Welcome to Cambodia Town

By

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B.A. Anthropology, Macalester College, 2015

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ABSTRACT

Cambodian American communities are at an inflection point as the generation that arrived in the U.S as refugees start to retire, and the younger generation often have other aspirations than to carry on their parents' businesses. Cambodia Town—as the largest conglomeration of Cambodians in the U.S—embodies these changes in the form of population decline, and small businesses closing down. However, a new wave of Cambodian American digital creators that seek to use storytelling and design to represent and shape Khmer culture has also emerged out of this transition.

I undertake a product design and development process that uncovers the needs of Cambodian American small businesses, and digital creators related to digital engagement, and develop a prototype of a mobile application to support them. I conduct exploratory data analysis of small businesses in Cambodia Town, and in-depth interviews with target users of the mobile app, which I translate into the prototype design.

The heart of this work asks how might we imagine a platform that threads together digital and physical worlds for a geographically fragmented group of people, and what are the implications of such an endeavor for placemaking.

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INTRODUCTION

The late Anthony Veasna So—Cambodian-American writer—sets the scene in his book *Afterparties*:

"... it is three in the morning, the streetlamp is broken, and California Delta mist obscures the waterfront's run-down buildings, except for Chuck's Donuts, with its cool fluorescent glow ... Their mom walks in from the kitchen, holding a tray of glazed donuts. She is the owner, though she isn't named Chuck—her name is Sothy—and she's never met a Chuck in her life; she simply thought the name was American enough to draw customers."

Reading this brought me back to my grandmother's donut shop, where both my parents worked for some time, and where I spent time as a child. It was called *Danny's Donuts*, not because anyone in my family was named Danny, but because changing the name to anything else would require her to spend a lot of money to buy a new sign. For myself and other Cambodian Americans, this scene feels so familiar because it was in donut shops like these where many of us grew up. And for Cambodian American kids in my generation, you could replace *donut shops* with a whole assortment of small businesses. You would find them working in back rooms of family-owned restaurants and grocery stores, or running the front desk of their parents' auto repair shops.

In some U.S cities, like Long Beach, California and Lowell, Massachusetts, these businesses gathered critical mass to become the backbone of the Cambodian American communities within which they are embedded—generating such a place identity that the area became known as *Cambodia Town*.

It has been many years since Cambodian refugees first stepped foot in the U.S., and the donut shops, restaurants, grocery stores, and auto repair shops are starting to show signs of age. While the first-generation Cambodian Americans who started these businesses think about retirement, their kids are now grown, and many possess different aspirations than to continue the businesses of their refugee parents. Cambodian American communities face a generational shift. Cambodia Town in Long Beach, California—as the largest conglomeration of Cambodians in the U.S—embodies these changes in the form of out-migration, and small businesses closing down. However, I also found a new wave of Cambodian American digital creators that seek to use storytelling and design to represent and shape Khmer culture has also emerged from this transition.

This work explores how a web platform might support these Cambodian American digital creators and small businesses. I approach the through a product design and development process that seeks to answer:

- what needs do Cambodian American small businesses and entrepreneurs have related to digital engagement?
- what needs do people have when discovering and exploring businesses at a destination?

- design implications for web/mobile application to support Cambodian American small businesses and entrepreneurs

Although the city of Long Beach awarded Cambodia Town an official designation in 2007—the truth is, Cambodia Town was never bound by geography. The distribution of the Cambodian population in the U.S wouldn't allow it, with "the majority of Cambodians spread out among much smaller and homogeneously poorer enclaves—some numbering only a thousand." (Tang, 2015) Cambodia Town is both one place and many places all at once. And this is at the heart of my work—how might we imagine a digital space for community-based businesses that feels attuned to transition, and transcends geography? And what does this mean for our sense of place?

So welcome to Cambodia Town—feel free to have a look around.

LITERATURE REVIEW

Ethnic enclave economies

Cambodia Town—as a major hub for Cambodian American refugees and immigrants—should be placed in context with research on ethnic enclaves and enclave economies. Classical assimilation theory spearheaded by the Chicago School suggest that the spatial distribution of immigrant communities will disperse over time to more closely match the host country. (Portes & Rumbaut, 2014) However, researchers also challenge classical assimilation theory, insisting instead that some immigrant communities intentionally cluster to preserve their ethnic identity (Peach 2005). These researchers argue that spatial clustering into ethnic enclaves may benefit immigrant communities by turning inhabited spaces into tourism locations, (Saarinen, 2017) or creating protected job market access (Keles et al., 2019).

The concept of the "enclave economy" elaborates on the argument that ethnic enclaves afford immigrant communities economic mobility. The "enclave economy" begins with dual market theories whereby jobs are separated into an upper or a lower tier. The upper tier are considered good, well-paying jobs, and the lower tier is comprised of low-wage jobs, and there is little mobility between tiers (Piore, 1979). Scholarship that describes how immigrants fit within the dual market tend to place immigrants in the lower job tier, with little opportunity for social mobility. However, Wilson and Portes (1980) challenge the dichotomy between the upper and lower tier, and instead suggest that immigrants may find jobs within the "enclave economy". The "enclave economy" describes a spatial cluster of businesses where immigrant business owners hire people from the same ethnic background as themselves (Portes, 1981).

Scholars debate the socio-economic impacts of the "enclave economy". Proponents argue that immigrant workers in the enclave economy experience more favorable conditions for social mobility such as easier job access, greater likelihood of promotion to managerial positions, and support when starting their own business (Portes & Bach, 1985; Gold, 1994; Hum, 2000; Kim, 2003; Zhou, 2010). The immigrant business owner also may benefit from the "enclave economy" through advantages such as better access to resources at early stages of the

business cycle, and a steady customer base (Aldrich et al., 1985; Bates, 2012; J. Zhang et al., 2016). Some also believe the "enclave economy" produces "ethnic solidarity" whereby immigrant employees and employers have social obligations that tie them together beyond monetary transactions.

One limitation of the "enclave economy" as it was originally conceived is how it fails to incorporate transnational connections between enclave economies and countries of origin. Thomas Faist developed an updated version of transnationalism defined as "the circulation of people, goods, symbols, and material culture across nations" (Faist 1998, 2000)—incorporating the concept of transnational social space. Portes (2001) adds another dimension to transnationalism called "transnationalism from below" where individuals or communities conduct transnational activities without involvement of state or corporate actors. Transnationalism—when applied to ethnic enclaves and enclave economies—positions them as fluid spaces that reflect the dynamic relationship between immigrants' home and host societies.

HCI and digital applications for placemaking and cultural experiences

Unpacking how Cambodian American digital creators shape Cambodian culture and Cambodia Town requires expanding upon the relationship between digital technology, placemaking, and cultural production. We can express this relationship using concepts from the umbrella field of human-computer interaction (HCI), particularly digital placemaking.

While the concept of placemaking has been around for a long time within geography and urban planning, "Digital placemaking" has emerged more recently researchers describe it as augmenting "physical places with location-specific services to create informal, playful, and meaningful opportunities for participation." (Pang 2019) Digital placemaking overlaps with 'creative placemaking' which "describes the use of arts, cultural and creative thinking to enhance the interest of a place by using digital technologies and narrative, such as through public art walks and mobile games." (Basaraba, 2021)

Place-based digital experiences have become most prominent in the cultural heritage sector where media technology sparked a "narrative-turn". (Basaraba, 2021) Within this "narrative-turn", cultural institutions like museums use digital media driven storytelling to generate more creative visitor experiences. One strand of research on digital media storytelling explores how places leverage digital *location-based technology*—particularly in the tourism and cultural heritage sector. For example, Bedwell et al. (2015) test how "place experts" use a WordPress-based website called "Wander Anywhere" to create *location-based experiences* (LBEs) related to cultural heritage. The application makes it easy for "place experts" to author and upload experiences, and for users to access these experiences, which are triggered on a mobile app when they are in close geographic proximity to the point of interest. Another instance of the growing use of location-based technology are location-based games (LBGs), which are "games played on mobile devices where content is tied to specific locations and accessed by players when they are there" (Pang et al. 2019). Pang et al. (2019) demonstrate how a city exploration mobile game might contribute to digital placemaking. They developed a location-based game called *City Explorer* that enabled players to share community-related information through geo-tagged posts and earn points in the process. The results of their research show that *City*

Explorer contributed to digital placemaking. It encouraged users explore new areas, and users benefitted from the community-driven factual information about local places provided through the game.

Research, however, has not explored how mobile applications might bring together digital creators and businesses from within immigrant ethnic enclaves to support enclave economies. Additionally, work on how a digital platform might be designed for the Cambodian American community—a community facing a generational shift—has little precedent in academic settings. This work addresses these gaps by focusing on how a digital platform might increase engagement with small Cambodian American businesses. I approach this question not through traditional academic lens, but through a product design and development process.

HISTORY & DEMOGRAPHICS

157,518 Cambodians were admitted into the United States between 1975 and 1994—148,665 were admitted as refugees. Refugees resettled in the U.S having fled the genocide which started in April 1975—driven by the radical Communist group known as the Khmer Rouge. (Chan, 2015) Between April 1975 and January 1979, "Pol Pot's Democratic Kampuchea (DK) regime—run by the communist Khmer Rouge party—subjected Cambodians to execution, starvation, disease, and forced labor. One-fourth of the Cambodian population was killed." (Tang, 2015)

The reason my family and so many other Cambodian refugees settled in the U.S is tied to the large part it played in the genocide. In the 8 years between 1965 and 1973—in an attempt to eliminate the Vietnamese communist presence in Eastern Cambodia—the U.S carpet bombed Cambodia killing between 150,000 and 500,000 Cambodians, making it the most bombed country in history. The U.S government organized a coup that deposed King Sihanouk and replaced him with Lon Nol, who was thought as more sympathetic to the U.S anti-communist cause. These two actions allowed the Khmer Rouge to gain a foothold in the country because they were able to paint the U.S as the common enemy by pointing to the destruction caused by the U.S bombings. Also, the North Vietnamese—whose presence in Cambodia prevented the Khmer Rouge from any major uprisings—were dispelled from Cambodia by Lon Nol, allowing the Khmer Rouge to take control of the country.

Fearing the international community might point to the "contradiction of his anti-Vietnam foreign policy and his commitment to human rights" (Tang, 2015), President Carter signed the Refugee Act into law in 1980. At its core was a massive refugee resettlement program designed to divert political attention away from U.S alignment with the Khmer Rouge regime and its leader, Pol Pot. The 1980 Refugee Act increased the number of refugees resettled in the U.S from 17,400 to 50,000, and established the Office of Refugee Resettlement (ORR) to oversee the resettlement process. (Tang, 2015)

The resettlement process was far from even with "55 percent of the 150,000 Cambodians resettled in the United States between 1975 and 1994 were sent to inner cities beset by extreme poverty, joblessness, and crime." (Tang, 2015) This uneven resettlement characterized by the "overwhelming presence of the Cambodian working poor and unemployed in the Bronx

and other cities, and the concomitant absence of a Cambodian middle/entrepreneurial class elsewhere in these cities" makes the Cambodian experience in urban America unique. Cambodian refugees cannot be lumped together with other Southeast Asian refugees because they possess distinct "economic, political, and geographic trajectories." Vietnamese refugees, for example, "have prevalent ethnic economies and professional classes—much of which was wiped out for Cambodians during the genocide, (Tang, 2015) and "Few if any other immigrant and refugee groups resettled so exclusively and in such large numbers in the poorest urban areas during the era of post-1965 new immigration." (Tang, 2015)

Although the majority of Cambodian refugees in the U.S dispersed into small communities, the largest population clusters of Cambodian refugees reside in Long Beach, CA and Lowell, MA. Long Beach became a place of resettlement for the refugee populations because in the late 1950s and 60s the Cambodian government created arrangements with California State University in Long Beach and in Los Angeles to enroll Cambodians in their technical degree programs. Although this relationship ended when King Sihanouk—the ruler of Cambodia at the time—broke diplomatic relations with the U.S, several students remained in California. And when Cambodian refugees first arrived at the U.S military base in southern California, many of these former students sponsored them. (Chan, 2015) They turned the Cambodian Students Association into the Cambodian Association of America—a mutual aid organization to support Cambodian refugee resettlement in the U.S. The congregation of Cambodian small businesses and residences in Long Beach became the heart of the Cambodian community in the U.S. and given the moniker Cambodia Town.

