

2022 Techno-art Capstone Project

Final Documentation

Travel Like a Local,
Trocal

Team Pi

2015198015 Hyungjun Cho
2018195165 Hyun Seo So
2018195016 Gail Moon
2018190127 Dong Eun Cheong
2019195135 Minseo Cho

1.0 Highlights

1.1 The Problem

Our team decided to tackle the issues that a traveler could encounter when planning to travel to unfamiliar areas. Market research helped us understand the status quo of the tourism industry, especially after the pandemic, and identify the comparative advantage of current market players. Compared to the importance and value of travel, information resources are not sufficient to complete the experience. Moreover, with the easing of the COVID 19, more and more people are traveling these days. This social change requires related industries to increase efficiency, in the process of preparing for frequent and various forms of travel.

Our team conducted a survey and one-on-one interview to find out the major travel trends and behavioral patterns of travel planning. The purpose was to establish the basic framework needed to further narrow down the user research domain and to ensure that there are any notable pain points regarding traveling. A survey was conducted on 60 adults from March 21 to March 27 asking questions on their travel preferences and travel planning behavior. The survey was conducted through Google Forms. Non-probability sampling was used, the respondents including but not limited to Yonsei students.

Starting from the interview, we understood that problems of reliability and accessibility were the utmost issue of the existing travel services. Mostly, interviewees expected search engines to efficiently sort the results, showing relevant information and excluding commercials. Also, there were several pain points while setting up travel plans, such as diversity of travel needs, time consuming procedure and little understanding of the region. Interviewees continuously insisted that the major problem was the lack of understanding on travel spots. Subsequently, a survey was conducted to specify and find out in detail about the satisfaction and dissatisfaction of existing information channels. Our analysis of the survey data identified the biggest pain point as the difficulty in finding travel information that is credible, accessible, and abundant in one single platform.

People were mostly satisfied with search engines in that it has accessible information (28%), a large amount of information (23%), and was easy to use (21%). Satisfaction for travel apps could be attributed to ease of use (25%), customized information (19%) and UI (18%). Recency of information (28%) and accessibility (24%) were the highest factors behind the satisfaction of SNS. However, in all three channels of information, credibility and promotional information scored the highest as reasons of dissatisfaction. On the contrary, books and acquaintances were both thought to be providing credible information, taking 50% and 40% respectively. However, people were mostly dissatisfied about the amount of information (43%) for information provided by acquaintances and recency of information (26%) for books. The survey results suggest that people have difficulty in finding travel information that is accessible, abundant in amount, and credible at the same time.

Through the user research, we could establish the basic framework needed to cluster user characteristics and construct a customer profile reflecting the specific needs and pain points of each group of users.

1.2 Our Solution

After ideation procedure, we came to a final decision that a platform that connects travelers with locals would be the best solution to the customer problem. Our team validated the idea with a value proposition canvas and ensured that our service is positioned around customer values and needs. We plan to develop a travel platform with a mission “to make every traveler travel like the locals. To

achieve this goal, a community based mobile application that connects locals with travelers came up to be the best solution fit to our customer profile.

With the help of GPS technology, a verified local provides credible and in-depth information about the region, making the information reliable to the users. Accessibility issue can be resolved by establishing an active, sustainable community of people interested in traveling the region, and putting them in the form of a mobile application. Tag system is implemented to help the users efficiently sort and find the information to their needs, and region-based, customized advertisements with explicit advertisement tags will relieve the stress the users can potentially get.

The most differential feature of our service, a travel plan request, can accommodate various tastes of tourists and customize the travel plans to maximize their travel experience by realistic and exclusive information about the region provided by the verified locals.

‘Trocal Point’ system is one of the crucial business models of our service, which can be earned through various activities like purchasing, contributing as a local, or actively participating in the community. These earned points are used when the user becomes a tourist and requests a travel plan or asks for feedback on their itinerary.

We believe our service can be a cure for the customer’s pain points by providing trustworthy, up-to-date, and abundant local information through convenient and accessible modes. We plan to develop a travel platform with a mission “to make every traveler travel like the locals.

1.3 Value Proposition or Business Model

Our service is a travel application that provides reliable and quality travel information by encouraging free and active online communication between locals and travelers. It enables customers to lessen the planning burden. We plan to make planning travels a joy, using technology to turn expectations into a realization in the simplest and most pleasing way possible. Running through a point system, it allows travelers to be helped, generating healthy contributions to the community. Planning travels is just as simple as having a small talk with locals. Confirmed locals by GPS technology would provide detailed and customized information about the region based on travelers’ preference. While several platforms provide travel information, our service differentiates itself by offering a pleasant customer experience for everyone with automated tag systems on advertisements and censorship against inappropriate postings, which many users responded as the reason for unpleasant experience while using related services. Travel plans recommended by locals often have more character than guided-tours’ plans. We aim to make it possible for travelers to obtain trustworthy, up-to-date, and abundant local information through convenient and accessible modes.

Below is a business model canvas for Trocal. In terms of revenue stream, Trocal provides most key features for free but generates revenue with advertising fee and in-app premium usage fee. We offer in-app advertisements for local stores who want to promote their business and gain exposure to users on the community tab. Locals can earn Trocal points by completing traveler’s plan requests or reviewing traveler’s itineraries, and travelers should use points to request these premium functions.

