

TEAM SCHMY

Designing Mobile Services: Kim Dowd, Chinmay Garde, Sanchit Gupta, Tony Poor, Daniel Wu

Hunt Statement

To research the travel and language needs of foreign travelers to create a mobile service that help them get more from their experiences in the US.

User Research

First Round of Interviews

We interviewed 6 travelers between the ages of 25 and 35. They had traveled from the United States to Germany, Switzerland, India, Japan and Ireland. We asked them to explain the most interesting, most fulfilling and most challenging parts of their experience. We asked them to talk about anything to do with language, preserving memories, planning and technology. Each interview took between 30 minutes and 1 hour.

The commonalities in experience across all participants included a need for assistance in finding food, alcohol, transportation information (buses, planes, trains) and typical prices for everyday goods and services. Everyone expressed an interest in being immersed in a new culture and experiencing new things. For some, traveling alone was something to be avoided; for others, traveling alone was preferable. All participants attempted to document their trips through different methods: one took notes on his phone, for example, and another collected digital photos and physical mementos with plans of later compiling a book.

"I felt so embarrassed later. I didn't pay the taxi driver enough. I just didn't know."

— Kevin, on paying for a taxi in India

"My travel memories are in a box... waiting for organization."

— Julia, on a one month backpacking trip through Europe

"When you are traveling and in a pinch, you just don't have the time to type in what you want to say and wait for the connection."

— Julia, on translating words in their context of usage

"Roaming is a ridiculous amount of money."

— Tracy, on why she relied on Wifi hotspots in Europe

"It's kind of boring traveling by yourself because you are alone and there is no one to share with."

— Kevin, on a trip to the Taj Mahal

"Resources that help me not only to translate but to speak out a phrase would be helpful. This is difficult in a place like Japan where most of the language sounds similar."

— Emit, on trying to speak Japanese

Second Round of Interviews

After our first presentation to the class, we refocused our direction to travelers visiting the United States from abroad. This gave us the benefits of speaking to participants while they are traveling (which yields better data) and of working within a technological and economic area that we have access to.

By researching through couchsurfing.com and various student organizations we were able to find and interview 7 participants between the ages of 20 and 35. They are in the US as exchange students, short-term travelers, and hosts for short-term travelers. We asked them to describe their first day in the US along with their travel experiences in general. Each interview lasted about half an hour and an hour and half.

We found that people depend on recommendations from hosts and sometimes from online services, like Yelp. Meanwhile, no one uses data plans or turns on roaming in the US; although they see the benefit of using data plans while visiting the US, the cost of turning on data internationally is just too high. Their workarounds include borrowing computers from hosts, going to areas that have computers available to the public, buying pre-paid cell phones for emergency use, renting GPS devices, and disabling roaming on smartphones. Travelers most enjoyed spending time with locals at local establishments. They enjoyed conversations about life and comparisons between their home culture and the US, and often their travels revolved around food. Some issues with language in context arose: namely, in aligning the written word with its pronunciation, the object it ~~word~~ represented, and slang terms with the same meaning.

"Oh, that would have been amazing. We could have accessed Yelp, Couchsurfing and maps."

— Terry (from France), when asked if a data plan on a smart phone would have helped him

"It has been so much fun talking with you. We really love this little place. (the Beehive) Can we take pictures of you? Pittsburgh is like my home city. Are you on Facebook?"

— Juan and Pablo (from Mexico) spending an hour with a Pittsburgh local

"I just bought a Terrible Towel!"

— Emerson (from Brazil) at 6:30 on Superbowl Sunday

"I really prefer talking to locals. I left France so I could talk to people who are not French."

— Terry (from France), couchsurfer

"I really like long deep conversations with the travelers I host. It feels like an exchange of ideas, of life experience."