SITUATING CAMBODIA TOWN

Los Angeles County
California

Long Beach
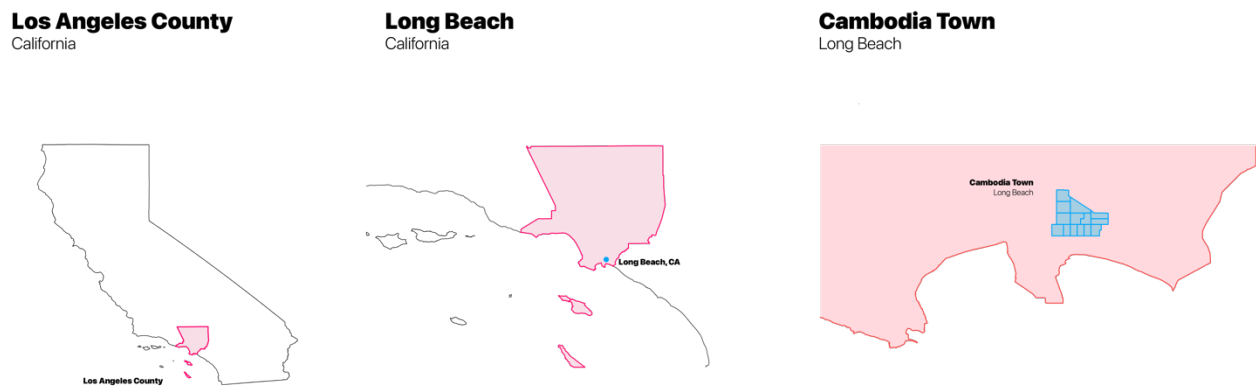California

Cambodia Town
Long Beach

Figure 1. Cambodia Town, Long Beach, CA

Cambodia Town in Long Beach, California—as the location with the largest Cambodian American community—gives insight into Cambodian American businesses. The boundaries of Cambodia Town set by the city of Long Beach correspond with the census tracts with the highest percentages of Cambodians in Los Angeles County. Figure 2 shows the census tracts with the largest percentages of Cambodians in Los Angeles County.

Cambodia Town Demographics

Percentage of Census Tract identifying as Cambodian

14.6-25.5%
10.9-14.6%
8-10.9%
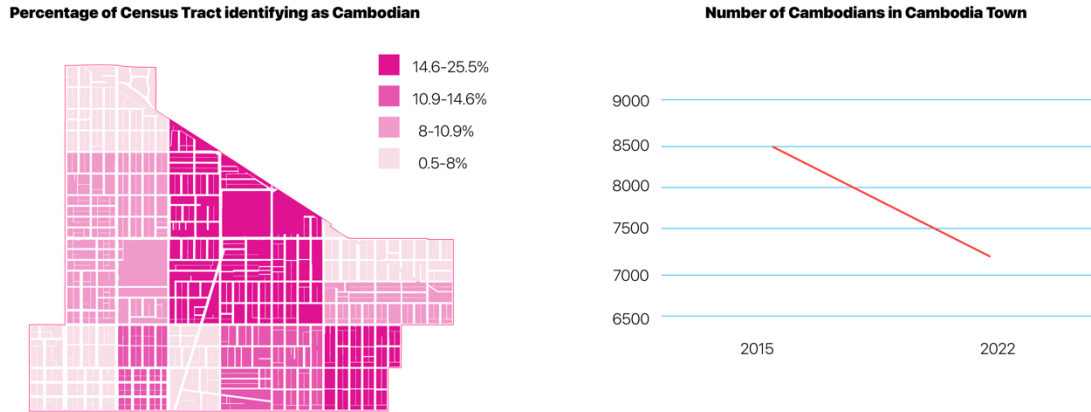0.5-8%

Number of Cambodians in Cambodia Town

Figure 2. *percentage of Cambodians by Census Tract – Los Angeles County*

While Cambodia Town still maintains the largest population of Cambodians, the number of Cambodian people living in Cambodia Town has declined by **15.3 percent** over the last five years (from 8494 in 2015 to 7192 in 2021). Out-migration explains a large part of the population decline. Some people I interviewed who grew up in Long Beach explain that the increasing cost of living in Long Beach is one cause of this out-migration. They explain how Cambodian Americans are moving to places like Fresno, California where there is a lower cost of living and a sizable Cambodian community.

Out-migration of Cambodians from Long Beach is accompanied by aging among Cambodian business owners. One Cambodian American who grew up in and still resides in Cambodia Town describes this generational transition for businesses in the area: "I think right now the Khmer community as a whole in Long Beach is going through a transitional period where we have the parents or grandparents retiring, they're done with their business, they're tired, and the children aren't keen on taking over the business. And so, we are having vacancies of businesses, and of buildings–there is a bit of a vacuum."

Cambodian restaurant

Jewelry store

Electronics store

Retail vacancies increasing, worsened due to COVID

Figure 3. Businesses in Cambodia Town, Long Beach (photos taken during site visit)

DATA-DRIVEN EXPLORATION OF CAMBODIA TOWN BUSINESSES

My site visit to Cambodia Town in Long Beach, and initial conversations with Cambodian community members involved in economic development of the area revealed some of the challenges Cambodian businesses face. The physical landscape showed noticeable commercial vacancies, and community members discussed how many businesses were closing down even before the COVID-19 pandemic.

I wanted to better understand the challenges faced by businesses in Cambodia Town. So, I conducted quantitative exploratory data analysis to try and answer the following questions:

- What types of businesses exist in Cambodia Town?
- How well are Cambodian businesses in the area doing?
- How do businesses in Cambodia Town differ from other businesses in Long Beach?

I hoped the exploratory data analysis might also provide insights that inform the development and implementation strategy of the digital platform for Cambodian small businesses.
I first used a business dataset from the City of Long Beach. The dataset contains all licensed businesses in Long Beach, along with information about each business.

Similar to other business districts, Cambodia Town consists of a mix of services, restaurants and retail. One key finding is that **11.18 percent** of businesses in the area are Internet Sales/Service businesses—all of which are based out of a home. These two data points suggest that many businesses rely on digital technology for their business rather than a brick-and-mortar storefront.

Business type	Count	Percentage
Consulting	95	12.5
Internet Sales/Service	85	11.18
Janitorial Service	83	10.92
Business Office	74	9.74
Tax Preparation	26	3.42
Restaurant & Ready to Eat Foods	23	3.03
Retail Sales	23	3.03
Handyman	20	2.63
Barber/Beauty shop owner	19	2.50
Gardening/Landscaping	18	2.37

Table. Top 10 types of businesses in Cambodia Town

Business type	Count	Percentage (of business type)
Internet Sales/Service	85	100
Consulting	32	33.68
Tax preparation	26	100
Business office	23	31.08

Table. Home-based businesses in Cambodia Town

I encountered some of the businesses that fall under this category during a field visit to Cambodia Town, Long Beach. I met a Cambodian woman who makes a living running a successful luxury perfume export business. She makes most of her sales by streaming weekly on Facebook Live, which allows viewers to purchase items directly from the live stream. Most of the people who view her live stream live in Cambodia, so she will purchase the luxury perfume wholesale and ship it to them. Another group that falls into the Internet Sales/Service business category are Cambodian Americans making a living producing digital content on social media.

When I discovered this large group of digitally-focused small businesses and creators in Cambodia Town, it fundamentally altered the direction of my work to address the needs of small Cambodian American businesses. I realized part of the changing Cambodian American business landscape was the emergence of digital-leaning businesses. I needed to understand more about these digital businesses (discussed in the User research section) and incorporate them as target users of the platform I designed.

The data also provided the size of businesses in Cambodia Town. I found that most businesses are small or micro businesses, with businesses having **4 employees** on average, and **75% of businesses** in the area having **3 employees or fewer**.

Businesses in Cambodia Town

Business types

Retailing
Services
Professionals
Mobile
Contractors
Wholesale
Manufacturing
Vending

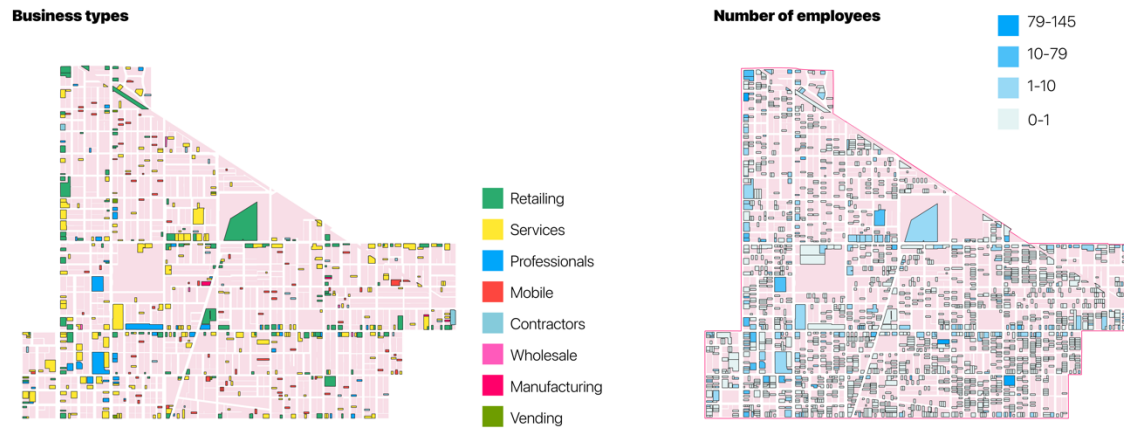**Number of employees**

79-145
10-79
1-10
0-1

Figure 4. Types of Businesses and Number of Employees in Cambodia Town

The presence of many small businesses in Cambodia Town means the businesses in the area may not have the resources to digitize their businesses. This issue was supported in user interviews with Cambodian American creators—which I discuss in detail later—that many of these small businesses within the enclave economy lack the resources and knowledge to market themselves through digital channels.

The data from City of Long Beach and Los Angeles County provides some insight on the businesses in Cambodia Town. However, they did not give a good sense of how well businesses in the area were doing. In order to do this, I used the Google Places API and Yelp API to scrape business data across Long Beach. I chose to use Google Places and Yelp data because they are consumer-facing platforms that provide more detailed information about business performance and perception. Since Google Maps and Yelp are widely used digital place search platforms, I wanted to see if the data could also tell me something about the relationship of these businesses to digital engagement.

I created a point grid, that I laid over the Long Beach area. I spaced each point 500m apart, and wrote a Python script that runs a Google Places API search for 'establishments' at each grid point, with a search radius of 700m.

The data collection using the Google Places API returned a dataset with 4,823 unique observations, 103 of which are in the census tracts with the largest percentages of Cambodians—including Cambodia Town. The dataset includes the following features for each establishment:
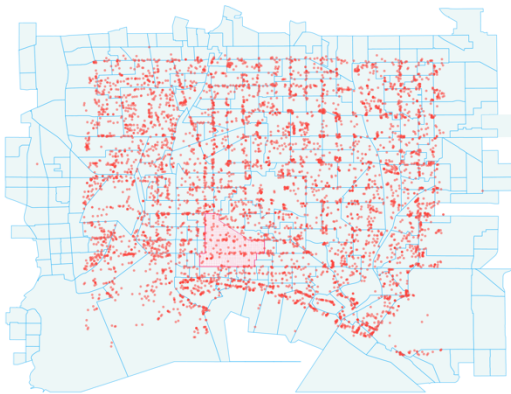
- Number of ratings
- Average rating
- Type of business

I subset the businesses to only businesses that the API returned in Cambodia Town in order to compare businesses in Cambodia Town with the rest of Long Beach.

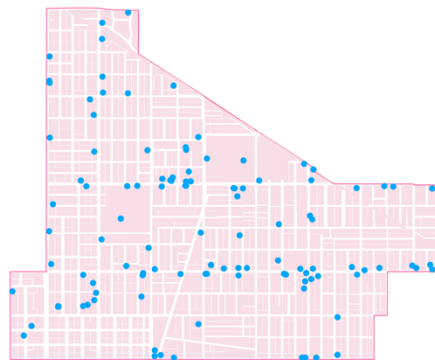**Cambodia Town Businesses**
Google Places API

Figure 5. Google Places API sampling

Cambodia Town businesses that have the highest engagement on Google Places API are restaurants, with **770 user reviews** on average for food establishments, followed by takeaway restaurants having **642 user reviews** on average. The fact that food retail businesses have higher engagement on the Google Places platform can help with decision making about the types of businesses to focus on first when implementing the app. Since restaurants tend to have higher engagement, including them on the platform first could drive higher engagement with the platform at the early stages of implementation.