Key Partners	Key Activities	Value Propositions	Customer Relationships	Customer Segments
<ul style="list-style-type: none"> Travelers Locals Local stores Specialized technology providers (Maps API, GPS) Investors 	<p>Production</p> <ul style="list-style-type: none"> Establish a mobile application Problem Solving Allow users openly share their information Provide locals' feedback on travel plan Verify the locals Point system to maintain community Platform/Network Monitor the community for quality assurance <p>Key Resources</p> <p>Physical</p> <ul style="list-style-type: none"> Mobile application Human Service management team Technology engineers Marketers Designers Intellectual Data to enhance the algorithm 	<ul style="list-style-type: none"> Provide up-to-date and trustworthy information Abundant information Unique information from the locals (share local favorites) Lessen the travel planning burden Ensure easy access to travel information 	<ul style="list-style-type: none"> Frequently interact through social media Ask to review the service regularly FAQ, Q&A board <p>Channels</p> <ul style="list-style-type: none"> Mobile application (communication) Social media (marketing) Play store / app store (distribution) Advertisement (marketing) 	<p>Mobile application users</p> <p>[Segmented market]</p> <ul style="list-style-type: none"> Travelers Travelers who want to travel unknown places Travelers who are curious about up-to-date local information Locals Locals who want to know more about their areas Locals who want to participate in a local community
Cost Structure	Revenue Streams			
<p>Value-Driven Business</p> <ul style="list-style-type: none"> Fixed Costs <ul style="list-style-type: none"> Salaries and wages App development cost Others 	<p>Variable Costs</p> <ul style="list-style-type: none"> Marketing and Sales Research and development 	<ul style="list-style-type: none"> Function usage fee In-app purchase of points for premium function Advertising GPS-based local advertisements (censorship on user-driven ads) 		

1.4 Keys to Success

For our product to succeed, it would be very important to establish a certain amount of sustainable and healthy communication between the tourists and the locals. Since one of our biggest sources of revenue occurs when tourists request the locals for travel plans or review of it, it is crucial to acquire both the number of tourists and locals, and the number of interactions that occur between them.

Marketing through various media like social media, community, virals and app store optimization will attract more users to come into play as locals and tourists. Retention through quality user experience and customized in-app or push notifications will secure the loyal group of users. After acquiring a meaningful number of users, it is crucial to design a quality user experience, offering customizations and recommendations that tourists could not experience anywhere else. Therefore, a monitoring system to keep the quality of feedback suggested by the locals and postings uploaded to the community should be managed thoroughly. It is also important to motivate the locals to show contribution, not only by rewarding them with Trocal points, but also acknowledging them as 'influencers' if they receive multiple positive feedbacks from the community.

2.0 Line of Products or Services

2.1 Features

The features can be divided into two main parts: travel planning and community.

In the travel planning section, a tourist can either request a local to plan the trip for them, or plan a trip on their own. Tourists set conditions of place and date of travel, type and number of companions, accommodations, transportation, budget, and travel style. Then the travel planning request is posted for the locals to see, and among the locals who have accepted the request, the tourist gets to choose

the one to be matched with. Tourists can also plan a trip on their own to share it with their friends or the public. They could even get feedback from the locals by spending a small amount of Trocal points.

On my page, users can verify their status as a local by using GPS technology. Also, Trocal points can be managed in this section. Trocal points can be earned through purchasing, contribution as a local, or an active participation in the community.

In the community section, both locals and tourists can join and upload posts, questions, and travel hacks. Posts written by locals are indicated with a local mark next to the nickname. Anyone can tap on the posting to view more details, add likes or comments, or even scrap the posting to refer it for future travel. Participating in these activities will be rewarded with Trocal points. Postings are not the only functions offered in the community section, but travel plans can also be shared. Tourists can plan a trip on their own to share it with their friends or the public or get feedback from the locals by spending a small amount of Trocal points.

2.2 Price Points

As previously mentioned in the business model, we have two lines of service. In terms of premium planning features, users need to purchase Trocal points to request locals to make their plans. It demands 5,000 Trocal points per day. If they ask for a review of plans, they need to buy 3,000 Trocal points per day. However, the prices go down with a compound discount rate of 10% for every day they add to the plan. 1 Trocal point is worth 1 KRW. The price was set based on the data collected from interviews, asking the willingness to pay for the premium functions.

Our system runs on a reward system, where users are rewarded with Trocal points for activities in the community section, and locals receive points when they create or review travel plans. For every post uploaded, we will reward users with 5 Trocal points. For creating travel plans on requests, locals will receive 20% of the total price paid by the client. For reviewing travel plans, locals will receive 10% of the total price. We believe the reward system will encourage users to contribute to the Trocal community and help keep user retention.

We also planned to expose local advertisements and received advertising fees according to the number of exposures. The unit price is 10 won per exposure. A high price was set for cost per exposure because our GPS technology enables local businesses to show advertisements to their target audience. Our team has set a price as reasonable but profitable for our successful business.