— Adam, couchsurfing host in Pittsburgh

Competitive Analysis

We focused our competitive analysis on applications and services that a traveler might use on the move. These fell under four broad categories:

1. Applications and services that manage the logistical details of travel
Dopplr, Hotwire, Priceline
2. Recommendations and crowdsourcing applications
AroundMe, WikiTravels

3. **Language assistance applications and services**
Kwikpoint International Travel Translator, Google Translate, Word Lens, Travel dictionaries
4. Mobile phone network operators (both US and overseas)
AT&T, Orange (UK), NTT Docomo (Japan), ChungHua Telecom (Taiwan)

Applications that manage the logistical details of travel

Overall, these applications tended to be good at itinerary management and even connecting with fellow travelers within your social circles. However, most recommendations seemed like advertisements, providing limited value to travelers.

1. **Dopplr** is a travel planner that looks to solve the logistical issues related to travel abroad; its intended audience includes frequent and group travelers.

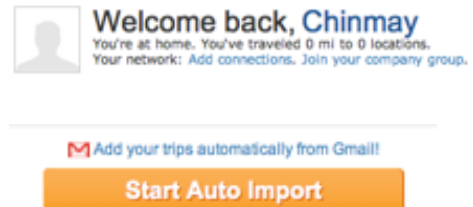


Users can share their travel plans with friends and see when their plans overlap. It also claims to provide tips regarding places you can visit, but our glance through didn't immediately reveal anything of this nature. A surprising feature is the ability for users to track their carbon footprints.

They also include a nifty feature for adding new trips: instead of just typing in the information, you can send entire itineraries (from an airline or travel agent) to Dopplr email addresses. Dopplr parses the message automatically and adds the trip to your list.

Their revenue comes from advertisements and coupon offers (for example, "visit this shop to get a discount.")

2. **TripIt** gears its services towards frequent travelers, and even allows you to sign in with your Google account to import your contacts and their trips. They advertise themselves as a "personal travel assistant," and have built-in features to for company networks. Meanwhile, TripIt offers mobile applications for Android, iPhone, and BlackBerry, but carry poor reviews and their mobile apps don't seem to work as well as their web portal.



3. **Hotwire** offers discount prices on hotels, car rentals, and plane tickets by selling unsold inventory at lower prices. They have an opaque sales model, revealing prices and travel dates to customers, but *not* revealing the participating companies until the customer completes his order. Their intended audience, of course, is budget travelers.



4. **Priceline** offers hotel, car rental, and plane ticket sales, but offers the possibility of an interesting model: the reverse auction ("name your own price"). Customers can specify a travel service and name a price, asking travel companies to match the combination; Priceline doesn't reveal the supplier to the traveler until he makes a



nonrefundable purchase. Suppliers benefit by selling to budget travelers without publicly disclosing their low rates.

Recommendations and crowdsourcing applications

Crowdsourcing seems to provide a mixture of good and bad data; if managed well and kept up-to-date, it can be useful. People tend to be patriotic towards their home cities, and contribute out of a sense of pride. We also noted some interesting revenue models: WikiTravel, for example, takes its crowdsourced data and publishes travel books with little writing necessary.

1. **AroundMe** allows users to quickly find nearby restaurants, hotels, theaters, parking, hospitals, and more. Ads are the main source of revenue; an ad-free version is available for \$2.99. The interactions seem simple, but we're unsure how this competes ~~well~~ with other alternatives, including Yelp.
2. **WikiTravel** serves the needs of general tourism, following a traditional wiki format that provides information on things to do and see, transportation, where to stay, where to get internet, and so forth. The site has earned awards and has some extremely detailed user-provided content, especially for popular destinations; however, one Couchsurfer we interviewed said the information here was a bit hit-or-miss and that some articles contained advertisements for local businesses.

We looked a few user pages from productive contributors, and found that at least a couple seem to contribute based out of a sense of patriotism: they want to put their home cities on the map. For example, one user page states that "one of my goals in Wikitravel is to get the article of my much beloved (and relatively little touristed) home region of Eastern Thrace up to at least guide status" while another claims that he's "tempted to work a bit on Baltimore, a favorite American city of mine that deserves more love than it gets." Additionally, contributors often list off cities that they've visited or regions where they consider themselves experts.

WikiTravel's revenue model is interesting: they seem to focus purely on ads, but we also discovered that they publish pocket travel books consisting of the same user-generated content on their articles.

