



MARKS
THE SPOT

Timothy Crane
Liberty University
Graphic Design



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2020 TIMOTHY CRANE

WRITTEN AND DESIGNED BY TIMOTHY CRANE

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A THESIS SUBMITTED TO LIBERTY UNIVERSITY
FOR MASTER OF FINE ARTS IN STUDIO AND
DIGITAL ARTS

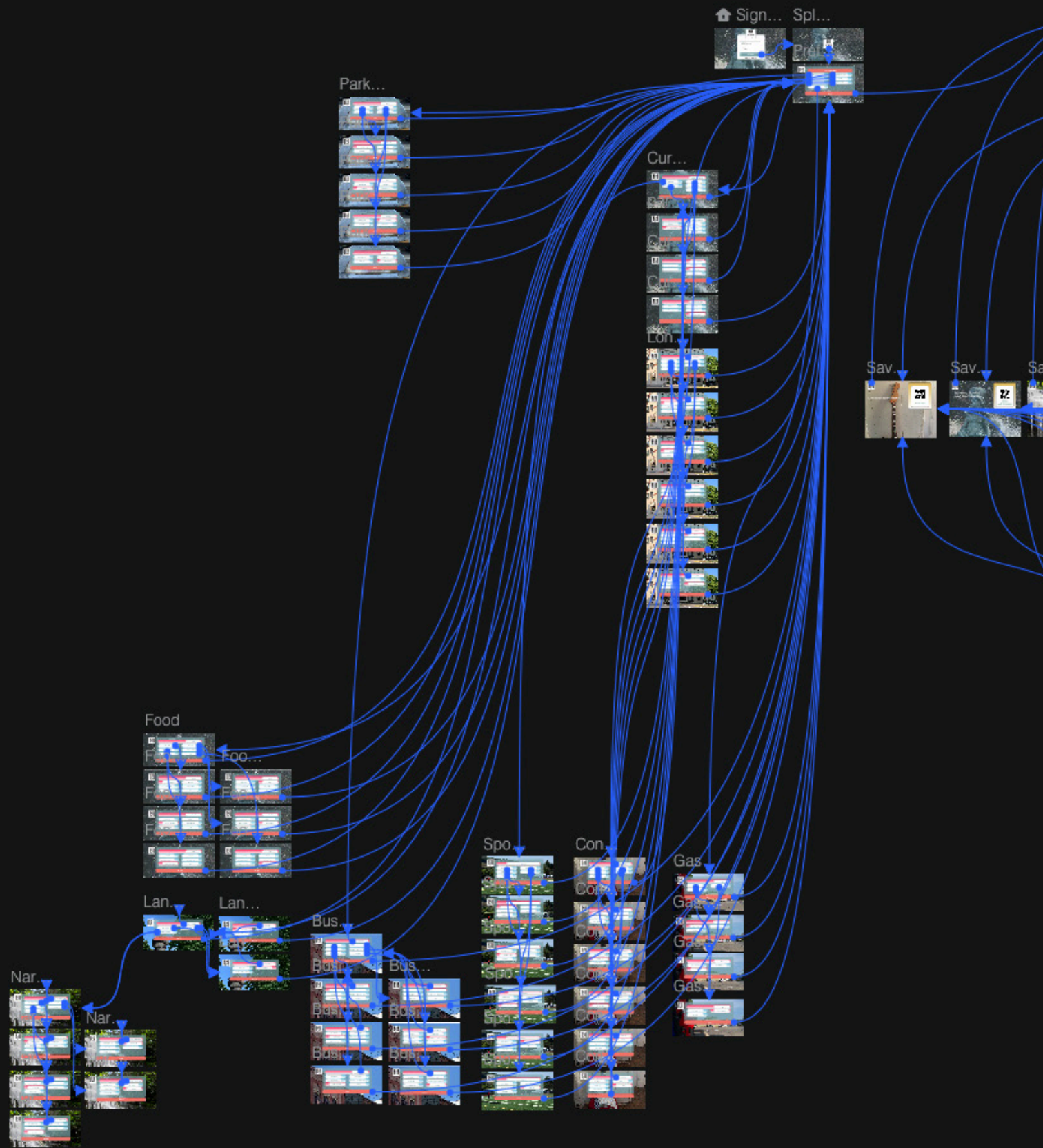
CHRIS CLARK, CHAIR

TODD SMITH, FIRST READER

NICOLE IRONS, SECOND READER

TODD SMITH, DEPARTMENT CHAIR

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Abstract

This thesis is an investigation into the problem of marketing for small businesses with little funds and means for advertisement. Past, present and predicted future methods of marketing prove there is room for improvement in affordability through existing advancements. Literature reviews and case studies explore the most lucrative ways forward. Research also indicates that large numbers of potential consumers are missed by small businesses due to their general lack of embracing newer communication technology such as store apps. This extra support measure provides users with notifications that highlight coupons and deals and has a proven record of success for larger companies with the resources to accommodate.

Despite the hurdles of implementing the various forms of marketing, this thesis explores a solution by way of a mobile app to alleviate the burden of travelers finding smaller local businesses en route to a destination. This is due to the unrealistic nature of building and maintaining dedicated store apps, which is an undertaking that many small businesses are not built to maintain. To bridge the gap, it was deduced that an app for all businesses would be effective in reaching out to potential customers in an immediate area by way of GPS and geofencing. Additional research investigates driver safety in relation to mobile applications, which considers color, type, shapes and other aesthetics that can distract drivers from the road.





CHAPTER 1

The Problem



INTRODUCTION

Research Problem

The problem of limited marketing budgets persists for many small businesses as they miss many potential sales opportunities. Customers outside of their local reach are lost due to the expenses associated with scaled advertising, which is beyond affordability for many smaller businesses that are not currently attached to a chain.

Research Statement

The goal of this thesis is to help small, local businesses that suffer missed opportunities due to advertising budget limitations by creating a more cost-effective solution in the form of tour guide app designed as an add-on for GPS devices. The overarching objective of the research is to bring a greater understanding of over-the-road advertising and design for the purpose of creating an alternative to traditional methods with informed foresight of where the future of traveling design is progressing. This study also aims to bring a greater understanding of current methods of advertising that can be later reformed and combined to expand the use of design in other technologies, such as GPS. Ultimately



the research will account for past and future innovations in marketing to expose and bridge the gap in a path forward.

CHAPTER 2

Literature Review

Small businesses with limited marketing budgets miss many potential sales opportunities from customers outside of their local areas due to expenses associated with scaled advertising. This research investigates budgetary issues that burden small businesses, which are often associated with a knowledge gap in other ways of advertising. It also aims to identify the inefficiencies that work against small businesses. The research also addresses gamification and how it affects tourism. The goal is to fill gaps in small business marketing by combining different ideas and methods, as well as investigate other advertising avenues that may be available in the future.

96% of small businesses say they use organic social media in their marketing strategy. There are over 60 million active business pages listed on Facebook, which means they are also likely using other platforms to attract new customers (Shepherd) 29% are spending somewhere in the range of \$750-\$2,499 monthly to get the data needed for good online advertising results (Small Biz Trends).

Small Business Advertising Budgets

The average amount of a small business's marketing spend is between 2 and 5% of one's yearly revenue. There is a correlation between a business's location to the highway and revenue compared to other businesses selling the same product(s) with higher revenue the closer the location, but this is also relative to the business itself. Some businesses have to advertise more than others in order to be noticed if they are still up and coming. On average, retail businesses put 4% of their earnings back into promotion of their businesses. Manufacturing only puts back 0.7% because they put more of their prophets into staff, technology or inventories, which better serves them as they rely on more business-to-business marketing (Hessinger).

According to Smart Insights, a business should be spending 22% of its advertising budget on traditional media such as radio (Quick, Hall). Overall, 10% to 12% of a business's budget is recommended by the U.S Small Business Administration to be spent on marketing (Boykin).

US Total Media Ad Spending Share, by Media, 2014-2020

%of total

	2014	2015	2016	2017	2018	2019	2020
TV	39.1%	37.7%	36.8%	35.8%	34.8%	33.7%	32.9%
Digital	28.3%	32.6%	35.8%	38.4%	40.8%	43.1%	44.9%
-Mobile	10.9%	17.3%	22.7%	26.2%	28.8%	31.0%	32.9%
Print	17.4%	15.4%	13.9%	12.9%	12.2%	11.6%	11.1%
-Newspapers	9.1%	8.0%	7.2%	6.6%	6.1%	5.7%	5.5%
-Magazines*	8.3%	7.4%	6.8%	6.4%	6.1%	5.8%	5.6%
Radio**	8.4%	7.8%	7.4%	7.0%	6.7%	6.4%	6.1%
Out-of-home	4.0%	4.0%	3.9%	3.8%	3.7%	3.5%	3.4%
Directories*	2.8%	2.5%	2.2%	2.0%	1.9%	1.7%	1.6%

*Note: *print only; **excludes off-air radio & digital*

Source: eMarketer, March 2016

Radio Advertising

The research shows that radio is one of the best sources of advertising for small businesses if it is done at the right time. Combined with descriptive messaging, radio spots can be more effective than printed ads alongside a road as they can be more thorough and informative (Man in India). This advertising method is ideal for smaller budgets as it costs an average of 15% of the total cost of a television ad, which is higher due to added production costs. Approximately 22% of a small business's marketing budget is spent on traditional media such as television and radio. Specifically, only 8% of most small businesses' budgets were used on radio between 2014 and 2020 (Web Strategies Inc). According to Mogo Art Marketing, radio has seen a 2% increase per year since 2016 (Chapman).

Approximately 22% of a small business's marketing budget is spent on traditional media such as television and radio. Specifically, only 8% of most small businesses' budgets were used on radio between 2014 and 2020

Billboards

The research explores the effect of billboards on people's driving and explores different types of billboards, namely Loaded Billboards, Graphical Billboards and Minimal Billboards, which cause different levels of distraction to driving that one could interpret as being effective as far as getting the attention of drivers, but to the point of not completing their primary function and job. This also shows that they are ineffective for the most part, as it seems there would be many more accidents related to people looking at billboard signs. It also breaks down billboards into the materials from which they are made and the subject matter to which they speak, which may or may not be as distracting. However the journal article did point to higher problems with billboards that are more graphic in nature. "Graphical Billboards are characterized as colorful, containing large quantities of graphic elements and small quantities of text. These billboards mostly deteriorated performance on the color-change identification task, as the participants responded impulsively and made more errors." Out of five different styles of billboards, this caused the most errors in the tests that they implemented, which was distracting 2% of the time (Marciano, Setter).

The research also shows that billboards are becoming outdated and dangerous to potential customers

The research also shows that billboards are becoming outdated and dangerous to potential customers. One study is very granular and was conducted with hopes for more regulation on signs that take people's eyes off the road. This brings me to conclude that people are becoming more interested in road safety, which is only becoming harder through advertising via roadside billboards. As this issue is being studied more and more, I believe many people will start to see the benefits of self-driving cars that will allow drivers to be more aware of their surroundings versus giving their full attention to the road (Franke, Taylor).

According to Journal of Business Studies Quarterly, advertising through the use of billboards has increased in recent years. Most drivers are not in favor of banning billboards as they say they are informative and bring value to their lives. Brand awareness is of importance in relation to how and where billboards are placed, as they are sometimes larger or in a prime location where people can view the ad for a longer period of time. The study also addressed how businesses often try to get the best spot and pay more for billboard locations that they know will be noticed more, thus leading to them obtaining more business. This speaks to smaller companies being boxed out and for the most part unseen from highways as they do not have the funding that many major franchises have available (Siddiqui).

Visual Vs. Audio

The data was helpful in showing that the more senses one is able to reach via advertising to a potential customer, the higher the likelihood the customer will buy the product with which they are presented. This relates to the thesis in that the app will not only show the many features of towns visually, but also have audio to bring more clarity of what these places have to offer. This combination of visual and audio elements would "bring to life" these otherwise unknown towns with businesses that suffer due to a lack of funds for larger-scale advertising. One of the main ideas of this research

advertising. One of the main ideas of this research is the concept of "tangibilizing" products so that consumers are more apt to buy them through the use of radio or paper ads. This supports my theory that combining these ideas with the added step of actually showing the product (in this case, the town) heightens the desire to experience the location. The research shows that information and facts are of the greatest importance when trying to persuade a customer to buy anything that is not right in front of them. The problem with the research is that it is almost 20 years old and does not have a strong grasp of online advertising, which was not as heavily used at the time of its publishing (Stafford).

Digital Marketing

The last area of marketing that needs to be considered is digital, for which use has been steadily climbing in recent years. This includes mobile push ads that appear while individuals are playing games, listening to music apps or spending time on various Internet sites. It is projected that this method of advertising will garner 39.5% of all ad dollars by 2021 (Chapman). Mobile programmatic ads are the main reason digital advertising is gaining favor, as this method of marketing helps in targeting the preferred audience in real time. This helps save money for businesses as they avoid spending advertising budget on non-targeted groups. This method is also effective in that more people are spending their time on apps (Khloyan).

It is projected that this method of advertising will garner 39.5% of all ad dollars by 2021

GPS

The information I found on this subject showed that the use of GPS is ever increasing and is projected to continue its climb in coming years. This is due to GPS apps that come pre-installed on most phones, making them something that does not have to be additionally purchased. GPS is also how most ride shares like Uber and Lyft find their customers, further incentivizing people who do not drive to possess the technology. As these companies charge less than most taxi services, they are becoming the first to be called upon for transportation needs. It also pointed out that there are deficiencies in the technology, as it is not always correct due to lack of network infrastructure in areas that are newly constructed, causing these markets to suffer until they are adopted into the system. By and large people still like to make many purchases in person, which means that having your business registered on various GPS sites is a good idea because most consumers will go into the store to have the satisfaction of acquiring an item immediately. This matters as most online retail is competing with brick-and-mortar stores that are within a 10-mile radius of a consumer's home. There is also a lack of awareness when it comes to GPS technology and its benefits to smaller businesses who are missing the opportunity to be included (Grand View Research).

GPS Features and Trends

Research by MIT has developed a network that uses surrounding smart devices to show current positioning in environments that performs better than GPS, which fails sometimes. This will be used in supply chain monitoring for stores to indicate a need for resupplying. This will help in autonomous navigation as well, bettering a hands-free environment for newer cars that will all communicate with each other, reducing the chance of crashes. This will mean highly connected smart cities and towns, which will create a real-time "living map" of the world and people in it. This idea is called the "location of things" marketing and is projected to grow to 128 billion by 2027 (Matheson). The advent of GPS III will be even more granular as it is three times more accurate than the current iteration of GPS available now. Instead of 5 to 10 meters, it will be accurate to 1 to 3, which will help prevent the system from thinking that drivers are on parallel roads and giving wrong directions as a result. This is projected to be in full effect by 2023 (Hodgkins)

This idea is called the "location of things" marketing and is projected to grow to 128 billion by 2027.

Effects of Self-driving Cars

I also explored research on the topic of the extra time that travelers will have in the near future as they will not have to worry as much about watching the road due to self-driving cars. Instead, they may seek to be entertained, which will need to be supported with newer forms of marketing. A survey the research cites goes into detail about the actions people would take if they were given this extra time, which strengthens the idea that they would be more engaged with an app that offered entertaining facts and stories about their surroundings and various locations they may be passing through at any given time (Martin). Granted, many people will not be purchasing self-driving cars in the near future as their price range is not affordable for the average consumer. The projection of how and when they will be fully autonomous is still to be determined as well, but is thought to be worked out in the next 5 to 10 years. This is important as the app would rely on this kind of tech being fully operationally so the user could get full use of the product. The literature I found also speaks to the untrusting nature that many currently have in relation to self-driving cars. Most are still in the camp that think they would be more apt to get into an accident with one although most research shows data negating this idea (Motavalli).

Many travelers are using "smart tourism" to determine how they will go about planning a trip.

Many travelers are using "smart tourism" to determine how they will go about planning a trip. The main idea behind smart tourism is to give the greatest amount of satisfaction in resources efficiently and effectively. It is a method to achieve the highest value for the traveler's dollar when vacationing. High Internet connectivity is a major factor for smart tourism to work effectively, as the main practice involves sourcing the best deals in a desired location (Pradhan). Most travelers prefer domestic travel to overseas travel. A study also showed that older males are less inclined to trust GPS-enabled sources as they tend to track their whereabouts, which they feel is an invasion of privacy. The same study's findings also show that tourists undergo three phases in the touristic experience: the anticipatory, the experiential, and the reflective, which all play a major role in the satisfaction of one's trip (Nickerson).

Traveler Behaviors and Goals by Demographics

Baby Boomers

The Baby Boomer generation spends up to \$6,000 vs millennials, who will spend an average of \$5,000, on vacation per year. This is because they generally have more time and money to spend. They typically spend their money on luxury and will extend business trips if they like where they are. They also are more likely to go on vacations mainly because they want to visit family. Social media is the worst medium to use if trying to advertise to this age group as they spend much less time online (Widmer).

Generation X

Generation X spends more money overall on vacation as they also bring their children and travel during peak times of year, which correlates to much higher prices. Weekend trips are the most popular with this group, and they are the most likely to use online booking services for trips (Widmer).

Millennials

This age group takes the most vacations, averaging a total of 35 days per year. They are more motivated to go on vacation for self-discovery, thinking it will be soothing. They are also more likely to go to a place that is historical or culturally enriching. Visiting cities is more of a priority to this group than others. 70% of hotel booking are made by millennials. 40% book trips with friends. This age group is most influenced by advertising. (Widmer).

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Generation Z

This group is motivated to go on vacation because they think it will be soothing and to visit family. The younger the traveler the more apt they are to travel outside of their country of origin. They are also influenced by social media the most when they decide where they want to vacation. This age group is least influenced by advertising (TheWanderingRV.com).

Gamification

This way of gaming has been in use for the last 10 years. This gaming style is attractive to millennials and generation Z, or people more inclined to seek adventure. Generally the people that take part in these kinds of games are white males with some college education. An example of a game that has attracted much attention is Pokémon Go, which has 15.4 million average users. At the core of many of these games is geocaching, which means going to a location and finding the digital treasure that is hidden around it. Avid players think of it as a high-tech treasure hunt. There is limited data on how this actually affects local economies. This has turned into a community of people who now like to go out and geocache together to widen their chances of finding even more treasure. It uses the surrounding areas and monuments as a part of the game driving people to go to places they might not otherwise (Skinner).

Motivation to Play

Players normally like to walk with other people to explore new places they have never been. As a result, many business owners have found more foot traffic in their stores. In the process of playing users also gain knowledge of their surroundings, which are by major landmarks. It gives them a sense of emotional accomplishment as they learn as well as cognition as they are learning new routes in foreign places. They also get to interact with others and make memories with friends (Skinner).

Related Apps

Just Ahead is an app that features content from award-winning travel writers about national landmarks. It also includes narration for travelers to enjoy as they go. GeoTourist is an app that lets users add content about areas and points of interest. When a user clicks on one of these points, the app will provide a virtual walking tour of the subject. Field Trip is an app that offers pop-up notifications tailored to users' personal interests to offer a more personal, customized experience (Uncubed.com). Around Me is an app for smartphones that shows nearby restaurants and their menus. This also applies to movie theaters and showtimes. It can also help users find the nearest banks, gas stations or help in booking a hotel (Millionmilessecrets.com).

Conclusions

As small brick-and-mortar businesses are growing in their awareness of more cost-effective ways of advertising, they are limited on funds as most revenue goes to other overhead costs. Billboards are outside of the budget for most small businesses, which leads them to rely on radios ads, which are not as effective as the business cannot control when the ads air to ensure a prime time when potential customers are likely listening.

Despite the negative implications of radio's business model, this form of media has shown to reach a majority of young adults, which is the target demographic for my proposed app. The research further tells that audio is an important feature while driving and would be an ideal add-on for the app as it would work in attracting new business.

Most people are content with billboards as they see them as beneficial instead of as a hinderance. That said, if they could have a visual with additional information giving greater clarity within their vehicle they may be inclined to change their minds about billboards. This idea is further perpetuated with the research that showed how visual and verbal messaging combined works better when reaching audiences. Taking a digital billboard approach with multiple messages has merit as it would display in a cleaner fashion.

GPS is a proven tool that is expanding and growing in use through helpful features. This leads me to believe that strengthening and adding to this navigational aid will only make

it more desirable for the masses to use in different ways. As that is true, GPS can also act as a hinderance to smaller businesses when they are located in a newer developing area that has not yet been accounted for within the GPS. This makes me believe that these servers could be updated in real time by many business owners or an official of a town if they would allow it. This would help keep their towns at the forefront as it would promote the businesses they have.

The use of gamification combined with GPS is a popular way of creating adventure. The fact that groups are forming to hunt for a virtual treasure shows that adding a game element to an idea would also help in creating a community that is enthusiastic about using the product. These gaming apps have been in use for the last 10 years and have not resulted in consistently attracting older audiences.

This leads me to believe that a game for everyone, which would include older audiences, would be more effective for a whole family on a vacation (Skinner).

There are many forms of gamification through means of collecting to redeem, such as loyalty punch cards and frequent flyer programs. Larger chain stores already use these ideas through apps their corporations run that benefit singular stores. Other stores miss out on these ideas as they can only be used in the one location. However, there are group deals that consumers can take advantage of when visiting larger areas if they visit a site such as gocity.com, which reduces the cost of visiting multiple attractions in one area.

The main idea behind consumers playing these games is to encourage desired activities. According to the studies I have found, people want to feel mentally and emotionally affected by the games they play. Therefore winning badges or simply earning achievements does not mean the player is necessarily being encouraged to play again. Autonomy is the freedom to come and go from a game at one's leisure. If one cannot, they have less incentive to play again in the future. This helps the tourism industry through marketing, sales and customer engagement (ResearchGate.net). As this would be an interesting feature to add to an app, I believe it would also distract from the exposure of other businesses as a driver's attention would be divided with other stories from businesses. This would not be ideal based on the Google Glass study about distracted driving. However, it could be advertised as a selling point to get drivers to come to a store to play their in-store game. The idea and potential of gamification would benefit the app at a later time when autonomous cars can alleviate the distraction involved with playing games while driving as the likelihood of using the app would significantly increase.

According to the demographics, younger generations would be more inclined to use my app as they embrace new applications when it comes to traveling smarter. This is due to their sense of adventure and the fact that they grew up with this kind of tech. Avid travelers also prefer domestic travel which shows that people like discovering new things that are closer to them.

Knowledge Gap

In reviewing my research so far for the thesis, I learned there are a few knowledge gaps that still need to be addressed as the information I

found did not answer certain questions. Here are more questions that can be solved using primary research methods:

1. Why are apps the future of business marketing?
2. How are tourists currently finding smaller businesses?
3. What other forms of smart devices could this app be created for?
4. How will the app avoid being a distraction for drivers?
5. How are smartphones contributing to car accidents in America?
6. How could connected cars help in creating a less distracting app?
7. How will it be financially supported?
8. What is Geofencing?
 - a. Is there related litigation to Target Marketing?
9. What are requirements for IOS apps?
10. What are requirements for Android apps?
11. How are apps for driving designed?
12. What is the best typography for Digital Media?
13. What will the aesthetic of the app consist of?

Stakeholders

It is clear that users of this app would greatly be enriched with current information they would not otherwise be exposed to. Leisure travelers could more likely than not enjoy and partake in events happening in real time. However, the demographic that seem to gain the most are people with jobs that require travel, such as truck drivers and digital nomads like travel bloggers. Having an app like this at their disposal could enrich their lives as they would be exposed to more information via storytelling tailored to their interests.

Small businesses stand to gain the most, as it would be a more cost-effective way to attract new customers than using the current methods

that aren't always the most effective. As the app is meant to be user friendly for businesses to commercialize their product, the app stands to give more control to this group as to when they would like to have the ad playing. Having the creative control on their side is assuring as they can be confident they are getting the most out of the advertising they submit. Another group that would likely benefit from the app are designers and marketers, as they would be creating the designs and stories for many businesses as they have a better understanding of making adverting materials for products. The app would provide more work for people in these fields as it is one more medium they would have to design for.

Research Implications

Positive Implications

The implications for this thesis could prove to be of great economic value to businesses in the United States as its travel and tourism has seen a decline in recent years. This could boost local weekend traveling and human interaction, helping relations by creating a deeper understanding of one's surrounding resources. A more intimate knowledge of places of business and the special events that they hold would also help to grow and further expansions. The short storytelling element to the app could also alter graphic designers' approaches in performing their work, leaning more toward multiple designs that are heavily photo centric, similar to a slideshow when viewed on the app.

Negative Implications

The negative effects of this thesis could result in many other sources of marketing declining as they may be deemed unnecessary by marketers. If this thesis project is successful, it could particularly affect the billboard industry and designers who work for them, causing a migration into the GPS platform I intend to create. That is not to say that billboards would go away entirely, of course there are privately owned installation that would remain. The price of billboards may also go down as a result of a successful outcome of this thesis project. I believe this may also interfere with radio advertising, as many users would not be listening to the radio when using this app. Marketers would likely still use radio as most people are not traveling all the time, but its usage may potentially be decreased. I believe many would see the benefits of this app and roll back advertising with certain radio stations as most do not offer scheduled ads that are more effective at certain times of day.



CHAPTER 3

Research

Research Methods

The focus of the research will be put on of data so I can better understand the audience most likely interested in a tourist app. Primarily the research will consist of case studies to answer the various questions presented in the knowledge gap section. This will help to better

gauge what the target audience would like in such an app and features they would expect. It will also answer road safety concerns and the legality of how the app can be used. The knowledge gained from the research will help in guiding how the app will function as well as the aesthetics, which will reflect pertinent topics.

Summary of Findings

Why are apps the future of business marketing?

