



Business Requirements Document: Quikpik

California State University, Long Beach

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Preface:

- **Why are you interested in the particular customer need chosen?**
 - There are many other products that are similar to the product we are creating. These products accommodate the customers needs of finding a restaurant when they cannot decide on which one to pick or if they are trying to find a new one.
 - Everyone can relate to the fact that it is difficult to pick a place that can satisfy our own requirements of a relaxing and delicious restaurant. Also, sometimes people have a hard time deciding because they are on a tight budget and are looking for something cheap, but delicious at the same time. Each individual has their own traits of what they are looking for in a restaurant and these change overtime.
- **What technological innovation and depth you plan to bring to solving the problem**
 - To solve our problem we plan to use Google Maps API to retrieve information like location of the restaurants and use them in our app. Also, we will use Yelp's API to retrieve their information on the restaurants like menus to create the details on the restaurant for the users.
- **How is your product differentiated?**
 - Our product tries to meet the needs of finding a restaurant based on what they are looking for in a restaurant, whether it be for delicious food or just a relaxing and comfortable atmosphere. To go more in depth, restaurants are not the only things people have a hard time deciding on. Which store to find the best clothes or which service shops (i.e. auto shops) give the best service, are always difficult to find when you do not know which options are the best or even available. Our product tries to solve this problem to ease the stress of deciding which options to choose.

- Our product will be different because we will implement our own machine learning algorithm gathered from several data sets we have researched that will try to meet the criterias the customers expect in these venues.
- **How is your product different from those on the market?**
 - A feature our product will have that will differentiate from other similar products like “Yelp” is an integrated AI that will respond to the needs of the customer. The customer will be able to chat with the AI in real time in a chat box and the AI will try to respond to the customers needs with the best possible answer.

Strategy				
Problem	Solution	Value Proposition	Unfair Advantage	Customer Segment
1. Too much time is spent deciding on a place to eat. 2. Customers are unsure what foods are available around them. 3. Customers want to try new foods.	1. Automatic suggestion of places to eat based on the user's preferred food types. 2. Display of food locations around the user. 3. Option to suggest foods not normally preferred by the user.	This application saves the user time and frustration of deciding on a place to eat by automatically suggesting locations they would most likely enjoy based on their defined preferences.	- Automatic suggestions for the user. - Suggestions are based on what the user sets as their preferred type of food.	- Anyone with access to an electronic device - People who wish to discover new places to eat around them

SWOT	
Strengths	Weaknesses
<ul style="list-style-type: none"> - Familiarity with setting up a JDBC server - All of us are competent using Java - Effective communication allows us to function as a cohesive team 	<ul style="list-style-type: none"> - Some of us are unfamiliar with Android Studio, the IDE we plan on creating the app with. - Limited time to implement all of the features we plan on adding.
Opportunities	Threats
<ul style="list-style-type: none"> - AI market is expanding - Surveys show that a majority of consumers use their phone to decide where to eat 	<ul style="list-style-type: none"> - Yelp is a competitor, which is the go to app for deciding what to eat. - Similar AI-based apps are on the market already, such as Foursquare.

Market Segment Profile			
Geographical	Demographical	Behavioral	Buyer Power
Urban regions with a variety of food destinations	Potential users who have a mode of transportation that allows them to travel to new places around their area with ease.	Potential users who are active on their smartphones may continue to use our app. Outgoing users would be more likely to continue to use our app because they are willing to try new things. Another group of potential users may continue to use the app if they are continuously getting recommended to a familiar location because they don't like trying new things.	Since our app closely resembles Yelp, we will use it to gauge buyer power. Yelp doesn't have a good competitor, so users do not have an alternative way to use Yelp-like features anywhere. Introducing our app into the market can increase buyer power causing customers to demand better quality features from Yelp. This will mark our product as a potential competitor to Yelp and it will be forced to create features similar to our app.
Size		Growth Potential	
The market for our product is fairly large. A 2017 poll conducted by Harvard Business Review stated that, 45% of American adults hate to cook and among them many eat out. All these people are potential users for our app. According to Yelp, it has 29% of its traffic coming from their mobile app out of their 129 million unique users. All these users serve as a potential user for our app		Our app has the potential to grow bigger than Yelp because it offers Yelp's recommendations but also adds some of our own innovations. It includes an interactable chatbot that uses machine learning to suggest to the customer a restaurant understanding their preferred tastes. According to Csimarket, Yelp has grown consistently every year since its establishment in 2004. Since we will be one of Yelp's potential competitors, it is safe to assume we will grow because the market is very big. Also our app appeals to all demographics so there will be a large user base.	

