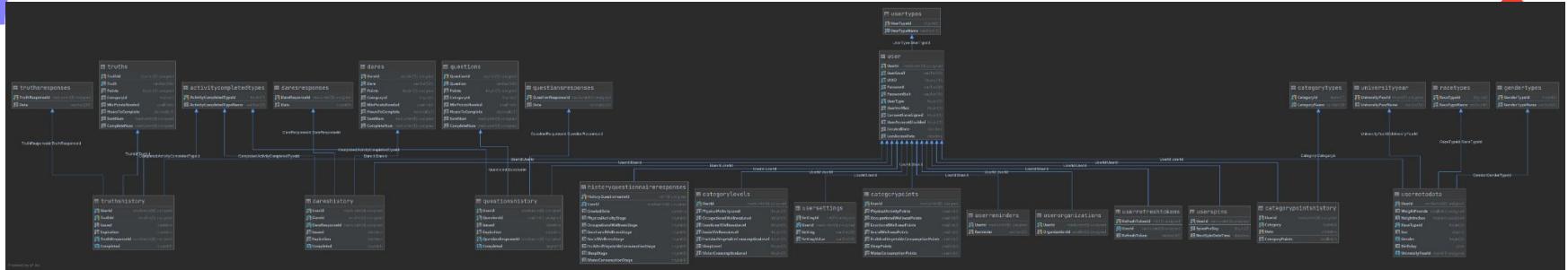
```
<svg id="Layer_1" data-name="Layer 1" xmlns="http://www.w3.org/2000/svg"
  xmlns:xlink="http://www.w3.org/1999/xlink" viewBox="0 0 2972.15
  2204"><defs><style>.cls-1,.cls-131,.cls-132,.cls-139,.cls-14,.cls-145,.cls-146,.cls-148,.c
ls-23,.cls-39,.cls-57,.cls-82,.cls-84,.cls-87,.cls-92,.cls-97{fill:none;}.cls-2{fill:#d0db
c9;}.cls-19,.cls-2,.cls-27,.cls-40,.cls-58,.cls-9{stroke:#231f20;}.cls-19,.cls-2,.cls-27,
.cls-40,.cls-58,.cls-82,.cls-87,.cls-9{stroke-
linecap:round;}.cls-14,.cls-146,.cls-148,.cls-19,.cls-2,.cls-23,.cls-27,.cls-36,.cls-37,.c
ls-38,.cls-39,.cls-40,.cls-57,.cls-58,.cls-9{stroke-miterlimit:10;}.cls-3{clip-
path:url(#clip-
```

# Frontend obstacles

- Connecting the frontend to the backend.
- Getting the wheel to spin and populating it with text.
- Adding functionality to each of the sections.
- Using Adobe technologies

# Backend Implementation

# Database



**phpMyAdmin**

Server: localhost - Database: au\_cares\_db

- Structure
- SQL
- Search
- Query
- Export
- Import
- Operations
- Privileges
- Routines
- Events
- Triggers
- More

Recent Favorites

New

au\_cares\_db

Tables

Containing the word:

