

# CSSE 376 Software Quality Assurance

## Final Project: Project Proposal

---

Matt Iwema Michael Frank Congnan Zheng

This document is to describe the project, a mobile app called “*What’s in the Fridge?*” that Matt Iwema, Michael Frank and Congnan Zheng are proposing as the final project for CSSE 376: Software Quality Assurance.

## High Level Problem Summary

This project is to design and implement a cross-platform mobile app, “*What’s in the Fridge?*”, that keeps track of items that are currently in, but not limited to, the fridge, the spice cabinet, the pantry, etc., to improve the user’s grocery shopping experience.

## Summary of Primary Success Criteria

- The mobile app is able to run on both Android and iOS platform smoothly and provide native app experience.
- The user would be able to add and store items to the app.
- Reminders could be set by the user for perishable food items.
- Being able to apply automated testing to verify the implementation.
- Supporting at least two languages, English and German.
- The app is designed to be easily extended for further implementation, including adding features and platforms.

## Scope

The initial design and implementation would include the ability to add and store items with detail information, set reminders and will support at least two languages. It would also include all the appropriate testing.

## Function

### Key Business Features

- Being able to add, delete and retrieve items.
- Having at least name, quantity, description and expiration date associated with each item.
- Being able to set expiration reminder and repurchasing reminder for perishable food items, like milk or eggs.
- Being able to sort item base on name, or expiration date.
- Supporting two languages.

### Future Features to Consider

- Supporting a simple shopping list with adding, deleting and retrieving ability
- Supporting the ability to create multiple lists for different purposes.
- Recognizing items that conflict with the existing items on shopping list.

- Supporting subscriptions for food items and allowing periodic reminders.
- Supporting barcode scanning, looking up and auto-populating property fields when possible
- Supporting auto-matching and check off functionality when a new item is scanned

## Form

### Key Attribute

- Performance & capacity: The app should run smoothly on both platforms. For now data should be stored on the phone itself and should be updated and retrieved fast.
- Reliability & Availability: The app should be available to users at all time, and function correctly with rare crashes.
- Usability: The app should be easy to use and straightforward when navigating. If time permits, it should have a nice user interface. And the app will support at least two languages.
- Security: It doesn't really apply to this case.
- Modifiability, maintainability & customizability: The app should be built with future improvement in mind. It should be modification-friendly and upgrading-friendly
- Testability: Testing is a major part of the project. The logic behind the app should be testable.
- Safety: It doesn't really apply to this case.

### Hardware Constraints

- iOS development can only be done on Macs, and there's only one mac in the team.
- There are plenty different versions of Android devices on the market; compatibility could potentially be an issue.

### Required Standards

The app is going to follow the established stand in iOS and Android community, along with standards that apply to development using Titanium.

## Economy

### Business Context

There are apps on the market share a similar idea, but many of them only focused on only one or a few aspect of this problem, some of them don't

provide the best user experience. There is no leading product so this kind on the market as of now. *"What's in the Fridge?"* would come in and delivery an all-in-one grocery shopping solution with user-friendly user interface and navigation.

### **Development Organization Constraints**

- iOS development can only be test on one of the laptops.
- Most members are new to Appcelerator's Titanium SDK; there could be a learning curve at the beginning of the project.

### **Key Risks and Uncertainty**

- The team might run into unpredicted difficulties and would not be able to delivery on time.
- The app might not be able to present the users significant improvements comparing to the grocery apps on the market right now to convince users to switch.
- The app might have too much functionality so it became hard to use for normal users

### **Time**

- The app is a brand new app and will be the initial design and release.
- The app will be developed by three people in over the course of six weeks of the remaining academic quarter.
- Development is going to be separated weekly, with implementing features planed from last week and plan unit test cases for next week.
- The app might continue afterwards as a side project.