As storefront businesses have lost many customers due to the lower cost of buying through online outlets such as Amazon and eBay, there has been a rise in online presence through websites like Facebook and the creation of apps for businesses. As virtually every business advertises through Facebook, the new trend for a business is to spend their money on making apps for their stores. At the low end these apps can cost between \$20,000 and \$75,000. However, this can be a costly expense as they also require updates, bug fixes, push notifications, payment gateways, app store developer fees, servers and emergency maintenance after they are created. All of these other features normally cost 20% of the app's initial development price per year (ThinkMobiles).

As there are not as many apps as websites, apps tend to be used and visited more frequently. The problem lies with designing a business's app so that it is noticeable among the millions of other apps available to the public. But by having an app, a business owner can expand their business outside the normal reach of their physical location. So for a small family or micro business, this would not be as effective as many are starting from the point of a brick-and-mortar business model.

As this affordability problem persists, 40% of app users will end up going to a competitor if they have a bad experience with another business. So not staying relevant is losing money for many companies that are still using older business models and are not including apps as they cannot afford them (Wertz).

40% of app users will end up going to a competitor if they have a bad experience with another business.

Summary

The cost involved with making a full-on app for most small businesses may not be within their advertising budgets, especially an app that is adequate for various devices and also meets the public's standards. This explains the desire to simply add one's small business to existing sites as they do not have the cost of maintaining an app, which is an additional financial burden. A positive implication is that there is room for an app that helps micro businesses from falling in between the cracks of the current marketing formula. As my intended app would not be as all-encompassing as tailored apps, it would provide the opportunity for these small businesses to be noticed and considered by the public as well.



How are tourists currently finding smaller businesses?

Smaller businesses reach out to tourists through many websites that they do not have to maintain themselves. To expand understanding of the existing apps that help people as far as tourism, I have conducted case studies on similar apps. Some of them no longer exist and some are still working. Through this process I strive to glean information to inform better visual solutions and product for users and third parties that stand to gain the most from my intended app.

Yelp

Yelp is the third most visited site when it comes to finding businesses a consumer wants to shop (Smith). The business was launched in 2004 by Jeremy Stoppelman and Russel Simmons, who both came from PayPal. The idea came from a time Jeremy looked online for a comparison of doctors when he was sick. He could not find the answer he was looking for, so he decided to change that for the world. They wanted a place for the public to share reviews of businesses through email. As it worked, it was unable to gain traction until 2005 when they added the feature of unsolicited reviews. They then purchased a database that had over 20 million business locations, which was not completely accurate but gave them something to build from (Bowman).

They were able to gain traction by local community coverage and throwing parties for reviewers who participated the most in creating reviews. These parties encouraged them and others to submit even more reviews so they could be included (Canavan).

They then put their attention on driving store owners to their site to claim listings for their businesses. Giving stickers to businesses in the Bay Area of San Francisco to display for customers to leave reviews about their experiences helped Yelp be even more noticed (Bowman). As of 2020, Yelp is worth over \$4 billion and shows no signs of stopping.

Yelp is known for connecting the public to virtually any kind of business and features lists of activities to do that are close to the user. Of all the various sites it has the most directories, which makes it appealing to users as it will give them the most choices. 42% of people who use the site buy something from a listed business and 25% will do it the same day. 85% of users also share the purchase experience with friends if they are happy with it. "53% of people who ordered from a restaurant on Yelp weren't familiar with the restaurant before they found it on the platform." (McCoy).

The data also shows that more reviews equals faster revenue by 1 or 2%. The rating system measures from 1 being the worst experience to 5 being the best. If a business has a 4.5 rating they have been proven to experience 9.9% in growth. Users of the site are split nearly evenly between the ages of 18-33, 35-54 and 55 and older. 75% of Yelp's users make between \$59K and \$100K annually, showing they are interested in getting the most for their money as they are working class people. 54% of the searches that are made on the site are for places that are outside of a user's local area. One of the best things Yelp offers is a preference option, which will indicate to the user a personalized experience (McCoy).

Summary

Yelp shows the power and value of word-of-mouth from regular people. What also matters is that the business owners have a voice to shape how the public views their establishment. A personalized experience is something that will be focused on with my project. The data also shows that users of the app are willing to travel outside of their area for a business in which they are interested. An interesting point that came out in this case study was how Yelp was able to incentivize businesses by giving them stickers to display their site to customers. As databases are costly, I think it would be more effective to reach out to local counties that are struggling for this kind of information, as it would benefit their people the most financially.

Google

Google is the most used site for searching for businesses (Smith). This search engine began under the name Backrub, which was soon changed to the name everyone now knows. It was created by Larry Page and Sergey Brin in 1995. Three years later an investor by the name of Andy Bechtolsheim, who invested \$100,000, created Google Inc (Google).

In 2005 Google Maps was released, giving the world a digital mapping service that helped users find directions from one location to another. In the year that followed, they created a street view to further help users who were more visually oriented (Laurence). Google Maps focuses on topical maps and road systems, but a user can also find new businesses through its use. The app has expanded into letting a user type a general keyword into the search bar and generate a list of related businesses. An example of this would be typing in the phrase "art supplies" and the app showing stores like Brushstrokes, Gallery Art Supplies, Rochester Art Supply Inc. and Michaels.

There is a special section within the site called Google Maps Marketing that helps businesses to appear more when they are searched for by users. This is prioritized by the business's location, and the app shows results based on what is nearest to the user. An example of this would be entering the search term "grocery store" and the results starting with a Tops that is 2 miles away from you, Weis Markets 4 miles away, Piggly Wiggly 4.6 miles away and so on. This site is also reliable when it comes to finding locations and has been approved by the US Post Office, unlike Apple Maps. When a business marketer does sign up with Google Maps

they have the option to tell users what their business is about with details of why they should choose them. They can also use relevant keywords that will get them noticed more (Laurence).

A related branch of Google that focuses on tourism is Google Trips, which launched in 2016 for iOS and Android. Google Trips includes email integration, which is helpful in locating hotel reservations if the user is in a location where they will be spending the night. The app also recommends places to eat, drink and see. This application has a map feature that helps users plan out their day. It plans out day trips based on saved items a user wants to do. Locational awareness is another feature included with this software. This means that it recommends places to go based on prior search history. It will even adjust its recommended locations based on the weather, which will bring the user to inside activities if it is raining. The app also shows the user discounts that are available for tours and attractions. As a bonus, it shows information on cities in almost any country (Laurence).

Summary

As Google can help a person find anything at any given time, it is limited in that it mainly pertains to use in a fixed location in which the user is actively looking for a business. However, Google Maps has been a proven source for finding information quickly about businesses even though it is not tailored to the user, as they must add detailed information to find the establishment they want. Even though it seems like a given, many businesses are not found on this site, which shows Google is not doing a good job at reaching out to businesses to be certified for the site like Yelp has.

Google is the most used site for searching for businesses.



Facebook

This company was launched in 2004 by Mark Zuckerberg and other Harvard University students. When it first came out, it was called TheFacebook and shortly became open to all university students from any college. It was not until 2006 that Facebook opened the platform to the public. In 2007, they opened their Marketplace for users to sell products. This added over 100,000 businesses in the same year, which inspired the advent of Pages for the site (Brandwatch).

Facebook is the number two site for finding businesses in the USA (Smith). This is a great place for businesses to list themselves as they have a greater chance of engagement with this platform's users. "26% of customers ages 18 to 34 use social media to contact a company." The downside to that is sometimes customers speak out against businesses that they feel treated them badly or provided a bad product. (Herhold). To mitigate this, businesses must monitor these sites to resolve issues as quickly as possible, as it is a public forum for everyone to see. A majority of the public (76%) expects to be responded to in a matter of a day or less on the same platform (Clutch).



Facebook lets business owners post text, photos and videos to commercialize their businesses. The option to tag a business creates more opportunities for others to see their friends' experiences related to a place. Facebook also has a place to list their business address and other contact information that includes links to their website for users to gain a greater understanding of what they offer.

"26% of customers ages 18 to 34 use social media to contact a company."

Summary

Social media has brought the immediacy of "now" to everyone's pockets. As the app can help users find businesses in whatever area they are currently located, it does not target the person until they are within a geofence that is paid for through the business. This generally means they have to come into the town, as it costs less for someone to target smaller areas. That could mean many towns are missing out as they may not be located right off of a highway to catch these potential sales. As driving and texting is heavily frowned upon, it is doubtful that users are driving while using Facebook. The social media aspect of Facebook is not something that is desirable for my intended app as users will only be able to confirm or deny their interest in a business. But these confirmations will be accessible for third parties to see and understand as the information would be gathered for the businesses to later craft interactions they choose to post.



Detour

This app was created by Andrew Mason, the founder of Groupon. He had the idea for Detour when he was on vacation with his wife in Italy while looking at Roman ruins. The aim was to make an app that created a tour guide from the perspective of a local who was rich with historical information about an area. This was of importance as he had been on many tours that were both good and bad, but was made to be in a group setting which is not as convenient as going on his own time. Detour was also entirely self-funded by Mason (Castillo).

It went live in 2014 and started in San Francisco, where the app was free for two years so as to promote testing. When the app launched, it cost \$4.99 to download. After paying once, the user might have to pay again for a tour created by a third party. The first iteration of the app was designed for outside walking tours. Eventually the app was able to be used indoors for museums as well. The new direction focused on third-party users where it allowed the user to input information on any subject matter customers would see. An example of this is an art museum with stories to go along with its paintings, which gave greater context to everything Detour users would see there (Castillo).

App users were able to sync with other users through Bluetooth to have a shared experience while listening and going through a tour together. If any of the participants paused the tour, it applied to everyone. Tours were given by handpicked

locals who knew the city they were showing inside and out as they had lived there their whole lives. This led to information most tour guides would not have been able to give. Each tour lasted for about an hour (Castillo).

This provided mapping and audio editing within the app for anyone creating a tour. For ease, the Detour app provided tech support and tutorials. The app also had content to add to the tours such as musical scores and a database for voice actors to vocalize the content. These users could publish for free or charge whatever price they wanted after they were done creating a tour (Castillo).

The app never gained traction with audiences on any of the major app stores. Bose bought out Detour in 2018 for a sum that was not disclosed to the public. The acquisition only came with the software and tour content. The Detour team did not come with the buy. Bose was interested as it was creating AR glasses. When it sold, the app had over 120 tours available. This buy was a good match as Bose AR glasses gave a listening experience to the wearer. The creator Mason went on to design an app called Descript, which is an audio editor that expands the audio tech within the Detour app (Perez).

Summary

The tours were finite and made users go in a sequence versus seeing something and being able to know about it in real time without going through the whole tour in order. As name recognition adds interest to the app, it does not give it the authentic feel I am interested in displaying with mine. Detour also charged users, which is not something I am interested in doing as it creates a wall of information and disincentivizes potential users. Detour did add a fitness tracker that helped users see the number of steps they took on their tour. As I find many people already using things like this, I do not think it would be necessary to incorporate this idea as it distracts from the larger concept of helping businesses commercially. As an example, it could make somebody more self-conscious of their weight and discourage them from buying anything from a local pastry shop. It might prove to be counterproductive to the app's intention.



Viator App

This is a free app to download. Primarily it helps vacationers book attractions in larger areas like cities. It lists over 40,000 tours around the world. The app sells walking tours for \$28.40. The app is easy to use as it starts with four options to choose from (PhocusWire).

What can I do today? Button

By clicking this selection, the user will see a variety of activities they can do in the area they are in. The app also lists months into the future.

What's near me? Button

By clicking this selection the user will see any attractions on a map that are closest to them. By clicking the arrows, the user will see reviews/ratings and information about the attraction like addresses and phone numbers. Photos that other users have taken come up for the user to see as well.

When operating and choosing activities through the app, the user will see their savings compared to buying tickets at the location.

Deals and Discounts Button

This button shows different options of activities that have been reduced in cost. The user sees the regular price and the new price the deal is currently going for.

Top Attractions Button

This shows the biggest attractions in the area and the various tours that come with them. By selecting one, the user can see the price the attraction goes for.

The app is run by travel insiders who assess the top tours and activities an area has to offer. The app is also friendly to users with currency displays that are outside of the area to determine the cost of a user's desired activities. When operating and choosing activities through the app, the user will see their savings compared to buying tickets at the location. This is typically a couple of dollars off each attraction, which further incentivizes the user to buy the tickets (PhocusWire)

The company was founded by Rod Cuthbert in Australia in the late 1990s. He started by building websites for travel companies. He built the website for Saber, who decided that they did not want the site after they rearranged their company, which meant firing a majority of their staff. This app was bought by TripAdvisor for \$200 million in 2014 (Chowdhry).

Summary

The app is not voice-activated, which means a person needs to push buttons while driving. As that is a concern to many that prefer hands-free options, the buttons are large and eligible for pressing if the phone is mounted while driving. The best feature the app has is that it shows other points of interest to the user that lie along their chosen path to various destinations. As it is only for bigger cities, businesses in smaller towns that do not know of the app are not actively sought after to be included, thus leaving room for an app that does.

Tourist App Conclusions

Typically tourist apps tend to put a spotlight on cities as the third-party features are limited or nonexistent for many businesses outside of those areas. If a business was interested in being included, they would have to create their own tour to be accepted by the platform. If one was to be privy to these kinds of apps, they would also need to cover the cost to create a tour, which may be more than they are willing to invest if they are not as popular. This may be due to users having to pay for many of the tours, which is not appealing.

Are there other products that closely resemble the idea?

The products that were researched are close to the idea but use different devices in the hopes of being less invasive to the public. Case studies were made to research these ideas.

What other forms of smart devices could this app be created for?

This is an important question as it shows this kind of app could be made for other platforms, showing its potential and versatility. The expanding market for smart devices is ever growing and outdoing itself with products that are innovative and show promise with knowledge that appears instantly for those who are interested. Below are two case studies on some of these products.

Bose AR Glasses

A newer technological device that I found important to the subject as it shows others have worked on the idea in the past is Bose AR glasses which are an augmented reality device that give a listening experience to their wearer. By double tapping the glasses, one can pull up more information about what they are looking at. Nods and other facial movements dictate the interaction with the device. This instrument tells the listener what kind of food rating and what kind of wait time

they would be looking at for a restaurant. It also reenacts events and speeches related to historical landmarks or information about artwork a user is looking at. The product also contains speakers that do not have to go over the listener's ears and a microphone that lets the user talk seamlessly on calls.

The creators were also looking to add visual elements in the future that could read signs and interpret them to the user wearing the glasses. The glasses work much like wireless earbuds, making it an easy transition for users of the product (The Verge).

Bose was outsourcing information from Yelp, TripAdvisor and other sources to gather the information it passed on. They focused on sound instead of visuals like Google Glass. Bose invested \$50 million into other companies that would further build out the idea (The Verge).

Bose launched the glasses in 2019 for the cost of \$199 and had sensors within it to define the direction the user was looking. This has been reduced to \$179.95. The device works by linking to the user's phone to pick up GPS information. It uses a projection tech that shoots into the user's ears (The Verge).

In effect, the virus changed the landscape for tourism and anything attached to it in 2020.

As of June 2020, Bose has given up on this project. This was partly due to closing their 119 stores after the Covid-19 outbreak (The Verge). The pandemic left many AR businesses with nowhere to go, resulting in mass layoffs. The problem was that no one was using the products as it had been recommended that the public stay home. By the directions of state authorities, many small businesses halted in their day-to-day operations. In effect, the virus changed the landscape for tourism and anything attached to it in 2020. Evidence of this can be seen in how they started to shut down the Public Software Development Kit for developers to create new applications (The Verge). This in turn stopped the flow of the remaining \$50 million that was going into potential outlets. The company does plan to use the tech in other ways going forward. It has not indicated what that direction will be as of yet. Bose AR Glasses failed as they, like many other companies, did not have a contingency plan for the public as a whole to not be interacting with society like they normally would (gearbrain).

Summary

Bose had not gotten to the phase of making its AR glasses available for prescription glasses wearers. This might have been another reason the glasses were not getting the traction and enthusiasm the company was hoping for as not everyone likes or can wear contacts. They also had the ability to cancel out sound, which can be dangerous in certain situations and might be a distraction from warnings of danger. They also lack deep bass when it comes to sound. As earbuds are not visible, many people thought the users of the device were talking to themselves when on phone calls. Volume control is done through the device the glasses ran off, such as a phone, which is a minor inconvenience. Another problem with the glasses is that the battery only lasts around three hours before it runs out. However, its ability to address places of business by merely looking in their direction and clicking shows how the idea of wanting to know has merit with the general public.

Google Glass

Although there are other forms of this wearable smart device, this product seemed to get the most traction from the public as its features were plentiful. In 2012 the Google Glass Employer addition was presented as the newest technology that would change the world. It started with a \$1,500 price tag, which was not affordable for most people. The eyewear was only available to a select VIP waiting list, which included developers and select Twitter users. Its aim was to be a hands-free system that could run off voice commands. A translator and city guide were also included, which was ideal for travelers to foreign places as it would display signs to read in one's native tongue. Refresh was an app on the device that was like a personal assistant that stored information about people the user was going to meet, pulling its information from social media sites. Other features of Google Glass included: take a picture, record a video, get directions, send messages, make phone calls and access Google+ Hangouts and Google (Pocket-lint).

This device consisted of a metal band that had a camera and prism mounted to it, making the wearer look awkward as it made a person's face less symmetrical. It also did not contain any glass where the lenses would typically be, making it stand out even more. The product did not get in the way of one's resting vision, making it convenient to look in an upper right direction to perform commands. As the design was less than desirable, it rendered unwanted attention on the users who were constantly accused of breaching the privacy of individuals who did not want to be recorded (Danton).

Google Glass was taken off the shelves for consumers in 2015 as it was found that it had become popular in work environments. An example of this is doctors in hospital settings. On February 25, 2020 Google announced the end of the product, which means that it will no longer be able to link to a Google account, a feature brought

on by its newest update. It is also thought that they abandoned the product as Apple and other brands were starting to work on augmented glasses as well (Linder). Google has since been working on a newer iteration of the product called Enterprise, which has reduced the price to 33% less than Google Glass's original price. This device is more accepted as it is sold to companies to help their workers perform their jobs better. They have also bought a company called Focals, which features glasses that look like regular eyeglasses that contains a holographic display within the frames (ThomasNet).

One problem with Google Glass is that it was proven less safe to use while driving.

One problem with Google Glass is that it was proven less safe to use while driving. This is because of the 35° angle at which a person's eye must be to use the device. Normally a person's eyes rest at 15° to 20° when driving. On various tests, users of the product proved that "multitasking drivers reacted more slowly (per hybrid response time), preserved less headway (per time to collision minimum) during the brake event, and subsequently adopted greater following distances (per average following distance). They showed poorer lane keeping in all epochs (per SDLP)." (Sawyer, et al).

Conclusion

Changing behaviors in consumer technology is one of the hardest heralds to overcome, which is what makes it difficult for these kinds of products to catch on. The original idea for this product failed not because people did not want the technology, but because its use required users to look drastically outside of the range for other eyewear. This same principle can be applied to ads and drastically changing how people view them. As it met the users' demand for on-the-spot knowledge, it made nonusers uncomfortable to be around the technology, showing how one's social interactions when wearing the device were not thought-out.

As these types of glasses become more refined and accepted, I could see the app having a place in a platform such as mine in the future. That said, the product would have to be in a provable safer place before my app could be integrated with such a product.

How are smartphones contributing to car accidents in America?

The National Highway Traffic Safety Administration found that 64% of all car accidents involve the use of a cellphone. 85% of people use their phone while driving. 16% of the time, drivers are using an app or texting while driving (Distracted Driver Accidents). 48 states have laws specifically against texting while driving (Essex). Drivers are eight times more likely to get into an accident when they are reaching for objects in their cars, and the individuals most at risk are those in their 20s (Cogburn Law). As this age group is a large part of Marks the Spot's target audience, consideration and care must be taken in the app's design to develop a solution that minimizes distractions while driving and promotes driver safety.

The National Highway Traffic Safety Administration found that 64% of all car accidents involve the use of a cellphone.

How will the app avoid being a distraction for drivers?

Smartphone use went from 55 percent in 2013 to 77 percent in 2017. Accidents related to cell use also rose from 5.7 million in 2013 to 6.4 million in 2017, showing that this advent in technology has given way to more distractions as a result of the devices' versatility. That is 12.3 % more accidents in that timeframe alone (businesswire). The number of smartphone users is also rising in 2020 as it is projected that 1.57 billion are expected to be made. That is 3% growth worldwide year after year since they hit the market in 2008 (Abim, et al).

Summary

Considering my app is meant to be used while driving, its setup must be minimal in nature to minimize driver distraction while watching the road.

How could connected cars help in creating a less distracting app?

As these cars are newer to the market, they show promise to where driving technology should be going. These cars have Internet capabilities or automotive telematics, which means they are able to remotely transfer one's computer data to their vehicle. The cars are able to connect to the Internet through Bluetooth or the WiFi connection giving access for many forms of entertainment. Another thing these cars can do is set speed limits for younger drivers and send messages to the owner if the car is taken without permission or goes over the speed limit (Sergey).

Summary

Connected cars are another base my app could run off of as a way of being less distracting to drivers. The problem with this technology is that it gives too much access to apps that could be potentially distracting, which is currently a large cause of accidents.

What is Geofencing?

Geofencing is a service that uses GPS, RFID and WiFi based on the location of the business that is advertising. When a potential customer enters the virtual boundary, an ad is triggered through text, alerts and social media posts. This concept is also used to track things that belong to a company, such as shipping containers, and makes it so that employee timecards can be automated. This is also being used with Telematics, which when triggered by outsiders alerts the company or person of potential security risks at their business or home. The area is established by an administrator creating the boundary with a circle that extends to the liking of the place they have designated for it to pop up. Platforms that already use geofencing include Facebook, which works in their Local Awareness Ads, and Google that utilizes it with Location Targeting (Conley).

According to MarketandMarkets, geofencing is projected to grow USD 542.7 Million in 2017 to USD 1,825.3 Million by 2022,

According to MarketandMarkets, geofencing is projected to grow USD 542.7 Million in 2017 to USD 1,825.3 Million by 2022, at a Compound Annual Growth Rate (CAGR) of 27.5%. The major factors driving the growth of the geofencing market include technological advancements in use of spatial data and increasing applications in numerous industry verticals (SBWire).

Summary

One of the drawbacks to geofencing is that a person might not go into the fence that is set up. Even if they did in a car that they were driving, they may not see this kind of notification as the public is very aware of the importance of staying off their phones while driving. However, the functionality of this tool could be added to travelers' destinations. As the tourist moves closer to the desired destination, they could be notified before they enter those fences as an app could know a user's intended end point. Instead of catching the tourist while they are within the boundary, they are hoping to draw them in with interesting facts about the location that the business is in.

Is there related litigation to Target Marketing?

Facebook settled a matter in 2019 with the ACLU which made changes to how they offer target marketing related to housing in promoted advertisement. They will no longer exclude users from knowing about opportunities such as employment, housing or credit that is based on one's age, gender and other protected characteristics. This means that third parties can no longer exclude specific people they do not want to hire or sell to when promoting an advertisement. Facebook did not make these exclusions themselves, but instead created a way for the discrimination of information by third parties. The laws that they ignored in this process include Title VII of the Civil Rights Act, the Age Discrimination in Employment Act, the Fair Housing Act and the Equal Credit Opportunity Act.

Act and the Equal Credit Opportunity Act. All of these laws bar discrimination on the basis of race, gender and age, which were clearly violated due to options that Facebook offered for third parties to implement (Sherwin, et al).

Summary

As my app would be based on location and the personal preferences of the user, these laws would not be a problem for the business model. If the user is designating the parameters of what they would like to see or experience through the app, they opt in completely with their own personal choice. Third parties will not be permitted to discriminate by setting the type of person they would like to sell to. Instead the marketing model will be one that is more package-based to use the time of day to sell ads, much like radio ads.



How are apps for driving designed?

Most driving app designs include voice commands, which help in accessing the media the user is seeking. Many of them read the information aloud so the user does not have to. The buttons for the apps are large with symbols that clearly represent what a user might be looking for, such as music, calling or messaging options that can be dictated (Android Authority).

Facebook, Apple and Google make most of their money from selling ads on their websites and mobile apps to local businesses.

Summary

All the guidelines for designing an application for driving use should also be implemented in the creation of the project as they work at mitigating the potential for accidents.

How will it be financially supported?

Facebook, Apple and Google make most of their money from selling ads on their websites and mobile apps to local businesses. This generally involves geofencing around the business that is looking to boost an ad they want seen by more potential customers (Johnston).

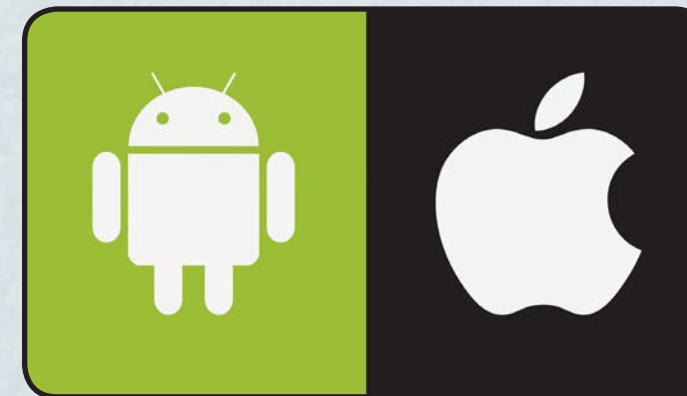
Summary

In-app purchases are not an option for my app as gamification is not something that seems to be actionable as it would be distracting for users while they are driving. The main method of generating funds would be an ad-boosting system much like other social media platforms and websites utilize, with an option to further targeting by adding GPS routes that are passing by a location that is within a geofence. The geofence would be optimized by heavily trafficked highways that come before the exit leading to the ad's intended business.

What are requirements for iOS apps?