Conversely, this also indicates businesses that tend to have lower engagement on average, which may help to pinpoint businesses in Cambodia Town that could potentially benefit from greater customer awareness.

The data from the Google Places API sample show that the average number of reviews per business is lower for businesses in Cambodia Town compared to the rest of Long Beach.

Number of Reviews
Google Places API

Number of Reviews per Business
Long Beach

n = 4,720

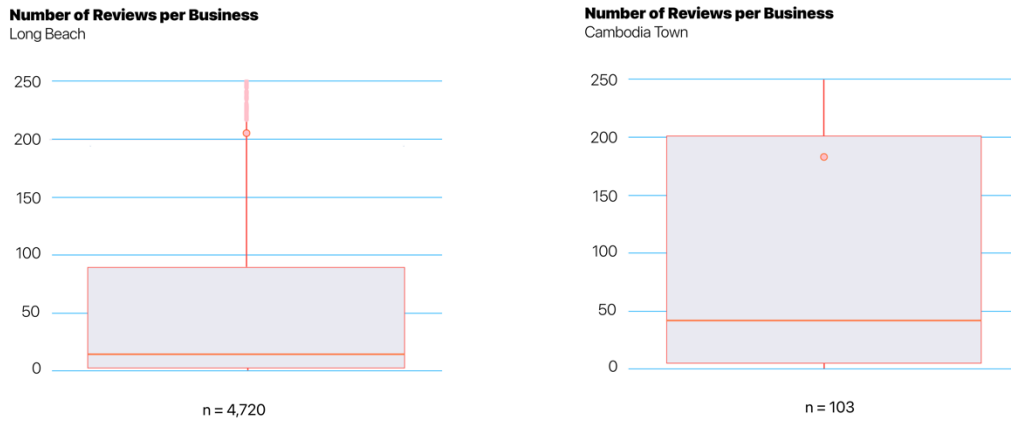**Number of Reviews per Business**
Cambodia Town

n = 103

Figure 6. Boxplot of Number of Google Reviews per Business

Additionally, the average number of Google reviews for businesses in Cambodia Town is lower compared to businesses in the rest of Long Beach.

Business Ratings
Google Places API

Average Rating per Business
Long Beach

n = 4,720

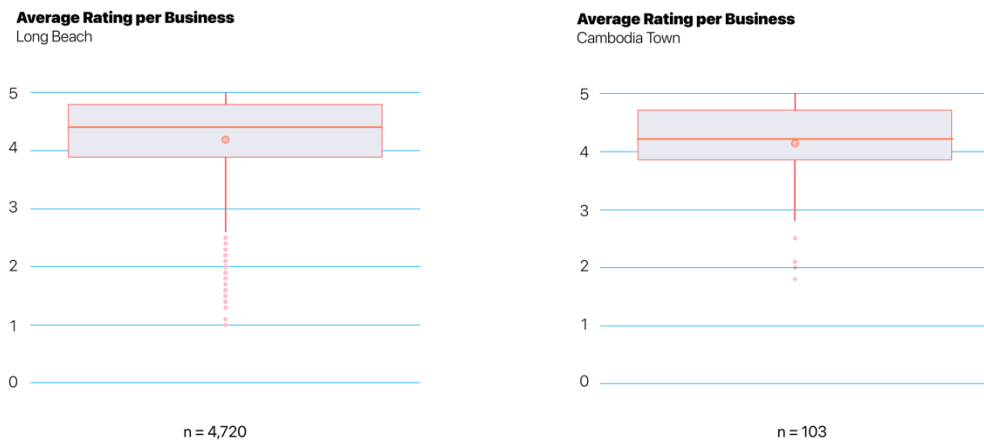**Average Rating per Business**
Cambodia Town

n = 103

Figure 7. Boxplot of Average Google rating per business

I conducted a similar process using the Yelp API with a search radius of 1000m, but narrowed my search parameters to only within the census tracts with the largest percentage of Cambodians, and used the search term 'restaurants' instead of 'establishments'. I chose to narrow my search parameters because I only wanted to focus on businesses, and restaurants tend to have the highest engagement on place search platforms like Yelp. The data collection using the Yelp API returned a dataset with 535 unique observations. The dataset includes the following features for each restaurant:

- Number of ratings
- Average rating
- Type of restaurant
- Price level
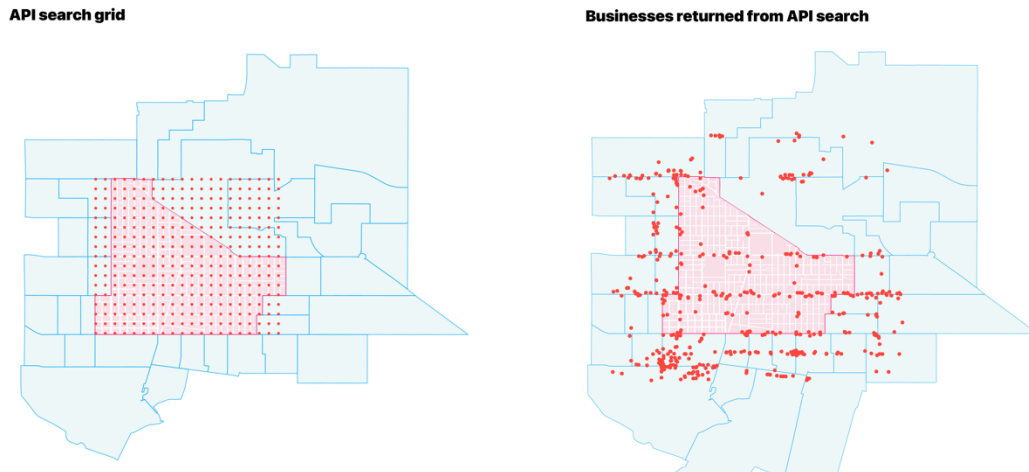
Businesses in Cambodia Town
Yelp API

Figure 8. Yelp API sampling

Category	Count	Percent
mexican	69	12.3655914
pizza	34	6.09318996
hotdogs	29	5.19713262
thai	23	4.1218638
sandwiches	22	3.94265233

*Table. T*op 5 *types of businesses represented in Yelp API sample*

The data are not an accurate proxy for digital engagement on its own because a business with a high number of reviews on Google or Yelp may just have more people who visit that restaurant, and since we do not know the total number of people who visit a particular restaurant, there is no way of knowing the percentage of people who visit the restaurant that leave a review.

Additionally, number of reviews and average rating on Google Places or Yelp are not comprehensive proxies for a business' level of digital engagement. There are several other metrics that are major indicators of digital engagement such as number of visits to a business' social media accounts, or website. Without these metrics, it is very difficult to draw any conclusions about what may drive digital engagement for Cambodian American businesses, or to run any meaningful regressions.

Despite the absence of metrics to detect relationships between digital engagement and business characteristics. I still was able to see if there are any statistically significant differences between average ratings or number of ratings for businesses in Cambodia Town compared to those in the surrounding Long Beach area. I used a Welch's t-test which tests if there the means of two groups are significantly different from one another. I chose a Welch's t-test over a Student's t-test because the Welch's t-test works better if the variance and sizes of the two samples are different.
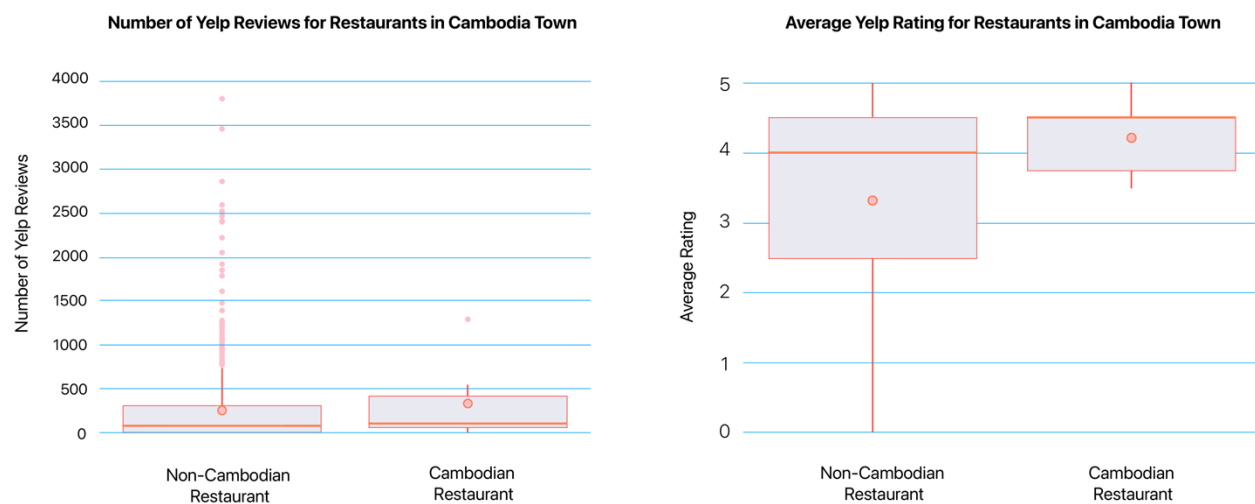

Figure 9. Boxplot of Number of Reviews per Business and Average Rating
I ran the Welch's t-test first comparing the average rating for Cambodian and non-Cambodian restaurants in Long Beach. I set up my analysis as follows:

- **Null Hypothesis:** Ratings of Cambodian restaurants are less than or equal to non-Cambodian restaurants in Cambodia Town
- **Alternative Hypothesis:** Ratings for Cambodian restaurants are greater than non-Cambodian restaurants in Cambodia Town
- **Alpha:** 0.025

The Welch's t-test returned the following results:

- **t-stat:** 4.005
- **p-value:** 0.005

- **Result:** We can reject the null hypothesis, and conclude that the rating for Cambodian restaurants in Cambodia Town are higher than non-Cambodian restaurants on average

I ran a second Welch's t-test comparing average number of reviews for Cambodian restaurants and non-Cambodian restaurants in Long Beach using the Yelp API data. I set up my analysis as follows:
- **Null Hypothesis**: The number of reviews for Cambodian restaurants are less than or equal to non-Cambodian restaurants on average
- **Alternative Hypothesis:** The number of reviews for Cambodian restaurants are greater than non-Cambodian restaurants on average
- **Alpha:** 0.025

The Welch's t-test returned the following results:

- **t-stat:** 0.456
- **p-value:** 0.664
- **Result:** We fail to reject the null hypothesis that the number of reviews for Cambodian restaurants are less than or equal to non-Cambodian restaurants on average

The fact that Cambodian restaurants have a higher average rating than non-Cambodian businesses in Long Beach may suggest that Cambodian restaurants perform well among those using digital apps like Yelp. It should be noted however, that the sample size of the number of Cambodian restaurants is small (n=7).

A key finding during the data collection process was also how sparse the datasets were in terms of number and types of features, and therefore constraining what the data could say about businesses in Cambodia Town. The dataset was limited to the following variables: number of reviews, average rating, price, and business type. The Google Maps dataset did not have any category for 'Cambodian' restaurants, and neither Yelp nor Google Maps data indicated whether a business is owned by a Cambodian person. Beyond taking only the 'restaurant' subset of businesses in the Yelp data scrape, the data collection is also limited because not all businesses are included on Yelp or Google Maps, and likely excludes many home-based businesses that are included in the City of Long Beach business dataset, as well as the many businesses that do not use these digital platforms.

These data limitations mean using these quantitative data alone is insufficient to understand the conditions and needs of businesses Cambodian American businesses. I chose to supplement the quantitative data collection through in-depth interviews with other Cambodian American entrepreneurs and creators to better identify needs and trends among Cambodian American businesses—the findings which I discuss in-depth in a later section.

