MEMO

Date:	July 14th, 2020
FROM:	Collaborators of Group 2 Recommendation Report
TO:	Potential Investors
CC:	Instructor - Mark Christiansen
SUBJECT:	Recommendation Report for QueueMe

Attached is the recommendation report describing our solution to some of the issues we face with the COVID-19 pandemic. We completed our work proposal goals by establishing a design proposal for a web-app called “QueueMe”. We looked at several different options for solving these problems, but only one idea really stood out with the most benefits. These studies are shown here in our attached report.

In order to recommend our number one option, we have researched several different options for possible solutions. In this report, you will find budgeting information, examples, and design procedures for development of QueueMe. We also hope to build a roadmap for further development beyond the initial development of the application. This will only be applicable upon the success of the original app. We have great hope that this report demonstrates the need for such an app and its validity in the real world.

Thank you for allowing us to present our findings. We are excited and look forward to helping make the world a better place during such hardships.

Please feel free to contact Colter Christensen, at colter.christensen@yahoo.com or (435) 790-7512, or any other team members for more information.

CS-308: Technical Communication - Group 2
July 14th, 2020

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Recommendation Report

QueueMe

Waiting in Line is Bearable Again!

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Introduction

We want to thank you for the opportunity to present this recommendation report for your review. Within this document we will provide multiple options for your consideration. We feel that the options provided will provide clarity at what paths are available to bring the project to completion.

Understanding the Problem

We're all being impacted by COVID-19 in our daily routines. When we do get out of the house, we are commonly met with the requirement of standing outside, waiting for our turn to enter a store or other business location. In the summertime, that can not only be uncomfortable, but potentially dangerous. In Arizona, it is common to reach temperatures of over 110 degrees. Being exposed to high temperatures for extended periods of time can cause harm to your health. That's not to mention the additional risk of standing in line with others that may or may not have been affected by the COVID-19 virus.

Methods

As a team, we collaborated on multiple solutions that can address the problem as previously outlined. You'll find below a mix of technology focused solutions, as well as solutions that utilize existing technology to achieve the end goal.

Solution #1

Traditional solutions to this problem include having a paper ticket system available for customers to come up and pull a tab off and view their position with some form of display. The display may be a computer monitor or some kind of LED lighting setup that will display the current queue position. This is generally accompanied with someone

using a microphone to alert those in the queue as to the progression and current queue position. See *Figure 1*.

Figure 1. Traditional take-a-number system with LED display found on Amazon.com

Budget & Timeline

$1800 - 4-8 hours

Pros & Cons

Pros

- Relatively inexpensive
- Easy to setup and display for customers
- Easy to understand for customers

Cons

- Users aren't able to enter the queue until they are on-site
- Users will need to be within view of the queue display, making it difficult to allow them to wait in the comfort of their vehicle
- No time to wait estimates

Solution #2

Locations could use a call-in queue system that would provide customers with the convenience of remote queue joining, with a lower cost for implementation. A user would call the business location and request a spot in line. The employee would provide them with their queue position and would call them back when they are able to enter the location.

Budget & Timeline

$800 - 4 Hours of Employee Training and process flow definition

Pros & Cons

Pros

- Low material cost
- Ability to join the queue remotely via phone call
- Ability to wait in vehicle for their queue position to come up

Cons

- High labor cost
- Customers don't know their current position
- Process is slower as it requires an employee to call after a customer has left, wait on the customer to answer the phone, etc.

Solution #3 - Recommended Solution

Wouldn't it be great if you could claim your spot in line to enter an establishment just like you book a ride with a fast pass at an amusement park or make a reservation at a restaurant? This solution is for a simple web application that allows businesses, schools, etc. to register their locations for customers to search for and then digitally claim their spot in line. *See Figure 2.*