Apple implements more restrictions than other app stores as it relates to features for apps in their closed system. This would mean the app would sell at a higher price point. That said, there is also more stability and control. It is suggested to design an app for an Apple device first as they tend to generate more money if they cost money to download. This is because iOS users are more used to seeing a cost when downloading apps. As a result, developers spend more on customer acquisition cost as opposed to offering the product for free. The difference is that paying for something makes an individual value it more versus receiving a free product. Apple has a high standard when it comes to apps they have available. The quality excellence they strive for makes it much harder for developers to be incorporated into their store (buildfire).

iOS is generally used by more affluent users who earn 40% more than Android users. That said, they also tend to hold higher education degrees. They also hit the target age demographic for my app, which falls between 18 and 24. iOS is what many developers first go to when designing apps as they are cheaper and easier to make there versus Android, which takes 30-40% longer to create as its coding language is more complicated (Medium).



What are requirements for Android apps?

Android operates in an open source ecosystem which makes it so that more people will have access to content as users are able to use any devices for the content. The trade-off is that they are less secure as Android source code is free to port to a developer's app hardware. Android users are not used to seeing a cost to download an app and if they do they tend to find another app that is similar to the one they originally wanted. The lower standards for Android apps make it much easier to create a passable product to share with the world. This comes with apps that tend to have more programming bugs, which creates security risks. (buildfire).

A downfall to Android users is that over 50% of them use operating systems that are at least two years old.

Android's reach is greater in capacity as it holds a greater share of the global market but not the USA, which is where my app will debut. A downfall to Android users is that over 50% of them use operating systems that are at least two years old. (Medium).

Summary

Apple users are used to cutting-edge products, which would make my intended app something they would be more apt to like and appreciate. This shows that the app will be better suited for design on iOS devices.

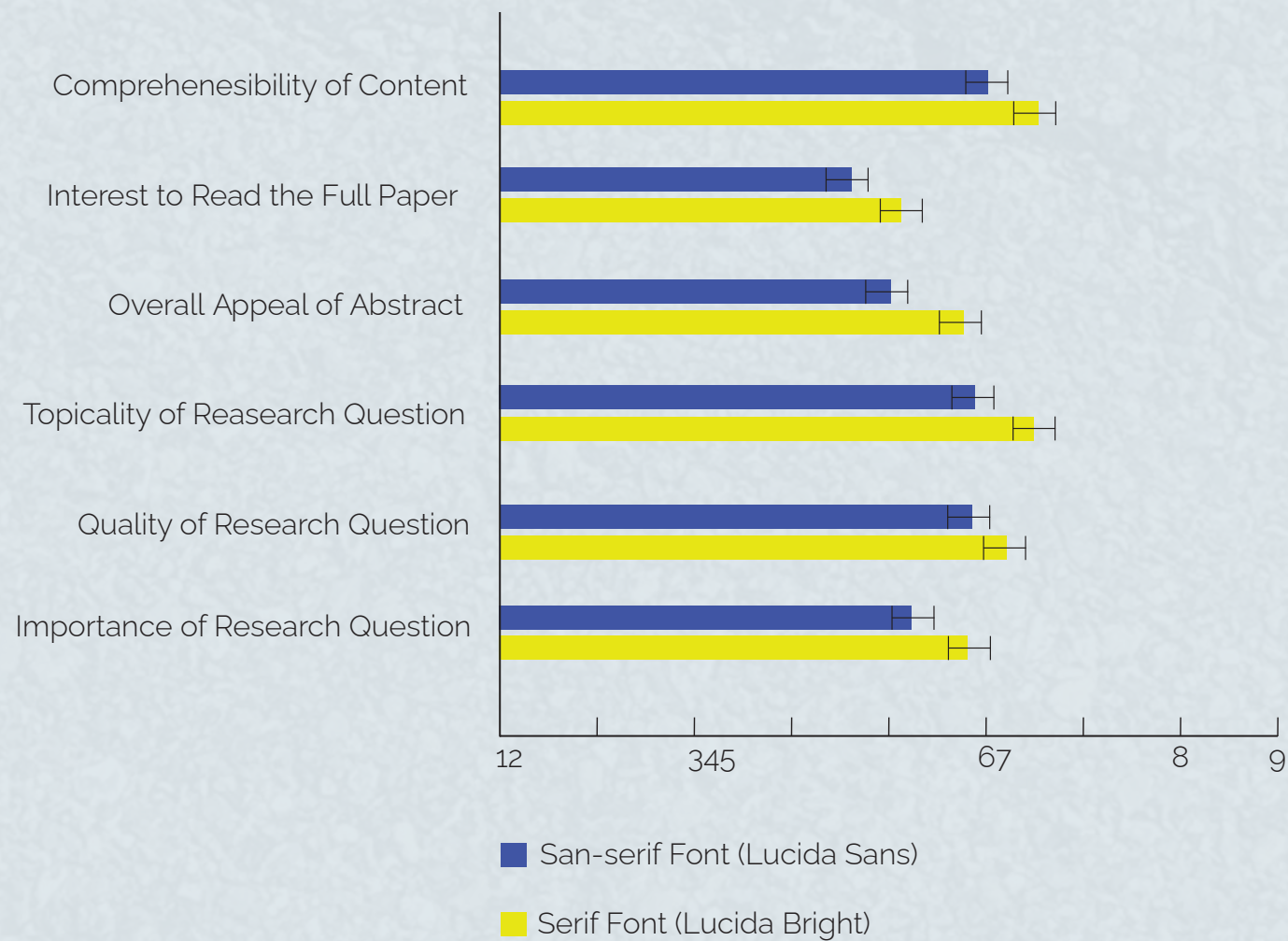
What is the best typography for Digital Media?

Reading digital media is best using san-serif fonts according to research that tested serifs versus san-serif. The study proved that serif fonts slow down reading, which is not a desirable outcome if a person is driving and occasionally looking up at a digital screen, as it would distract for longer periods of time. This is due to a higher legibility of san-serif compared to serifs (Kaspar, et al).

Below is a graph that shows the findings of the researchers of a study that did not let the participants know they were evaluating san-serif versus serifs. Instead the researchers gave the evaluators a grading system for abstracts that were in serif and san-serif form. On every evaluation the abstracts were marked with a higher number of

errors when serifs were used (Kaspar, et al). The numbered scale shows the amount of errors that are made in each respective category.

Reading digital media is best using san-serif fonts according to research that tested serifs versus san-serif.



According to a study by Carmen Moret-Tatay and Manuel Perea, "First, serifs are not an inherent feature of letters. In terms of signal detection theory, serifs may merely act as visual noise." They also take up more space between letters. This is not ideal as my app is intended to help businesses that may not know this information. As a result the app may be limited to san-serif types to choose from in the creation of ads. The study also found in its experiment that their chosen san-serif font was responded to 19 milliseconds faster than the selected serif font that had a similar width and length. The test they implemented indicated that more errors were made in reading serif, which points to significantly higher results if an individual was in a multitasking situation such as driving (Moret-Tatay, et al).

The exact font and size will be solved through the designing process. I would like to keep it down to one font if at all possible as it will help in promoting the style of my app's aesthetic (Hunter).

Summary

Based on the research, a san-serif font proves to fit my intended project best as these fonts are better than serifs in how they are read in digital form and how it they are liked more due to the readable nature of the fonts.

What will the aesthetic of the app consist of?

The app needs to remain as minimalistic as possible, which has resulted in my choice of large, different flat-colored buttons with a typed title for clicking to navigate. The buttons will cover the entire screen so the user can eventually feel for the upper or lower middle or corners through muscle memory as they will be more apt to keep their eyes on the road. A logo icon will also go in the corner which will act as a home button promoting

a consistent balance throughout the app. Originally I imagined this would look slightly like a Roku remote's main controls. As the user becomes more accustomed to using the app, they will be able to change the settings to symbols and icons. This feature would open after the user has logged 200 hours on the app to promote a muscle memory of the buttons. Under normal circumstances it can take a person between 120 and 160 hours to obtain the skill to instinctively know which buttons to push without looking. But as they will be doing these actions while multitasking (driving), an extended period of time to learn the app was factored in for a learning curve. This involves the power law of learning, which means that the more they use the app the quicker they will understand it. The implication is that users would not have to look at the device to make a choice on their phone's screen (Nielsen Norman Group).

White space between buttons will help in discerning one idea from the next as it will create a noticeable contrast for viewers. This will improve the app's usability by dividing structured elements (Hunter). The color pallet will be based on the Red-Green-Blue color model as that is how user interface monitors display variants of light. A limited, flat monochromatic color scheme will be used to avoid pareidolia, which is when patterns emerge that have human characteristics such as faces. As this can be distracting to users, a flat color theme would alleviate a potential problem like this (The Safety Doc). The icons that will be created will follow in the footsteps of existing ones but match in the look of the app's chosen fonts for consistency (Hunter).

Summary

These apps are a great template to work from as they show they are much safer to use while operating a motor vehicle.

Conclusion

In defense of the research, the visual solutions for this thesis will include a clickable prototype of the app. Designing the app will consist of two different styles, which will be designed for ease of use and to mitigate the potential of distraction for users. It will employ larger minimalistic aesthetics and clear, easy-to-read typography for users. Third parties that are interested in designing ads with both vocal and visual aesthetics will be able to log in to a separate area for business owners. A section that helps third-party users upload ads for the app will demonstrate how the ads will appear on consumers' screens. This is necessary as the app has to regulate how the color is seen through a user's device. This will also include a limited number of words they can use so as to not further distract users while they are driving. To mitigate this, third parties will also be required to add voice to the ad, which can be in a longer form than the minimalistic

ad and must highlight a historical or interesting fact about the business. If the user of the app is interested in the product the third party is selling, a QR code will appear to be saved as a coupon for a later purchase.

InVision is the primary tool that will be used to create my app. This program is ideal as it allows designers to share what they have created with others so they can use the mock product and make comments on problem areas and how they could be fixed if needed. Graphic elements will be designed on programs such as Photoshop for images that are more photographic in nature. Illustrator will also be used to design buttons. Final Cut X will also be used for simulations and animations of scenarios that can be better explained visually. The stages and order in which the app will be designed will proceed with mapping, wireframing and then prototyping.





CHAPTER 4

Design Process

The thesis project was broken into three deliverables over a 6-week period. The first phase entailed wireframing and the creation of brand guidelines. The second involved designing the app's clickable prototype. The third phase was dedicated to crafting a video to demonstrate how it works to pitch the app in the future.

Phase 1

Phase 1 involved wireframing to show the direction of how the app will be put together for third-party users and consumers. The third-party section is vital as the platform will need a way for businesses to upload marketing content to attract users (consumers) to visit the business that is promoted. The consumer section is important as it will help in leading users to potential places of interest while on a trip. This wireframing also provided a chance for feedback from committee members before moving on to create the prototype in InVision.

Plain, simple icons were also designed for quick button selection so as to mitigate distractions for

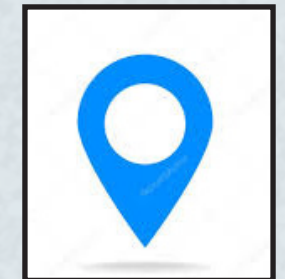
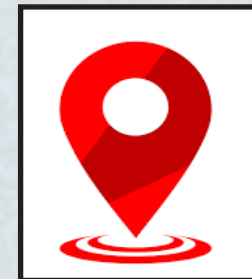
users who would be driving. These were designed using Adobe Illustrator and Photoshop. This also included design elements such as the app's logo and other branding elements.

The app's packaging will be similar to an App Store ad. This will help in promoting the app with more context to better influence users to download and use it. This in turn will result in a greater sense of one's surroundings while helping businesses with a cost-effective solution to promote their business.

The wireframe and icons are submitted as PDF files for the committee to review.

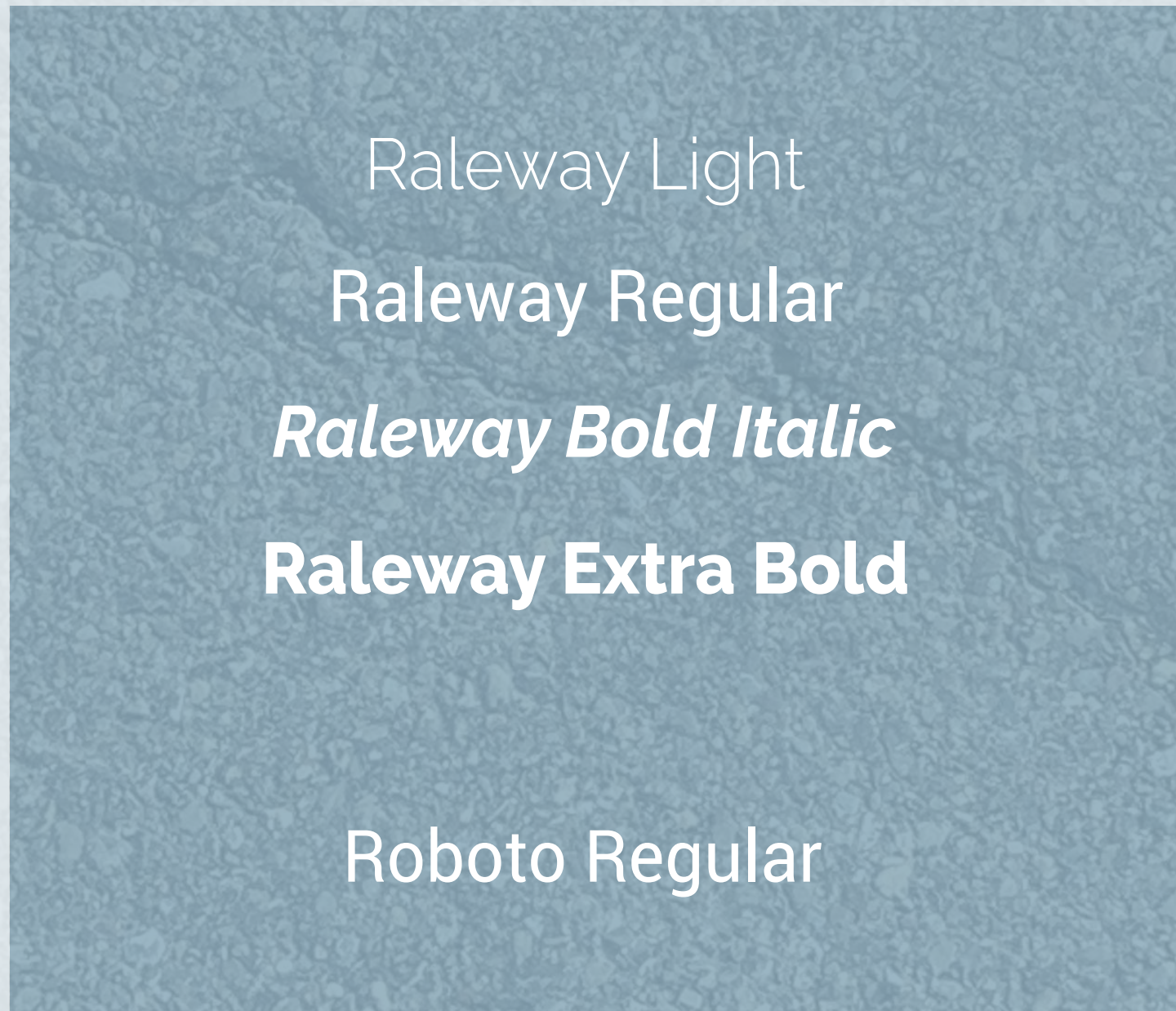
Mood Boards and Inspirations

The design for the Marks the Spot app logo was influenced by other logos that deal in the same business of travel and tourism. Generally the designs include a waypoint icon, which has a round top, pointed bottom and punched out hole in the middle of the top.



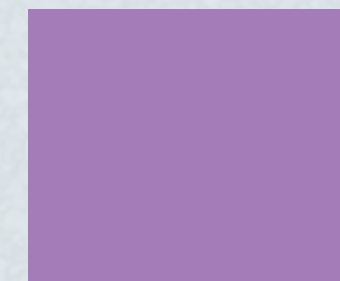
Typography

Below is a look at the two different typefaces that appear in the application.

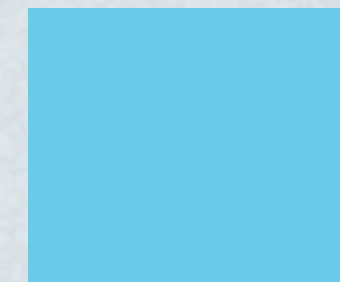


Color Scheme

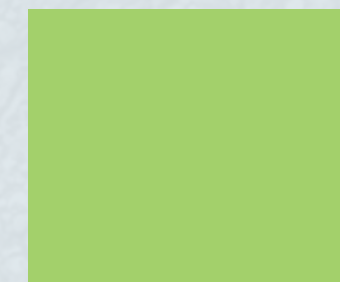
The app's color scheme was based on colors that would be least distracting for drivers.



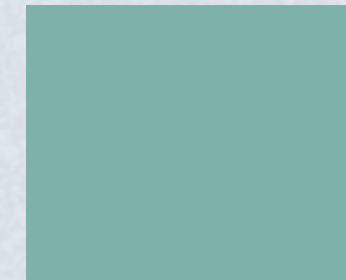
C 37.02
M 56.28
Y 0
K 0



C 51.49
M 1.03
Y 5.55
K 0



C 39.51
M 0
Y 75.78
K 0



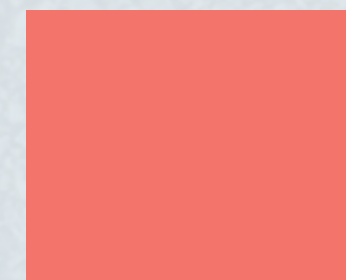
C 51.95
M 15.37
Y 35.94
K 0



C 9.7
M 21.04
Y 73.41
K 0



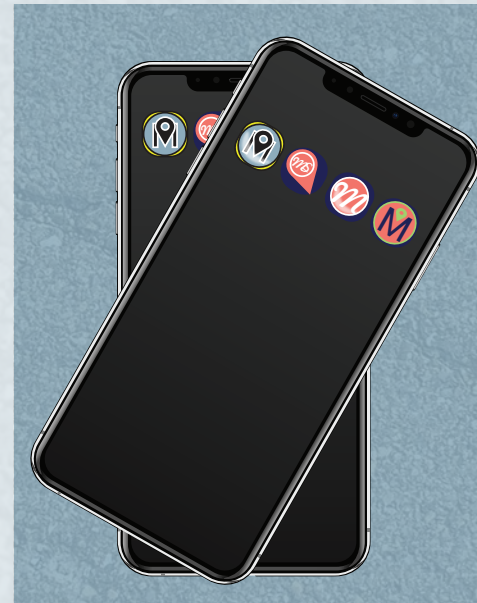
C 9.81
M 41.37
Y 69.41
K 0.04



C 0
M 68.04
Y 52.05
K 0

Logos and Buttons

Every app needs an icon that launches it. Below are some hand drawn logos based on the first letter of the app's name, a spot and the symbol indicative of GPS.



Below is a refined look at these symbols designed for the button.



I created different variations of the button to perfect it further. These iterations were made with a blue indicative of the app's color scheme and a bright yellow to increase noticeability on mobile devices.

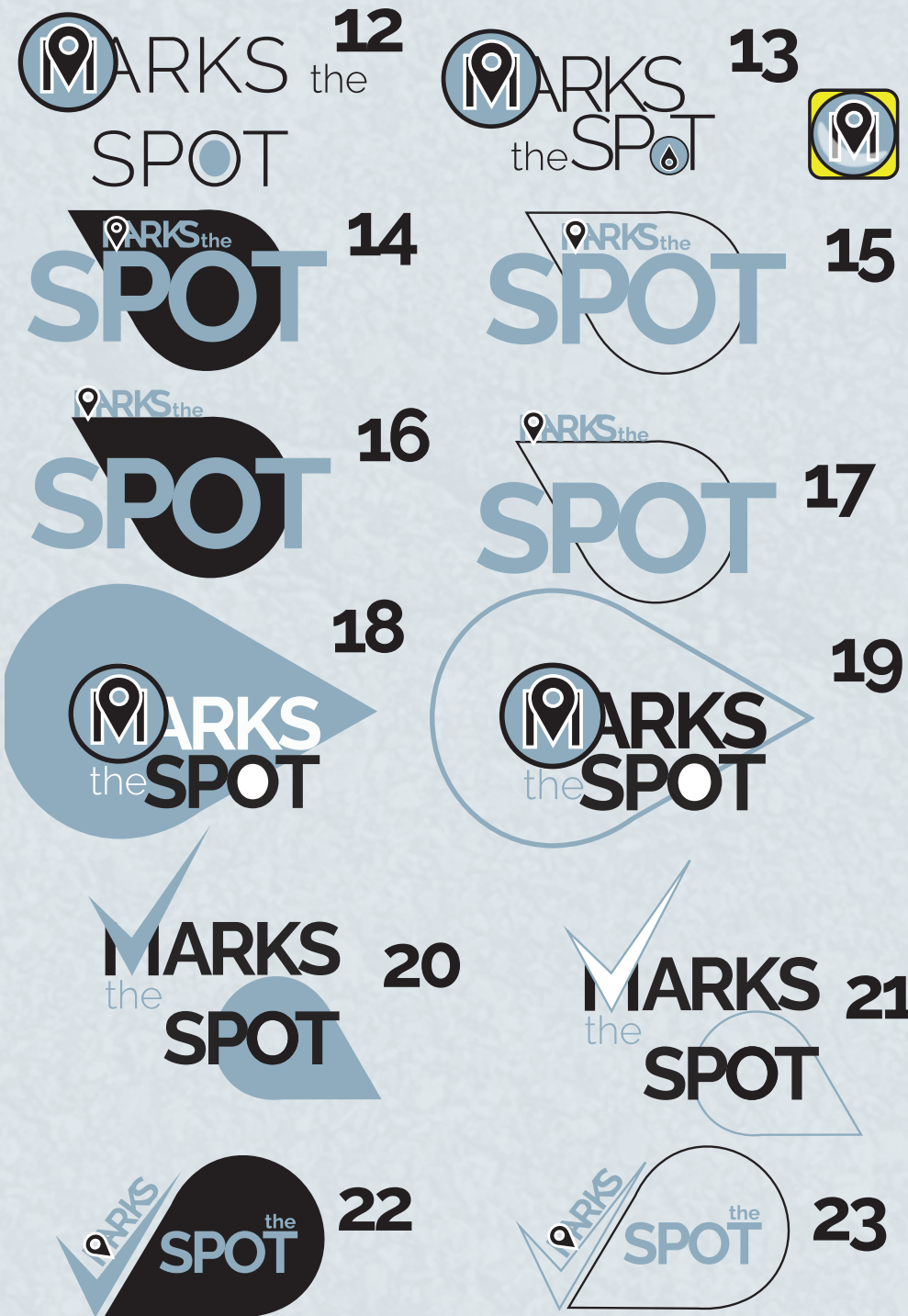


The below was selected as the best version for the app's main icon.



I created a series of different logos to explore the right fit for the app's name and what it does.





Below is the logo placed in a variety of colors chosen for the app.