OPPORTUNITY

Certain Asian ethnic enclaves in the U.S face changing circumstances, with many characterized by aging populations, economic decline, and dispersion—raising uncertainty about the future of geographically centralized ethnic business districts. These shifts permeate Cambodian American communities where places like Cambodia Town in Long Beach are seeing the original small business owners reaching retirement age, and the younger generation of Cambodian Americans choosing not to carry on their parents' businesses. The challenges associated with these trends bring us to the question: *how might we develop a digital platform for Cambodian American digital creators that caters to the needs of both existing and emerging Cambodian American small businesses, and generates new forms of engagement?*

CONCEPT DEVELOPMENT PROCESS

I implemented a part of the Product Design and Development (PDD) process created by Karl Ulrich, Steve Eppinger, and Maria Yang (Eppinger et al. 2019). Although the developers have backgrounds in Mechanical Engineering, and have often used this process with physical products, the process has been applied to a wide assortment of problems and products, including digital products. Figure 10 outlines a component of the PDD process called the Concept Development Front-End process. My scope of work with Cambodian American businesses consists of the first five phases of the Concept Development Front-End process:

- *Mission statement*
- *Identify customer needs:* "The goal of this activity is to understand customers' needs and to effectively communicate them to the development team. The output of this step is a set of carefully constructed customer need statements, organized in a hierarchical list, with importance weightings for many or all of the needs. Special attention is paid to the identification of latent needs, which are difficult for customers to articulate and unaddressed by existing products."
- *Establish target specifications:* "Specifications provide a precise description of what a product has to do. They are the translation of the customer needs into technical terms. Targets for the specifications are set early in the process and represent the hopes of the development team. Later these specifications are refined to be consistent with the constraints imposed by the team's choice of a product concept. The output of this stage is a list of target specifications. Each specification consists of a metric, and marginal and ideal values for that metric."
- *Generate product concepts:* "The goal of concept generation is to thoroughly explore the space of product concepts that may address the customer needs. Concept generation includes a mix of external search, creative problem solving within the team, and systematic exploration of the various solution fragments the team generates."
- *Select product concepts:* "Concept selection is the activity in which various product concepts are analyzed and sequentially eliminated to identify the most promising concept(s)." (Eppinger et al. 2019)
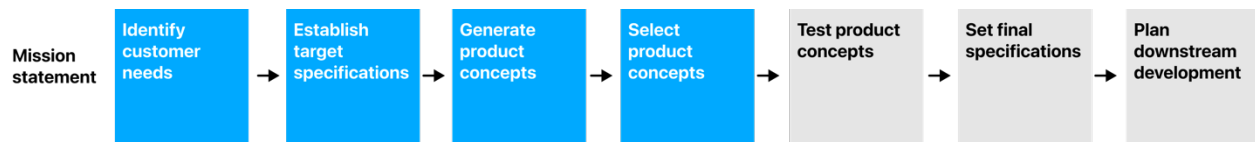
Figure 10. Concept Development Front-End Process (Eppinger et al. 2019)

MISSION STATEMENT

Product description: A digital platform that connects Cambodian American small businesses, entrepreneurs, and creators to promote and shape Cambodian culture—both in major ethnic enclaves like Cambodia Town in Long Beach, and places with smaller Cambodian American diaspora populations

Benefit proposition:
- One-stop-shop for content created by Cambodian American diaspora
- Real-time updates from businesses
- More personal details about businesses and business owners

Key goals:
- Increase connections and collaboration among Cambodian American creators
- Help digital creators in their efforts to support Cambodian American small businesses
- Encourage engagement with Cambodian culture and businesses

Primary market:
- Cambodian/Cambodian American small businesses, creators
- Cambodian diaspora community
- Consumers interested in discovering new places

Assumptions and constraints:
- Existing digital platforms like Instagram or Google Maps should still be utilized
- Creators already working with businesses to help them improve their marketing

Stakeholders:
- Cambodian diaspora community
- Cambodian American small businesses, entrepreneurs, creators
- Cambodian American cultural and economic development

IDENTIFY CUSTOMER NEEDS: USER RESEARCH

METHOD

I conducted hour-long in-depth interviews with 9 potential users of the platform to better understand the needs of both Cambodian American entrepreneurs and consumers. Most of the interviews (6 of 9) were with digitally-focused Cambodian American entrepreneurs. I decided to focus on this population because the older generation of small business owners are nearing retirement, and face high barriers to technology adoption. However, during my field research, I discovered a younger generation of Cambodian American entrepreneurs and creators. Where the first generation of Cambodian Americans made their mark with brick-and-mortar storefronts, these were the new small business owners—using digital channels to promote and shape Cambodian culture. This generational distinction meant I needed to broaden definition of "small business owner" user group to include creators, home-businesses, and other entrepreneurs.

The interviews with these Cambodian American entrepreneurs covered—but were not limited to—the following topics:
- their goals and needs
- pain points they experience while trying to meet those goals and needs
- how they use technology

I also conducted interviews (3 of 9) with Asian-American consumers living in LA to understand the process they take to discover new businesses. These interviews covered:
- their lifestyle habits,
- digital behaviors,
- their pain-points and process related to place discovery

INSIGHTS

PERSONAS

From my interviews, I developed two personas that illustrate the target user of the digital platform. I built the personas that draw the most important or representative elements from the people I interviewed to create a composite summary. These personas give me a better sense of the users—so I can align the features of my platform with their needs.

Primary persona: The Digital Culture Creator
Name: Vichet
Demographics
- Location: Long Beach, CA
- Age: 20-34
- Occupation: Digital creator
- Education: College graduate

Goals/Needs
- Creating content focused on cooking Cambodian food
- Creating content on Cambodian American restaurants in different cities
- Make connections with small business owners
- Collaborate with other creators/entrepreneurs both locally and in different cities
- Start food pop-up business

Pain points
- Maintaining consistent social media presence
- Identifying and collaborating with Cambodian American creators and business owners that are far away

Behaviors
- Posts content for business on social media (IG, Medium, Facebook) daily
- Reach out to other business owners
- Uses internet and main social media platforms regularly
- Live streaming
- Attending and hosting community events
- Using AI to generate content

Description

Vichet is a Cambodian American digital content creator based in Long Beach, California. He is 27 years old. After working for several years as a graphic designer and photographer for Google, he started making his own food content with Cambodian restaurants in Long Beach—starting with his parents' restaurant.

He started working with other Cambodian restaurants in the Los Angeles area through family and friend connections. He will typically meet with the owner of the restaurant to establish a relationship before visiting the restaurant to shoot content. He shoots content using his iPhone and does all of the video editing and graphic design work on his own before posting the content to Instagram.

He posts all of his content on Instagram—consisting of short videos, photos, and stories featuring different restaurants he visits that day. He typically posts three times per week. After gaining a significant following on Instagram for his content, he quit his job at Google and now works as a content creator full time. He also works to organize catering and food vendors for different events such as the Khmer New Year festival.

He would like to expand to other types of businesses besides restaurants, and maybe even start a podcast, but finds it difficult to discover and make reach out to Cambodian American business owners, or finding someone with the experience.

He is also working on starting his own digital media company to improve marketing for Cambodian American food businesses.

Primary persona: The Tactical Wanderer
Name: Stephanie
Demographics
- Location: Los Angeles, CA
- Age: 20-34
- Education: College graduate
- Occupation: Digital marketing – Project manager

Goals/Needs
- Determine if a restaurant is a good fit for social occasion
- Quickly find restaurant or retailer in the moment

Pain Points
- Not enough detailed information about restaurants or retailers on place search platforms
- Cannot easily save restaurants or retailers discovered on social media apps like Instagram

Behavior – digital
- Digital discovery platform usage: Instagram, Google Maps
- Follows food influencers and LA business Instagram pages for restaurant recommendations
- Plays Pokémon Go with partner and friends on the weekends
- Keeps running list of restaurants on Google Maps

Behavior – other
- Tries new restaurant once or twice per month
- Likes to wander in different neighborhoods
- Attends events like concerts, and will find a restaurant in the area as a secondary activity

Description

Stephanie grew up in LA, and identifies as half-Chinese, half-Vietnamese. She is 29 years old, and still lives in LA where she works as a project manager for a marketing agency.

She doesn't have much time during the week because she works long hours. On the weekend, she plays Pokémon Go with her partner to get out of the house.

She will go out to eat more than cooking at home, and has her 'rotation' of restaurants that she will visit regularly. This doesn't mean she won't try a new place from time to time.

She discovers new restaurants through Instagram, and follows different food influencers as well as the LA business Instagram page because they typically post about new and interesting restaurants in her area. She also uses Instagram because she finds it more detailed and trustworthy than Google Maps—however she still saves all the restaurants she likes or plans to visit in various lists in Google Maps. She also uses Google Maps when she is in an unfamiliar area and needs to quickly find a place to eat nearby.

She wishes platforms like Google Maps provided information that would give her a more personal connection with different businesses such as brief descriptions about the owners or interesting facts about how the business started.

JOURNEY MAPS

The following section contains journey maps that describe how the personas I developed in the previous section might accomplish their primary goals. I draw quotes from the interviews I conducted with both consumers and Cambodian American digital creators that support and add detail to the different stages of each journey.

JOURNEY – PERSONA 1: THE DIGITAL CULTURE CREATOR

PRIMARY GOAL: **Create new ways of representing Cambodian culture through storytelling and design**

"My main goal is to stop having other people tell our stories." Sotheara tells me. He is a Cambodian American content creator who grew up in Long Beach, California. Among Cambodian American content creators I spoke to, it is this desire that remains consistent— regardless of whether they are based in Berkeley, Atlanta, or Providence. "One of the gaps I found with regards to Cambodian content is always non-Khmer people telling our stories, and it is always about the Khmer Rouge [genocide], Angkor Wat or the fall of Angkor Wat, deportation, poverty, it is really trauma being thrown back in our face and it is a non-Khmer [person] telling it" Sotheara continues. He expresses that the desire to reclaim the Cambodian American story is what motivates his work, "it is so that the narrative stays within our hands, and we own it."

💬 "I want to elevate Cambodian art through my experience as a designer, and want more Cambodian kids to understand that there is so much value in our culture, and to translate it into something visual, even our typography is art, we have all these things but no one is documenting them or sharing it with the world, and if there is, it is always a non-Cambodian person doing it."— Sokai, Digital creator, Atlanta

Part of reclaiming Cambodian American storytelling for these digital creators is working with small Cambodian American brick and mortar businesses to improve their digital marketing. They noticed that many businesses within their own community did not know how to effectively use social media to market themselves, and believe they can use their platform and experience to support these businesses.

💬 "What I noticed is that a lot of Cambodian restaurants they don't use social media as much as they can so I started promoting them on my social media platform, I promoted like four seasons and people started going, I think it will reach a lot of audiences ... I think to me it is hard to create the content because they don't know how to or they are too shy to do it...I'm trying to help with the social media, id even shoot the videos for free but to help them showcase their food" –Kune, Digital creator, Providence

The following outlines the typical process for Cambodian American content creators as they build their brand and promote Cambodian businesses and culture:

1. Initial contact

Work typically starts with a personal connection or relationship within the Cambodian community. These connections could be through previous work, friends/family, community institutions. Instagram message is usually the point of first contact for collaboration for Cambodian entrepreneurs.

💬 "I created this behind-the-scenes video with this rapper from Long Beach called G-funk Supreme, he is a rapper from Long Beach and somebody I grew up with, he asked me to shoot the behind the scenes for the music video, I shot the video and edited it, but I put it under Donut Shop Creative." –Sotheara, Content creator, Long Beach, CA

💬 "So one person saw my photography work—one person I pretty much raised, I took care of them when they were a kid, and they are now a dance teacher for Khmer classical dance. They were like 'hey, I can't pay you but can you get some collateral for my dance troupe, I'm trying to recruit more dancers.'"–Sokai, Content creator, Atlanta, GA

💬 "I am meeting with the owners and connecting with them on all levels, my relationship with them on Instagram or social media is my relationship with them in the physical world, I don't treat Instagram as a platform for digital interaction, I use it as a medium for physical networking, everything I post is to build a real-world relationship ... I set up appointments to meet with all these people because I need to figure out what value I can bring to them and what they can bring to me, and that comes in the form of eating at a table, we are breaking bread, that is the highest form of conversation, talking over a meal ... we have a conversation that leads to something that benefits both of us."–James, Content creator, Long Beach, CA

💬 "The podcast was something that happened organically, growing up having family dinner time, where my family would sit at the head of the dinner table and occasionally when he had a couple too many glasses to drink, he would have these stories that seeped out of him, and these stories made the dinner table go silent, everyone just stopped eating, and he was recalling something that happened in the past, then he would pull himself back. I was curious about what actually happened during the war—we don't read about it in history books, even our parents don't talk about it—we know something bad happened but we don't actually know what happened. Then, COVID happened I found myself trying to figure out how to put together a podcast, so then I had this super janky podcast setup with a table from Home Depot and had my dad come over one day and was like hey let's do this, we turned on the mic. Since then, we have had the most healing experiences of my life, where I had not expected him to go as far as he did but it was a beautiful ... it was a perfect setup for him to be comfortable, it was just me and him, my father telling me about his past." –Dorothy, Podcast creator, Berkeley, CA

2. Research & Data collection

Cambodian American content creators may draw from historical, family, or cultural artifacts that serve as the foundation for their content. In order to build this foundation, creators often engage in an information gathering or documentation process that informs their final output.

