Problem

- 83% of US adolescents and 98.2% of US college students consume snacks daily, the majority of which are deemed unhealthy.
- There are no applications available that define healthy snacks in accordance to current snack guidelines published by the USDA.

Solution

- A mobile application to allow users to search for snacks and easily know how healthy the snack they’re searching for is.
- A web API backed by a large data source and a curated local database containing all snacks provided on FIU campuses.
- A robust 1.0 application that has SOR and a DRY structure.

Current System

- Many applications rely on unchecked user entries to provide nutritional information about snacks.
- Few apps provide snack scores.
- There are no apps available to specifically identify if a snack is healthy or not based on the USDA guidelines.

Requirements

- Support iOS and Android devices.
- User accounts
- Local database containing all snacks in FIU campuses.
- Access to the USDA database
- Use USDA guidelines and scoring algorithm to provide a snack score.
- Handle food measurements.
- Provide elements of gamification and user feedback.
- Collect user metrics.
- Suggest snack to be added by the team
- Admin portal

System Design

- React Native leveraged to build native applications for both Android & iOS.
- Redux used in with react for complex state operations.
- Firebase used to authenticate and for user accounts.
- Web API built with Node, Express to interface with MySQL DB and USDA API.
- Admin site to run CRUD operations on local database.
- Phonetic algorithms used to better searches.
- Google Cloud Platform was used for deployment.

Verification

- Postman tests were created to test various API endpoints.
- Mocha+Chai were used to create unit test for conversions and aggregations.
- Application was tested on recent versions of Android and iOS emulators and on physical phones.
- Manual checks done to verify accurate snack score and nutrient values.

Object Design

- The objective of this project was to design an app that uses USDA guidelines to provide a numeric score based on a snack’s nutritional information.
- This project is the first release of Snackability app.
- The app is going to have an initial on-campus trial during conducted by the FIU Dietetics and Nutrition Department.

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