Primary Market Research

- Link to survey: <https://forms.gle/rZ6zCz14U4y9aBYi7>
- Results of survey (29 survey responses):

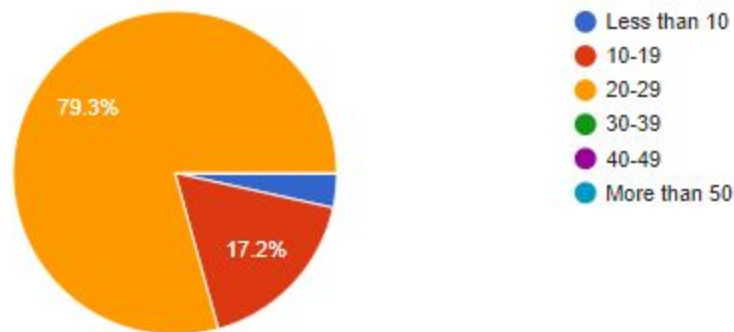
Gender

23 males and 6 females - This survey is majority male but the answers showed no disparity between male and female answers.

Age

Age (in years)

29 responses

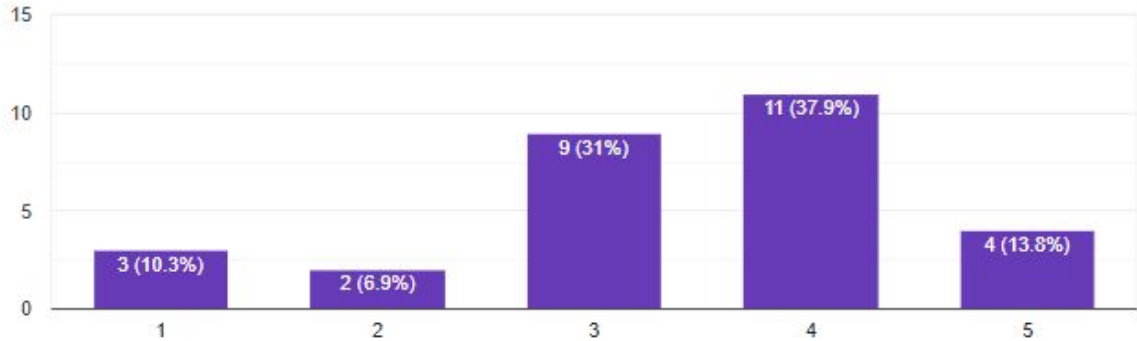


23 people of 20-29 years old, 5 people of 10-19 years old, 1 person of less than 10 years old :
 Majority of people filling out the survey are in the age range of 20-29 but the other users were not too far off. Being in the same age group may show that they have a similar way of thinking, EX. struggling college student on a tight budget and has lots of work to do

How often do you have trouble deciding where to eat?

How often do you have trouble deciding where to eat?

29 responses



1 (Not at all) to 5 (Really often) : A majority of users stated that they have moderate to high trouble deciding where to eat. This shows that an application that decides for the user can be quite useful when it comes to decision-making.

How often do you use your phone to look for food places?

1 (Not at all) to 5 (Really often) : A higher majority of users use their phone to decide where to eat. Some people use it little to no times suggesting that they may just know where to eat locally or they go to the same spot over and over.

How long does it take you to decide on where to eat? (On average):