💬 "I wanted to compare the Cambodian golden age of the 50s and 60s, the psychedelic rock, that era is romanticized within the Khmer community. I wanted to observe and provide conversation and analysis on how Cambodia in the 50s and 60s is shaping what we are seeing now."–Sotheara, Long Beach, CA

This research and documentation take multiple forms including desk research, observing a family member's cooking process, interviewing a family member about their experiences, or recording videos of food at a restaurant.

💬 "One of the shops I do a lot of work with is the Phnom Penh Noodle Shack, I am good friends with the owner and his family and so that is something I just built through a network ... I go in and describe exactly what I'm looking for, it is really quick and easy, I hop in the kitchen, I direct it the whole deal, I do the finishing shots outside, bring it to the table, do noodle pulls, and I tell them in the next few days you are going to see it on Instagram, I have designed it to be as quick as possible so I can go to multiple places in a day."–James, Long Beach, CA

💬 "The way the podcast is structured is that Season 1 is his birth until his escape to the U.S. So, we have 27 episodes of my father recalling his past, deep details. And Season 2 is how he took that pain and used it to be this great entrepreneur of this company that I am currently taking over, and how he used it as fuel for his future, and how the Khmer Rouge has its after effects."–Dorothy, Berkeley, CA

3. Content design

While Cambodian American digital creators may start with a familiar element of Khmer culture, the crux of their work as creators happens when they make content that adds their own personal takes to these artifacts and elements. Cambodian American digital creator Sokai, for example, is currently working on a project that showcases Khmer traditional dance. He works with Khmer dance troupes from different cities and creates digital content in his own graphic style that portrays the dance form in new light.
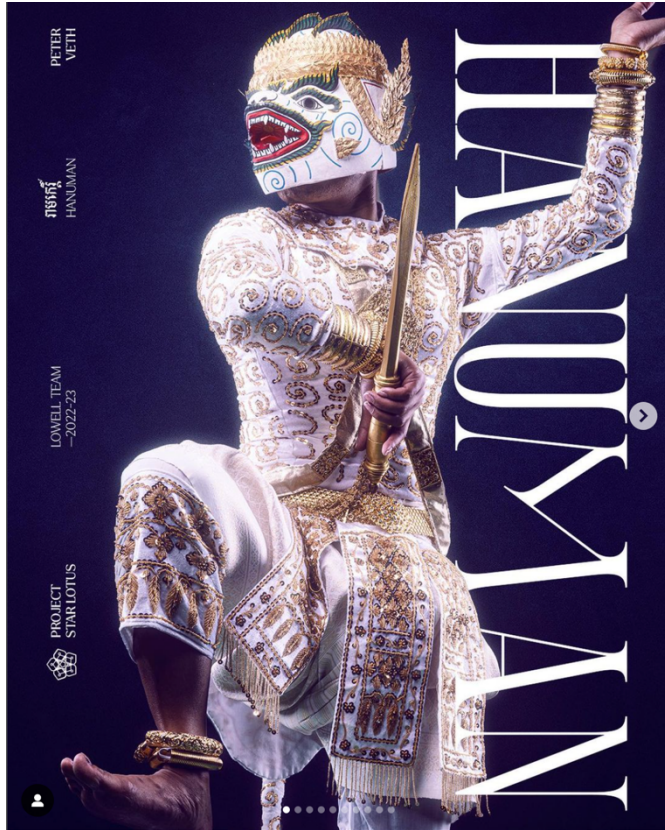
sokaiyoon and **urban_khmer_ballet**

sokaiyoon Project Star Lotus • Part I • Featuring @ouu_nana @petervethmedium @the_office_of_unexplored @chanveaxna • Spent an entire weekend documenting the move sets and kbachs of Khmer traditional dances. Lowell Team ✅, seven more to go!

Star Lotus is an extension of my work from last year displaying Khmer traditions in the arts combined with the modernization and innovation of today's creative frontier. This time I've open to collaborators all over the United States + Canada. Including both trained/seasonal and non-experienced persons.

Looking forward to sharing this grand project with you, but it's only just beginning. Lowell was my first collaborative city; seven more on the list 💖🙏✨

#potd #photo #photography #portrait #photoofday #khmer #cambodia #cambodian #khmerclassicaldance #theater #arts #dance #lowell #atl #hanuman #krongreap #neangneak #preahthong #preahthongneangneak #sonyalpha #family #friends #gallery
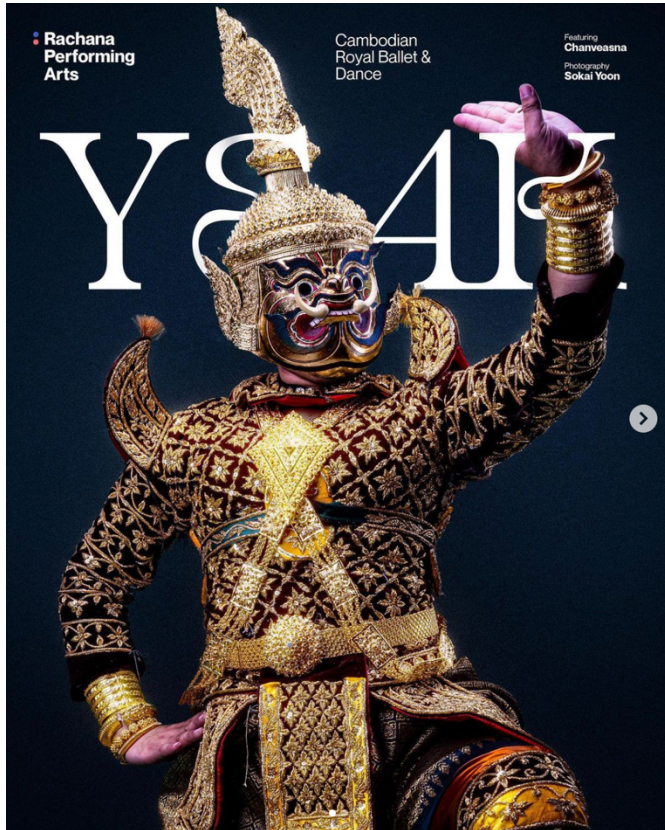
Edited · 30w

ms_papaya Ps. how can we as a community support your project? ☺

30w   1 like   Reply

Liked by **sotheara** and **693 others**

SEPTEMBER 22, 2022

Add a comment...   Post

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sokaiyoon
Atlanta, Georgia

sokaiyoon "Reamasor" • 🕺 @chanveaxna • swipe left for more • A key character in Robam Moni Mekhala, a Khmer mythical story about the origins of rain, thunder, and lightning.

While similar to other Yakshas (Yeak in Khmer), Reamasor's costume is especially distinctive; such as epaulettes that point upward like Indra's bow and a gold ornamented X-strap called a sangvar. Oh you can't forget the magical axe!

There are more unique characteristics to Reamasor's costume, to a point where it took almost an hour to put on prior to shooting. Reamasor's moveset is fierce and organic at a tempered tempo. Stunning to see in person!

#monday #khmer #cambodian #culture #cambodia #art #dance #theatre #khmerclassicaldance #cambodianclassicaldance #yeak #yaksha #family #friends #ballet #gold #atl #atlanta #costume #kampuchea #photo #photography #photooftheday #picoftheday #portrait #dancer #teacher #swipeleft #kaiyoon

Edited · 80w

swiv79 @sopheak_art

63w   Reply

Liked by **sotheara** and **680 others**

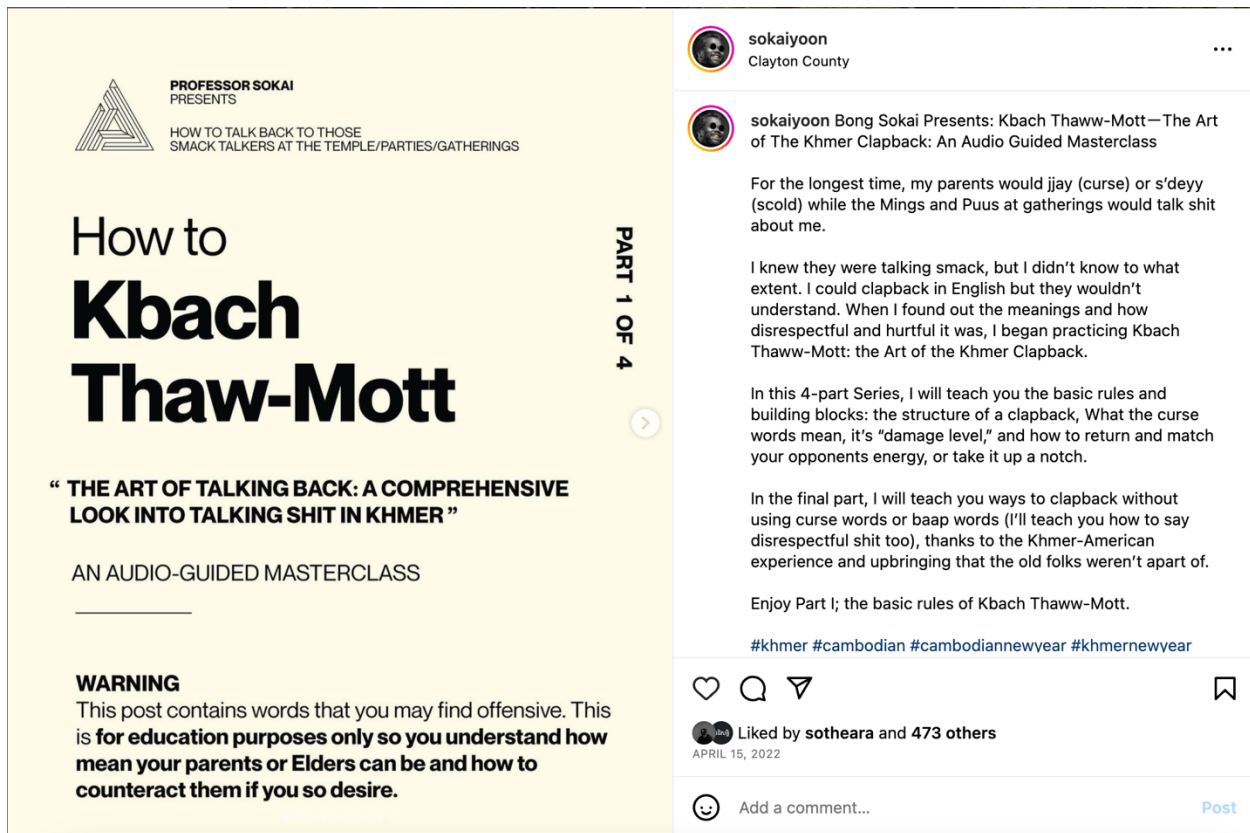OCTOBER 11, 2021

Add a comment...   Post

Figure 11. Sample content created by Sokai—a Cambodian American creator from Atlanta, GA

Sokai is also working with other artists who have similar goals to create innovations within Khmer culture. He describes working with Peter, a Khmer dancer from Lowell, MA, "He [Peter] is a trained classical Khmer dancer, but also does hip-hop. So, we have enough people preserving the culture, but what does the future of Khmer dance look like, what does modern Cambodian art look like? So, Peter would combine traditional dances with hip-hop, and I have a friend who is a popular producer here. We hired some actual Cambodian instrumentalists and we would sample it and turn it into a very Atlanta hip-hop beat." Sokai depicts Khmer dance in new graphic styles as shown in figure 11, but also collaborates with other creators to combine Khmer dance with hip-hop music.

Sokai's work on another recent project illustrates the process Cambodian American creators might take to create content to promote some aspect of Khmer culture. He created a project called "Home" where he bought home goods products made by Cambodian American designers and developed a series of social media posts that marketed the products:

1. Reaches out *to* family member to help with photoshoot
"I started with my Goddaughter Haley, I said, 'hey I need a Cambodian woman, about this height' I just need someone who is able to fit into the costume."

2. _Purchases products from Cambodian American artists_
"They don't know I'm collaborating with them, I just buy their stuff ... and try to find new Cambodian artisans, to buy their products and try to create a theme, this next theme is called "Home" because there are a lot of home Cambodian made products, like candles, pottery."

3. Executes styling/art direction and photoshoot
"Right now, I am collaborating with one person I have never met, who is a Cambodian American woman who lives in the Atlanta area, but this time we are getting her measurements, and I am going to buy the clothing that fits her ... I do these little editorials, a Khmer person surrounded by Khmer products, ... [I portray their products] in this aesthetic that is pleasing, and it attracts more customers to their products."