Table	Action	Rows	Type	Collation	Size	Overhead
ActivityCompletedTypes	Browse  Structure  Search  Insert  Empty  Drop	3	InnoDB	utf8mb4_general_ci	32.0 Kib	-
ApplicationFeedback	Browse  Structure  Search  Insert  Empty  Drop	0	InnoDB	utf8mb4_general_ci	16.0 Kib	-
CategoryLevels	Browse  Structure  Search  Insert  Empty  Drop	0	InnoDB	utf8mb4_general_ci	32.0 Kib	-
CategoryPointsHistory	Browse  Structure  Search  Insert  Empty  Drop	0	InnoDB	utf8mb4_general_ci	32.0 Kib	-
CategoryTypes	Browse  Structure  Search  Insert  Empty  Drop	7	InnoDB	utf8mb4_general_ci	48.0 Kib	-
CurrentLeaders	Browse  Structure  Search  Insert  Empty  Drop	0	InnoDB	utf8mb4_general_ci	32.0 Kib	-
Dares	Browse  Structure  Search  Insert  Empty  Drop	1	InnoDB	utf8mb4_general_ci	48.0 Kib	-
DaresHistory	Browse  Structure  Search  Insert  Empty  Drop	0	InnoDB	utf8mb4_general_ci	80.0 Kib	-
DaresResponses	Browse  Structure  Search  Insert  Empty  Drop	0	InnoDB	utf8mb4_general_ci	32.0 Kib	-
GenderTypes	Browse  Structure  Search  Insert  Empty  Drop	6	InnoDB	utf8mb4_general_ci	48.0 Kib	-
HistoryQuestionnaireResponses	Browse  Structure  Search  Insert  Empty  Drop	0	InnoDB	utf8mb4_general_ci	48.0 Kib	-
Organization	Browse  Structure  Search  Insert  Empty  Drop	0	InnoDB	utf8mb4_general_ci	32.0 Kib	-
OrgUserInfo	Browse  Structure  Search  Insert  Empty  Drop	0	InnoDB	utf8mb4_general_ci	32.0 Kib	-
QuestionResponseAnswer	Browse  Structure  Search  Insert  Empty  Drop	0	InnoDB	utf8mb4_general_ci	32.0 Kib	-
QuestionResponseChoices	Browse  Structure  Search  Insert  Empty  Drop	0	InnoDB	utf8mb4_general_ci	32.0 Kib	-
Questions	Browse  Structure  Search  Insert  Empty  Drop	1	InnoDB	utf8mb4_general_ci	64.0 Kib	-
QuestionsHistory	Browse  Structure  Search  Insert  Empty  Drop	0	InnoDB	utf8mb4_general_ci	80.0 Kib	-
QuestionsResponses	Browse  Structure  Search  Insert  Empty  Drop	0	InnoDB	utf8mb4_general_ci	32.0 Kib	-
QuestionTypes	Browse  Structure  Search  Insert  Empty  Drop	3	InnoDB	utf8mb4_general_ci	16.0 Kib	-
RaceTypes	Browse  Structure  Search  Insert  Empty  Drop	7	InnoDB	utf8mb4_general_ci	48.0 Kib	-
ResourcePage	Browse  Structure  Search  Insert  Empty  Drop	20	InnoDB	utf8mb4_general_ci	16.0 Kib	-
Truths	Browse  Structure  Search  Insert  Empty  Drop	1	InnoDB	utf8mb4_general_ci	48.0 Kib	-

Console

SELECT \* FROM `Truths`

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

+ Options

TruthId	Description	Points	CategoryId	MinPointsNeeded	HoursToComplete	SentNum	CompleteNum
4	another test	2	1	4	5.0	0	0
5	say hello	2	1	3	4.0	0	0

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Check all With selected: Edit Copy Delete Export