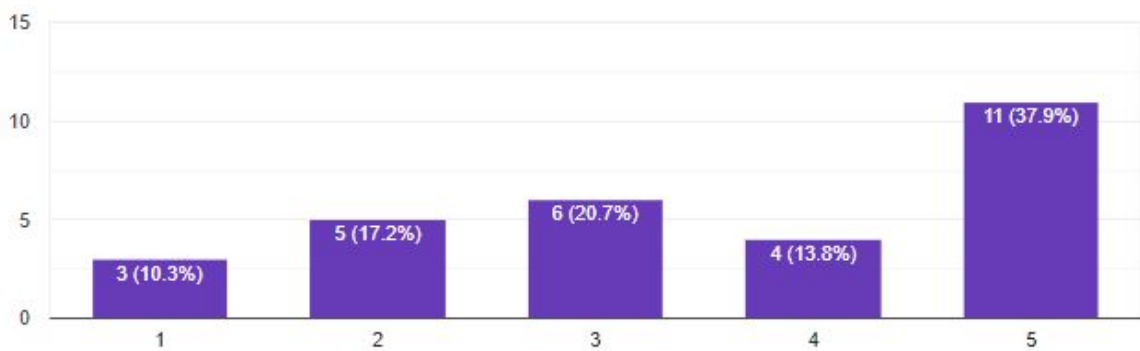
- **1-15 minutes**
 - 14 users
- **15-30 minutes**
 - 10 users
- **Over an hour**
 - 5 users

A majority of users, on average, take within 30 minutes to decide on where to eat. We look to cut down that average even more.

Do you consider yourself an adventurous eater?

Do you consider yourself an adventurous eater?

29 responses

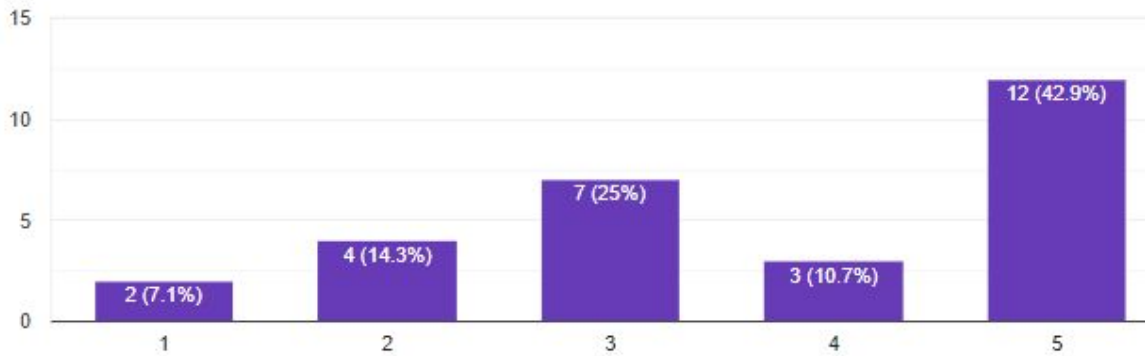


1 (Not at all) to 5 (Really adventurous): A majority of users stated that they are open to trying new foods. This would perhaps mean that they are open to the application being able to recommend new foods to them, whether it be the style of the cuisine or the restaurant.

How much is money a factor in your decision making when it comes to deciding where to eat?

How much is money a factor in your decision making when it comes to deciding where to eat?

28 responses

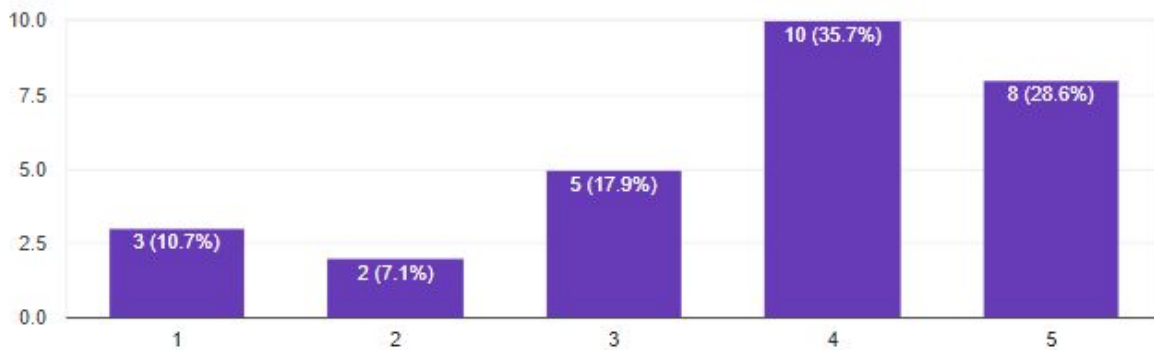


1 (Not at all) to 5 (An important factor) : A majority of users say that money is relatively to very important when it comes to deciding where to eat. A lot of people are not trying to spend the most money when eating. Instead, they might be looking for a good meal at a steal of a price.

