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Project Proposal

Vision

WaitTime is a utility mobile app that gives users the information they need to choose a restaurant to dine at. Our service will give consumers the ability to look up the estimated wait time for restaurant walk-ins, given their party size. Sometimes plans can be spontaneous, or restaurants may not offer reservations. Having the peace of mind that you can get a table at your restaurant of choice is invaluable. Nothing is worse than showing up to a restaurant only to be told that the wait will be two hours.

WaitTime is meant for restaurant goers who want to,
- make plans ahead of time
- compare wait times between restaurants
- avoid wasting time going to an overcrowded restaurant
- take the uncertainty out of planning

The leading competition seems to be NoWait. The app offers a wait list queue for participating restaurants, allowing users to check in from the app and view wait times for restaurants within 60 miles of their current location. NoWait also provides tools for hostesses to keep track of what tables are available. The app has received many negative reviews stating that the app is buggy and drains battery life. There have also been difficulties between customers and restaurants; users have been unable to check in and some have lost their spot in line.

WaitTime will offer a simpler solution to the dining plan problem, and will follow a "never fail" philosophy. At the bare minimum, the app will return restaurant data to the user if the wait time is not available. Users will be able to interact with a map to find restaurants quickly and naturally. Search results will be provided by a 3rd party to ensure a more complete database regardless of the number of registered restaurant users.

Our goal is a simpler design that will prevent messy or complicated interactions between restaurants and customers. Restaurants only need to update their current wait times from the app. Users only need to search for the restaurant they are interested in. There is little opportunity for complicated or unsolvable issues.

Additional Features

Perhaps the most exciting part of this project is the possibility for additional features. The base functionality is only a small part of what this app can become. Some proposed additional features include,
- Location tracking for more relevant restaurant suggestions
- User accounts to track favorite restaurants, recent searches, and more
- Smart queries to show restaurants that are most relevant to consumers
- Restaurant suggestions based on desired wait time and distance

Software Architecture

There are three main components to consider, the restaurant view, the consumer view, and the back-end. Each of these components interact with each other in simple ways that should not create too much complexity.

Restaurants will interface with the app in order to report their information. Restaurants can register to provide important information such as their address, phone number, and business hours. Restaurants will log in to report the waiting times for various party sizes or edit their information.

WaitTime will keep information about restaurants in a relational database in the back-end. This lets us take advantage of the simplicity, speed, and power of SQL querying. Additionally, database systems offer a durable way to store data with many valuable features we can exploit such as recovery options and concurrency.

Consumers will have the most interesting interface, but essentially this module will just query the back-end database for the reported information about restaurants in creative ways to provide relevant information to consumers.
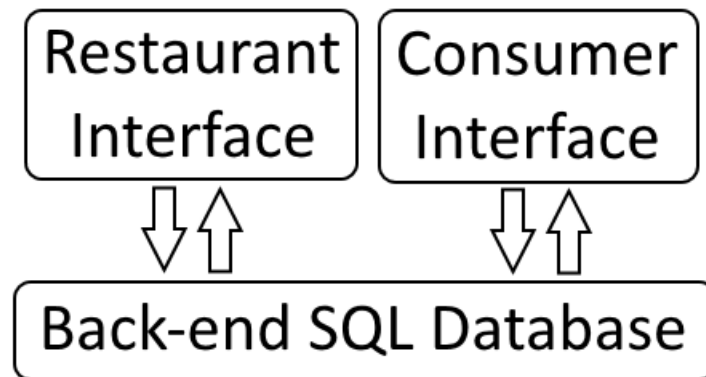
Challenges and Risks

Working with the back-end database will be a serious challenge of this project. Our team will have to learn how to communicate with a back-end database from a mobile platform. We will devote an appropriate amount of time to make sure our team members understand how this works. Additionally, team members that are unfamiliar with SQL queries or relational databases may have to familiarize themselves. However, the kinds of queries this project demands are not too challenging to understand, write, and debug.

Integrating a map interface may be especially challenging. Ideally, we want to be able to uniquely identify restaurants in a search result and match them to registered restaurant users. Integrating our back-end database, the mobile platform, search results, and a map interface is expected to be challenging. Our priority will be to get a bare-bones prototype working as soon as possible to minimize risk.