Considering a cost structure and revenue stream, our team has anticipated future net income. More details are shown in Table 2.2.1 in the Appendix, and break-even points will be described in the concluding statement.

3.0 Market and Industry Analysis

3.1 Target Market

With an understanding of the users from preliminary user research, we identified a target market for our product by segmenting the market. Both demographic and geographic segmentation was carried out in this process. The first element used to segment the market was age. We sought to target those in their 20s based on data that most Gen Z travelers seek adventure during their trips, while millennials want comfort. The problems associated with the difficulty of acquiring information for travel that we identified in the interviews mostly arose from those who preferred free travel to packaged tours, in

which they had to plan the trip for themselves. According to Travel Statistics 2020-2021 by Condor Ferries, more than half of those who belong to Gen X use online travel agents to book their travels (55%). On the other hand, the surveys conducted by our team, with 96.7% of respondents being in their 20s, showed that the younger generation prefers independent travel (97%) to guided tours (3%). They reported that the low degree of freedom was the biggest reason for not preferring guided tours. See Appendix 3.1.1 for survey statistics. Therefore, we believed that those in their 20s would most likely become customers of our service. Moreover, Gen Z was the group most likely to be influenced by social media for travel, with 90%. The survey statistics of our team also showed that the younger generation rely much more on information provided by search engines (98%), travel apps (67%), or SNS (84%) than information provided by traditional sources such as books (29%). See Appendix 3.1.2 for survey statistics. Considering the nature of our service, which is provided through an app, we expected that the tech-savvy 20s are most likely to refer to it for travel.

In terms of geographic segmentation, we decided to target the domestic market in the short term. Due to COVID-19, demand for domestic travel has increased. According to the Travel Value Index 2021 by Expedia Group, most travelers (60%) answered that they will opt for domestic travel in the short-term. Although demand for international travel has increased recently due to the easing of COVID-19 restrictions, skyrocketing prices for airline tickets show that domestic travel will remain as an attractive choice for many people. Considering the status quo, we focused on the domestic market for travel for our initial stages of business.

Lastly, we segmented the market based on travel behaviors that we learned through preliminary user research. Based on the interview and survey results, our team clustered user characteristics with the major determinant of ‘travel proficiency.’ Interviewees who travel once or twice a year described themselves as not knowing much about travel. On the other hand, in the case of going on a trip every season or once every two months, the self-assessment to be proficient was noticeable. Adept travelers, with high plan involvement and frequency of travel, sought to discover new aspects of familiar areas or visit unusual places. Their pain points were that they had difficulty getting reliable but unique travel information. We believe that adept travelers will be our most enthusiastic customers, seeking unique, credible information from locals. However, our service can also be attractive to travel beginners, with low plan involvement and frequency of travel, because our functions can fix their pain points of having no idea how to plan a trip and set a reasonable travel route. Requesting a plan to locals function asks for their basic travel information and detailed preferences so that locals can plan the perfect trip for someone who doesn’t know well about the region.

3.2 Industry Analysis

3.2.1 Tourism Industry Analysis

The tourism industry is one of the worst affected by the COVID-19 pandemic. The World Tourism Organization (UNWTO) reported that the tourism level of 2020 decreased by 72 percent compared to that of 2019, and it remains due to severe limitations to travel unchanged. In comparison to pre-pandemic levels, this translates to shrinking the tourism products sold by the tourism industry at levels in the late 1980s. Principal tourism suppliers include travel agencies such as hanatour or modetour, transportation companies ranging from airline companies, bus operators, railway corporations, cruise ship operators to car rental companies, and accommodation companies involving hotel, motel, or individual accommodation suppliers. Usually, suppliers provide services to travelers independently. However, suppliers may also collaborate to provide tour packages for travelers by merging the various services such as transportation, accommodation, entrance ticket, etc. Along with the severe decline in accommodation services, food, transport, and other retail sales quantity supplied, a total supply in the tourism industry shifted left, causing a new equilibrium price to be formed.

Most analysts believe that a complete recovery will not occur until 2024, but a partial recovery by 2023. The good news is that the UNWTO projects international arrivals might increase by 30 to 78 percent in 2022 compared to 2021. Based on the UNWTO Tourism Recovery Tracker, the increased international arrivals in January 2022 already exceeded the total increase for 2021. Preparing for a complete recovery, an increasing number of destinations are lifting their travel restrictions, allowing the tourism product suppliers to reactivate.

Despite the COVID-19 situation, people continued to feel a thirst for travel, and as a result, they began to find an alternative way in the process of choosing a travel product. Domestic travel products that were popular in 2019 were Everland, Suncheon-man Bay, and Lotte World. On the other hand, from 2020, demand for quiet natural environmental products such as Ganggu Port and Seonyudo Island has increased.

People's preferences regarding travel agency products largely changed from preferring the entire package to preferring partial packages. The category of travel that has not been negatively affected by the pandemic is one-day travel. The proportion of one-day trips supplied by travel agencies increased from 47.4 percent in 2018 to 52.7 percent in 2019 and 60 percent in 2020. A market for small-scale travel is opening. The Korea Culture and Tourism Institute predicts that the trend of small-scale travel activities will remain even after the COVID-19 pandemic.