How much is distance for travel a factor in your decision making when it comes to deciding where to eat? 1 (Not at all) to 5 (An important factor)

How much is distance for travel a factor in your decision making when it comes to deciding where to eat?

28 responses



A majority of users state that the distance travelled to get food is relatively to very important. Similar to the previous question, most users prefer convenience over more hassle.

How interested would you be in an application that would decide a food place for you?

1 (Not at all) to 5 (Very Interested) : A majority of users state that they would love to try out an application that helped them decide on a food place according to their preferences. This would be done in a timely manner in order to save users the time it takes to decide where to eat.

Secondary Market Research

Yelp Statistics

<https://www.yelp-press.com/company/fast-facts/default.aspx>

- 38 million monthly unique users on the mobile application
- 91.8 million monthly unique users on the web application
- Over 200 million cumulative reviews since inception
- Reviewed Businesses: Restaurants - 18%, Home/Local Services - 17%, Shopping - 17%
- Age Demographic of Yelp Users: 18-34 - 33%, 35-54 - 35%, 55+ - 32%
- Income Demographic of Yelp Users: \$0-59K - 25%, \$60-99K - 24%, \$100K+ - 51 %

Foursquare statistics

<https://99firms.com/blog/foursquare-statistics/>

- 107th most popular mobile application
- Largest age group: 18-24
- App usage favors urban users
- 2 million businesses
- 50 million monthly users
- 600 million personal images shared

What Food Services use AI for

<https://emerj.com/ai-sector-overviews/ai-in-restaurants-food-services/>

- To improve customer engagement through the use of chatbots
- Softbank, a Japanese tech firm, has an AI-driven robot named Pepper that processes order and makes recommendations and uses a speech pattern that waiters use
- Match users with entrees and dining experiences based on pre-selected taste profiles and specification
- Break down dishes similar to how Pandora and Spotify break down songs - by analyzing common patterns in order to give suggestions. The common pattern for dishes would be the ingredients used
- KFC collaborated with Baidu to use AI face recognition kiosks to infer what a customer might want, based on sex, facial expression and other visual features. However, this method is very invasive due to how they retain the images of customers faces to give the same suggestions to returning customers and to know who the returning customers are

Global Mobile Application Market

<https://www.alliedmarketresearch.com/mobile-application-market>

- The global mobile application market size was valued at \$106.27 billion in 2018 and projected to reach \$407.31 billion by 2026.

- The market trend includes the increase of mobile devices and the customer base of the e-commerce industry. Also, it includes the growth of downloaded apps, mainly for the use of health/fitness and in-app purchases for gaming apps.
- According to a study in India, users in rural areas has reached 627 million in 2018 due to the access of various applications with minimum costs and provides a faster of communication.
- According to another study, 200 mobile application companies are expected to have an AI/machine learning in smartphones to improve their features (e.g. camera, security).
 - AI allows mobile applications to collect data from the users and improve the decision making of the users.

The Cost of Yelp

<https://thinkmobiles.com/blog/how-much-cost-app-like-yelp/>

- Yelp made about \$713 million in 2019, 70% coming from its app
- Uses LAMP stack to build app(Ubuntu, Apache, MySQL, Python/PHP), Google API and AWS.
- This article used \$50 per hour to estimate the cost(median)
- ~1500 hours for development, ~500 hours for communication module, ~500 hours for aesthetics, ~200 hours for backend, ~100 hours for design, and ~100 for testing and QA.

Eating Out Behavior in the United States

<https://www.statista.com/topics/1957/eating-out-behavior-in-the-us/>

- The most important factors to a consumer when picking a restaurant are: food quality, distance, and quality of service.
- Warm weather plays a role in deciding when to eat out, many people most frequently eat out during summer
- In 2016, American Cuisine was the preferred type of food, as 80% of people chose it when eating out.
- When selecting healthy meals, people prefer local and fresh ingredients to be most important, followed by low-calorie options

The Uses of Big Data in the Food and Beverage Industries

<https://www.newgenapps.com/blog/7-uses-of-big-data-in-food-and-beverages-industry>

- Food and Drink industries have benefited greatly from big data as this allows them to identify trends and human behavior from their customers
- The 7 uses of big data from this article are: On-time Delivery, Operational Efficiency, Sentiment Analysis, Better Quality, Personalization, Market Basket Analysis, Customer Service