4. Develops digital content from photoshoot and creates an Instagram post that also links to the artists' social media pages
"I still continue this model where I set up some scenes that are very Cambodian with Cambodian products. The artisans don't know that I'm promoting it for them, but it is only when I tag them in the post that they're like, 'oh my god, she is wearing my earrings.'"

Promoting Cambodian American community businesses is a way for Cambodian American creators to build following and also support Cambodian American small businesses.

4. Community feedback

One of the primary outcomes of the content creation process for the Cambodian American creators is engagement with the community. Their audience is largely comprised of Khmer people living in not only the U.S but also Cambodia or in other countries. Creators expressed surprise that they were able to gather viewership from Khmer diaspora communities outside of the U.S and Cambodia. Some creators use live-streaming features on Instagram or Tik Tok to engage more closely with followers.

💬 "I usually engage with the community through [Tik Tok] livestream—that is where a lot of my communication happens, on Tik Tok live. I'm cooking while I'm live streaming ... viewers will be like, 'oh what are you making?' And I'll say 'I'm making this' ... when I'm on live they get to see the raw videos of what I'm actually doing, they see the raw version, not the edited version." –Kune, Digital Creator, Providence, RI

While amassing followers and engagement is critical to the success of their work, creators emphasize that the aim is for the connection to still be authentic. They take steps to do this by doing things like showing themselves in their content, or using authentic ingredients. Longer form content like YouTube videos also help creators to build authenticity by showing more behind the scenes content.

💬 "Sometimes people are afraid to be in the camera, so like I can see your content, but you are only showcasing your food, what about your face ... that is why people follow me, because of my personality, because of my food and my personality"–Kune, Digital Creator, Providence, RI

Creators often intend to use platform, and traction gained there as a launching point for a related business or initiative. Some initiatives that creators I interviewed are working on include:

- a Cambodian American food truck
- a creative agency for Cambodian American businesses
- a digital mental health counseling service for Cambodian Americans

💬 "I am in the process for creating a virtual safe space for Cambodian Americans, partnering with a PhD Cambodian therapist that I met who works out of UC Santa Barbara, he and I are very passionate about starting the healing process for Cambodian Americans, breaking the generational cycle, because there is generational trauma that gets passed down to us from our parents. It will be a free monthly Zoom session where a bunch of Cambodian Americans can come and talk about different deep topics with a therapist that is also Cambodian in the room." – Dorothy, Podcast creator, Berkeley, CA

JOURNEY - PERSONA 2: THE TACTICAL WANDERER

PRIMARY GOAL: **Visit places that align with specific experience criteria**

1. Place discovery
Respondents typically go to Instagram to discover new places. They find that Instagram content created about a restaurant gives a better sense of the experience of a place. While they feel like other place search platforms provide useful technical details about a place, they lack this experiential component.

💬 "Instagram is like the first step, it's like the pitch, like I get a cool video, I get someone that is actually eating the stuff, and I can see all the stuff they ordered, like maybe they're reviewing it, and that is what brings me in, and if it passes the test then it makes it to Google Maps. I'm hardly ever on Google Maps looking for a place." –Amanda, 30, Los Angeles

💬 "Instagram is more experiential, and also more exploratory, that is where I would find a place that never comes up on Google, or never come up on DoorDash for me, because it is either a hole in the wall place, or outside of my Pasadena small bubble, so I'd say that is more where I can play a little."–Amanda, 30, Los Angeles

Respondents also notice that searches on Google Maps and Yelp tend to return generic results, and make it difficult to find more 'hole-in-the-wall' places.

💬 "We'll do the oh we are going to this place, on the way we need food, search for food along the path kind of thing ... and sometimes I will search for food on Google Maps, but I always feel like it doesn't give the best representation of what food is around ... if you were to open Google Maps and look up 'food', the things that come up in my area are Chipotle, Wendy's, McDonalds, so it is like I feel like the things Google Maps is built to do is to take you to a quick fast food place

on your stop to somewhere else. Also, I know when I do a Google Maps search, it is missing a lot of places, like I moved south of where I live, and I said search this area, and there is this plaza, it is showing one restaurant in this dense area, and that whole street is lined with restaurants, and you are not getting the whole picture of what is there."–Tiffany, 28, Los Angeles

However, respondents will still use Google Maps search if they need to find place nearby right away. Since Instagram doesn't have a nearby search feature, respondents turn to Google Maps or Yelp to find places if they need to find a place right away.

💬 "It is very situational, If I'm out with a friend, and I want dumplings, then I'll Google 'Dumplings' or look it up on Yelp, then it is more of a quick find, there is a time pressure and I need it now, I can't just go on Instagram and search 'dumplings' so it is more for two different needs". – Amanda, 30, Los Angeles

Although a combination of Instagram and Google Maps search tends to be the dominant approach for finding new places to visit, respondents may use such as recommendations from friends or even through the mobile game *Pokémon Go* where players have the chance to receive special in-game rewards by visiting specific physical locations.

2. Place research

As an extension of their place discovery process, respondents will gather information about a particular place to determine if it fits their criteria for the specific occasion.

💬" Google Maps feels more prescriptive, you can look at the menu, inside, outside, food, it is more comprehensive, and it is all the poor-quality photos. Since I am using it more for a specific situation, those elements are important … I'll look at the interior of the place, and if it will be a comfortable vibe, and I'll look at the menu and the details to make sure it has dairy free options for my aunt. It gives me all the technical info I need to pass that requirement, and normally there are pictures there to give you a vibe for the food, the feeling of the place, I want to make sure the food is worth their time, and not too basic."

Respondents rely heavily on visual elements in their place search, and find that everyday user generated content about a business shown on Google Maps doesn't always portray the place in the best light. While respondents distrust Google reviews because they believe one-off negative experiences can have a disproportionately large impact, some will look at the average rating just to make sure the restaurant isn't rated too low.

💬 "I don't look at user reviews a whole lot, I normally take the ratings into account to make sure they are not awful, but so many reviews were just their one experience, so I don't take it into account a whole lot, it is more the star rating just to make sure it is not like two stars or really bad, I rely more on the photos, it is very visual."

One respondent trusts opinions about a restaurant posted on Instagram more than Google Maps because the content tends to be more aesthetically pleasing, and the fact that someone took the time to put together a whole social media post about a restaurant makes the content seem more trustworthy.

Respondents also find that storytelling about the business and owners help with their desire to build a more personal connection with businesses.

💬 "I found something on Instagram recently focused on businesses in LA but they had little videos on them, it was almost like a little profile on them, they were kind of giving the history of the businesses. They focused on a shop in Little Tokyo that had been around 50 years, and I thought that was cool that this business has been around this long and survived, and it featured the owners and what they're all about. You don't get that unless it is featured somewhere. It was a quick snapshot and gave me a lot of background on the shop."

For respondents, how the business shows up on digital platforms really matters. The emphasis on business optics within platforms like Instagram or even Google Maps reinforces the imperative for businesses to take steps to ensure that businesses represent themselves digitally in an appealing way.

3. Save place for future reference
When respondents discover a new place on a social media or place search app, they typically try to save it for future reference. How they go about this varies—some will bookmark or screenshot content from Instagram, saving a place discovered on Instagram onto a Google Maps list, or even use a project management app to save the list.

💬 "In Instagram is where I do all my categorization of content that I come across in my saved folder. If someone posts something in a location, and I'm like that looks cool I wanna go there, like someone posted this bar recently and location tagged it, but you can go in on Instagram and click that thing and then click save and it will save the place on a map, and then I have a category that is just travel and activities, which is another one where I save... if I have a location tag, I just save it there and I just have to rewatch the thing later."

Despite having different approaches for keeping track of new places to visit, for the most part respondents say the process doesn't feel streamlined. Respondents typically juggle multiple apps, and the app where they discover a new place is often not the app where they store their list of places to visit.

💬 "Like for example I just went to Paris, there is so much Paris stuff on Instagram, and accounts that I follow, so if I saw a cool restaurant, or it was like an Instagram video about the top 5 croissants in Paris, I watched that video and I went to Google Maps and bookmarked some of them, but it's because I had a goal in mind. But if it were casual like top 5 sandwiches in LA, I probably wouldn't have taken the time to go to Google and bookmark those in a general folder. I would more likely have bookmarked the video in Instagram and shared it with Michael, but

nothing more definitive than that. It is kind of a lot of work, especially because I am on Instagram every day and see these videos all the time, I couldn't imagine bookmarking them every single time, especially in a different platform, like moving them over to Google."

However, respondents find adding places to a Google Maps or Yelp list can be helpful for trip planning because it allows them to organize all their content in one place for easy reference on-the-go.

NEEDS

User segment: The Digital Culture Creator

The platform...	Need	Insight	Customer statement
	helps digital creators and small businesses discover each other and connect	Cambodian American creators rely on collaboration with other Cambodian American creators, but distance often prevents them from more frequent interaction	"That's the beauty of the internet, being able to connect with Cambodians outside of concentrated areas...it just feels like they know what you're going through. I try to foster that connection, because say we want to work on a project ... the objective is to connect with a Khmer person outside of your city to create something beautiful for our people."
	allows digital creators to post information/updates about their work and increase engagement for specific projects	Creators often involve community members or small businesses, but currently have limited forms of outreach	"So, one person saw my photography work—one person I pretty much raised, I took care of them when they were a kid, and they are now a dance teacher for Khmer classical dance. They were like 'hey, I can't pay you but can you get some collateral for my

The platform...			
			dance troupe, I'm trying to recruit more dancers.'"
	enables content creators to contribute to marketing and experience of local Cambodian American businesses and initiatives (i.e., events)	Small Cambodian American businesses have difficulty promoting their businesses through online channels	"The older generation uses Facebook, they might post something about their restaurant but people don't know what it is, it is just showing them a plate, but it doesn't show how can I have that or get that dish when I go to the restaurant."
	brings together Cambodian diaspora to engage with content and each other	Ways for diaspora to engage with content limited to social media comments section and live stream	"I usually interact with the community through Tik Tok live … that is where a lot of my communication happens, on Tik Tok live. I'm cooking while I'm live streaming, and viewers will be like, 'oh what are you making? And I'll say 'I'm making this.'"

User segment: The Tactical Wanderer

The platform...	**Need**	**Insight**	**Customer statement**
	helps consumers find new local businesses	Traditional place search platforms often deprioritize small local businesses	"Sometimes I will search for 'food' on Google Maps, but I always feel like it doesn't give the best representation of what food is around."
	allows users to save places of interest on platforms they already use	Saving places of interest, and accessing the list needs to be	"If it were casual like an Instagram video showing the top five sandwiches in LA, I probably wouldn't

		seamless, with few friction points	have taken the time to go to Google Maps and bookmark those in a general folder, I would more likely have bookmarked the video in Instagram and shared it with Michael, but nothing more definitive than that. It is kind of a lot of work, especially because I am on Instagram every day and see these videos all the time, I couldn't imagine bookmarking them every single time, especially in a different platform, like moving them over to Google."
	gives users a more personal connection to the business	Consumers see personal connection to a local business as a factor that encourages them to support that business	"I'm trying to be more focused on supporting small businesses and restaurants, not just chain restaurants, and connecting more to the people that run it and what they're about … that is not always easy to find unless you are reading something from someone, or that you are with someone and they happen to know the owner."
	provides insight into the experience of visiting a small business	No single search platform provides both the technical details of a restaurant	"I definitely think something in the middle is needed … I need the basic info

		as well as what a customer should expect from the experience	from Google, but I need some of the flare and the taste from Instagram to catch my eye, something beyond just some of the basic info."

ESTABLISH TARGET SPECIFICATIONS

Once we identified user needs, the next step to narrow down the core features of the mobile app is to determine how well major competitors meet the key needs of both persona segments. The following matrices show that major place search and discovery platforms do not meet the needs of The Digital Creator user persona particularly in helping them discover other digital creators, and in bringing together the diaspora community. And the existing platforms also could balance helping the Tactical Wanderer user persona by making more personal connections with local businesses and easily saving places of interest.