3.2.2 Competitor Analysis

Before finalizing our future solution, we conducted a case study for some companies in the tourism industry to specify and deep dive into our solution. We selected companies based on three criteria: accommodation, information curation, travel planning. Airbnb and Couchsurfing are providing accommodation services to global travelers, Google Maps and Naver map are used when people seek various travel information including location, restaurant, direction, etc. Triple and Myrealtrip are mobile applications providing overall travel information and functions for travelers.

1. **Airbnb:** Since Airbnb was established in 2008, it has flourished as an alternative to hotels. There are 2.9million hosts on Airbnb and 14,000 new hosts are joining the service every month according to 2022 data. Also, 100,000 cities in more than 220 countries are in the active listings on the platform. Airbnb has price competitiveness in that users can reserve a place with a relatively lower price than a hotel.
2. **Couchsurfing:** Couchsurfing provides global community services that connect travelers around the world. Users can utilize Couchsurfing to find a place to stay or share their homes. It began in 2004, and now it has 12 million members in 200,000 cities, providing 550,000 events. Couchsurfing has been provided free accommodation service for two decades, however, it is not free any longer. It switched the business model to receive subscription fees monthly or yearly due to the Covid-19 impact.
3. **Google Maps:** Google Maps has 154.4 million monthly users with 23 million downloads in 2020. Users played a significant role to make the application updated and accurate. Google Local Guides can write reviews, share photos, leave and answer questions, add or replace any information on Google Maps. Reviewing, providing, photographing, adding or editing information earns people points towards which can be used for accessing new and unlocked information.
4. **Naver Map:** The most used [map, navigation, public transportation application] in Korea is Naver Map, which is used by 13.92 million people. Naver map is linked with Naver pay, so users can also make a reservation through this application. It will be the biggest motivation for domestic travelers who mainly travel to the local place in that they can search travel information without installing an additional travel platform.

5. Triple: Triple is a mobile-based travel platform that began in 2017. Triple has the competitive advantage in that based on big data and AI, user preferences were analyzed, and abundant travel contents and products were provided according to traveler's location and situation.
6. Myrealtrip: Myrealtrip launched an "Oversea Travel Scanner" service that allows users to check the entry requirements for each travel destination and currently available travel destination. Despite the limited overseas travel in 2020 and 2021 due to Covid-19, it led to the growth of traffic and transactions of business by focusing on domestic travel, which succeeded in attracting 43.2 billion investments in 2020, proving market expectations and reliability.

Based on our case study, we selected four businesses as major competitors and conducted a competitor analysis. The table below shows their product and service, target audience, and their key advantage.

	Airbnb	Google Maps	MyRealTrip	여기어때
Product/service	A platform allowing people to share their spare rooms with stranger guest	A web mapping platform offered by Google	A travel platform in Korea where users can book flights, accommodations, tours & tickets, and special offers	A motel, hotel search and reservation app in Korea. Recently expanding its services to activity booking
Target audience	Global independent hosts and travelers	Mapping application users	Inbound and outbound Korean traveler	MZ generation in Korea using accommodation application
Key advantage	Lodging accommodations and cultural experiences	Most popular mapping service Local guide	More than 15,000 travel packages	Popularization of accomodation culture in Korea

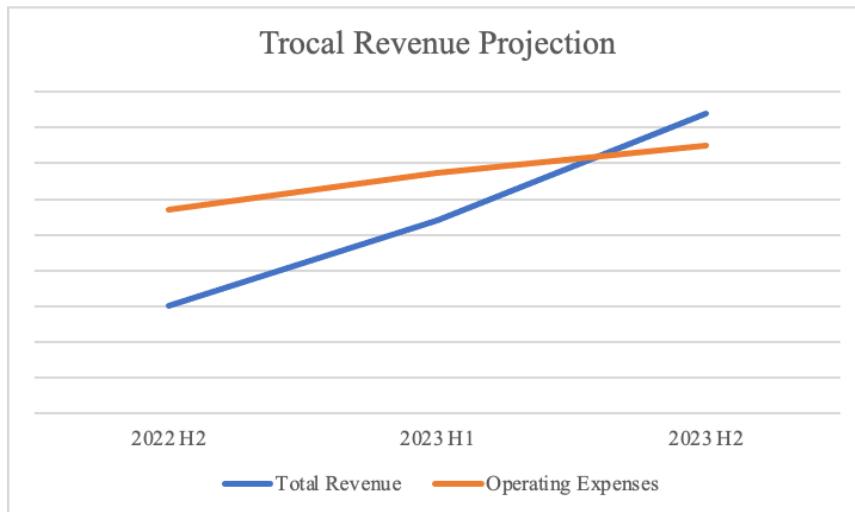
It is granted that the platforms with many users are already formed. However, regardless of that entry barrier, 'Trocal' has its own unique characteristics that could bring the users from existing platforms. Unlike accommodation services (Airbnb, Couchsurfing, 여기어때) and information curation services (Google Maps, Naver Map) that provide independent services, we aim to produce an integrated travel planning service as MyRealTrip. However, the major difference is that rather than intermediating a transaction between suppliers and customers, we encourage an active communication between customers who could always be both locals and travelers.