LOGO a



LOGO b



LOGO c



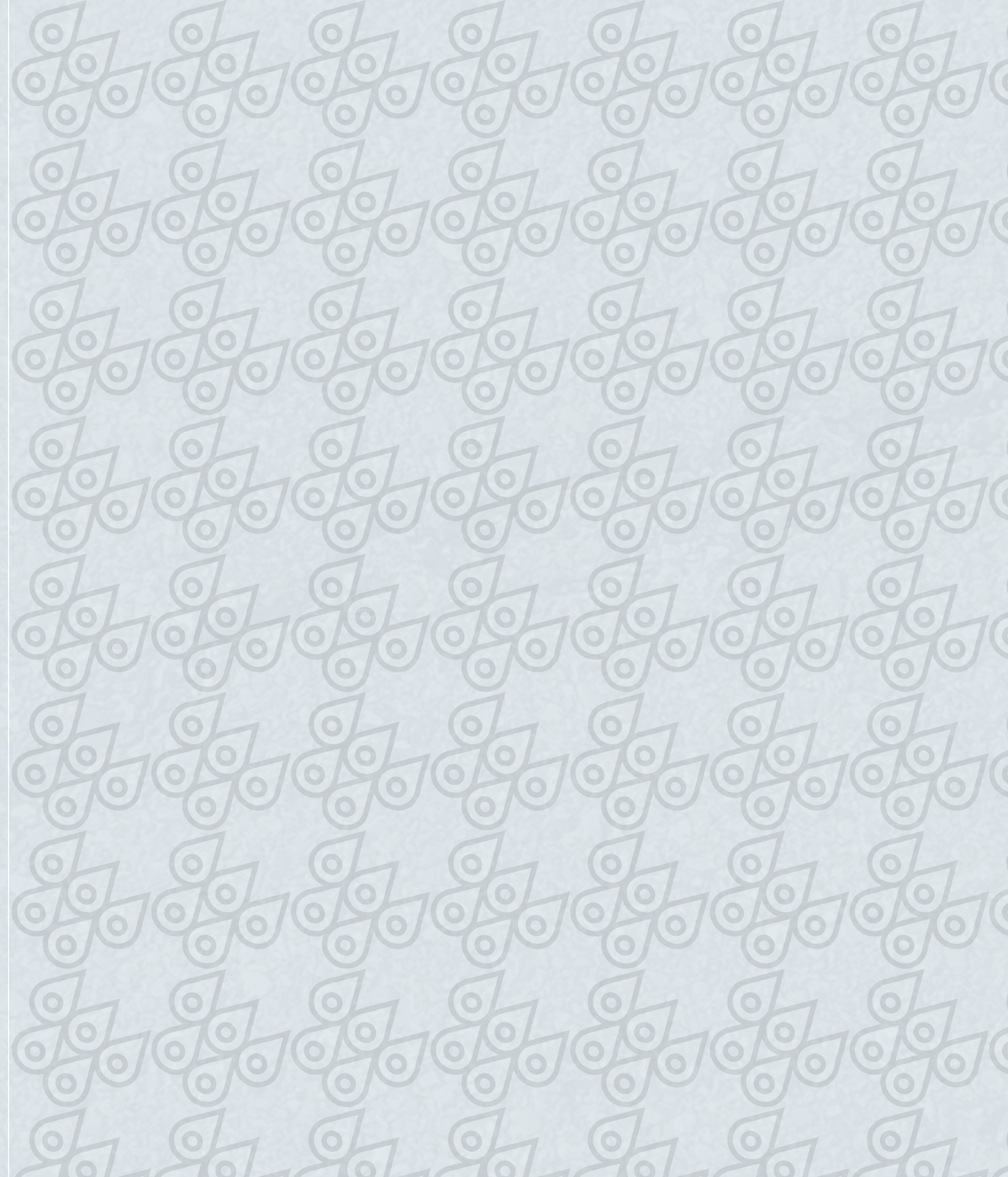
LOGO d



LOGO e



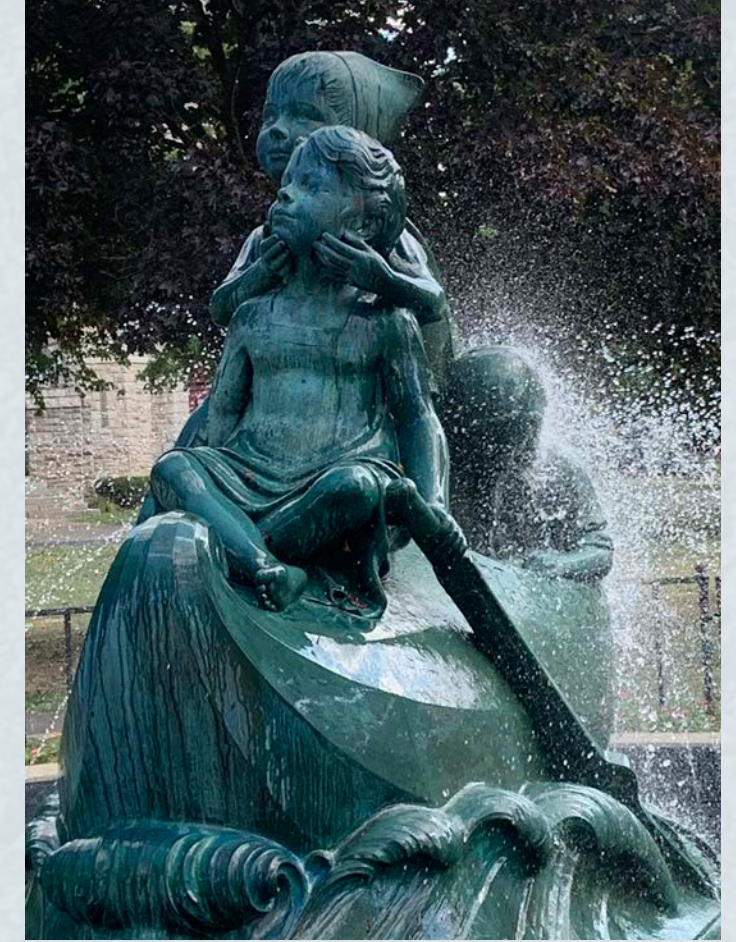
At this point, the Lockup below should be familiar as it has appeared throughout this book. The M later became a major part of the app as it serves as a home button.



Photography

The photography featured in the application was taken around the town I live in, Wellsboro Pennsylvania, and was shot with a Canon EOS 90D. These are real-world examples of places and events that could be added to the application when it becomes fully functional.

The photography seen in the app when the ads play are meant as an example of what third parties should do as well. Uploading various pictures to show their business is encouraged as it shows what they are offering to the public.



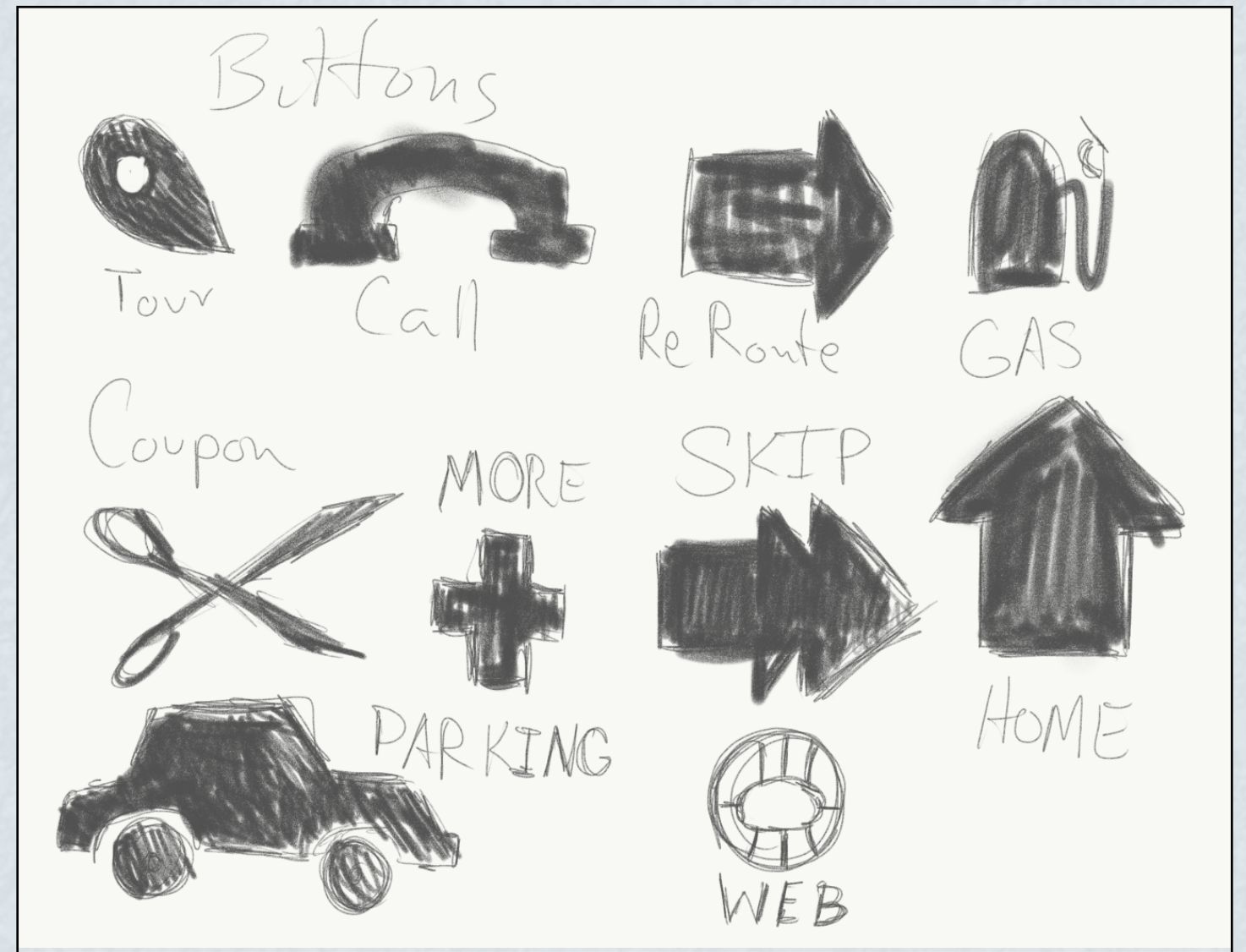
Almost all of the photos I took were in a vertical orientation as I thought I wanted to design the application in that way. Later I decided to go in a different direction. The photos earlier were used, but the ones below were not as they did not work with the design box assigned for the pictures for the ads.

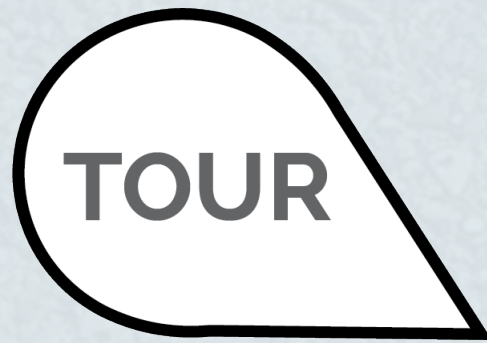


Buttons

The app's proposed buttons are based on common symbols. The button's sizes will be determined when the app is further along in the development process. Below are some sketched ideas of what they may look like.

Below is an idea of what symbols will look like on the buttons. Mixing both a The position of a button takes more precedence than the icon itself as far as the emdiency of finding what user want to click. Many of the buttons were inspired by television remote controls.





Tour: This button sends the user to other options related to an advertisement such as Coupon and Route, which will direct them to the location, and Save, which saves the destination for a later time.



Call: This button lets the user call the business. Having quick and easy access to businesses helps increase the chance that users will visit them. Generally this is an option for people who would be more comfortable calling to set up reservations as opposed to booking online. It would automatically place the call in speaker mode to avoid the use of one's hands that are dedicated to driving.



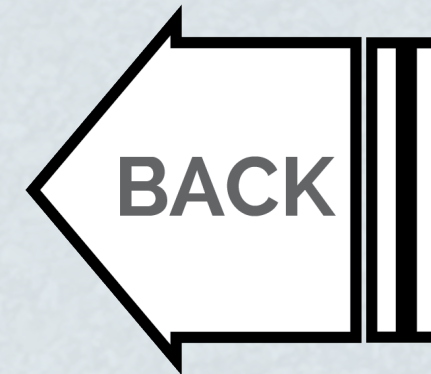
Gas: The icon for the Gas button was originally meant to help people find gas stations as they traveled along their route. Later I took it out of that layout as it did not seem to fit. Instead the Gas icon now appears in the GPS section without the word "gas."



More: This button lets the user show more information about the destination in the current ad. When pressed, more audio will play. This also expands the picture so they can see a zoomed-in visual of the location.



Skip: The Skip button lets users move on to other destination ads. This might be used if someone is not interested in the current listing.



Back: The Back button was inspired by VCRs with buttons similar to this design. It allows users to navigate back to the previous page.



Route: When a user is certain they want to visit an advertised location, this button reroutes their current GPS navigation to the new address.



Coupon: Pressing the Coupon button displays available deals that can be saved for later use. The purpose is to incentivize travelers to visit the listed businesses and attractions. Knowing something is affordable creates opportunities for both businesses and travelers to enjoy new experiences and make spur-of-the-moment memories,



Parking: This button was designed with a car icon and the word parking resting inside of the car. By pressing the button, users can find parking information that is nearby the destination they have routed. They will have choices of free parking and paid parking.



Free Parking: This button was designed with a car icon and the word free resting inside of the car. By pressing the button, users can find free parking that is nearby their intended destination.



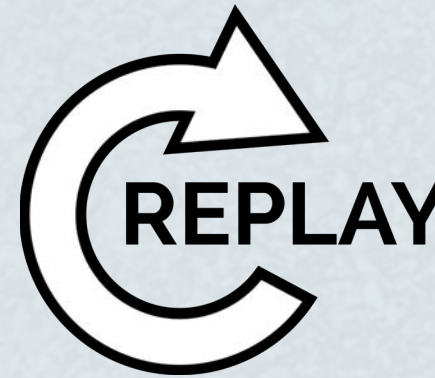
Paid Parking: This button was designed with a car icon and a dollar sign resting inside of the car outline. By pressing the button, users can find paid parking that is nearby their chosen destination.



Home: This button was designed with an icon that looks like a house containing the word "home." The button directs users back to the home page, where one can find saved locations and coupons or enter a new destination.



Web: The design for Web is commonly used on many apps and websites. Pressing this button takes the user to the location of interest's related website.



Replay: The design of this icon is similar to others in use on apps and websites. Pressing this button lets the user rehear ads they may have missed or find interesting.

Brand Guidelines

A major part of branding a business is putting design elements together to show how they would effectively represent the relevant party. The brand guidelines are a conglomeration of the type, images, color pallet, logo and brand's philosophy. The following page demonstrates how all of these things work as a unit.





BRAND GUIDELINES

LOGOTYPE

LOGO BUTTON



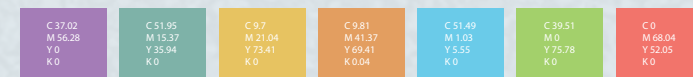
TYPOGRAPHY

FONT RALEWAY	LIGHT	ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz
	BOLD	ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz
	BOLD ITALIC	<i>ABCDEFGHIJKLMNOPQRSTUVWXYZ</i> <i>abcdefghijklmnopqrstuvwxyz</i>
FONT ROBOTO	REGULAR	ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz

CORPORATE PHILOSOPHY

"Some beautiful paths can't be discovered without getting lost." – Erol Ozan

COLOR PALETTE



PHOTOGRAPHY



Phase 2

The app's intended environment is on the road, which is reflected through the animations simulated by the app. Video animations are used as examples of how the app would function in a driving situation. This is due to limitations of GPS usage, coding and a later presentation. Certain selections in the app's prototype provide a video simulation of how the app is intended to work when the selection is made. These were created

using video editors such as After Effects and Final Cut X. These animations play underneath the buttons to show the GPS map that would be available as consumers are using the app. Additional buttons will also be designed for navigating the app more efficiently.

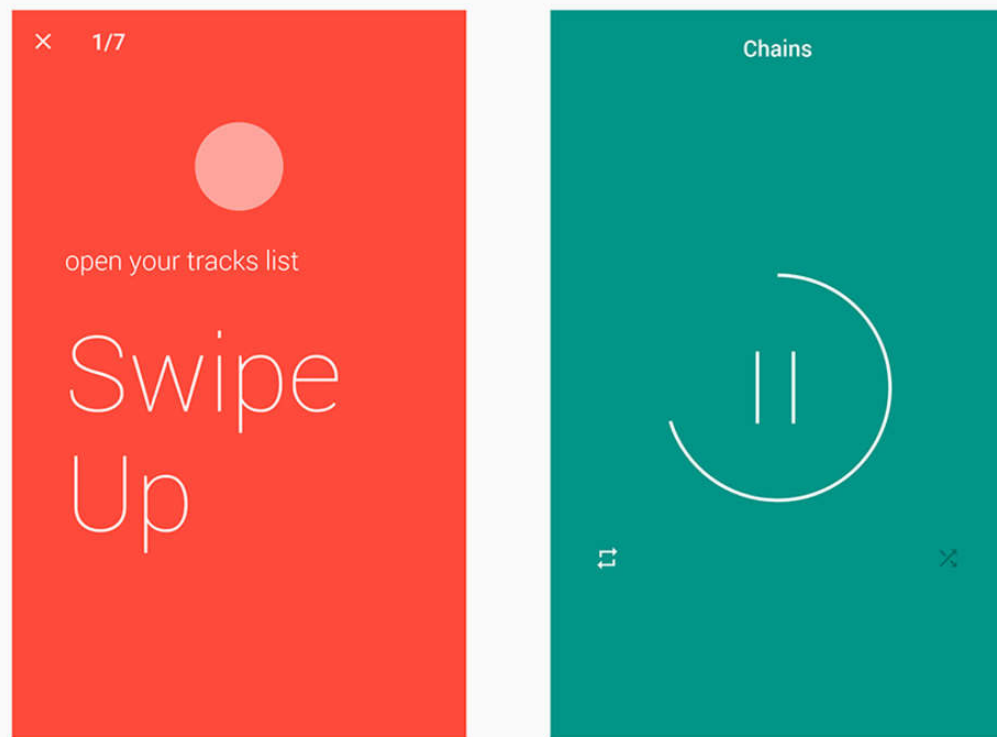
These were submitted and shared as sharable links on YouTube for the committee to review.

Mood Boards and Inspirations

HQ Music

Below is one of the simplest UX designs for a music player called HQ Music. Its plain aesthetic forces the user to actually focus on the music they intend to hear vs. being bombarded with extra pictures and artwork that distracts from the music's intended purpose. While my app is not about music, it is about not overly distracting users from the road.

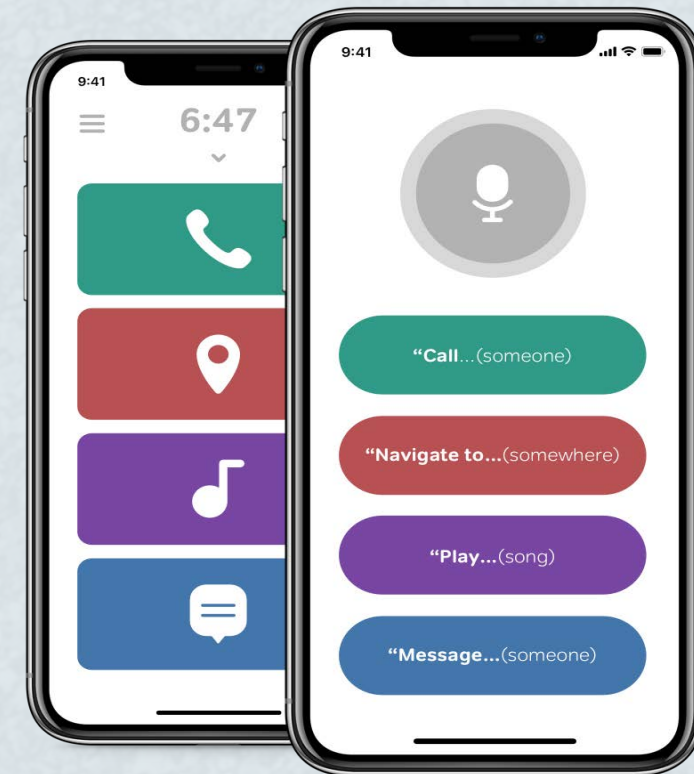
Keeping the app as simple as possible is the main objective while having features that are easy to find while users are multitasking. An app that is consistent in button placement will help with no-look button pressing, which will keep drivers from being overly distracted. Ultimately the goal for the app is to be glanced at instead of focused on intently.



Drivemode Dash

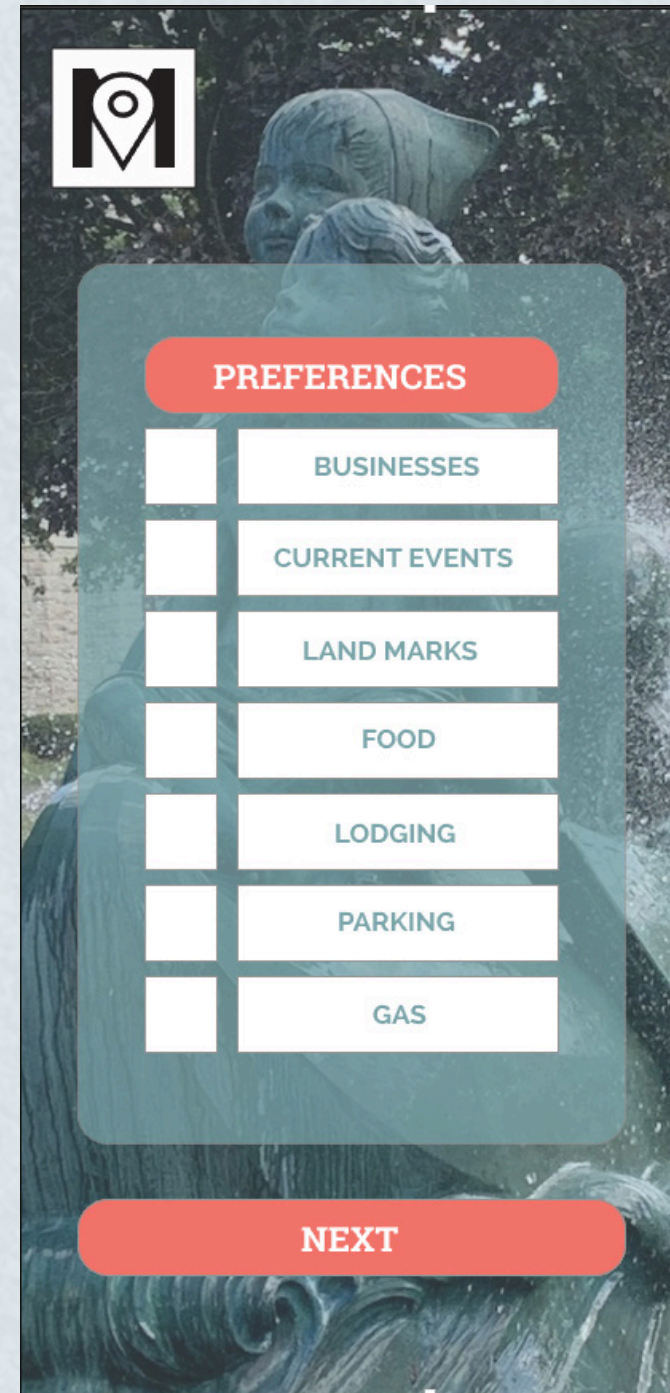
Below is another simple UX design that covers many elements for drivers without being overly distracting. This design covers GPS, calls, music and messaging. It is all navigated through voice commands. Its number one objective is to keep drivers as safe as possible by keeping them off of their phones with its no-look experience, .

One of the best things it does is read messages out loud to users. I found this to be one of the most important things as I would like the ads that appear on my app to be in audio form. This removes the desire to look at one's screen to read. However it would contain a picture to glance at to understand the destination better.



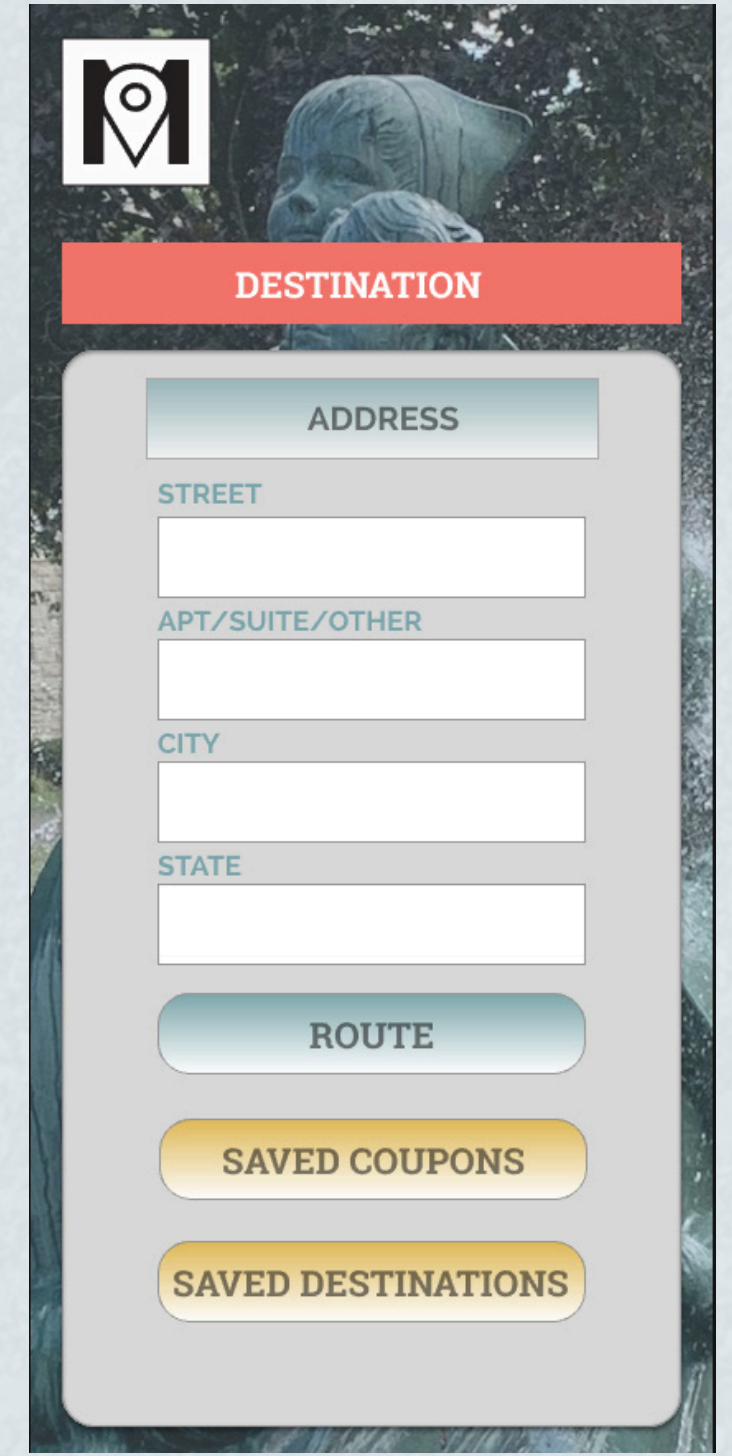
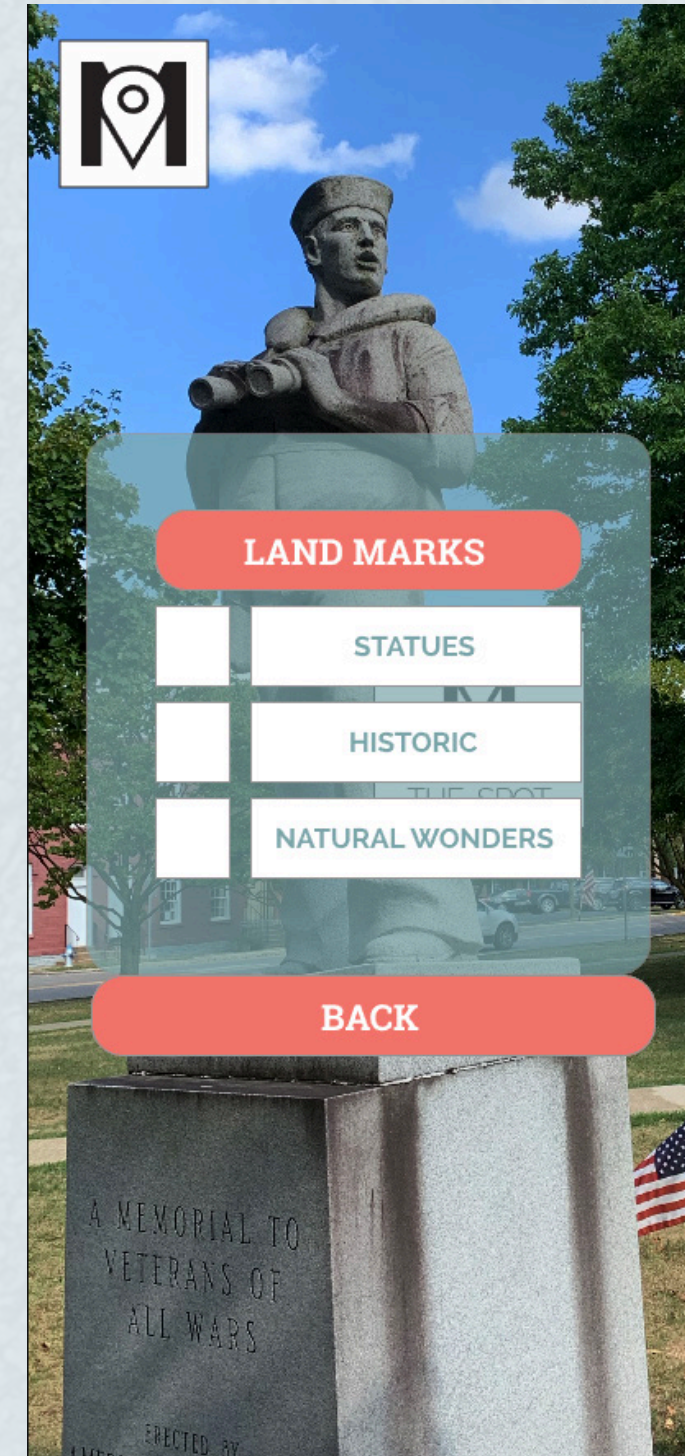
These artboards were an earlier iteration of the splash page "Preferences," which displayed navigation choices users could make for their trip. I found that creating all of the artboards in a horizontal position

would be best as the user could consistently use the app one way instead of flipping its orientation. Choosing the horizontal view was a choice based on many GPS devices that are arranged and viewed in a similar manner.