Establish Target Specifications

Competitors

User: The Tactical Wanderer

The platform...	Google Maps	Yelp	Instagram	Tik Tok	Airbnb Experiences
helps consumers find new local businesses	■■■	■■■	■■■	■■■	■■
allows users to save places of interest on platforms they already use	■■■■■	■■■	■■	■	■■
gives users a more personal connection to the business	■	■	■■■■	■■■■	■■
provides insight into the experience of visiting a small business	■■	■■	■■■■	■■■■	■■

■ Doesn't meet need at all

■■■■■ Meets need completely
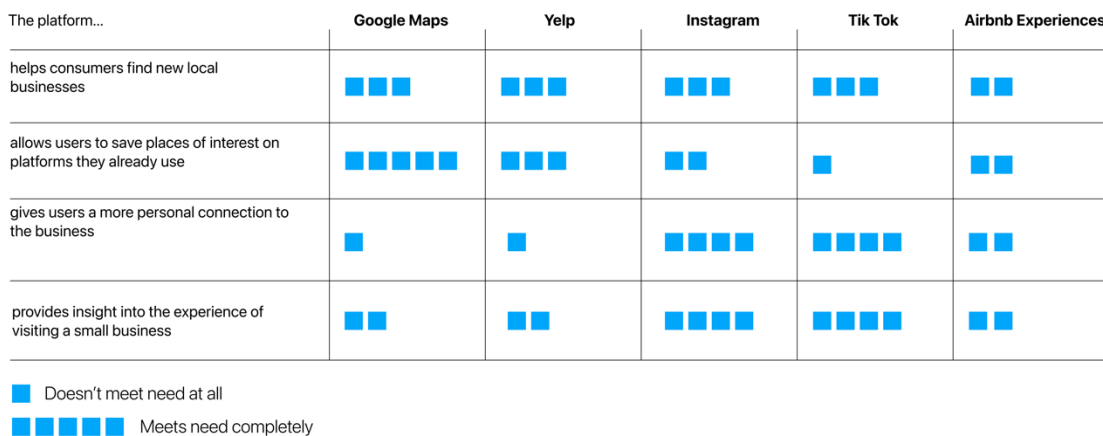
Figure 12. Competitor performance on user needs – The Digital Creator persona

Establish Target Specifications

Competitors

User: The Digital Creator

The platform...	Google Maps	Yelp	Instagram	Tik Tok	Airbnb Experiences
helps digital creators and small businesses discover each other and connect	■	■	■ ■ ■	■ ■ ■	■
allows digital creators to post information/ updates about their work and increase engagement for specific projects	■	■	■ ■ ■ ■	■ ■ ■ ■	■
enables content creators to contribute to marketing and experience of local Cambodian American businesses and initiatives (i.e. events)	■	■ ■	■ ■ ■ ■	■ ■ ■ ■	■
brings together Cambodian diaspora to engage with content and each other	■	■	■ ■	■ ■	■

■ Doesn't meet need at all

■ ■ ■ ■ ■ Meets need completely

Figure 13. Competitor performance on user needs – The Tactical Wanderer persona

The aforementioned gaps left by competitors helped me to determine the design of the app based on key needs that are not currently being met.

GENERATE PRODUCT CONCEPTS: DESIGN

Taking insights from user research, I designed a mobile application that addresses the needs of Cambodian American creators. Within the scope of this project, I developed a high-fidelity prototype. While this iteration of the app requires refinement, the intended use of this prototype would be to put it in front of target users in order to test key assumptions, before building and implementing a beta version.

INFORMATION ARCHITECTURE
Aside from the landing page which contains a feed with most recent content posted to the app, the app consists of six main sub-pages:
- Businesses
- Events
- Map
- Projects
- Stories
- Night Market

The site map in Figure 14 shows the main components of the mobile application, and the organizational hierarchy of the app components. Each node represents a page and the connectors show the different paths users can take within the app.
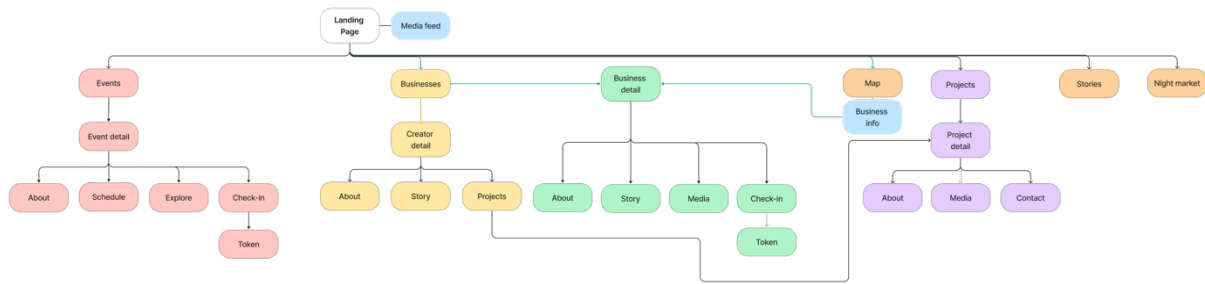
Figure 14. Mobile App Site Map

USER TASK FLOWS

One way to approach the design of the mobile app is how it allows users to accomplish specific tasks or goals. I have identified three key tasks users should be able to accomplish with the prototype mobile app:

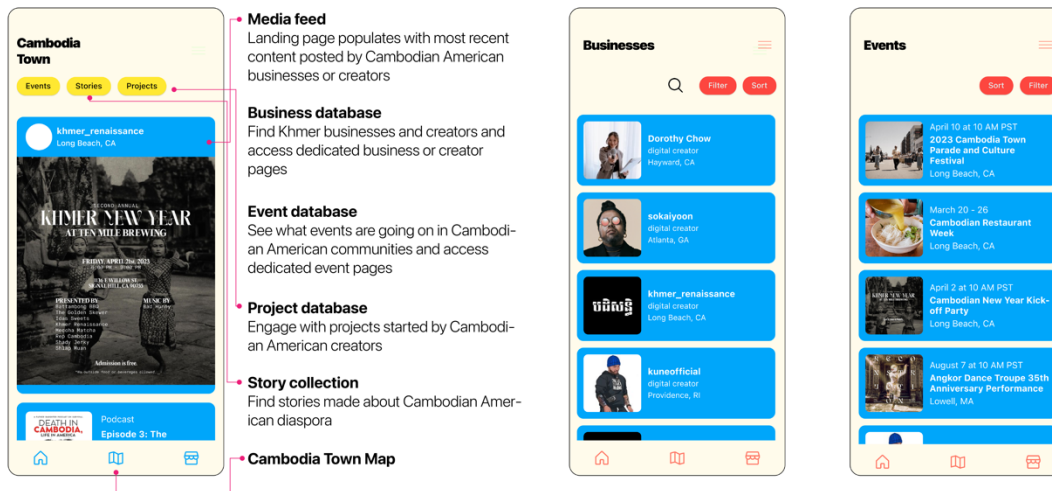- Discover a new business
- Find other creators
- Explore a place

Figure 15. Landing page and business/event search wireframes

Although testing the prototype with users is beyond the scope of this work, the next step would be to ask target users to use the app prototype to complete the above tasks, and gather feedback on their experience. Their feedback would inform the design and development of the beta version of the app.

DISCOVER NEW BUSINESS

Discover Cambodian American businesses

Business profile
Business profiles provide in-depth information about
Cambodian American businesses, and support marketing

Business / Story

Business / Media

Google Maps integration
Add business directly to existing
Google Maps list

Experiential content
Get to know the business better with sto-
rytelling and digital content posted about
the business by creators or the business

Status updates
Businesses can post updates to inform
community about happenings like dis-
counts, collaborations, or events

In-person engagement
Help businesses generate more engage-
ment through 'check-ins' and gamified
elements like digital tokens

Figure 16. Business profile wireframes

FINDING OTHER CREATORS

Connecting Khmer creators

Creator profile
Creator profiles put all information about Cambodian
American digital creators in one place

Direct link to social media
Most Cambodian American digital
creators use Instagram or Tik Tok to
post their content. Access creator's
social media page right from creator
profile page

Access current and completed projects
Users can more easily find ways to collabo-
rate or support by having easy access to a
creator's ongoing and past projects

Real-time status updates
Creators can provide status updates to the
community or other creators–whether it is to
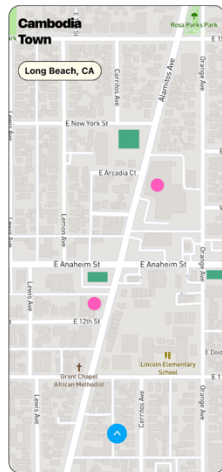look for collaborators or notify people about a
new project

Figure 17. Creator profile wireframes

PLACE EXPLORATION & GAMIFICATION

Place exploration

Cambodia Town Map
Explore local businesses, and events in the two largest
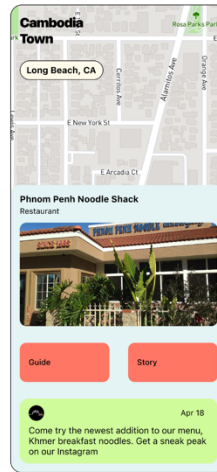Cambodia Towns in Long Beach and Lowell, MA

Find businesses in Cambodia Town
Map shows different businessess in
Cambodia Town, that allow users to
learn more about them

Stay informed about local events
Map also shows information about
events happening in the area

Businesses

Events

Storytelling for business
Build a more personal connection through story-
telling about business

Guides
Learn about what to order at a restaurant with
eating guides

Status updates
Businesses can post updates to inform community
about happenings like discounts, or events

Figure 18. Place exploration wireframes

THE NIGHT MARKET
A final feature concept I introduce as part of the Cambodia Town App is The Night Market. The name pays homage to the night markets that can be found throughout many parts of East and Southeast Asia. The Night Market is a virtual gathering space for the Cambodian Diaspora. Acknowledging a community fragmented by geography, I imagine what a space that holds memory, cultural innovation, and interaction might look like. As represented by figure 19, The Night Market consists of virtual "rooms" where Cambodian American creators can showcase and preserve their work. These rooms also provide opportunity for collaboration with other creators from the community. The Night Market will also host virtual "gatherings" which are online events for the Cambodian diaspora community such as digital mental health clinics or the digital version of the Khmer New Year Festival.

Users access the Night Market through the Cambodia Town mobile app, and can visit the virtual rooms and virtual gatherings within The Night Market as virtual avatars. These avatars allow multiple users to be in the same room, viewing content together, and give the feeling that they are in the same space as other people.
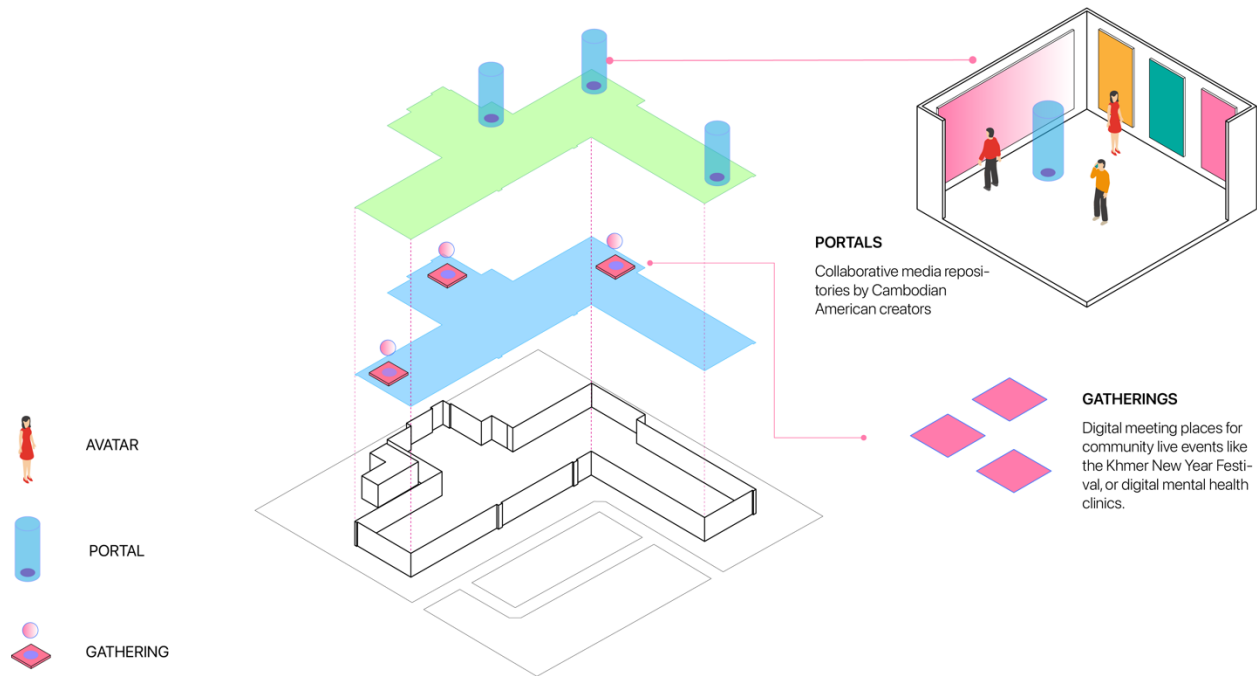
Figure 19. The Night Market concept

While building a 3D virtual environment such as this requires significant resources, the Night Market concept proposes a way to build connections within the diaspora community and collectively

CONCLUSION

IMPLEMENTATION STRATEGY
While the Cambodia Town app emphasizes digital connections, the platform should still maintain ties to the physical spaces and places that constitute Cambodia Town. The app circles back to physical places through the map feature where users can explore events and businesses in Cambodia Town in Long Beach, CA and Lowell, MA. This connection of the app to the physical world can also be accomplished through the app implementation strategy.
During my field visit to Cambodia Town in Long Beach I spoke with two community leaders in charge of organizing the Khmer New Year's festival—the largest event for the Cambodian American community that occurs every year. They described how the New Year festival brings visibility to local Cambodian American businesses, and also expressed challenges promoting and documenting the event using digital channels. The app could be piloted during the Khmer New Year's festival, and new users could be incentivized to join the app because it provides easy access to information and content about the event through the app. The organizers of the Khmer New Year's festival pointed out that digital creators have already been live streaming and documenting the previous iterations of the event, and their coverage has gained significant viewership. This app could provide a one-stop-shop for all digital content related to the event,

and also provide a streamlined way for anyone interested in or attending the event to more easily navigate.