3.3 Concluding Statement

Trocal has few ways to earn profit. Our team is also open to partnerships with local corporations and organizations, and this will be counted in our future income. However, we are currently focusing on gaining revenue from in-app premium usage fees and advertising fees.

During the first half of 2022 and 2023, our brand awareness rate is not that high compared to big

competitors and we do not have enough loyal customers who constantly use paid features. Therefore we anticipate that we run a deficit during this period. However, by actively implementing various marketing strategies, promoting, and establishing loyal customer relationships, we will break even and we will turn a profit by the second half of 2023.



4.0 User Research

4.1 User Research Method and Process

In order to identify any usability problems and to uncover opportunities to improve user experience, we conducted moderated usability tests on 8 participants with our working prototype. In May, we developed a working prototype with the purpose of user testing using Flutter that represents all or nearly all of the functionality of the final product, with the exception of payment, map, and GPS functions that were underdeveloped due to technical issues. The participants were selected to be representative of our target market, with all of them being in their 20s. The demographics of participants can be found in Table 4.1.1.

The testing sessions consisted of two parts: think aloud testing with eight representative tasks, and post-test interviews. The test was conducted one to one in a private space, with one moderator. The moderator's device was used to conduct usability testing, and a tablet PC was used to record the participants' navigational choices, comments, and answers with the participants' consents. The recorded sessions were analyzed to identify potential areas for improvement. Each individual session lasted approximately 40 minutes.

The tasks were chosen to walk users through the core functions of our service. The eight tasks were as following: 1) Verify your status as a local 2) Write a post recommending a restaurant of your region 3) Save a post written by a local 4) Explore plans shared by users 5) Make your own plan for a trip 6) Request a travel plan to a local 7) Check my posts 8) Accept a request for a travel plan. Task completion rates, time on task, and errors were used as metrics for measuring usability.

Post-test interview questions were set beforehand to measure user satisfaction, fidelity, and retention, but additional questions were provided depending on the real time answers. The interview questions can be found in Appendix 4.1.2. Every response was recorded, and the results were analyzed based on the written transcript, shared by the team.

4.2 Study Results

The participant's ability to complete the tasks were recorded in Table 4.2.1. We marked a \triangle for participants who managed to complete the task with little guidance from the moderators. While there was a near perfect completion rate for most of the tasks, there was a low completion rate for Task 4 (Explore plans shared by users) and Task 8 (Accept a request for a travel plan), where ambiguous icons or the depth of information created confusion for users, according to their accounts.

The time on task was another metric used to diagnose usability problems, recorded in Table 4.2.2. We focused on the outliers of the data to figure out the difficulty users have in interacting with the interface. In the case of Task 6 (Request a travel plan to a local), some users reported exhaustion from an excessive number of questions and options.

The error count involves the number of errors made by participants when they were attempting to complete a given task. In Table 4.2.3, only the error count was recorded, but we wrote down the specific errors that participants made in navigating to obtain insights about the types and severity of errors. We found repeated errors in Task 4 (Explore plans shared by users) because of ambiguous icons, and consequently made minor improvements in design by replacing them with more intuitive ones. For Task 8 (Accept a request for a travel plan), we made changes in UX writing to give clearer directions on the functions of buttons.

The table below displays a summary of the test data.

Task	Task Completion	Errors	Time on Task
Verify your status as a local	100%	1	20.125"
Write a post recommending a restaurant of your region	100%	9	39"
Save a post written by a local	93.75%	8	20.825"
Explore plans shared by users	50%	31	93.125"
Make your own plan for a trip	100%	1	60.75"
Request a travel plan to a local	100%	3	130.25"
Check my posts	100%	1	7.375"
Accept a request for a travel plan	81.25%	20	41.5"

Our team also gained important insight through analyzing post-test interviews. The first part of our post-test interview asked participants about their satisfaction with the service. When asked what they liked most about the service, the participants answered that they found friends inviting, route visualization, exploring other's plans, asking locals to review their plans, and requesting plans to be attractive to locals. When asked what they liked least about the service, users answered that the process for requesting plans was too complicated and long, the filters were not intuitive to use, and that there is too much to read on the home page.

The next part of our interview was about the fidelity of our service. Participants A, C, F, H believed that the credibility of the information provided increased because of the local verification function. Participants G answered that Trocal feels much more credible compared to search engines because advertisements are automatically tagged. When asked about the level of contribution of the locals to our service, almost all of the participants answered that locals seem to play an important role. Some participants answered that it is what differentiates our service from others.

“It is hard to avoid meaningless or fruitless posts on the Internet, but here, I can select the posts that have the local mark on it. I think it is what differentiates the service from blog posts.” – Participant F

Most participants replied that our planning functions would greatly help them in their travel planning process. However, some participants expressed concerns about the quality of the plans provided for the locals, or situations where they would be discontent with the matched locals. These feedback brought points where we could improve our service to our attention.