Query results operations

Print Copy to clipboard Export Display chart Create view

CategoryPointsHistory

CategoryTypes

CurrentLeaders

Dares

DaresHistory

DaresResponses

GenderTypes

HistoryQuestionnaireResponses

Organization

OrgUserInfo

QuestionResponseAnswer

QuestionResponseChoices

Questions

QuestionsHistory

QuestionsResponses

QuestionTypes

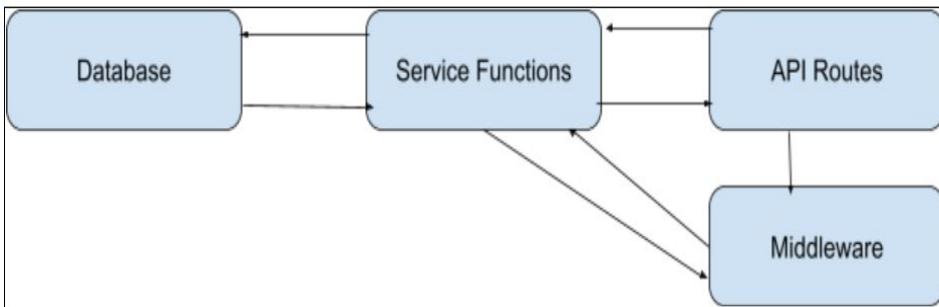
RaceTypes

ResourcePage

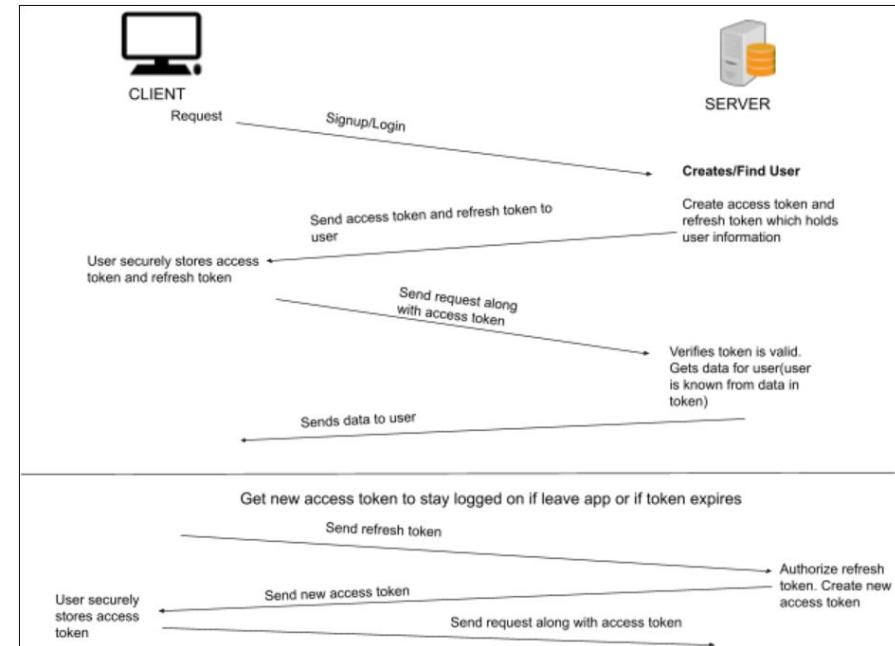
Truths

# Backend

## Backend structure



## JWT Authorization



# Backend Insomnia

The screenshot shows the Insomnia REST Client interface with the following details:

- Header:** POST http://localhost:3000/authentication/login
- Status:** 200 OK
- Time:** 165 ms
- Size:** 556 B
- Timestamp:** 2 Days Ago
- Request Body (JSON):**

```
1: {
2:   "email": "bigtesti@american.edu",
3:   "password": "Password123"
4: }
```
- Response Body (JSON):**

```
1: {
2:   "status": "ok",
3:   "isverified": true,
4:   "uuid": "8368d008-a7d2-11eb-b3f8-204747d32f97",
5:   "accesstoken":
"eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJidWlkIjoiODM2OGiNDgtY2dkMjoxMWVlMjZjgtHjA8NzQ
3ZDMyZjk3ImlwN0BZg1pb1l6dH12Sw1axWmZxPzm1IzC1GSm1y29ucVUdfNpZ5f1zC1GKwiaWF0ijoxu1jE5
NTgwODQ0Lc1leHaijeZMtk10TE2NDR9.VdoE5xynfbixNrhuGwC4yEswoXOrvL8-38zQgs90",
6:   "refreshToken":
"eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJidWlkIjoiODM2OGiNDgtY2dkMjoxMWVlMjZjgtHjA8NzQ
3ZDMyZjk3ImlwN0BZg1pb1l6dH12Sw1axWmZxPzm1IzC1GSm1y29ucVUdfNpZ5f1zC1GKwiaWF0ijoxu1jE5
NTgwODQ0Lc1leHaijeZMtk10TE2NDR9.UFICYrBAOfCmzaEb9ora-
Y6wy1CPd_rtlKY37SBYXc"
7: }
```
- Footer:** Beautify JSON



# Backend Obstacles



- Choosing the best language/ technology for the job
  - Learning new languages and technologies such as Express and XAAMP with Maria DB
  - Normalizing the database to ensure the most efficient queries
  - Creating complicated queries
  - Implementing a Node JS structure so that everything is organized and open to scalability
  - Connecting to the frontend
  - Testing: Node JS is asynchronous, so not always easy to recognize the issues in the code
- 
- 

# Evaluation

## Performance/Efficiency

- Engaging/easy to work with
- Application does not take much space or data
- Free
- Fun Competitiveness

## Scalability

- New games
- new questions
- Other topics outside of health (finance or education)
- Used by more schools

## Maintainability

- Update code to ensure it works on modern OS
- Update designs for what is in the trend
- Ensure any new requirements are added to the application

## Reusability

- Can be used by anyone with a smartphone (iOS/Android) and does not have too old of an OS
- Could possibly spread to even be used on the web in the future

## Usefulness

- Engaging application for students who want to practice fun good health habits via games

## Limitations

- Can only be used currently by those with iOS/Android and have not too old of an OS
- Users could easily “cheat the system”
- Tasks might be easier/harder for some than others



# Demo





# Future Add-Ons



- Groups/organizations
  - Community page
  - Leaderboard page
  - Monthly questionnaire
  - Progress wheel with fluctuating pie slice sizes
  - Resources page
  - Provide feedback page
  - Hamburger button for more navigation options
  - Notifications
  - Option to increase the number of daily spins
  - Animations (Clawed, confetti, etc.)
- 
- 

# What did we learn?

- Teamwork Skills
- Time management
- Communication
- New languages and technologies





# Questions?



Thank you and  
take AUCare!