Here again are more artboards that were designed in a vertical layout. Originally I thought I could just change the orientation

when it came to presenting the application. In order to not confuse the audience, I chose to change everything to a horizontal view.



Landscape Orientation

There were a couple of changes that dealt with the app's orientation. The reasoning behind this mainly had to do with the safety and mindset of users. Landscape positioning is ideal in two ways. First, it takes users out of the headspace of using their phone while driving. Second, video could eventually be added which would dominate the screen space for commercializing new locations. This orientation is also best for larger view of video content. The version that is seen currently is transitional and will work in creating a model of things to come. The intent is to strive for an app that will function on a visual, audio and useful level that will work in conjunction with current modes of travel.

As the internet of everything becomes more prevalent, the application could also be used on tablets. This also promotes apps that are designed with a horizontal orientation. Landscape orientation is also common for GPS devices, which are generally limited in their usability. Recreating that experience and

a setting that many drivers are already used to is an easier transition for newer customers of smart devices. Another advantage to this configuration is that the keyboard would be larger and promote easier user experience when setting destinations and logging in.

Beyond designing the app with safety in mind, the future of how the public will travel was something that also needed to be considered. A result of the landscape orientation generally means the loss of the informational bar related to cell carriers, service and battery for most apps that use this layout. The primary reason the information bar is not included in the Marks the Spot prototype is that most people can plug in their device as they are traveling, making the battery level for the device a nonissue. The service issue is addressed by the internet of everything and 5G that is expanding in short order. I also have concluded that many people will be using larger devices as phones and other smart devices are growing in size. This will result in even more tablet use that is generally used in a landscape mode.

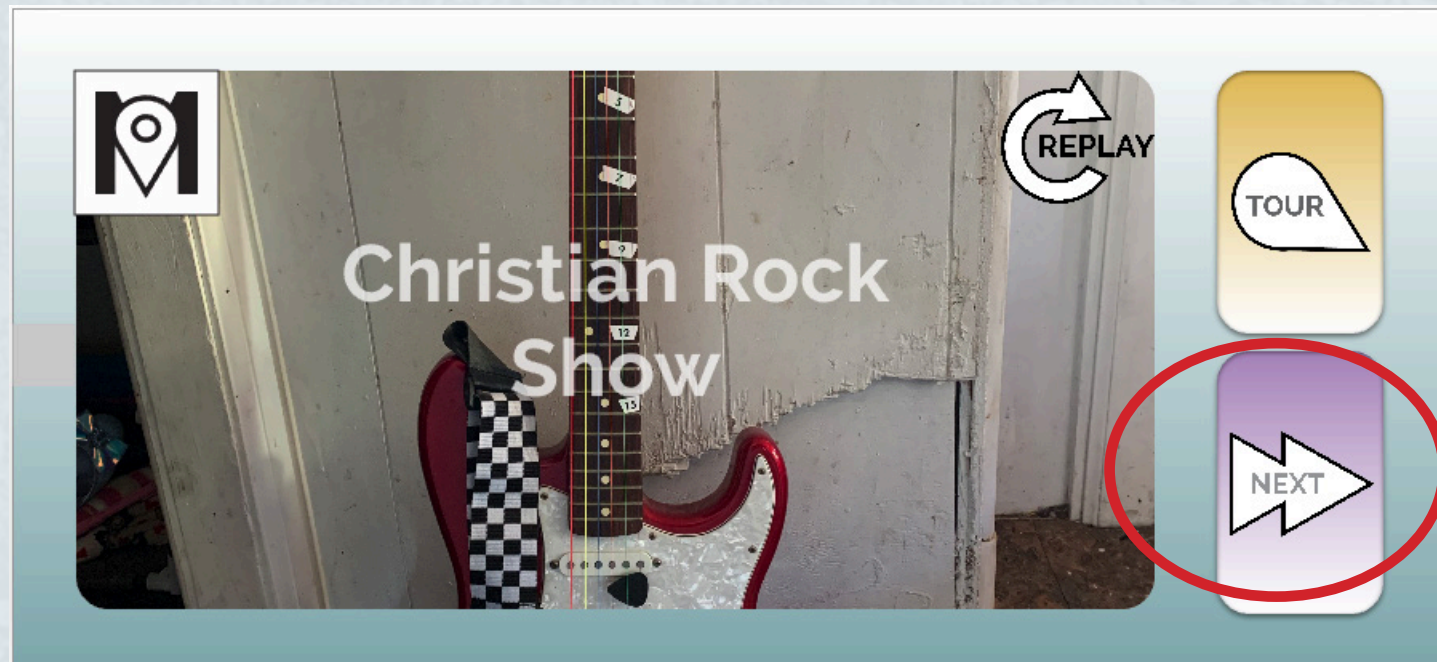
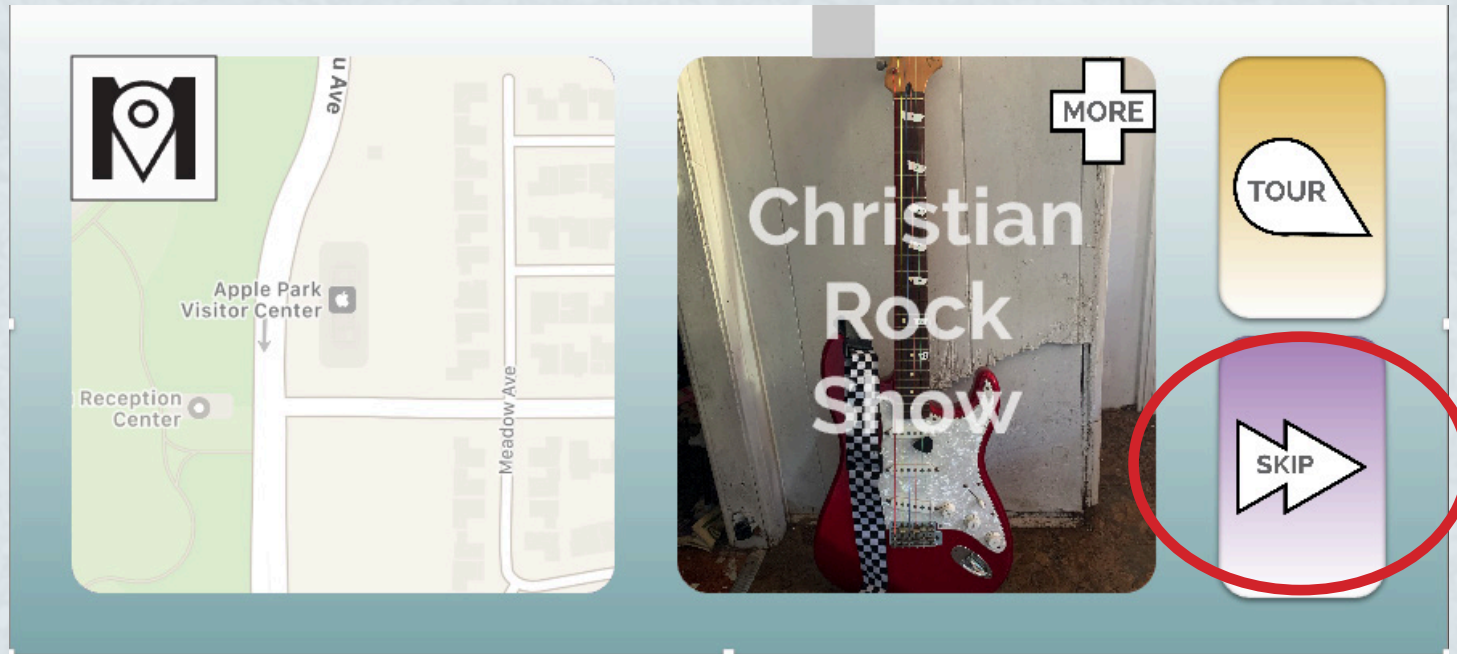
Pages Walkthrough

This next section is a walk through of how the app will work. It details the buttons and their actions. Along the way I explain the choices and the ideal user interface experience

The pictures below demonstrate how a user would see their route while also viewing advertisements of places they could visit off their next exit. In the middle is the ad, which can be pressed to hear more about the location. On the right side of the screen are two buttons, Tour and Skip. Pressing Skip will direct users to the next ad. Pressing Tour will show them another screen with more options related to the specific location, such as coupons, routing, saving the location for later

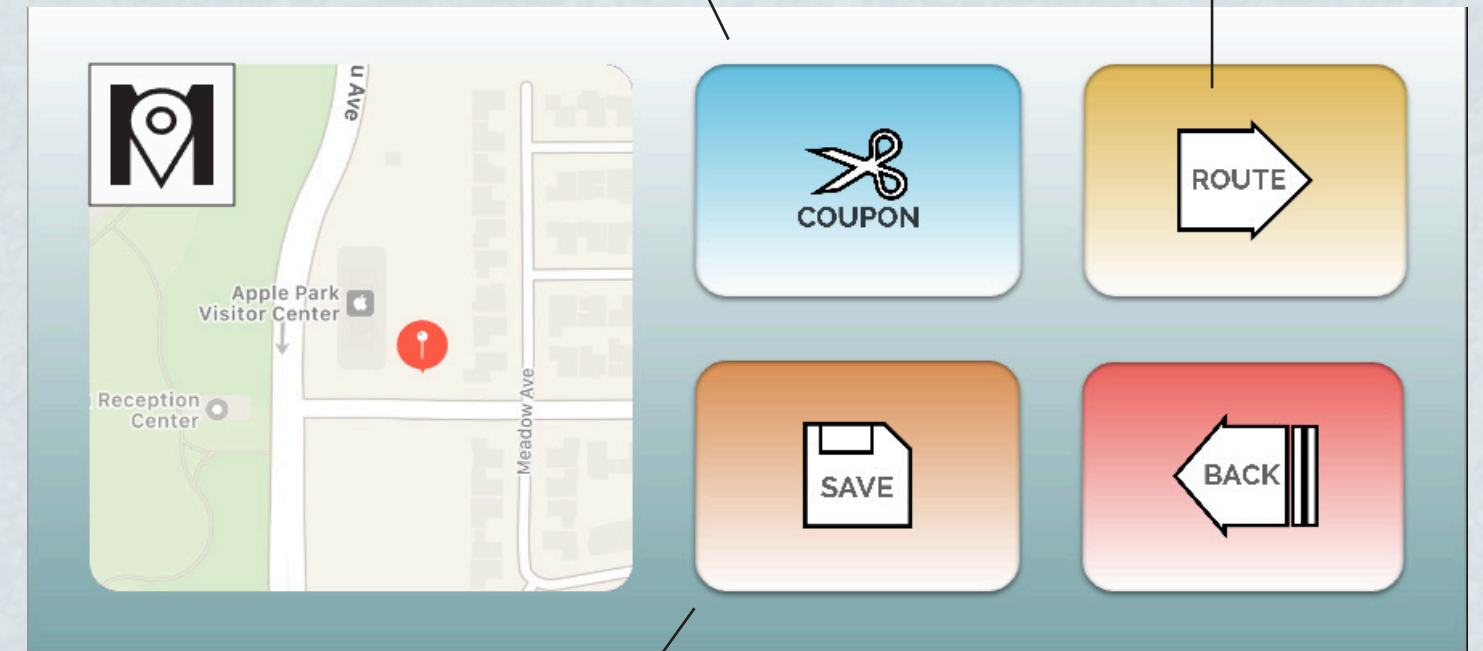
and the Back button to redirect them to this page again.

The next button later replaced the skip button as it could be inferred that "skip" would bypass all ads and go to other content, similar to YouTube's Skip Ad button. As the only content available in this section of the app is advertising, having a skip button sends the wrong message and runs against commonly established buttons.



The screen shows a blue Coupon option at the top middle that directs the user to a screen displaying additional savings they can take advantage of if they decide to stop there. This option also gives the user more incentive to stop considering the reduced prices they can take advantage of.

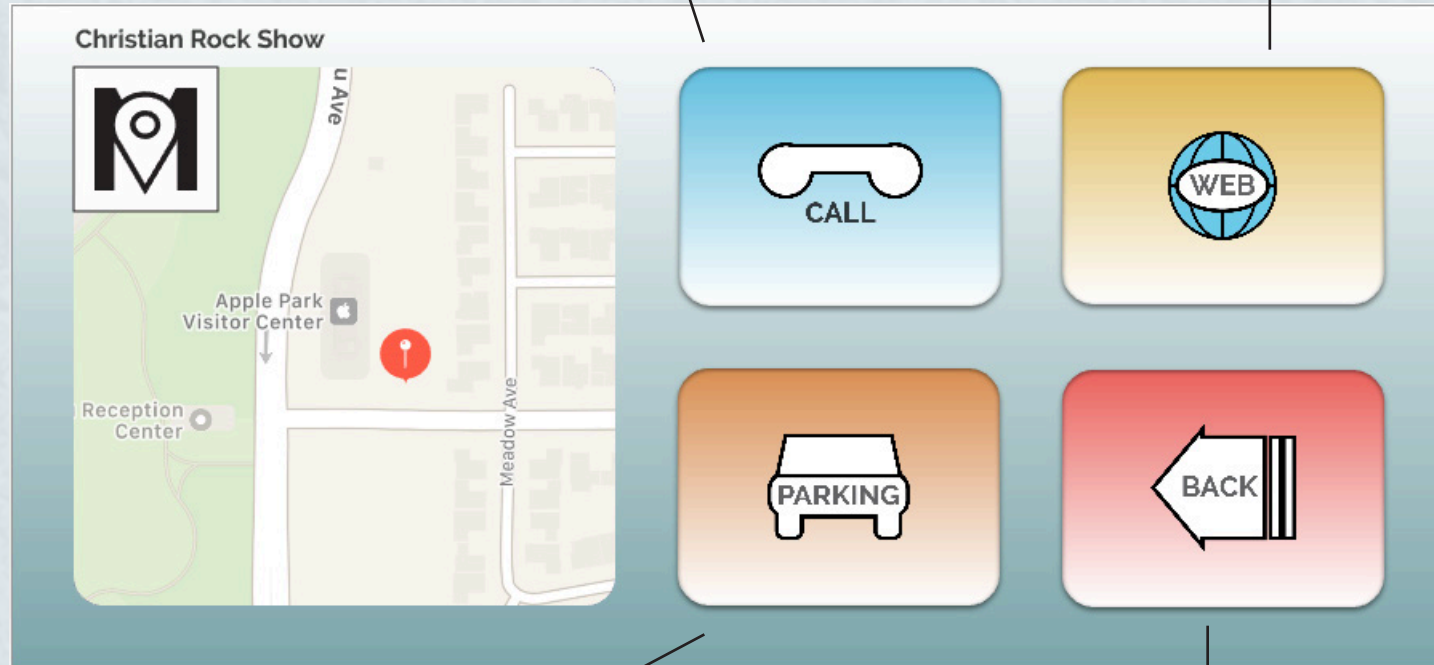
A yellow Route button at the top right side of the screen allows individuals to quickly reroute their navigation to the new destination. This is convenient as they do not have to type in the new address.



The orange Save button at the bottom middle lets the user save the location to review at a later time.

Pressing the blue Call button takes lets the user the location that has peaked their interest.

Pressing Web takes the user to the location manager's or business's website.



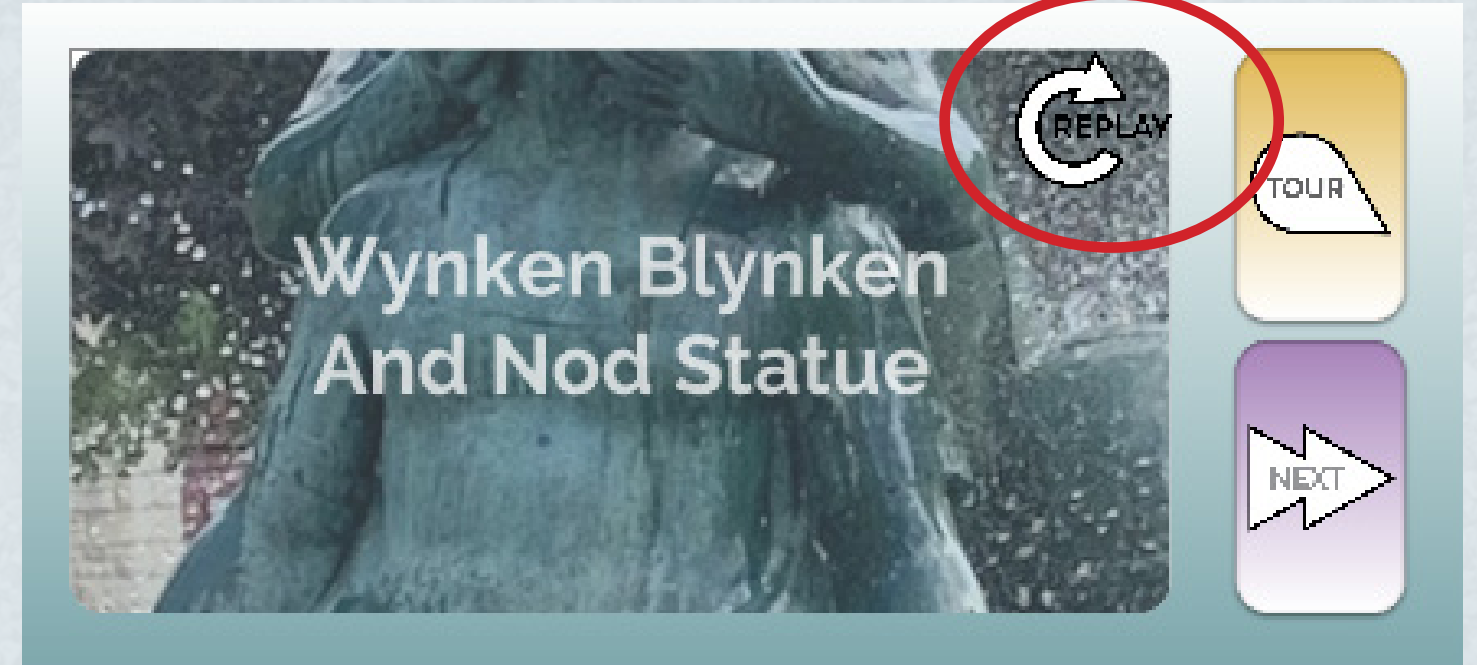
The orange Parking button at the bottom middle shows the user the best places to park in relation to the location they have routed.

The red Back button at the bottom right takes the user to the previous page.

Replay Button

A replay button was made later in the process of designing the application. It was brought to my attention that users might want to relisten to ads that pique their interest. The feature is beneficial as

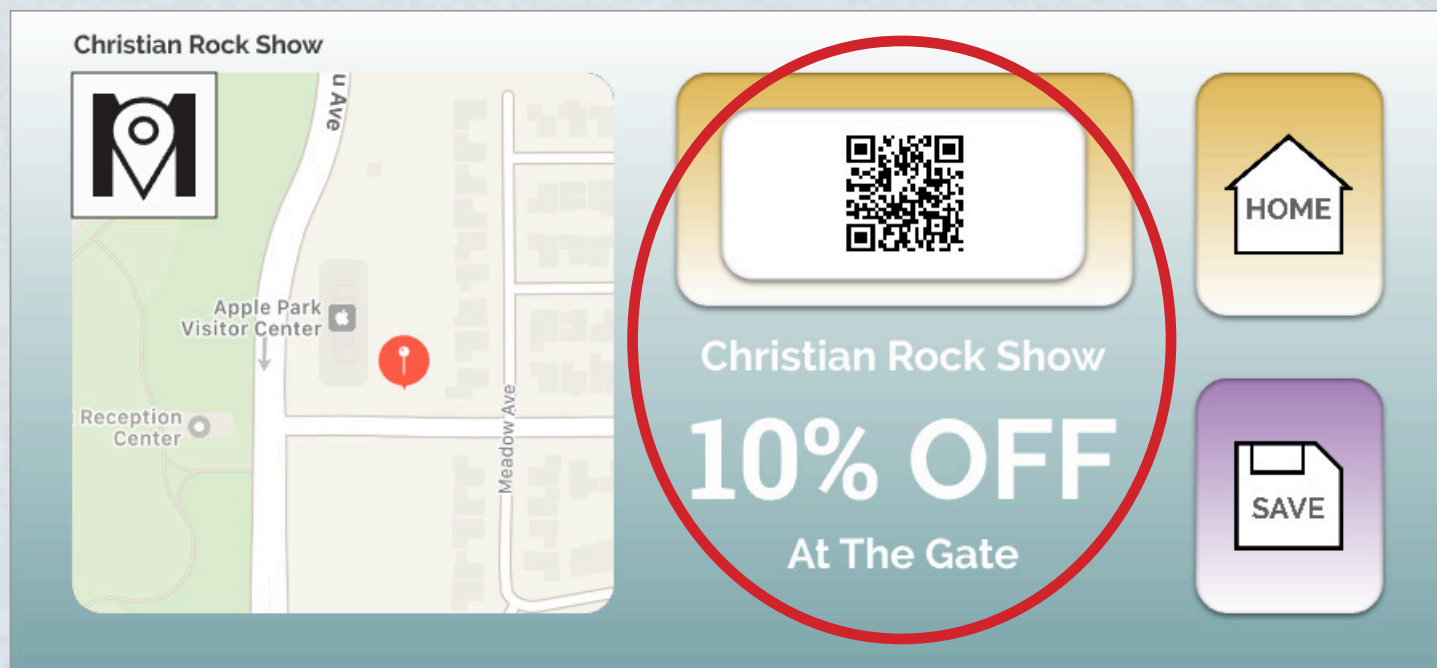
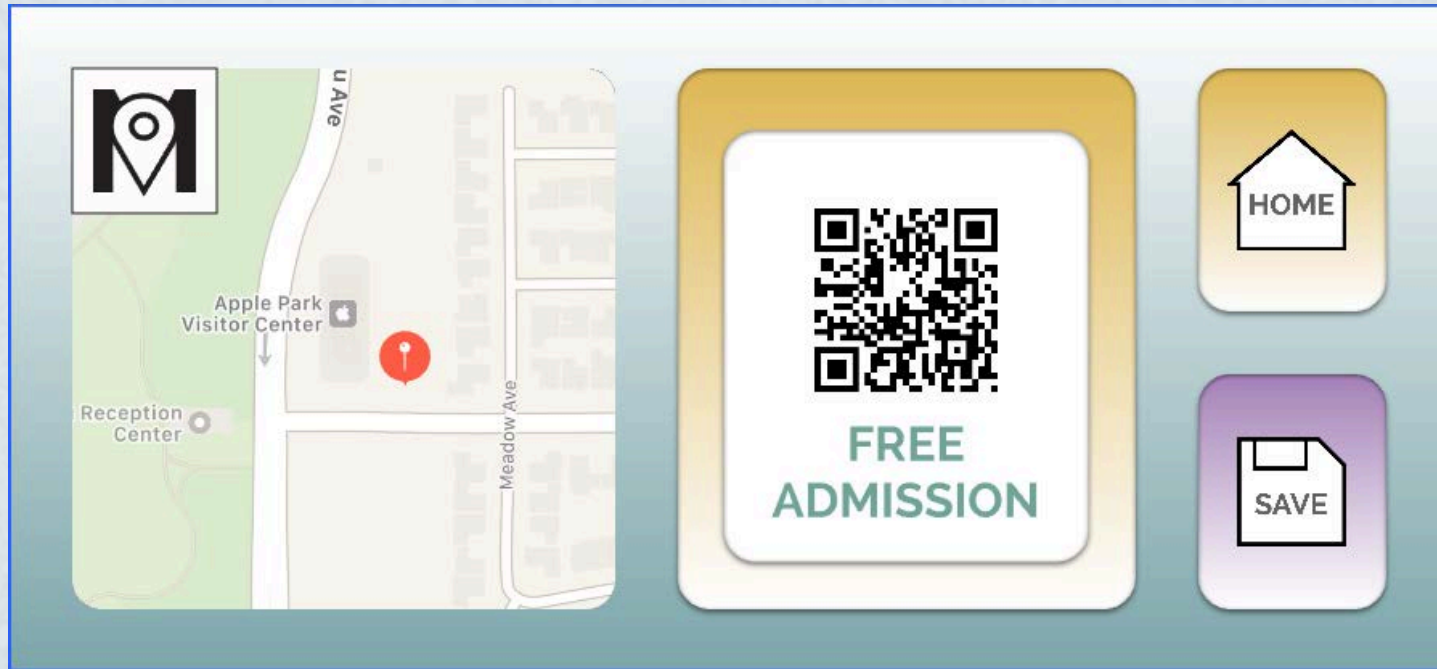
it curbs the potential of users feeling like they are missing out if they cannot hear an ad again. As the point of the app is to diminish that feeling I would not want to leave it open to that scrutiny.