“I think there should be a guaranteed due date when I am able to receive the plan from locals. Also, what if I am not satisfied with the plan provided by the local? These points would make me hesitant to use the requesting plan function.” – Participant B

Lastly, we asked some questions to measure user retention. When we asked users about the willingness to use Trocal in the future and their reason, many expressed their enthusiasm for the launch of our service. Many participants answered that our local-related functions will work as motives to download this app.

“I liked the route visualization function, but you know, other apps have this function, too. However, when I was traveling in Europe, I was once looking for a place to fix my glasses, but I couldn’t get the information anywhere in Naver or other websites. I think I’ll definitely use this app for the community function, where I can ask these questions to locals.” – Participant D

“The more I think about it, I feel like this service is very attractive. Especially requesting plans to locals or asking locals to review my plan. If I can get high quality plans from locals, it will certainly lessen my burden to plan a trip. I think it will really save my time. Also, I think I will feel more confident about my plan if a local who knows well about the area reviews my plan. I have always felt a little uncertain before embarking on a trip and I had nowhere to ask, and I think this app will solve my problem.” – Participant C

The question, “How likely is it that you would recommend Trocal to a friend or colleague?” was asked to measure the Net Promoter Score score, which measures the loyalty of customers to a company. The NPS score can be calculated by subtracting the percentage of detractors, who responded with a score less than 7, from the percentage of promoters, who responded with a score above 8. The passives responded with a score of 7 or 8. The NPS score for our service was found out to be 13, indicating that there were more promoters who are likely to become loyal, enthusiastic customers than detractors.

Participants	A	B	C	D	E	F	G	H	NPS Score
Response	9	7	8.5	7	6	7	5	9	13%

4.3 Implications

We drew some meaningful insights based on responses the participants gave. Overall, these insights can be divided into three categories. We found two specific insights about Community function, and three specific insights about Travel Plan function. We also found three general insights that are applicable to the overall design of our service.

A. Community

a. Wish for a community function with a well-classified layout.

“Posts, questions, travel hacks’ screens look too similar. So it feels like so many things to read. I think it’d be good if there were more eye-catching factors.” – Participant C

"At first, it was overwhelming since there's a lot of information on the home screen." – Participant D

b. Hope locals to be the major information source

"I want you to hire locals as official posting editors and write travel-related posts." – Participant G

"The service should give the feeling that all the travel information is from reliable sources; locals." – Participant H

"Community will work well only when there are many locals. Tips given by ordinary travelers are somewhat limited, while local people are more reliable." – Participant C

B. Travel Plan

a. Satisfied to see other's travel plans

"I think it's best to see the plans that others have. With a lot of data on that plans, must will be someone whose style is similar to me" – Participant D

"I look for such things (others' plans) before I go on a trip. I thought it'd be nice to put them all together just like your service." – Participant F

"In case I go to an area that I really don't know, I think I can get help by looking around people's travel plans." – Participant E

b. Do not want a long travel plan survey

"I was surprised that there were so many options." – Participant B

"For those who don't have a lot of plans, it would be better to get their preference in the form of keywords." – Participant H

"In my opinion, users had to put too much information in this travel request form. The process was too long." – Participant D

c. Wish to receive well established travel plan

"As long as a good quality plan is ensured, information seeking time would decrease greatly." – Participant D

"I think it would be very helpful if the locals plan well." – Participant F

C. General Idea

a. Want more intuitive UI design

"First of all, I was a bit confused. I thought it was a button to post something (but it was not)." – Participant B

"I have to press the circle button to make a plan, right? There's no explanation about the button." – Participant H

b. Want linked functions between applications

"I hope the navigation is linked with your service." – Participant D

"How about linking it with the existing calendar app?" – Participant E

c. Wish for a focused service identity

"The identity is a bit vague. I was wondering why you allow regular users to write. Just like a tutor app, you should divide local users and regular users from the beginning." – Participant F

"It would be more useful if you position your service as a travel information app with reliable sources, other than community functions." – Participant G

5.0 Our Strategy

5.1 Product or Service Design Considerations

5.1.1 Mobile Application

We decided to make a mobile application in accordance with the easy-to-carry design principle. People mostly carry their cell phone when traveling, so our team decided that mobile service would be a great help during the trip. Additionally, it allows users to check their travel plan or route on a real time basis.

According to user research, respondents were using travel applications a lot when preparing for travel. In other words, mobile applications are a familiar device for travelers both as a source of information and a means of planning. So we expected that the familiarity would lead to enhanced usability. Since search engines, travel SNS and booking services all operate on mobile devices, there is no need to prepare or switch to the additional device. Lastly, Our target users are in their 20s, who are relatively familiar with the digital environment.

5.1.2 Community

Card design is well-known as a feature to contain excessive information in a compact way. Readers don't have to finish the full text, but see and infer the content through the title and summary. It is for users who simply want to gain information by skimming through posts about travel tips or locals' recommendations. Card design reduces cognitive load with its compact style. So it is suitable for contents that can be consumed lightly during the niche time in daily life.

Moreover, the design utilizes sorting information. Since text and image fits to the same card design, there is no sense of alienation even if the information is sorted by different tags or filters.

