Stanley Janicki (sjanicki@cs)
Alec Greiwe (adgreiwe@cs)
Project Proposal
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Problem
        Imagine you have a date and want to take him/her to a restaurant. You make a reservation over the phone. Upon arriving at the restaurant, your romantic evening is destroyed because you are seated next to the garbage cans and the bus tables. Your lover now associates your face with the smell of garbage and dirty dishes. This of course leads to no further dates. But, all of this frustration could have been avoided had you been able to choose your table with a gorgeous view of the sound and the romantic sunset.

The Solution
        When booking tickets to a concert you are allowed to choose your seats; why not be able to do the same when making reservations at a restaurant? By using reserveMe you can choose your table and seating environment when making your reservation. This would allow you to choose a romantic atmosphere for a date or a playful setting if dining with children. Restaurants would be able to lay out their seating within the app and enable the user to choose available seats.

Feature list: The app would have two portals; Restaurant and user portals.

User Features
    1) Make a reservation at a restaurant at a given time
    2) Choose the seating by looking at an interactive map
    3) Give reservations and/or meal plan to a friend
    4) Special event feature to reserve rooms or very large groups
    5) Share your reservations and experiences online via social media
    6) Pay for your meal through the app

Restaurant Features
    1) Lay out the seating in your restaurant into an interactive map
    2) Dynamic pricing for tables: busy hours plus nice table will result in a higher price
    3) Provide gift reservations
    4) Share events and special seating deals via social media

Monetizing the App
There would be three main avenues for monetizing the app:

    1) Very small ads in the user portal of the app
    2) Charge the restaurant a membership fee to use the app
    3) Take a very small percent of each purchase made through the app

The scale of this market is huge, allowing the app to provide a huge return for investors. According to the National Restaurant Association, the restaurant industry annually produces $709 billion in revenue. If for example our app was in one percent of restaurants and we received a tenth of one percent of their revenue (through the membership fee and app purchases), our app would generate over $7 million in annual revenue, disregarding ad revenue which could be substantial. Furthermore, there is huge potential for larger growth.

Architecture

For ease of development the app will be made for mobile phones to allow use of in-app payment and ads. Either X-Code or Android development would allow for simplified in-app purchases and automated ads. Both environments are simple to use with GitHub.

The actual structure of the app will be implemented using a model view controller setup. This would also allow us to configure a universal app for either iOS or Android.

There will be two main objects: one for the restaurant's use and one for the patron's use. Each would have its own attributes and functions as outlined above.

The dynamic table pricing would work similar to Uber in pricing nice tables higher during peak hours. This would simply be a supply and demand algorithm. This would also be an advertising point for a restaurant to use as it allows them to incentivize attendance during non-peak hours.

Possibly integrate the user account with Facebook so users are not required to create a new account.

Challenges

The greatest challenge would probably be the ability for the restaurant to create the map of their seating. This would be simplified by requiring that the restaurant upload a floor plan of their establishment upon creating an account.

Another challenge would be making sure that two people could not reserve the same table at the same time.

Integrating the app with Facebook could simplify many of the features, in theory. However, this is unknown territory and may be difficult to implement.

Being on schedule will be a challenge so possibly cutting features may be required. Features to cut would include party reservations and gift reservations.