The screenshot shows a Wikitravel article for Ubud. At the top, it says "Ubud" and "Asia : Southeast Asia : Indonesia : Ubud". Below this is a "contents" box with a list of links: Understand, Get in, Get around, See, Do, Buy, Eat, Drink, Sleep, Stay safe, Stay healthy, Contact, and Get out. To the right of the contents box is the main text, which starts with "Ubud, a town in central Bali, is far removed from the drunken bikini scene in Kuta, and is regarded as the cultural centre of Bali. It is famous as an arts and crafts hub, and much of the town and nearby villages seems to consist of artists' workshops and galleries. There are some remarkable architectural sights, artistic gems to be found, and a general feeling of well being to be enjoyed, all thanks to the spirit, surroundings, and climate of the place." To the right of the text is a small image of a traditional Balinese building with a thatched roof, captioned "Puri Saren".

Language assistance applications and services

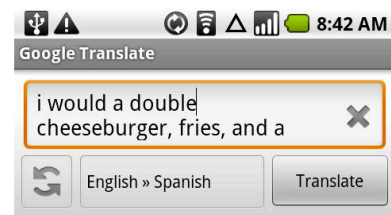
While technology is quickly improving, translation applications often offer time-consuming and spotty translations that make them poor fits for extended conversation; however, there is

extremely good support for common phrases and even limited voice translation features. Traditional paper-based products, on the other hand, suffer from a wide variety of flaws.

1. **Kwikpoint International Travel Translator** is a \$15 paper-based product that we believe outlines all of the limitations of traditional paper media in the language field. It's a fold-out book that expands into a huge grid of pictures of things a traveler could want to communicate (coffee, different kinds of food, taxis, etc.). The intended usage is apparently just to point to the item in question. Seemingly as an add-on, there are descriptions of a few common phrases in a huge variety of languages.

The two limitations to take away from this product are a limitation to a variety of "common" things and the lack of true communication ("unfold, point, and smile awkwardly" or "hold on while I look this word up in my dictionary" versus a true flow of bidirectional friendly communication).

2. **Google Translate** is a free text-based and voice translation service. It can provide text translations in your target language or read them aloud, but uses data (200–400 translations per MB). This data limitation is offset by the fact that it stores your recently translated phrases on your phone.



A clever subtlety that we noticed is that it knows a great deal of common phrases: for example, you don't have to type very far for it to autocomplete "where is the nearest hotel?" and give you a reliable translation. We're confident that Google uses a bit of user data for this: the more people that use the application, the more they know about what the most common phrases are. Like most translation apps, however, it gets much less accurate with longer, less common phrases.

Quiero una hamburguesa con queso doble, papas fritas, y una shakw

3. **Word Lens** is an iPhone application that allows users to point their camera at printed text and press a button; the application translates the word on the fly and displays it.

Although lauded for its simplicity and technical prowess, Word Lens does not solve the language problem entirely: although it'll tell you the name of a tavern is "The Blue Pig," it won't actually tell you that that means that it's a tavern (contextual issues), nor will it help you communicate with the bartender to order a drink (communication).



Its revenue model is based on purchasing language packages: you download the app for free, and then, for example, purchase a Spanish-to-English package.

4. **Traditional travel dictionaries**, while ubiquitous, suffer from similar problems to the Kwikpoint Translator mentioned earlier and risk being rendered obsolete by high-tech language apps that can offer the same features and more (for example, Google Translate). Translating words takes a great deal of time, and is not conducive to communication with locals.

Mobile phone network operators

We did a quick run-through to check out the data pricing plans for various carriers, focusing on carriers abroad but also examining typical US carriers.