Coupons

Here are a few examples of QR codes that appear when a user presses the Coupon button. I also considered adding the original prices of what they would be buying and the price with the discount to better relay the savings involved with the coupon. I thought better while I was designing it as it would give the driver more to read. This is also something that could be voiced over by the ad's creator to relay that information to users.

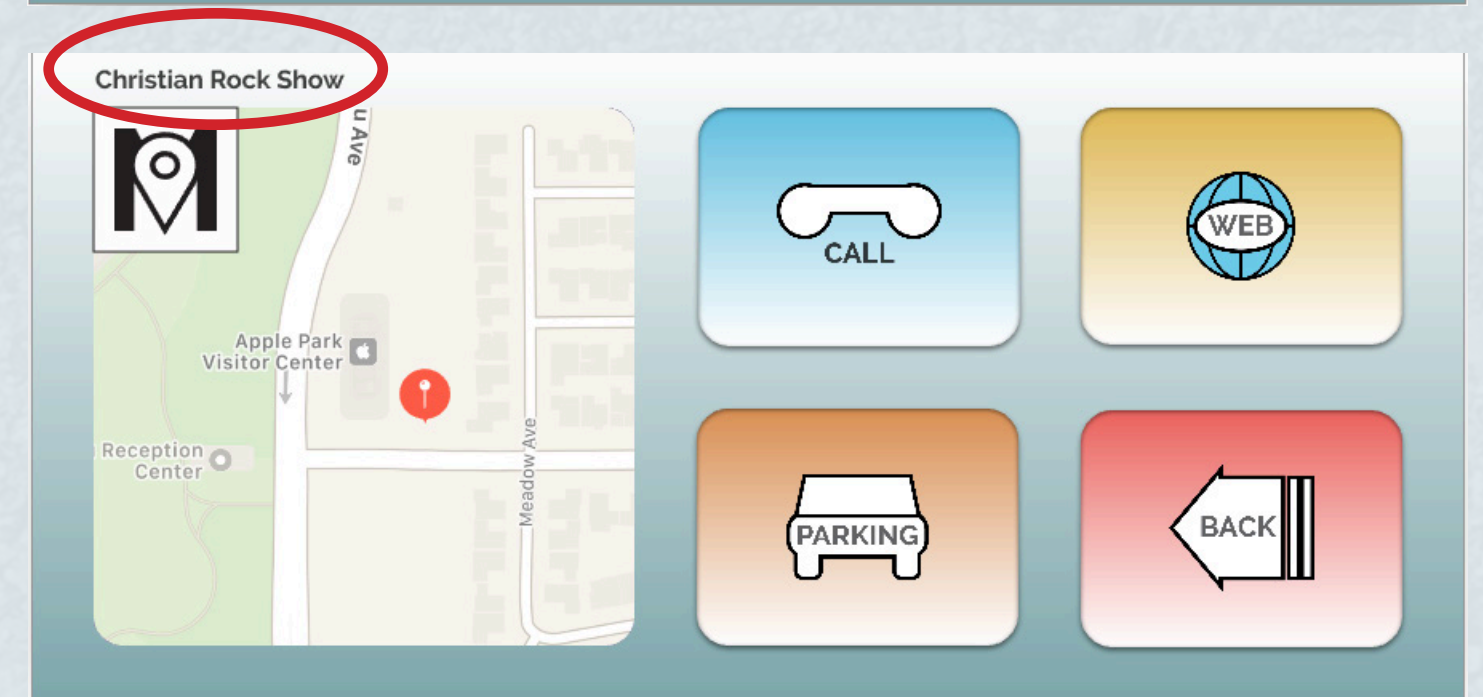
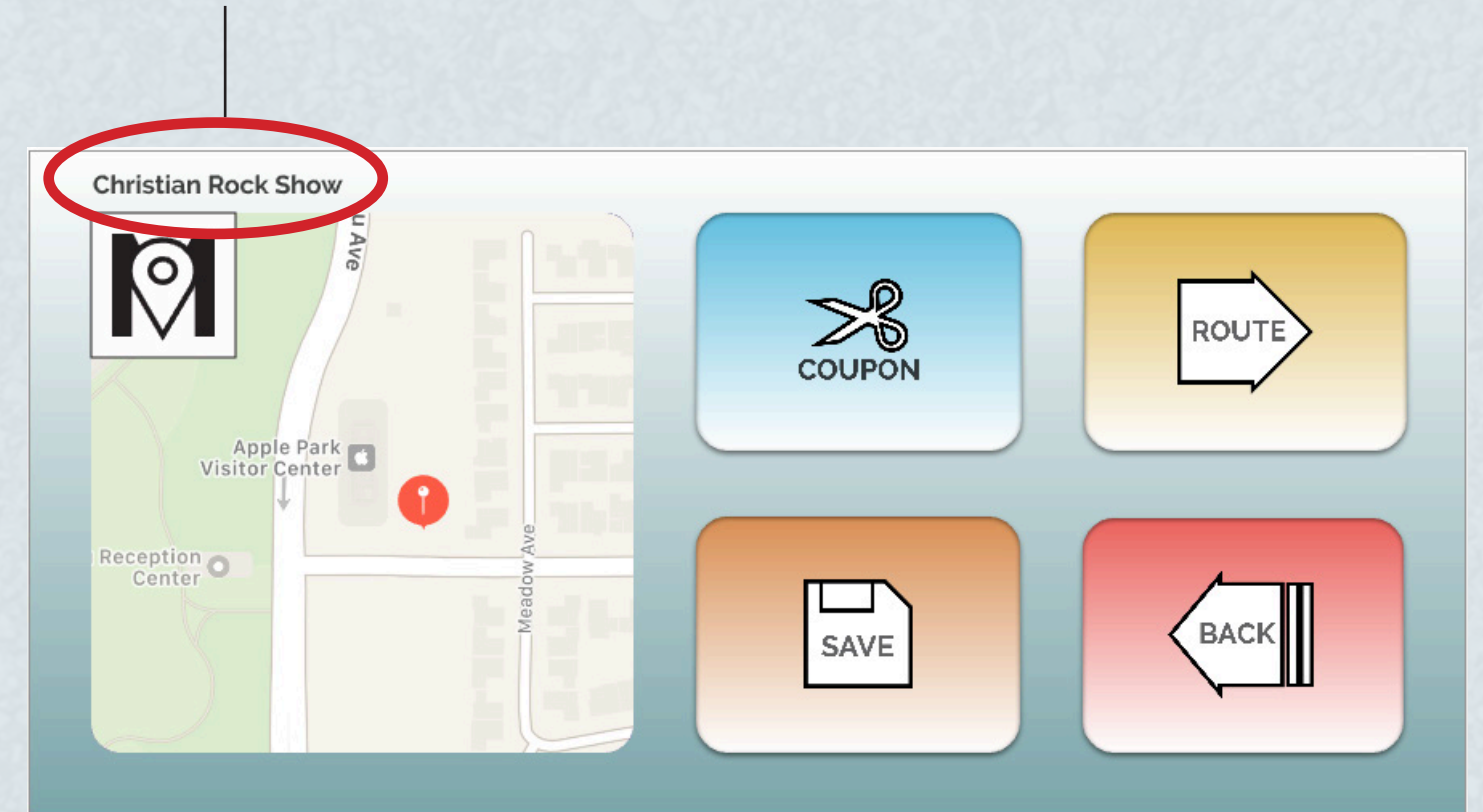
The first iteration of the coupon pages did not include vital information such as the name of the business and the expiration date. Originally I thought it was implied that it would be used for that day, but as this project expanded to include a "save for later" option for coupons, it made sense to revise this. Now the user will know what coupons are available to them for when. A component for the app that would help is having expired coupons automatically vanish upon the expiration date as they are no longer applicable.



Ad Labeling

Another addition that helps users as they navigate the app is that each page is clearly labeled with the ad appearing on it. This mitigates confusion and helps to reinforce the subject they are interested in. An example of this happening could be if the

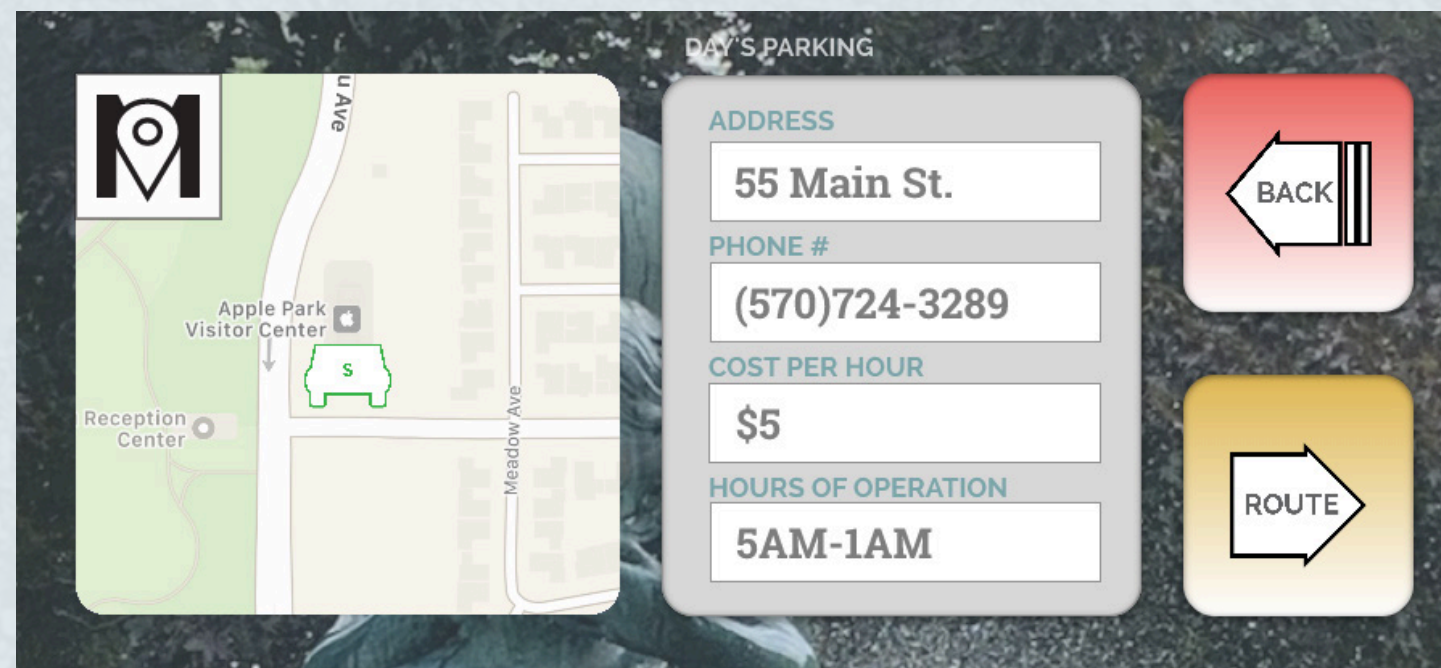
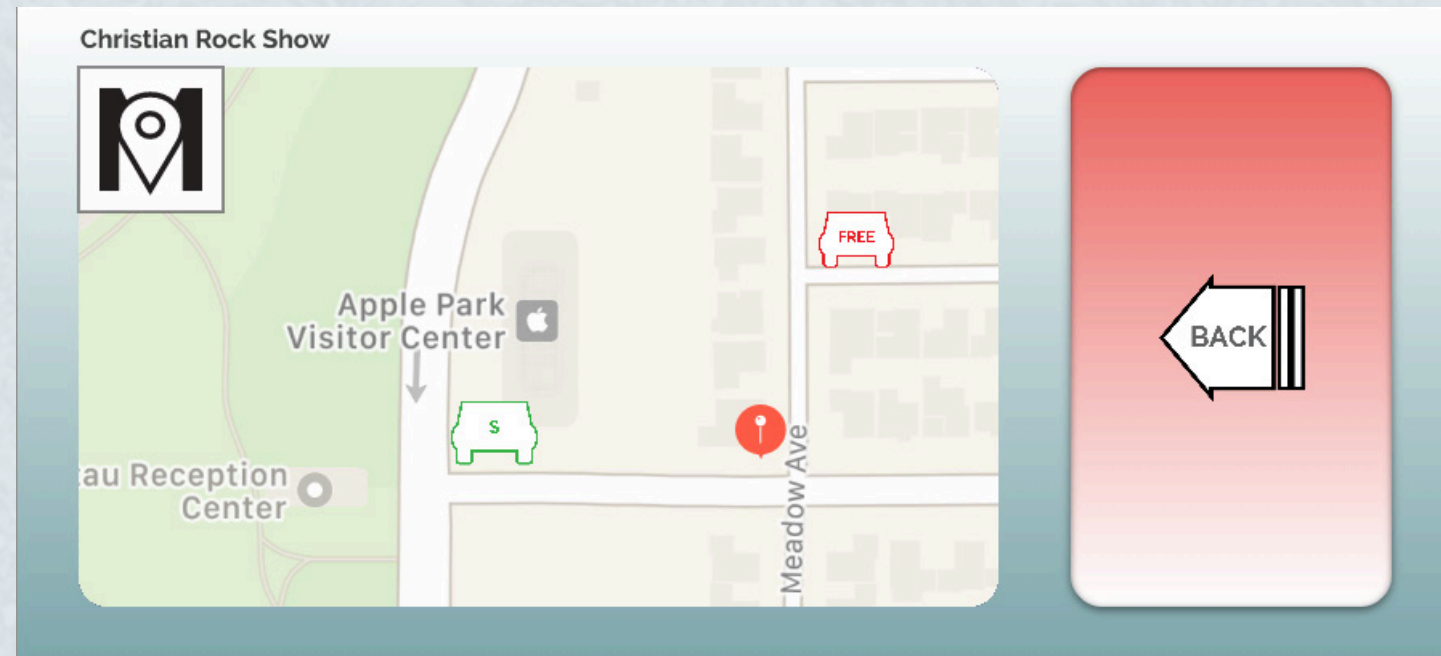
user left the app on a specific page for an extended period of time and forgot what ad was related to the page. Everyone's memories will be reminded now that each page is labeled in the upper right-hand corner.



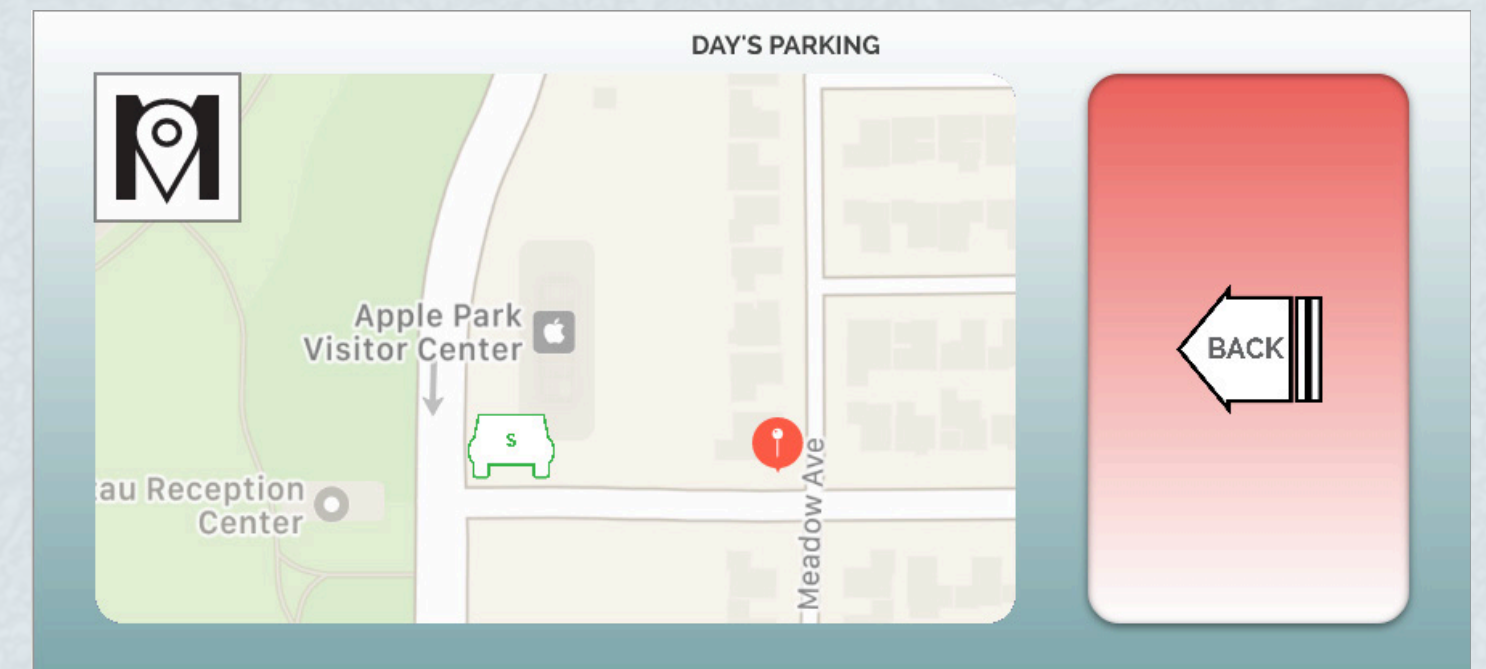
Parking

Below is an added parking feature designed to make the app even more appealing for users. The page directly below opens after pressing the parking option. The user will then see the parking options that are closest to their intended destination. They can then pick between free parking and pay-to-park if available.

After pressing one of the choices, another screen will show details about the parking space such as address, phone number, cost per hour and hours of operation. The page also has a route button that will route them to that exact parking lot,



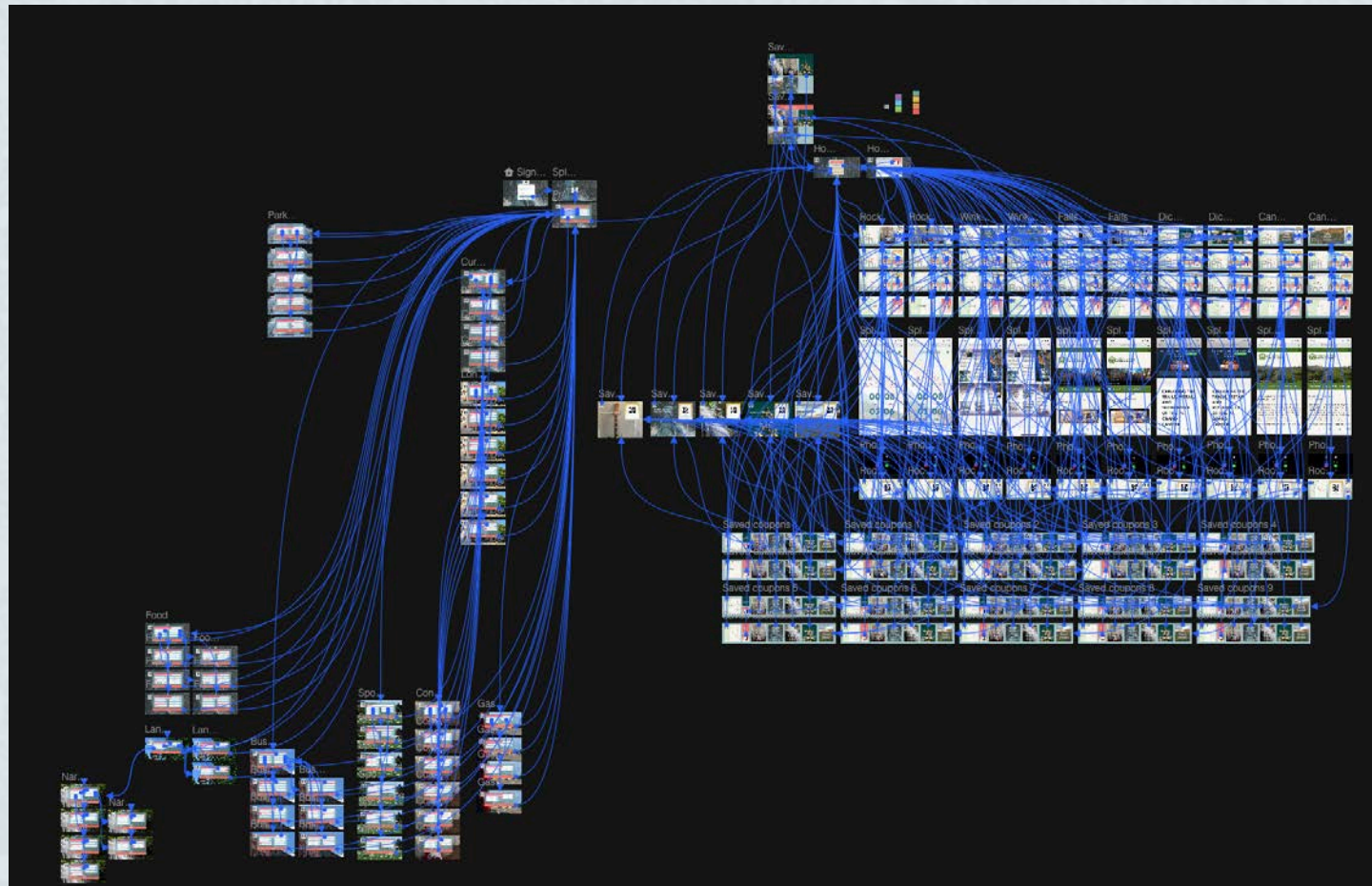
This is the final page that shows the intended place to park. Something for the future iteration is it being even more granular with an option that would warn users when the parking lot will be closing in an hour. It would feature a countdown reminding them every 15 minutes until the lot closes.



Below is an overview of the app before revisions



This is what the application look now.



Phase 3

A clickable prototype for an Apple phone was created using InVision. The prototype was designed based on the previous wireframing and icons. Another element added to this is audio, which is intended for longer-form ads. The simple icons and audio will help drivers pay attention to the road so they can make informed decisions about potential

visits to locations and the businesses that surround them. This phase also involved adjustments to the video and other elements that would be involved, such as additional buttons.

These were submitted as an InVision sharable link for the committee to review and make comments.

Original Voiceover

1. Find out what you are missing out on
2. With Marks the Spot.
3. Set preferences for your adventure,
4. Choose your destination,
5. Mount, and go.
6. Ads tailored to your interests will play as you go, filling the void of the unknown.
7. Skip to hear other ads,
8. Or press More for options to save the destination for later or Tour for potential deals and further information.
9. By pressing Route the app will help you find gas and parking for your unexpected pit stop.
10. The deals you can get just by checking out the Coupon button make pulling over worth it.
11. At this point you might be asking, how does it work?
12. It starts with business owners creating an ad with our platform.
13. The ad is pinned to the closest highway or major road,
14. Alerting potential customers to towns with treasures waiting to be found.