The Mobile Application Market

<https://www.alliedmarketresearch.com/mobile-application-market>

- 2018 global mobile market valued at 106.2 billion.
- Lack of high speed connectivity hurts the mobile application market
- Gaming applications dominated the mobile application market
- Growth of machine learning and artificial intelligence in applications

90% of Americans don't like to cook—and it's costing them thousands each year

<https://www.cnbc.com/2017/09/27/how-much-americans-waste-on-dining-out.html>

- This article talked about the increase in Americans who don't like to cook
- Only 10 percent of consumers professed a love of cooking, while 45 percent said they outright hated it and 45 percent were on the fence.
- If you go out to eat every workday and spend, on average, \$10 per meal, it comes out to \$2,500 a year


YELP's Revenue Growth by Quarter and Year


https://csimarket.com/stocks/single_growth_rates.php?code=YELP&rev

- Strictly data of Yelp's growth over the years since 2016.
- There's strict data about each quarter and how much Yelp made in profits and grew in percentages.

Personas

PROJECT: QuikPik Users PERSONA: David Stanley

NAME	MARKET SIZE	TYPE
David Stanley	 70 %	Idealist





Goals

David wants to try new and unexplored restaurants near his college and home. He believes he has seen all the best restaurants around and is tired of all of them. David needs an app that shows him a new restaurant that caters to his food preference, which is affordable and nearby.

Quote

“
 • My friends and I are tired of eating at the same three places after watching a movie or going out.
 • I have wasted so much time deciding with my friends where we want to eat.
 ”

Demographic

 Male 23 years
 Santa Barbara, CA
 Single
 Student
 Low Income

Background

David is a full-time business student and works a part-time job at the local supermarket.





Motivations

- David's main motivation is to explore an eatery that he has never been before.
- He wants to become the 'cool' friend who knows of that great new hole in the wall restaurant that his friends never knew existed in their city.







Frustrations

- David feels he doesn't have time to scroll through all of Yelp's suggestions to find a new restaurant.
- He hates to spend a lot of time planning with his indecisive friends on where they should eat.

Technology

Social Media

PROJECT: QuikPik Users PERSONA: Stefanie Zhou

NAME

Stefanie Zhou

MARKET SIZE



TYPE

Rational



Goals

Stefanie wants to have efficient but meaningful work be done at work. She wants her team to be engaged and always have high morale. She wants to have a great location for her meetings that can fulfill all of her goals.

Quote

“

- Catering food for meetings can get a little boring and expensive. Everyone has their own preferences, tastes and dietary restrictions.
- With lots going on at work, worrying about where we should eat should be the least of my concerns!

”

Demographic

Female 28 years

Palo Alto, CA

Single

Research Engineer

High Income

Background

Stephanie is a Senior Research Engineer and is responsible for managing a research team in her company. She typically works with a 10-15 member team and is responsible for setting up end of the month lunch meetings with them.

Motivations

- Stefanie's main motivation is to have a change in scenery for her next team meeting.
- She wants the location she picks to be both professional but also have some good food that all of her team members enjoy.

Frustrations

- Stefanie doesn't want to waste time by scrolling through Yelp's reviews to find a restaurant.

Technology



Social Media



PROJECT: QuikPik Users PERSONA: Stephen Clark

NAME

Stephen Clark

MARKET SIZE



TYPE

Artisan



Goals

Stephen wants to travel to places he has never been before and learn about the culture and people there. He loves to try new foods and often research about unique restaurants in the areas he visits.

Quote

- “
- The best way to experience a culture is through its food.
 - Researching about restaurants every time I visit new places can take me away from enjoying my vacation.
- ”

Demographic

♂ Male 35 years

📍 Chicago, Illinois

Married

Salesman

High Income

Background

Stephen is a salesman for Solar City. He loves to travel with his wife and try new cuisines. Stephen has visited over 15 countries and tried many types of exotic dishes.

Motivations

- Stephen's main motivation is to enjoy his vacations without wasting time researching about a different restaurants he can visit.
- Stephen wants a centralized source where all information about a restaurant (parking, hours of operation, menu and etc.) can be found.

Frustrations

- Stephen feels that planning a trip with his wife takes too much time because they don't have information about places they can dine from.
- Stephen hates going through the Yelp searches to find a restaurant. Often times, there won't be information about customer parking, rush hours, and etc.

Technology



Social Media