5.1.3 Requesting Travel Plan

Based on the user journey map, our team was able to identify detailed procedures of travel planning. Those insights provided the underlying logic of our travel plan request function. When users make a request with our service, they are asked to give specific information on their travel style. Based on the user's mental model, we came up with several questions like who they would travel with, how long the trip would be and what other considerations they had in mind. By showing the request summary at the end, we aimed to help users get a summary of their travel plan.

5.1.4 Creating Travel Plan

For the creating plan function, we focused on visualization of the travel routes by using a map. It is beneficial in that users can intuitively know their travel route. Also our design lists travel destinations in chronological order. Awareness of the order allows users to understand the overall flow of travel. Most of our respondents, who are in their 20s, answered that they travel with friends frequently. So we designed and added a function to invite friends and plan together.

5.2 Marketing and Sales Strategy

Trocal's aim is to provide reliable and quality travel information by supporting dynamic online communication between locals and travelers. To bring a large group of target audience from existing giant companies, utilizing the proper marketing and sales strategy is significant. As our service is based on application, we are planning on digital marketing. We aim to advertise our service digitally on Appstore.

We will start by exposing '*Trocal*' to make customers discover and recognize it. It is important to increase the likelihood of potential customers' discovery of our service. The main goal is to attract all travelers who are target users of our app. In particular, ASO (App Store Optimization) is a critical part. ASO is an optimization process that makes it exposed to the top of the app market search results. Through this method, the value of '*Trocal*' will be communicated to potential customers to secure potential customer base and supporters in advance to actual product launch. Then, we will launch app installation campaigns (ACi) for Apple Search Ads and Google Ads, as well as app installation ads on social media such as Facebook and Twitter. It will provide various opportunities to reach the target audience. We will conduct installation, action, and engagement advertisements. Campaigns will be optimized based on revenue generation, target audience segments, and advertising costs.

Next, we will move on to the conversion stage. To convert the incoming potential customer into a user of *Trocal*, we will focus on enhancing the onboarding process by optimizing the flow of installation and app walkthroughs. Potential customers will consider whether our application is better than that of our competitors. Therefore, it is important to make sure that customers can take the next step based on reliable content. In particular, the app introduction page on the app market would be the most reliable channel at this stage. It's because users can see reviews and ratings at once, and images and videos show users in advance what users can actually experience in the app. '*Trocal*' will not only attractively manage the page, but will also pay attention to highlighting good reviews and managing ratings.

To retain a healthy customer relationship, it is important to increase the satisfaction of users who have entered '*Trocal*'. We will try to provide 'value' to users. It is an important process to change the incoming customer to our 'loyal customer'. We will build positive and sustainable relationships with users through personalized in-app messages, push notifications, and continuous product updates. To this end, we will accurately identify the moment to communicate with customers on the app and approach the app at the appropriate time.

5.3 Distribution Strategy

With the service created, we will distribute '*Trocal*' to customers via app stores, mainly Google play store and Apple app store. Distributing through the main app stores would be the most favorable route as it would ensure the reliability and security of an application. Since the reviews and ratings on app stores are likely to be persuasive, Social Proof such as rankings, reviews, and recommendations around the app market will be carefully managed.

5.4 Source of Competitive Edge

In the long-run, *Trocal* is planning to generate a sustainable competitive advantage through an AI-powered recommendation engine. The basis of recommendations would be on users' CTM on community posts, statistical data of tags, and user's satisfaction on travel plans. With the accumulated traveler information data, an AI-powered recommendation engine would recommend a combination of various features that includes travel characteristics, similarities and differences between travel plans, and user preferences based on satisfaction rate. Our main advantage of this AI engine is a firm database of user preferences on diverse travel plans. Improving the recommendation system can help establish the best travel plan for each and every traveler.