Updated Voiceover

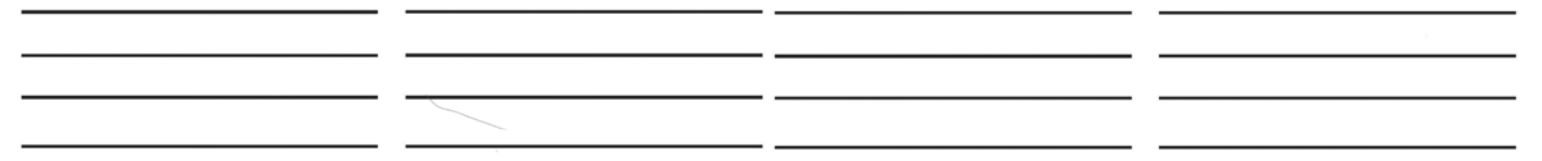
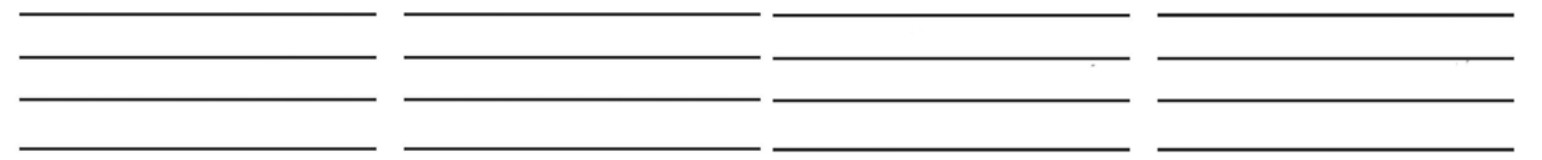
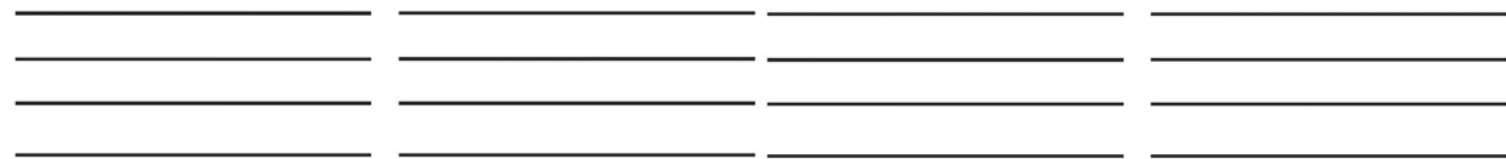
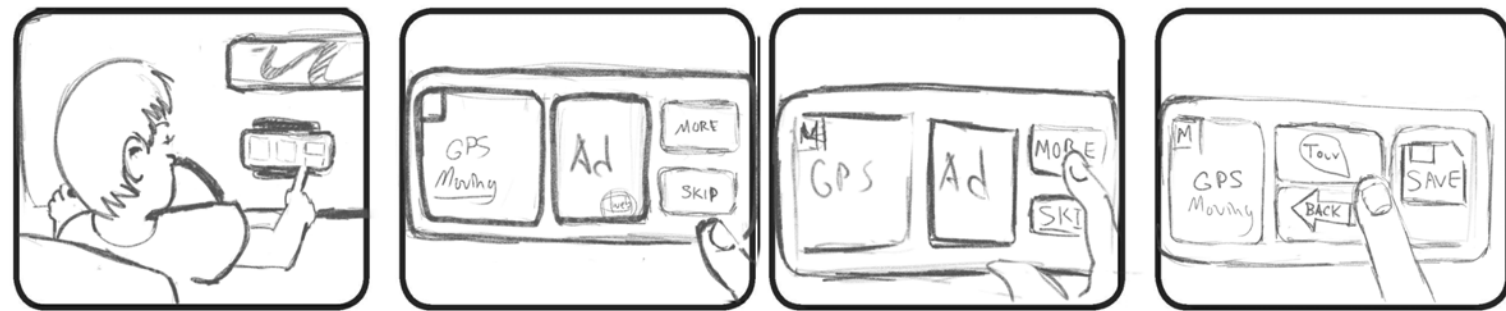
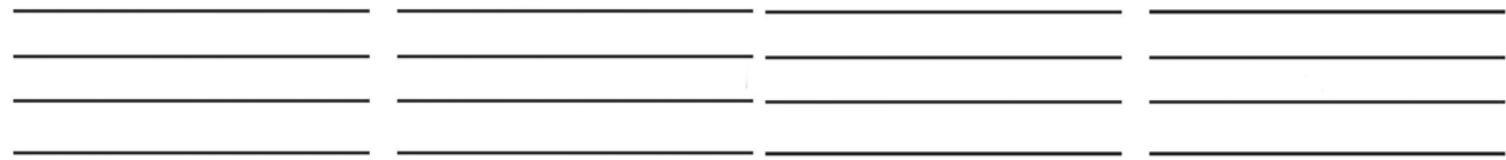
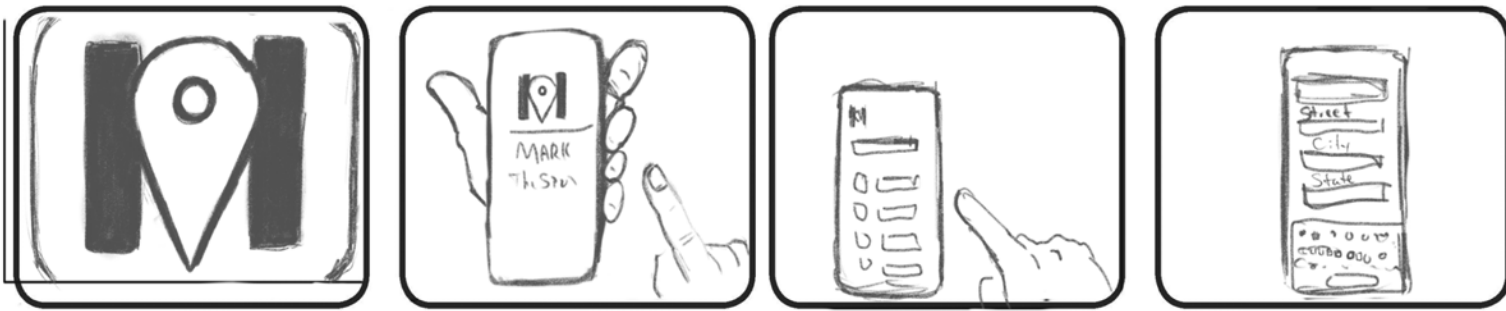
Do you know what you're missing out on? Marks the Spot does. It's the newest innovation in smart tourism. The many options the Preferences section offers will help you get the most out of your new adventure. Set your destination, mount your device, and you'll be off to new horizons in no time. Ads that are tailored to your interests will play as you go, answering the question everyone asks while traveling – "I wonder what interesting things make that place special?" A Christian rock festival is right around the corner. The acts playing tonight include Newsboys, Skillet, and Michael W. Smith. Don't forget to check out the coupon section to save 10% at the box office. If you hear something you like, press More for further information. The gates open at 10 p.m. Food vendors are also on site for refreshments and a quick bite. Pressing the Tour button will also allow you to access other options like Save, Coupons and Route.

Choosing Coupons can save you big bucks on your trip. Or you can punch the Skip button to move on to other points of interest. Wellsboro's Winkin, Blinkin and Nod statue is based off the poem by Eugene Field. This special piece was erected in 1938 as a token of Fred Bailey's love for his late wife Elizabeth. At this point you're probably asking yourself, "How does this work?" It starts with business owners making ads with our platform. The ad is pinned to the closes highway or major road, drawing in users of the app with geofencing technology. This app will not only enrich the lives of the public through the instant gratification of "knowing," but provide smaller businesses an affordable advertising option in reaching out to tourists. You can't miss with Marks the Spot.

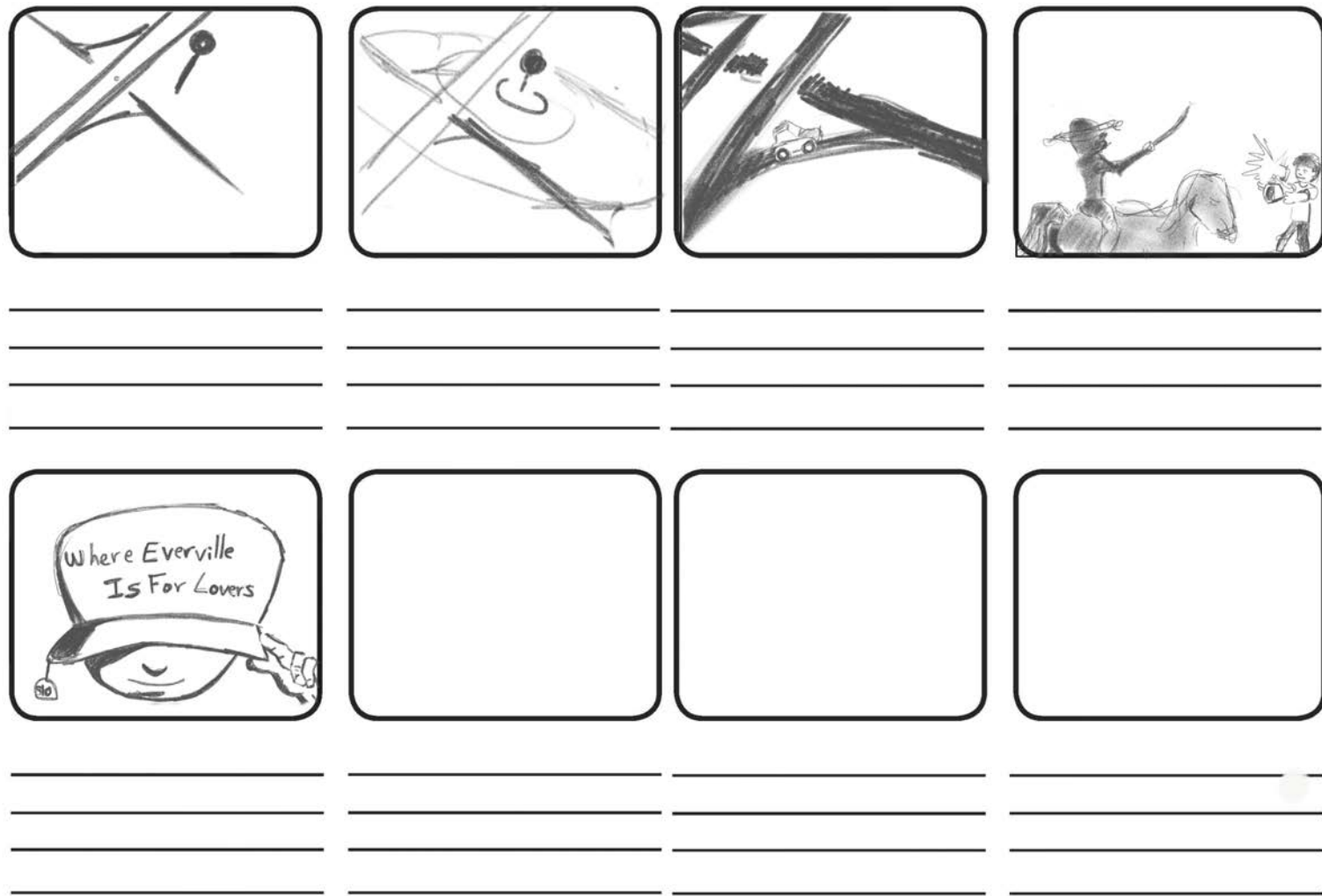
Animation Story Boarding

The animation process started with story boarding. Below you can see the first sequence of events that shows how to navigate the application and set preferences to the user's liking. Adobe Sketch was used to draw out the 8-panel pages via an iPad Pro.

In this 8-panel page, the tutorial progresses by showing other features Marks the Spot provides to users. The drawings go on to indicate that it benefits small business owners as well. A business woman is seen working at a computer creating an ad to draw in more customers through the app's affordable advertising.

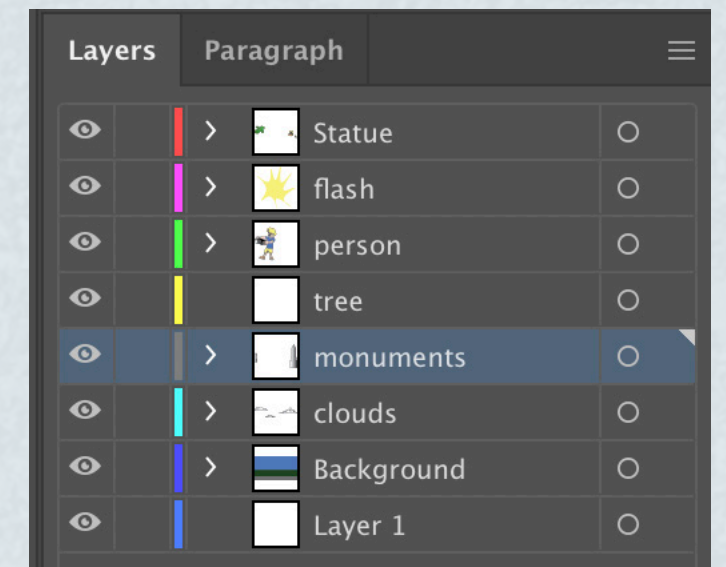


In the next five panels you can see an aerial view with a visual representation of how geofencing would work in drawing customers in with the app. The car takes the exit, which leads to the next scene of a man taking a photo of a statue of a General on a horse with his saber out. The last panel shows the same man in a gift shop paying for a hat while tipping it in thanks to an unseen cashier.

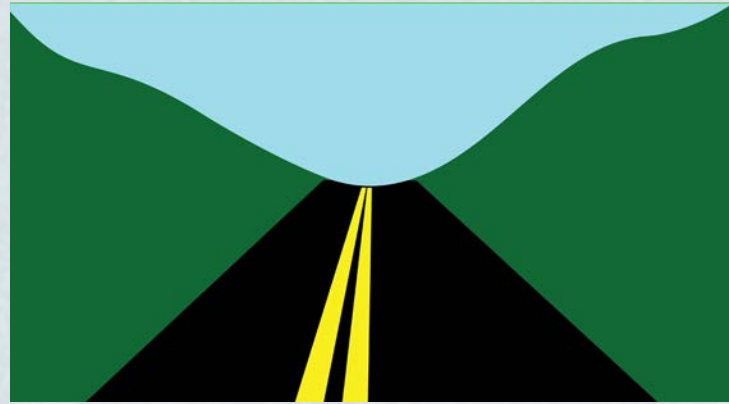


Illustrator Layers

To make the video it was necessary to not make every picture on their own layers in Illustrator. It is easier to not only know what the figures are by name which ensures what layer comes on top of the next later on when animating in Adobe Premiere Pro.



The background for this scene is a road that the person is traveling on as they are heading to a destination.

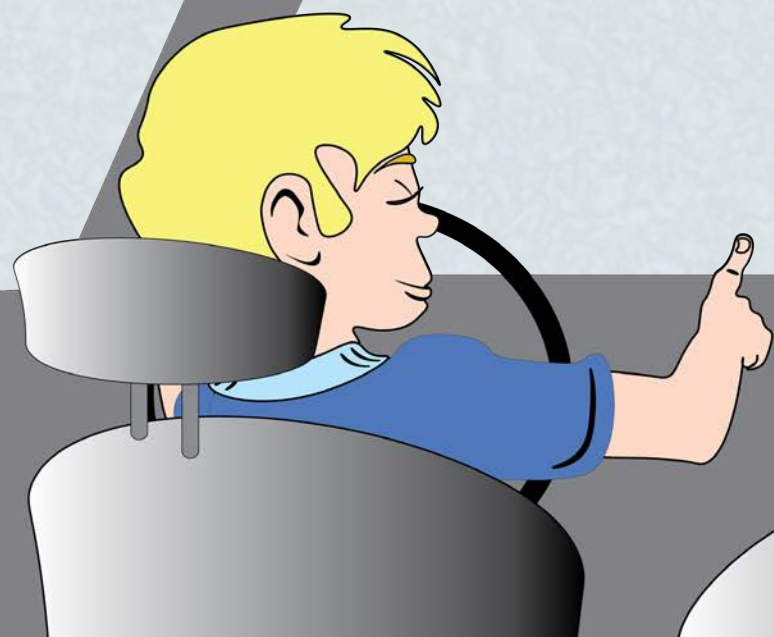


Below you can see the driver in the car pointing his finger where his phone would be. Showing this was important to set up the next part that is more focused on his hand. The focus on his hand and the phone takes the audience through how the app works.



The trees in the feature give the viewers movement, which makes it seem like the car is in a state of motion. It does this by the trees appearing smaller in the distance and becoming larger as the car gets closer to them.

I then moved on to constructing the layered graphics so I could later animate them in Premiere Pro. Originally I had plans to animate the pictures in After Effects, but shifted gears when the program was not working correctly. The graphics were made either in Illustrator or with inVision software for the actual representation of the app's pages and capabilities.

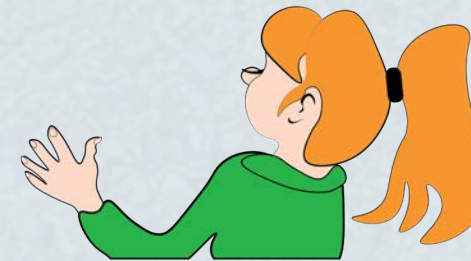


To make the animation a bit more interesting, I separated the business woman's right arm so she could manipulate a computer mouse.

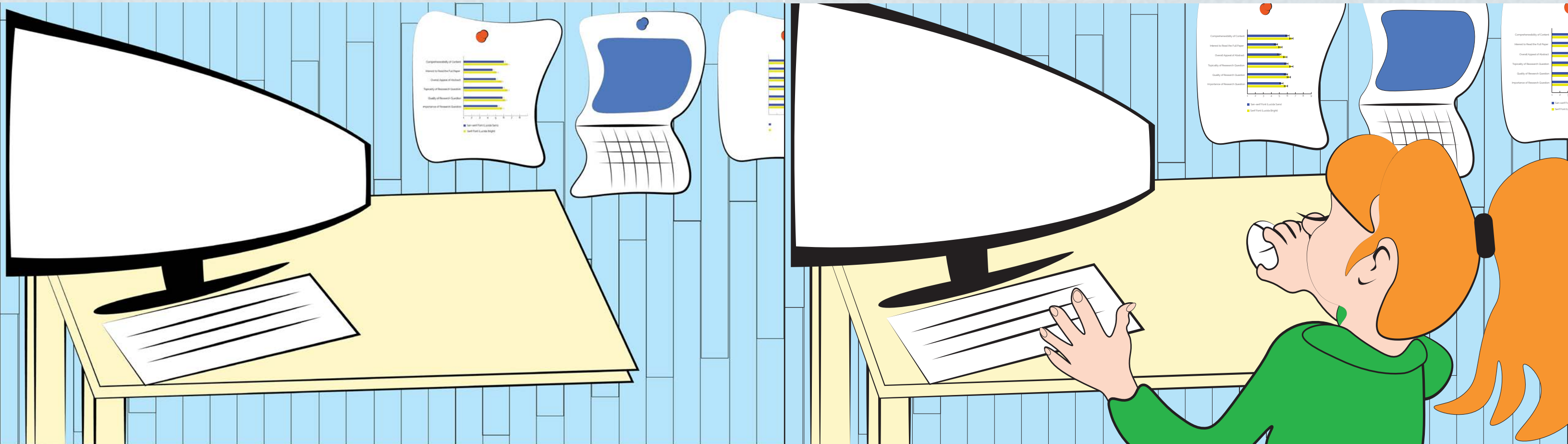


The background for the scene is an office that has a computer and pinned items on the wall such as a chart and calendar. The computer has a yellow glow as the business woman designs the ad that will be uploaded to the Marks the Spot app.

The main body of the business woman is looking off to her computer. Her hand is resting on the keyboard.



For continuity, colors that appear in the app were also used in the illustrations. Thick to thin line work was used in the representation of characters in an effort to stylize them in a lighthearted manner.



Cars: The cars drive on the highway and show how the application can be used to attract these kinds of travelers.

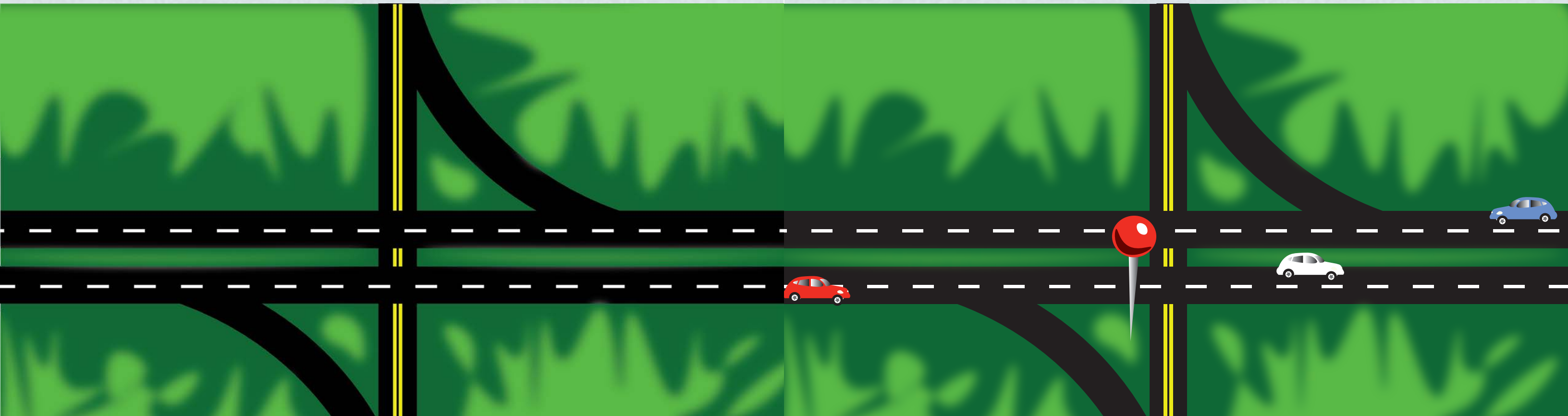


Aerial View : The aerial view helps in illustrating how the utilization of the app can bring travelers into one's business through advertising on major roadways. .

Pin: The pin is vital as it relates to the geofence that is created by the participating business.



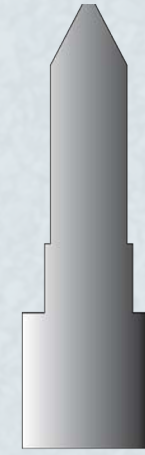
An aerial view was used to show how cars would be driving on a highway that might be close to a town that is often overlooked due to its location. The pin is a representation of the geofence's epicenter.



Statue: The copper monument that has turned green through oxidation is something that helps in transitioning the last scene to this.

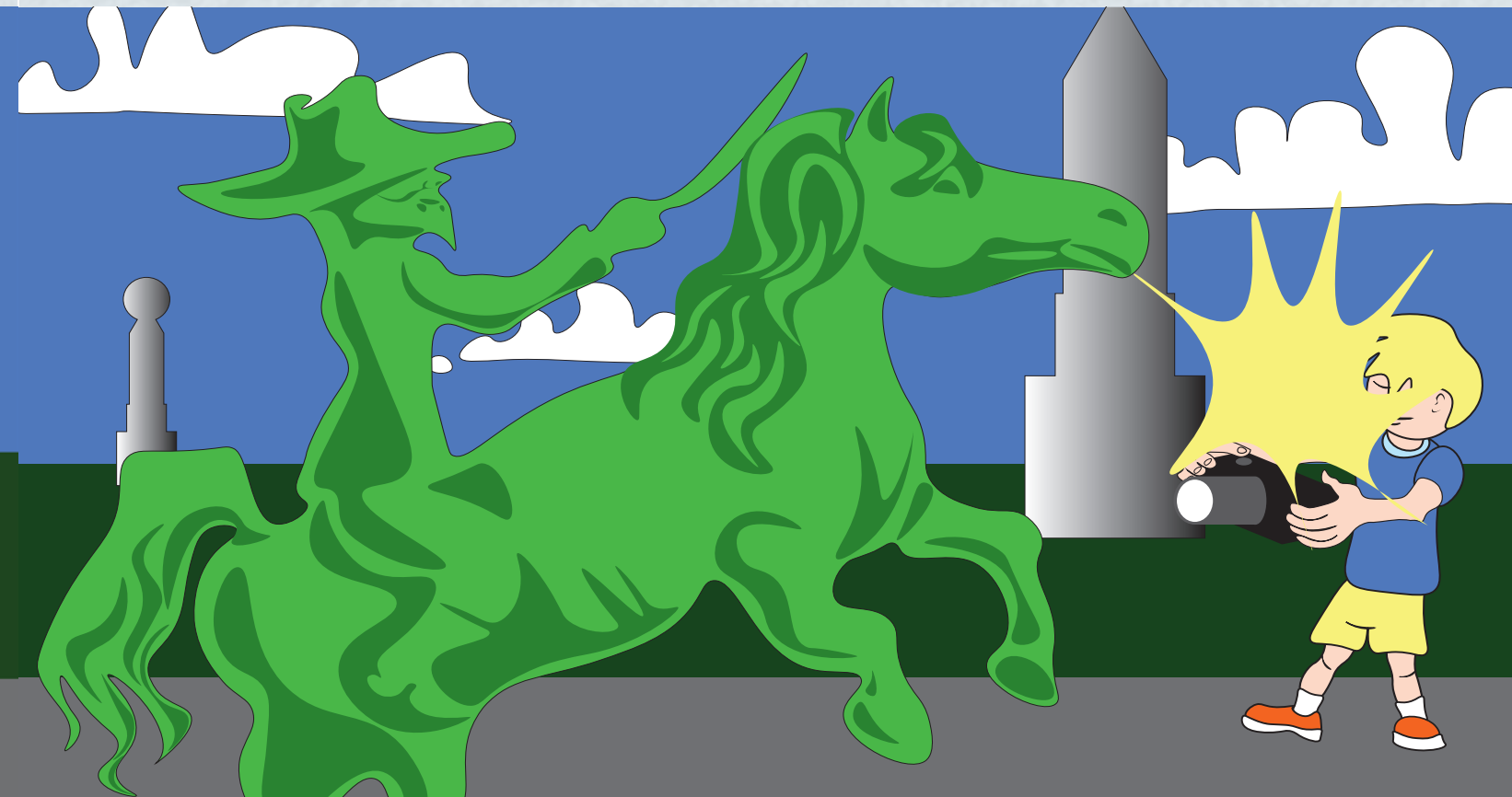
Man: The young man appears again with his camera taking a photo of a famous battleground. He has a smile on his face as he is happy to be in the presence of history. When he takes the shot his camera's flash goes off, making another transition to the next scene.

Monuments: The other monuments in the picture also work in setting up the transition while visually telling the story of the scene being historic and commemorative.



Below is a landscape of the scene with clouds in the air that also move.

This then leads to the scene of the man taking photos at a landmark. The picture shows the photographer smiling as he enjoys the unexpected experience of standing in a place where history occurred.



Body: To the right is the body of our traveler with his hair down over his eyes. This choice was made due to the hat that flattens his hair.



Hat: To the left is the traveler's left arm and hand attached to a hat that he tips after paying for it. The hat just so happens to match the color of the man's shirt.

Background: Below is the background of the scene which consists of a gift shop that has the typical teddy bear. It is bright and uplifting while having a older look with the wooden slats.