1. **AT&T**, a typical US carrier, offers a minimum plan of 20MB for \$25/month. The following extensive chart outlines AT&T's international data pricing plans:

International Data Packages

Packages/Plans	Price	Details
Pay-Per-Use International Data Rates	\$0.015/KB in Canada \$0.0195/KB in the rest of the world	None
BlackBerry@/iPhone@/ Smartphone/Other Devices* Use your wireless device from AT&T to connect to the Internet and email in more than 200 countries. Must be added to an existing domestic data plan. *Quick messaging and touch phones.	\$24.99/mo	20 MB in over 100 select countries ¹ Overage: \$0.005/KB. Rate in additional countries: \$0.0195/KB
	\$59.99/mo	50 MB in over 100 select countries ¹ Overage: \$0.005/KB. Rate in additional countries: \$0.010/KB ²
	\$119.99/mo	100 MB in over 100 select countries ¹ . Overage: \$0.005/KB. Rate in additional countries: \$0.010/KB ²
	\$199.99/mo	200 MB in over 100 select countries ¹ Overage: \$0.005/KB. Rate in additional countries: \$0.010/KB ²

2. **Vodafone** has roaming prices for international travelers coming to the United States; we looked at a sample of different countries. For instance, India-to-US has a \$12/MB fee, Australia-to-US has a \$1-5/MB fee, and UK-to-US has a \$3/MB fee up to 5MB (then \$15/MB afterwards).
3. **T-Mobile** charges \$10/MB for Canada and \$15/MB in other countries; these whopping fees do not compare favorably with its competitors.
4. **Orange** is a UK cell carrier; it charges a whopping \$13 per MB for data roaming.

5. **NTT Docomo** is the largest mobile phone carrier in Japan. The following chart gives an overview of data roaming prices for AT&T and T-Mobile's respective networks:

	On AT&T's Network	On T-Mobile's Network
Native Rate	JPY 0.2/packet	JPY 0.2/packet
US Rate/MB (1 MB = 8192 packages)	USD 19.67	USD 19.67/MB
Maximum Rate/Day	USD 17.77/day	—

6. **Chunghwa Telecom** is the largest telecommunications company in Taiwan. The following chart gives an overview of data roaming prices for AT&T and T-Mobile's respective networks:

	On AT&T's Network	On T-Mobile's Network
Native Rate	TWD 0.04/KB	TWD 0.3754/KB
US Rate/MB (1 MB = 8192 packages)	USD 1.40/MB	USD 13.10/MB

SET and POG

Social Factors

- Rising desire to meet and stay with locals, as evidenced by Couchsurfing users.
- People want to good food and exciting things to do.
- Translating language in context is an unmet need and pronunciation is a problem.
- Huge desire for travelers to immerse themselves in local culture.

Economic Factors

- Willingness to pay money to rent cars.
- Airfare and hotels are getting cheaper.
- People are staying with Couchsurfing hosts or hostels to immerse themselves in local culture and keep costs down.
- Phone data plans are expensive.

Technological Factors

- Some phones from other countries don't work in the US.
- Wifi hotspots are rising in popularity.
- Computers in hotels and bars.
- GPS is commonly found in cars.
- Crowdsourcing is becoming more understood.

POG

Our research led us to the POG of an application that provides short-term, shared data plans for travelers to the United States. Additionally, it could help travelers find locals to spend time with, recommend local restaurants, and help them navigate the city. The app could also pull data from their itinerary to announce plans and organize meet-ups with others.

Persona: Meet Kazy

Kazimir "Kazy" Klaus is from the Czech Republic, where he works as a consultant on solar panels, helping NGOs, governments, and large companies go green. He speaks Czech fluently and can speak English, although it's difficult for him to pronounce some words and he doesn't understand highly contextual language and some slang. Kazy is definitely a people person, and although he travels alone, he likes to meet up with buddies along the way.

While on vacation for a two week break, he looks forward to touring Seattle, Pittsburgh, and New York. He plans on taking a combination of planes, trains, and buses to get from city to city.



Experience Goals

- Immerse himself in the social and cultural ethos of the cities he visits.
- Have interesting conversations and experiences with new people.

End Goals

- Communicate well in English.
- Eat good food.
- Don't get lost.
- Stay fit while traveling.
- Meet cool locals and join them in their daily lives.

Life Goals

- Maintain a good work/life balance.
- Learn to speak Spanish.
- Travel often.