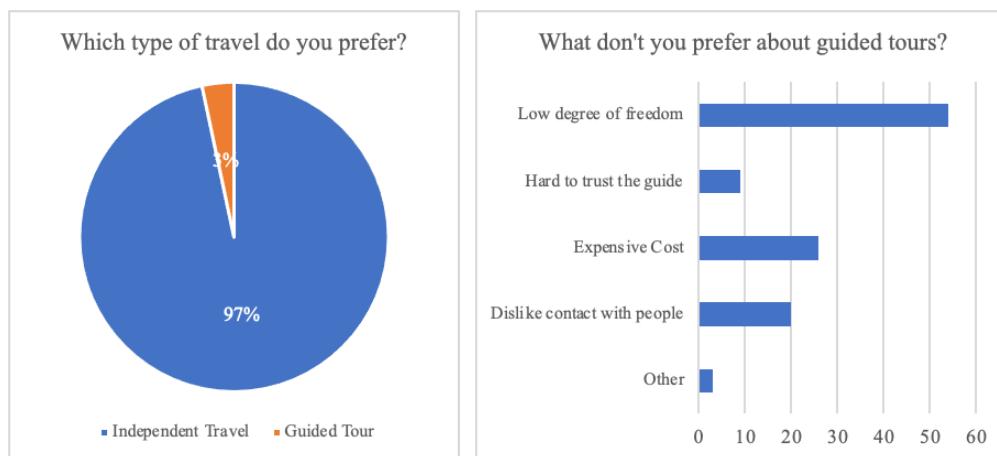
6.0 Appendix

Table 2.2.1

*unit: KRW

Income Statement	2022 H2	2023 H1	2023 H2
Total Revenue	30,000,000	54,000,000	84,000,000
Advertisement Revenue	18,000,000	30,000,000	48,000,000
In-app purchase Revenue	12,000,000	24,000,000	36,000,000
Operating Expenses	57,000,000	67,200,000	75,000,000
CoGS	4,500,000	4,500,000	4,500,000
App Development Cost	1,500,000	1,500,000	1,500,000
Maintenance Cost	3,000,000	3,000,000	3,000,000
SGNA	52,500,000	62,700,000	70,500,000
Marketing Expenses	6,000,000	7,200,000	9,000,000
Salaries and Wages Expenses	45,000,000	54,000,000	60,000,000
Others	1,500,000	1,500,000	1,500,000
Net Income	-27,000,000	-13,200,000	9,000,000

Appendix 3.1.1



Appendix 3.1.2

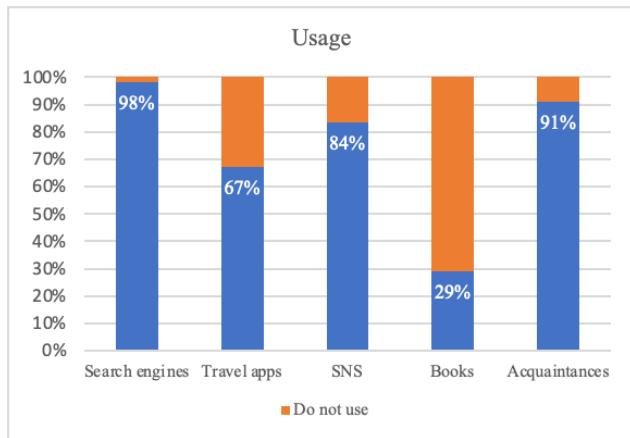


Table 4.1.1 Usability Testing Demographics

No.	Age	Gender	Profession
1	25	Female	Office Worker
2	24	Female	Student
3	22	Female	Student
4	24	Female	Student
5	23	Female	Student
6	23	Female	Office Worker
7	24	Female	Graduate Student
8	28	Male	Graduate Student

4.1.2 Post-test Interview Questions

Satisfaction

1. Please feel free to tell me about your user experience with our service.
2. What did you like the most about our service?
3. What did you like the least about our service?
4. What else do you think is needed to enhance the usability of the community function?
5. What else do you think is needed to enhance the usability of the planning functions?
6. What is your willingness to pay for functions, requesting a plan to locals and asking locals to review your plan?

Fidelity

1. How credible do you think the information is, and why did you think that way?
2. How much did you feel that locals contributed to the information provided in the community function?
 - a. How did this local participation affect your experience with the community function?
3. What difference do you think exists between travel information on the Internet and on Trocal?
4. Do you think our planning functions will be helpful to you? If yes, in what ways?
5. How much did you feel that locals contributed to the planning functions?
 - a. How did this local participation affect your experience with the planning functions?

Retention

1. What is your willingness to use Trocal in the future, and why did you think that way?
2. What do you expect more from our service?
3. How likely is it that you would recommend Trocal to a friend or colleague?

Table 4.2.1 Task Completion Rate

Participant	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	Task 7	Task 8
A	O	O	O	O	O	O	O	X
B	O	O	△	X	O	O	O	O
C	O	O	O	O	O	O	O	O
D	O	O	O	△	O	O	O	O
E	O	O	O	O	O	O	O	O
F	O	O	O	△	O	O	O	O
G	O	O	O	X	O	O	O	O
H	O	O	O	X	O	O	O	△
Completion Rate	100%	100%	93.75%	50%	100%	100%	100%	81.25%

Table 4.2.2 Time on Task

Participant	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	Task 7	Task 8
A	24"	35"	4"	53"	47"	2' 26"	3"	1' 17"
B	18"	29"	56"	1' 57"	1' 16"	2' 23"	11"	21"
C	21"	46"	17"	55"	1' 4"	1' 59"	2"	1' 6"
D	14"	53"	4"	1' 53"	47"	1' 22"	17"	21"
E	21"	42"	8"	1.02"	57"	2.18"	4"	32"
F	24"	31"	20"	57"	1.43"	2.25"	6"	26"
G	19"	27"	6"	2.05"	44"	1.52"	3"	32"
H	20"	49"	52"	2.43"	48"	2.37"	13"	57"
Average TOT	20.125"	39"	20.825"	93.125"	60.75"	130.25"	7.375"	41.5"

Table 4.2.3 Error Count

Participant	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	Task 7	Task 8
A	1	2	0	0	0	1	0	3
B	0	1	2	5	1	1	0	0
C	0	1	1	0	0	0	0	6
D	0	2	1	7	0	0	1	1
E	0	0	0	0	0	0	0	0
F	0	1	0	4	0	0	0	1
G	0	1	1	6	0	1	0	1
H	0	1	3	9	0	0	0	8
Error Count	1	9	8	31	1	3	1	20

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