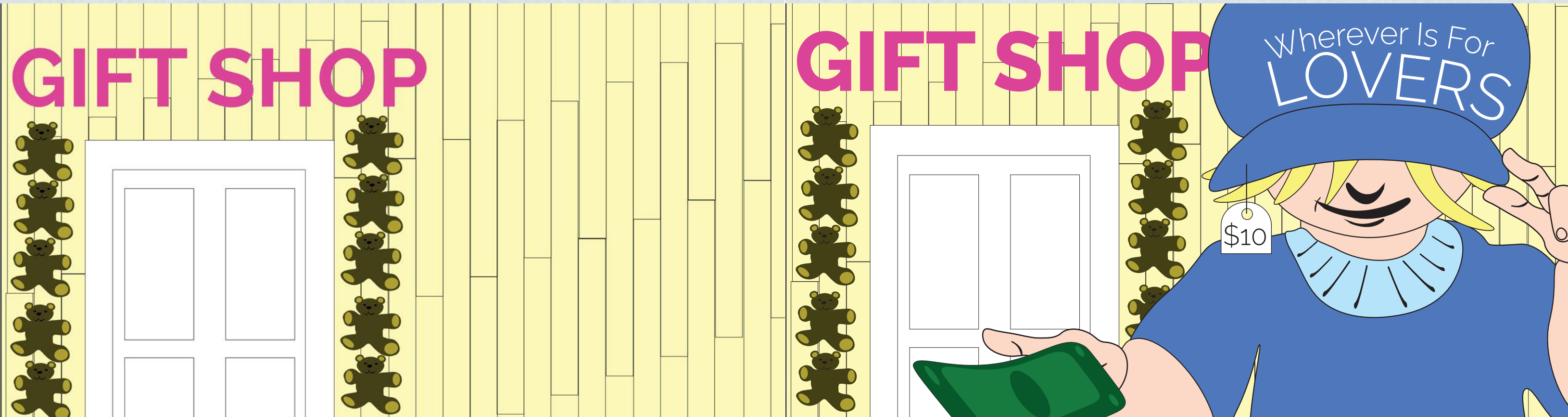
Money: To the right is the man's right hand with a vague sum of money, paying for the hat.



Smile: To the right is the man's smile that slightly tilts when he pays for his hat.



Full Scene: In the next scene, the satisfied man is in a gift shop buying a hat, glad that he made the stop. The background is familiar as it came from the earlier business woman's office walls, showing that her ad worked in bringing in new customers.



Audio Voiceover

My wife Kayci and I voiced the presentation to give examples of how it would work in real time when a user would operate the app. I needed two voices to differentiate

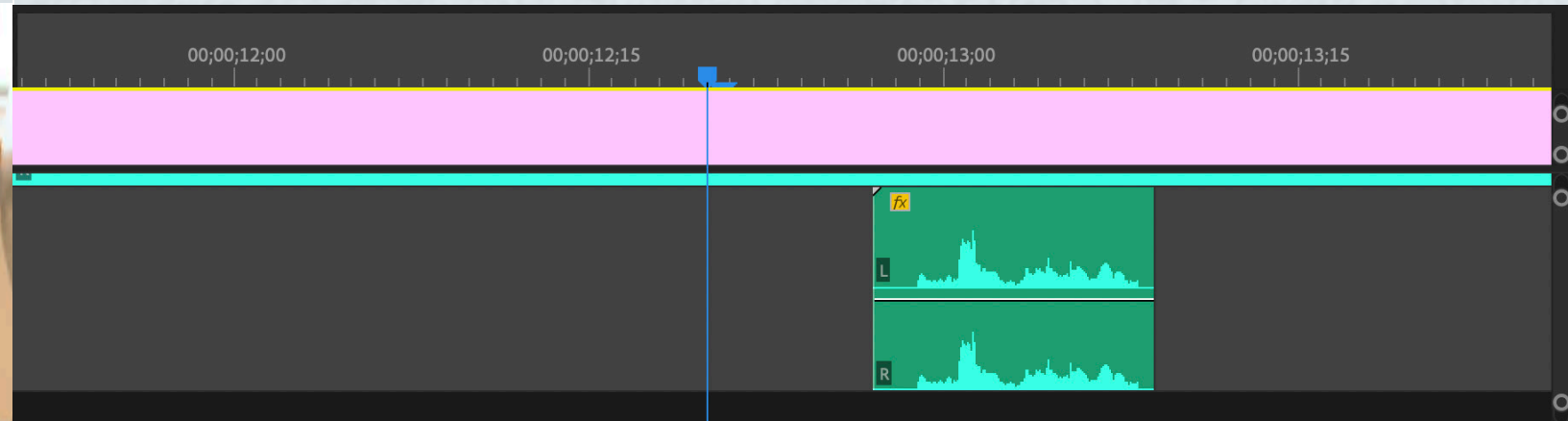
what the app would sound like versus the commercials. Originally I voiced the entire video and realized how people watching may be confused.



Sound Effects

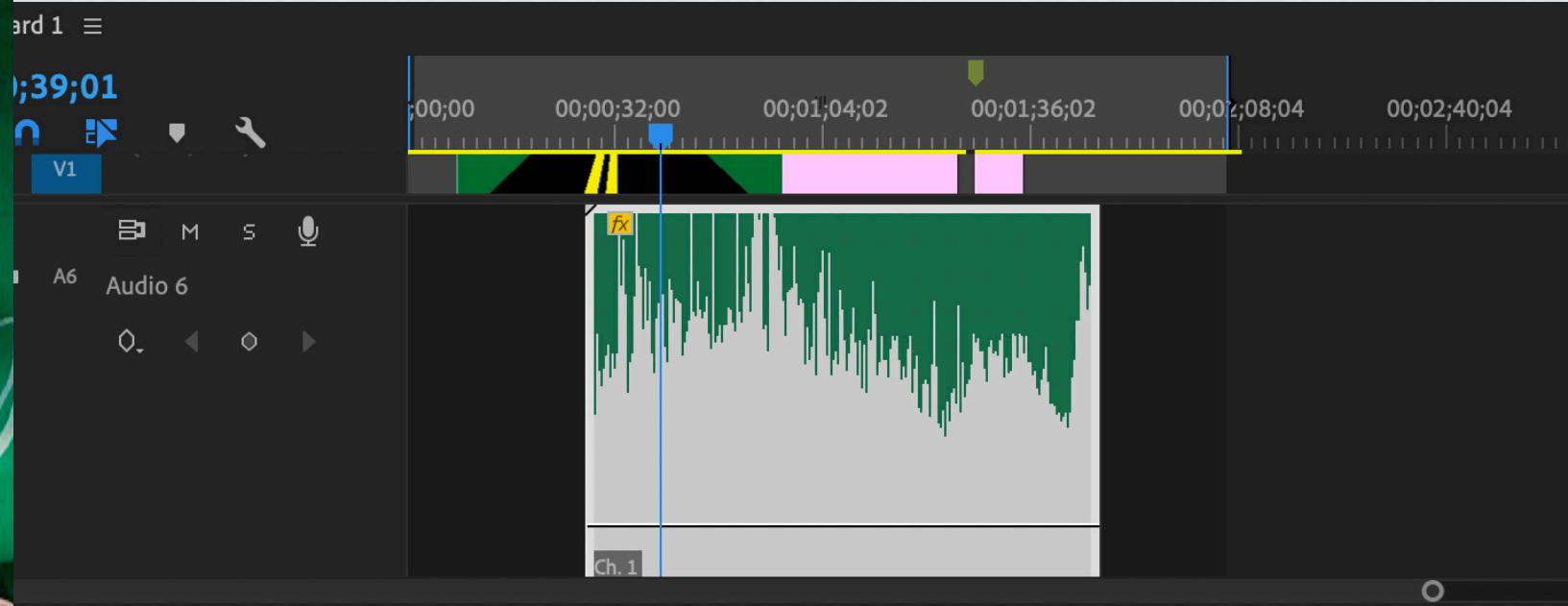
Clicking: A major part of any feature is the sound effects that are added to it. They tend to make the idea more real, which is

important in selling it. The sound effect of clicking was found on the royalty-free site freesound.org.



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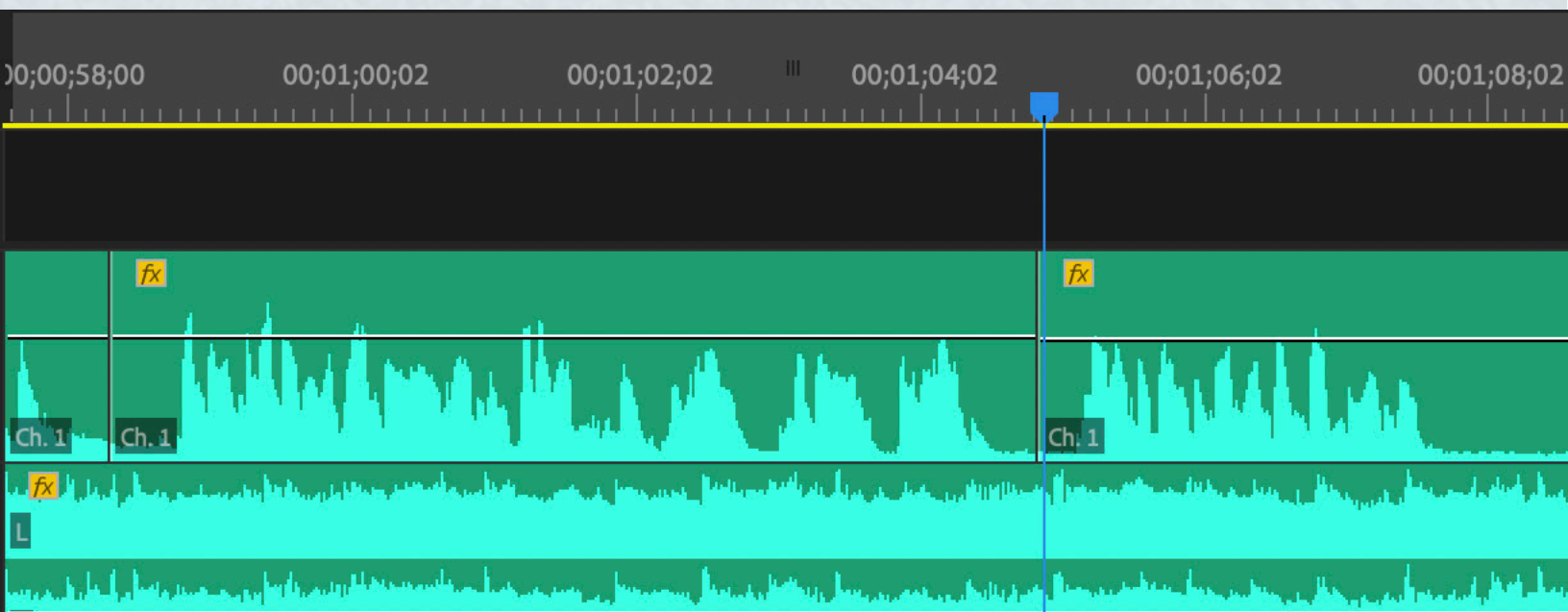
sound effect of clicking was found on a free site called freesound.org.



Music

The music that plays throughout the feature is a free MP3 that came from bensound.com called Inspire. The idea was to set a tone behind the story of the application that builds wonder and provokes interest during a pitch for the prototype to become a reality. Some of the instruments it features include an electric

guitar, a bass, a piano and drums. The editing of the music involved making sure that it did not overpower the voiceover. Subtly tapering the music at the beginning and lowering its volume to nothing at the end of the video was important to making it look professional.





CHAPTER 5

Defense of Work

Defense of Work

The research conducted proved a need for an app that could help smaller businesses reach out to more customers. One source that is constantly overlooked is drivers who commute and like to road trip. To encourage the act of road trips, the app needed to be easy and helpful while not acting as a distraction - the less complicated for the public to use while driving, the better. This meant finding a way to strip down the many options that one can access through the app by having the user select them before actually driving. This allowed the app to focus on the bare essentials needed to function while still creating an experience of discovery.

The design to solve this came in the form of creating a guideline that would dictate the look of the app itself. As the application would also need financial backing, it was concluded that designing it in the form of a pitch deck would best suit the project. Included with this

is a prototype as a short animation video to show how it works.

Although the project has many layers, the premise and idea are shining through with the work that was created. Many areas could use refinement but are on their way to being tools that innovate and bring a new wave of travelers to see and understand what is around them in real time. One area that could be finessed in the future is the idea of a back button for returning to a prior ad. As a result, they may be inspired to find the overlooked little corner shops and hidden waterfalls of the world. I believe this is just the beginning of what could be an ever-evolving application when one considers the forecast of applied travel inventions to come. I hope this app will help boost small business profits while creating a new way to experience the world of places that are waiting to be rediscovered.

Bibliography

"9 Awesome Walking Tour Apps." Uncubed, 12 Nov. 2019, uncubed.com/daily/9-awesome-walking-tour-apps/.

"10 Best Driving Apps for Android!" Android Authority, 14 Aug. 2020, www.androidauthority.com/best-driving-apps-android-793566/.

"25 Shocking Distracted Driving Statistics." Distracted Driver Accidents, 29 Aug. 2019, distracteddriveraccidents.com/25-shocking-distracted-driving-statistics/.

"Android vs IOS: Which Platform to Build Your App for First?" Medium, Medium, 22 Feb. 2018, medium.com/@the_manifest/android-vs-ios-which-platform-to-build-your-app-for-first-22ea8996abe1.

"Bose AR Closure Puts Frames Smart Glasses Functionality in Doubt." Gearbrain, Gearbrain, 17 June 2020, www.gearbrain.com/bose-cancels-ar-audio-project-2646190336.html.

"Bose Gives up on Its Augmented Reality Sound Project." The Verge, The Verge, 16 June 2020, www.theverge.com/2020/6/16/21293372/bose-augmented-reality-frames-glasses-over.

"Bose Is Developing Augmented Reality Glasses with a Focus on Sound." The Verge, The Verge, 9 Mar. 2018, www.theverge.com/circuitbreaker/2018/3/9/17100410/bose-ar-platform-audio-augmented-reality-glasses-headphones-sxsw.

"Car Accidents Increase 12.3 Percent with the Rise of the Always-Connected Mobile Workforce, Finds New Motus Distracted Driving Report." Business Wire, 20 Sept. 2018, www.businesswire.com/news/home/20180920005122/en/Car-Accidents-Increase-12.3-Percent-Rise-Always-Connected.

"Distracted Driving Statistics [Updated]." Cogburn Law, 25 June 2020, cogburncares.com/distracted-driving-statistics/.

"Effectiveness of Radio as an Advertising Medium: A Perception Survey in Delhi/NCR." Man in India, Jan. 2017, pp. 345-357.

"Geofencing Market Worth 1,825.3 Million USD by 2022." SBWire, SBWire, 12 Oct. 2017, www.sbwire.com/press-releases/geofencing-market-worth-18253-million-usd-by-2022-876384.htm.

"Global Positioning Systems Market: GPS Industry Report, 2018-2025." Global Positioning Systems Market | GPS Industry Report, 2018-2025, Grand View Research, Oct. 2018, www.grandviewresearch.com/industry-analysis/gps-market.

"Google Glass: A Brief History." Pocket-Lint, 16 Jan. 2015, www.pocket-lint.com/ar-vr/news/google/132399-google-glass-a-brief-history.

"Google Glass Could Be Making a Comeback." Thomasnet, Thomasnet® - Product Sourcing and Supplier Discovery Platform - Find North American Manufacturers, Suppliers and Industrial Companies, www.thomasnet.com/insights/google-glass-could-be-making-a-return/.

"GPS Market Size Worth \$146.4 Billion By 2025: CAGR: 18.4%." Market Research Reports & Consulting, Grand View Research, Oct. 2018, www.grandviewresearch.com/press-release/global-positioning-systems-gps-market-analysis.

"How I Got Here, Episode 29 - Rod Cuthbert of Viator." PhocusWire, PhocusWire, 18 June 2020, www.phocuswire.com/How-I-Got-Here-Rod-Cuthbert.

"How Much Does It Cost to Make an App?" Thinkmobiles, thinkmobiles.com/blog/how-much-cost-make-app/.

"How Social Media Is Transforming PR and the Consumer-Business Relationship." Clutch, clutch.co/pr-firms/resources/how-social-media-transforming-pr-consumer-business-relationship.

"How We Started and Where We Are Today." Google, about.google/our-story/.

"IOS vs Android Apps: Which Should You Build Your Mobile App on First." BuildFire, 15 May 2020, buildfire.com/ios-android-which-to-develop-on-first/.

"The History of Facebook: From BASIC to Global Giant." Brandwatch, www.brandwatch.com/blog/history-of-facebook/.

"The Power Law of Learning: Consistency vs. Innovation in User Interfaces." Nielsen Norman Group, www.nngroup.com/articles/power-law-learning/.

"What Does 'Pareidolia' Mean & Why Is It Dangerous?" The Safety Doc, 11 June 2018, safetyphd.com/what-does-pareidolia-mean-and-why-is-it-dangerous-safety-doc-podcast-71/.

Abim, et al. "Global Smartphone Sales All Set To Reach 1.57bn Units in 2020: Gartner Report." NewsGram, 28 Jan. 2020, www.newsgram.com/global-smartphone-sales-2020/.

Bowman, Jordan. "Building Yelp." Medium, The Startup, 18 July 2019, medium.com/swlh/building-yelp-bc4e62c4db3b.

Canavan, Hillary Dixler. "Yelp Turns 10: From Startup to Online Review Dominance." Eater, Eater, 5 Aug. 2014, www.eater.com/2014/8/5/6177213/yelp-turns-10-from-startup-to-online-review-dominance.

Castillo, Andy C. "Detour: A Digital Audioguide App." GoNOMAD Travel, 5 Mar. 2020, www.gonomad.com/6342-detour-a-digital-audioguide-app.

Chowdhry, Amit. "Travel Site TripAdvisor To Acquire Viator For Approximately \$200M." Forbes, Forbes Magazine, 25 July 2014, www.forbes.com/sites/amitchowdhry/2014/07/25/travel-site-tripadvisor-to-acquire-viator-for-approximately-200m/.

Conley, Rachel Avery. "Geofencing as an Effective Marketing Strategy." ZAG Interactive, ZAG Interactive, 13 Mar. 2018, www.zaginteractive.com/insights/march-2018/geofencing-as-an-effective-marketing-strategy.

Danton, Tim. "Life With Google Glass." PC Pro, Oct. 2014, pp. 86–87.

Essex, Amanda. Cellular Phone Use and Texting While Driving Laws. NCSL, 29 May 2019, www.ncsl.org/research/transportation/cellular-phone-use-and-texting-while-driving-laws.aspx.

Franke, George R., and Charles R. Taylor. "Public Perceptions of Billboards: A Meta-Analysis." *Journal of Advertising*, vol. 46, no. 3, 2017, pp. 395–410.

Herhold, K. "The Importance of Engaging with Customers on Social Media." Business2Community, 5 Feb. 2019, www.business2community.com/social-media/the-importance-of-engaging-with-customers-on-social-media-02166000.

Hessinger, S. "How Much Do Small Businesses Spend on Advertising and Marketing?" Small Business Trends, 22 Apr. 2020, smallbiztrends.com/2018/04/much-small-businesses-spend-on-advertising-marketing.html. Hodgkins, Kelly. "Everything You Wanted to Know about GPS III and the Future of Global Navigation." Digital Trends, Digital Trends, 25 Sept. 2019, www.digitaltrends.com/cool-tech/what-is-gps-3/.

Hunter, Khloe. "21 Steps for Creating a Minimalist UI Design for Your Mobile App." The Next Scoop, 5 Mar. 2019, thenextscoop.com/creating-minimalist-ui-design-mobile-app/.

Jennings, G., & Nickerson, N. P (2006). *Quality tourism experiences*. Amsterdam: Elsevier Butterworth-Heinemann.

Johnston, Matthew. "How Facebook Makes Money." Investopedia, Investopedia, 5 Feb. 2020, www.investopedia.com/ask/answers/120114/how-does-facebook-fb-make-money.asp.

Kaspar, Kai, et al. "A Matter of Font Type: The Effect of Serifs on the Evaluation of Scientific Abstracts." *International Journal of Psychology*, vol. 50, no. 5, 2015, pp. 372–378.

Laurence, Aimee. "The Evolution of Google Maps." Geospatial World, 23 Jan. 2020, www.geospatialworld.net/blogs/the-evolution-of-google-maps/.

Lee, B. C (2019). The Effect of Gamification on Psychological and Behavioral Outcomes: Implications for Cruise Tourism Destinations. *Sustainability*, 11(11), 3002.

Linder, Courtney. "Everything We Know About Apple's Smart Glasses." Popular Mechanics, Popular Mechanics, 27 July 2020, www.popularmechanics.com/technology/gadgets/a33022469/apple-augmented-reality-smart-glasses/.

Marciano, Hadas, and Peery Setter. "The Effect of Billboard Design Specifications on Driving: A Pilot Study." *Accident Analysis & Prevention*, vol. 104, 2017, pp. 174–184.

Martin, Bella and Bruce Hanington. *Universal Methods of Design*. Beverly: Rockport Publishers, 2002.

Martin, Chuck. "What People Would Do While In A Self-Driving Car." MediaPost, 12 Feb. 2017, www.mediapost.com/publications/article/294921/what-people-would-do-while-in-a-self-driving-car.html.

Matheson, Rob. "This Technology Helps Smartphones Plot Location in Areas Where GPS Systems Fail." World Economic Forum, www.weforum.org/agenda/2019/10/this-technology-helps-smartphones-plot-location-in-areas-where-gps-systems-fail/.

McCoy, Julia. "15 Things You May Not Know About Yelp." Search Engine Journal, 2 July 2020, www.searchenginejournal.com/yelp-facts/355044/.

Million Mile Secrets. "Familiarize Yourself With a New City With AroundMe." Million Mile Secrets, Million Mile Secrets, 1 May 2017, millionmilescrets.com/reviews/aroundme-app-review/.

Moret-Tatay, Carmen, and Manuel Perea. "Do Serifs Provide an Advantage in the Recognition of Written Words?" *Journal of Cognitive Psychology*, vol. 23, no. 5, 2011, pp. 619–624.

Motavalli, Jim. "Who Will Own the Cars That Drive Themselves?" The New York Times, The New York Times, 29 May 2020, www.nytimes.com/2020/05/29/business/ownership-autonomous-cars-coronavirus.html.

Muratovski, Gjoko. *Research for Designers: A Guide to Methods and Practice*. Los Angeles: SAGE Publications, 2016.

Nguyen, Ginny. "The 5 Best Advantages of Billboard Advertising: Penji." Unlimited Graphic Design Service, 12 Aug. 2020, penji.co/billboard-advertising/.

Perez, Sarah. "Bose Acquires Andrew Mason's Walking Tour Startup, Detour." TechCrunch, TechCrunch, 24 Apr. 2018, techcrunch.com/2018/04/24/bose-acquires-andrew-masons-walking-tour-startup-detour/.

Pradhan, M., Oh, J., & Lee, H (2018). Understanding Travelers' Behavior for Sustainable Smart Tourism: A Technology Readiness Perspective. *Sustainability*, 10(11), 4259.

Sawyer, B. D., Finomore, V. S., Calvo, A. A., & Hancock, P. A (2014). Google Glass. *Human Factors: The Journal of the Human Factors and Ergonomics Society*, 56(7), 1307-1321.

Sergey, L. "Catch on the Methods to Build a Car App in the Most Correct Way." Cleveroad Inc. , Cleveroad Inc. , 30 June 2017, www.cleveroad.com/blog/catch-on-the-methods-to-build-a-car-app-in-the-most-correct-way.

Shepherd, M. "Small Business Marketing Statistics & Trends (2020)." Fundera, www.fundera.com/resources/small-business-marketing-statistics.

Sherwin, Galen, and Esha Bhandari. "Facebook Settles Civil Rights Cases by Making Sweeping Changes to Its Online Ad Platform." American Civil Liberties Union, American Civil Liberties Union, 20 Mar. 2019, www.aclu.org/blog/womens-rights/womens-rights-workplace/facebook-settles-civil-rights-cases-making-sweeping.

Siddiqui, Khizer. "EFFECT OF SIZE, LOCATION AND CONTENT OF BILLBOARDS ON BRAND AWARENESS." *Journal of Business Studies Quarterly*, vol. 8, no. 2, Dec. 2016.

Skinner, H., Sarpong, D., & White, G. R (2018). Meeting the needs of the Millennials and Generation Z: Gamification in tourism through geocaching. *Journal of Tourism Futures*, 4(1), 93-104.

Smith, Dew. "The Top 100 Online Business Directories." Vendasta Blog, 24 July 2020, www.vendasta.com/blog/top-100-online-business-directories/.

Stafford, Maria Royne, and Thomas F. Stafford. "Advertising the Service Offering: The Effects of Preference Heterogeneity, Message Strategy and Gender on Radio Advertising Effectiveness." *Journal of Current Issues & Research in Advertising*, vol. 23, no. 1, 2001, pp. 17-29.

Vella, Heidi. "5G Vs 4G: What Is the Real Difference between Them?" Raconteur, Raconteur Media Ltd., 8 July 2020, www.raconteur.net/technology/4g-vs-5g-mobile-technology.

Watson, Amy. "Radio Reach in the U.S. by Age and Gender 2019." Statista, 6 May 2019, www.statista.com/statistics/252185/radios-weekly-reach-in-the-us-by-age-and-gender/.

Wertz, Jia. "Why Your Business Can't Afford To Be Without A Mobile App." *Forbes*, Forbes Magazine, 13 Sept. 2017, www.forbes.com/sites/jiawertz/2017/09/13/why-your-business-cant-afford-to-be-without-a-mobile-app/.

Widmer, Bill. "Travel Statistics by Age Group (March. 2020) // Latest Research." *The Wandering RV*, 10 Aug. 2020, www.thewanderingrv.com/travel-statistics-by-age-group/.

Xu, F, et al. "Gamification in Tourism (PDF)." ResearchGate, www.researchgate.net/publication/284995062_Gamification_in_Tourism.