A finding that came out of user research is that creators are already working extensively on creative initiatives within the Cambodian American community. Keeping this in mind, another implementation strategy for the Cambodia Town app is to partner with Cambodian American content creators to support their existing initiatives. As shown in the data, restaurants tend to have highest engagement among establishments on digital place search platforms like Google Places. A viable strategy, therefore, at the early stages of implementation is to start promoting restaurants on the platform as a way to quickly build engagement on the app, and then expand to other types of businesses.

The work of Cambodian American digital creators is not just about promoting local businesses, or Khmer culture, but also creating space for intergenerational dialogue. Among the people I interviewed, the most prominent example of this comes from Dorothy, the Cambodian American creator who started a podcast focused on her father's experience during the Khmer Rouge genocide and his subsequent resettlement in the U.S. Dorothy uses the digital podcast to address the intergenerational silence experienced by many in the Cambodian diaspora including my own family. The app can also hold space for intimate conversations, sharing personal stories, and mental health among the Cambodian diaspora. It can encourage intergenerational dialogue by increasing access to dialogue spaces offered by the Cambodian community—such as the digital mental health clinic offered by Dorothy—and by making stories more visible to the community.

A major consideration when creating any kind of digital technology solution is accessibility for users in older age groups. Some creators like Dorothy already are helping to bridge this gap by connecting with older generations through digital mediums. Another aspect of implementation will be exploring how these creators might act as facilitators for those in older age groups to adopt or participate in the platform.

OUTSTANDING QUESTIONS & FUTURE WORK
While the set of user interviews provided sufficient needs data to build a prototype, I plan to conduct further user testing and research to further refine the concept. The purpose of the initial round of prototype testing is to quickly test key assumptions and answer outstanding questions I have about the digital platform and the potential users. Some of these assumptions include:

Will both older and younger generations of Cambodian Americans use this platform?
How important are the major features (business discovery, creator collaboration, place exploration) to target users?
How effective are the app features in helping target users meet their needs and achieve their goals?

Although this work focuses largely on the design aspects of the platform, a major consideration when implementation is how to ensure financial sustainability of the platform. One approach I would explore further is partnership with City of Long Beach and position the platform as a way

to support a vital cultural presence in the city. Another avenue could be collecting a percentage of additional earnings from creators or businesses once they join the platform. However, these decisions must be made in conversation with Cambodian American businesses, since it would impact whether or not they use the platform.

A related question for further exploration is should I build the digital platform from the ground up as its own app, or should I use existing digital platforms to meet the needs of Cambodian American creators. Although the wireframes shown above are for a standalone app, I believe the prototype for the initial round of testing could be a combination of this app, and a "works-like" set of features built on an existing flexible platform like *Airtable* or *Notion.* The reason I consider building on top of existing platforms because it is incredibly costly—both financially and in terms of time—to build an app from scratch and to maintain it. It is likely that I could build similar features on existing project management platforms that meet the same needs of target users at a fraction of the cost.

The next phase of this platform is to circle back to target users and community members to get feedback on the platform concept. I plan to use the prototypes I created as assets to systematically gather feedback from target users in the Cambodian American community—both digital creators and small business owners.

I mentioned that one of the biggest learnings from the quantitative data collection was understanding the limits of the data and their sources. The data returned from the Google and Yelp API reflect how these place-search platforms are built and who they are built for. When answering these questions, it is more about what data are missing than what data are present. These large-scale search platforms are driven more by function—making consumption more efficient, and collecting data.

This shows in the fact that these platforms leave out countless "informal" home-based businesses, and provide only the minimum information needed for consumption. When an everyday consumer searches on these platforms, it returns leave out many small local businesses, any details about the owners of the business, or their relationship to the community—businesses removed from the context, communities, and people they are connected to. This often means their perspectives are not considered and they benefit less from the platform at the end of the day.

I hope, with the proposed Cambodia Town app, to address some of these gaps. What I am proposing is not just a digital space for consumption of information or to find a place to eat, but a space for connection too. I draw inspiration from James, one of the Cambodian American digital creators I spoke with who always begins his work by sharing a meal with the people he is creating content for. In the same vein, this is for the Cambodian diaspora kids like me who grew up in our parents' donut shops, working in back rooms of family-owned restaurants and grocery stores, or running the front desk of their parents' auto repair shops so we might share our stories, and the intimate details.

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APPENDIX

This technical appendix provides details on the process I used to develop the prototype concepts for the Cambodia Town mobile application.

HIGH FIDELITY WIREFRAMES

I developed high fidelity wireframes using Figma, a design software used to design web and mobile applications. While users cannot build a fully functioning app using Figma, it allowed me to quickly generate interactive wireframes for my app which are adequate for my prototype testing purposes.

I designed concepts following commonly accepted User Experience (UX) design principles—which are used when building digital products to ensure good usability. While there are multiple, often overlapping, UX design principles and frameworks, I followed the following set of Human-Computer Interaction design heuristics:

- *Learnability:* is it easy to learn?
- *Efficiency:* once learned, is it fast to use?
- *Safety:* are errors few and recoverable?

I chose to build a mobile app instead of a web site because it is typical practice to build for smaller screen sizes, and then scale. This approach tends to be easier than building for larger screen sizes, and then scaling down.
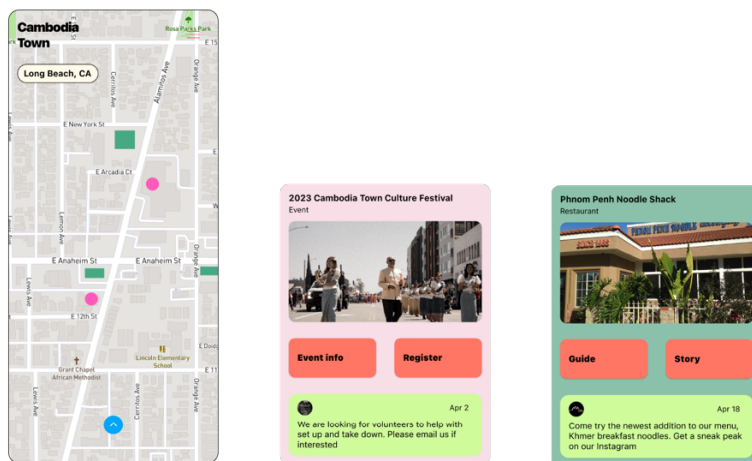

Figure A1. Figma components for Cambodia Town app Map feature

In Figma, I designed different screens for the Cambodia Town mobile app to effectively demonstrate key functions of the app during user testing. Figure A1 shows how a single screen in the Cambodia Town mobile app can be built using multiple separate components layered on top of each other. I then added interactivity to these components to simulate a real-world mobile app experience for users during testing.

I designed much of the app based on user flows. User flows show how users would accomplish a specific goal or task using the app. I designed different screens that mirror the steps I intend the user to follow in the app to accomplish their specific task—an example of which is depicted in Figure A2. In Figma, I added interactivity to these screens, which allows users to test the prototype by clicking to navigate to different screens just like they would in the real-world implementation of the app.
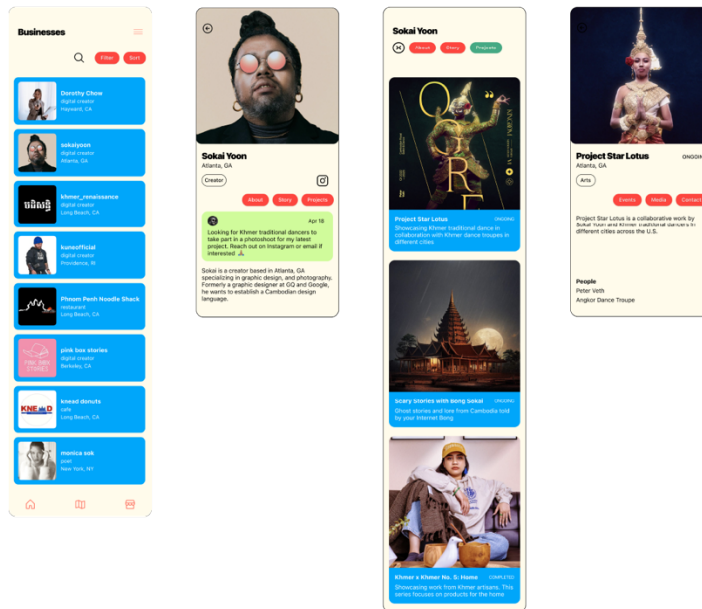

Figure A2. Figma components for user flow to find information about digital creator

Working samples of the Figma prototype can be accessed using the following QR code:

INTERACTIVE COMPONENTS

As mentioned above, while Figma is a powerful tool when creating basic interactive "works-like" prototypes, it cannot handle developing more complex or custom features. Due to the limitations of Figma, I used HTML, CSS, and JavaScript (JS) to build specific components of the app prototype. I chose to build these components from scratch because I wanted them to demonstrate the interactive mapping feature, and app pages with embedded digital 3D models—both of which were difficult to replicate using Figma.

Figure A3. Interactive map for Cambodia Town App using Mapbox GL JS

For the interactive mapping feature, I used Mapbox GL JS to build a custom interactive map within the app that is specific to Cambodia Town. Mapbox GL JS is a client-side JavaScript library for building web maps and web applications that uses Mapbox as a base. I combined this with HTML and CSS to build an interactive map prototype depicted in Figure A3.
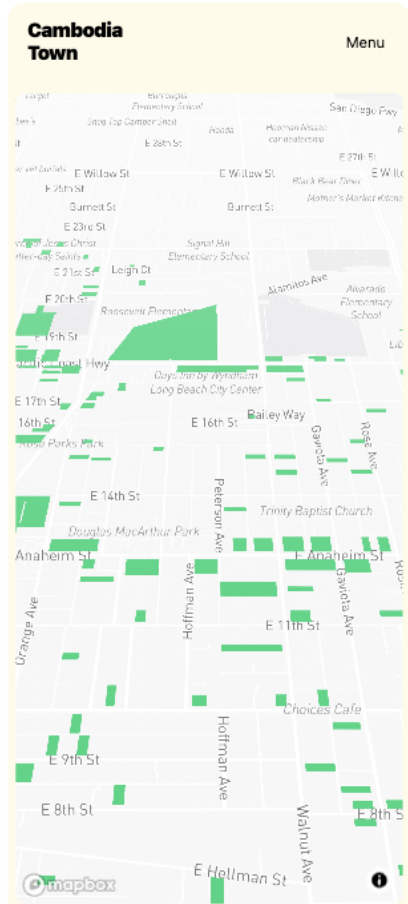
Figure A4. Cambodia Town App screen with 3D model embedded

For the app pages with embedded 3D digital models, I used an open-source JavaScript library called <model-viewer>. This allowed me to take 3D models that I built in a 3D modeling software called Blender and embed them directly into my HTML code. Following these steps, I created working app screens with 3D models embedded within them as shown in Figure A4.