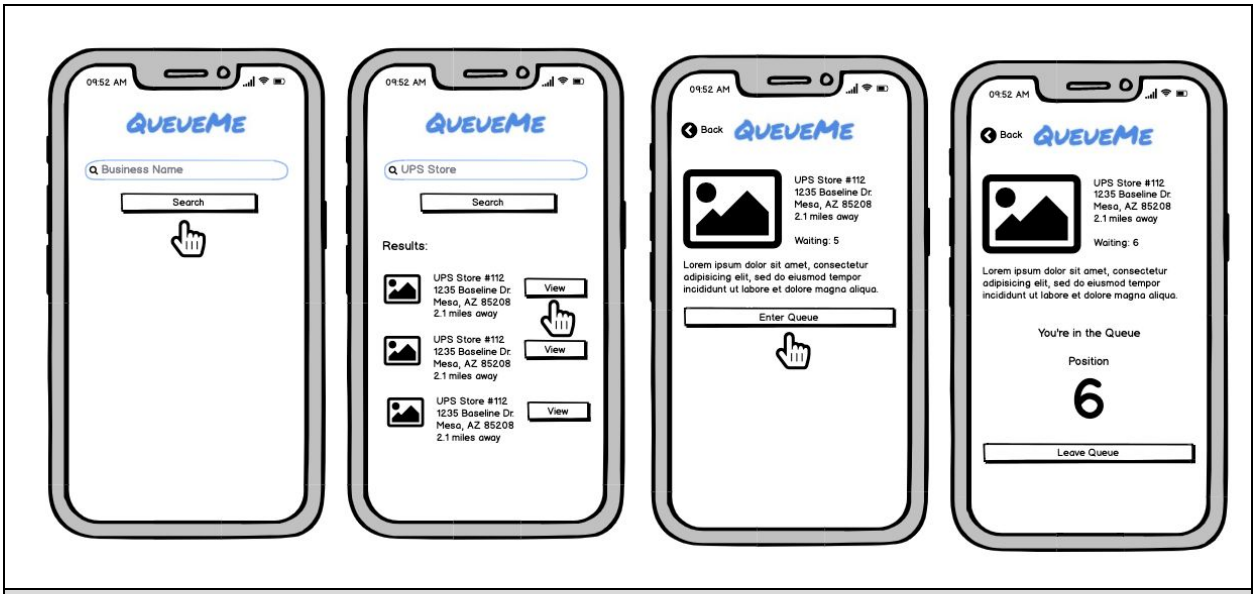

Figure 2. QueueMe will provide a simple flow for finding a business location and claiming a spot in the digital queue.

Location administrators would have the ability to see how many people are waiting to enter their location and easily progress the line position at the click of a button as one person leaves and another is allowed to enter. The user can simply wait in their vehicle and watch for their position to display on their mobile device. When it does, the user simply walks into the store, displays their queue position, and goes about their business. We will be using an artificial calculation to decide on the waiting time based on the average time that a user spends in the location.

Budget & Timeline

$30,000 - 5-6 weeks of planning, design, development, and deployment of the software.

Pros & Cons

Pros

- Allows users to enter the queue without leaving their vehicle

- Allows a visual display wherever the user is as to what position they are in
- Provides an estimated wait time based on average time spent in store
- Takes advantage of technology to provide an elegant solution
- Scalable to other locations with a centralized management system that provides valuable customer flow statistics - average time in store, total customers served, etc.

Cons

- Costly
- Will take time for development
- People will have to learn something new that they may not be used to

Results

As detailed in the solutions above, you'll notice that the options are progressively more involved and offer better feature sets, but this will come with a longer timeline and a higher budget requirement. The first two solutions will provide a less technology focused solution, while the 3rd leverages the fact that nearly all users have access to a mobile device that they will have with them. The 3rd option provides the most robust set of features to keep consumers safe.

Conclusions

Each solution will provide a line queue experience for users, but scale up in functionality. The 3rd option will be an investment in not only the safety and convenience of individuals visiting a location, but also an investment in store analytics. Business owners will be able to leverage that data into making better business decisions that will ultimately lead to further improvements in their businesses.

One of the other solutions may even be utilized as a stepping stone while the 3rd option is being developed. This will help visitors become accustomed to a line queue system at the location for a small cost. Visitors will begin to expect the convenience and thoughtfulness provided by this solution and will be further impressed as they are able to enter the queue remotely before arriving at the location.

Recommendations

Out of the 3 solutions listed above, we recommend moving forward with solution #3. Mobile devices have continued to see an increase in use which makes this the best solution for the users to reserve their place in line in a safe and practical manner during the COVID-19 pandemic. The data that is collected will also allow us to further develop the solution to better help the users as well as allow business owners with better visibility into the foot traffic they receive at their locations.

Report Summary

This report was written in response to a challenge to our communications group from professor Christiansen, Technical Communication instructor. He asked us to identify a problem and come up with a solution for it. In this report we discuss the problem many people have - waiting in lines. The report also includes the proposed solution for this problem. We concluded that the best solution for this problem is the development of a web application that allows you to remotely claim your spot in line. This way you can wait wherever you feel most comfortable. Whether that be in your home, in the car, or at the park. Making the painful task of waiting in line more bearable.

To develop the information for this report, we (1) examined several possible solutions for this particular problem, (2) analyzed the cost of the proposed solutions, (3) evaluated the practicality and effectiveness of the web application, and (4) ensured the technology was viable and the task possible. See Appendix A for further details on our process.

The result of our research tells us that a web application for remotely entering a queue is the best solution and will be in high demand once it is developed. It will especially be in high demand in places where waiting is especially unfavorable. Such as outside in temperatures exceeding 80 degrees, places with loud and distracting sounds, places where a customer might be embarrassed to be seen, and for those who would like to use that time to do something more productive, such as read a book.

We appreciate your taking time to read this report. If you have any questions or concerns, please feel free to reach out to any of the developers on the team.

Works Cited

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Appendix

Appendix A

The purpose of this report is to demonstrate the pricing data of QueueMe. To do so, the following tasks were taken:

- Conduct meetings with teammates once per week to discuss the cost to develop QueueMe app, and the salary of software developers.
- Perform weekly review and examine the current progress of the project.
- Discuss and review the maintenance cost of the project.
- Evaluate alternatives options to determine the best option to meet the needs of customers and investors.
- Develop a budget report to demonstrate the estimated cost of QueueMe development.
- Prepare to present the budget plan of QueueMe to investors.

The following report summarize the steps of research and analysis of QueueMe:

- Determine the project that suits the need of current needs of customers and investors.
- Research and develop the project
- Present weekly progress reports to investors, and adjust development based on the needs of investors and customers.