DataHopper

Generative Report (03/22/2011)

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Introduction

Over the last three weeks, our project has changed drastically. Our initial focus in the generative stage was about meeting new people while traveling; however, we quickly learned that data is the most important need to be met in the market and have adapted our business model by creating DataHopper, a service aimed at providing affordable data plans to international travelers coming to the United States. DataHopper provides data for the traveler using small Mifi devices that are rented from vending machines at select US airports.

Our Process

Improv & Bodystorming

Since the last report, we utilized various improvisational techniques to brainstorm ideas within our team, including warm-up games like "move in circle" and "pass the ball" (where we passed an imaginary ball around to get our group used to physical improvisation). After warming up, we used bodystorming techniques, with team members playing roles of travelers, locals, and local service employees (taxi drivers, restaurant waiters, etc.). Bodystorming allowed us to gain a better understanding of the travel problem and helped us come up with some creative ideas.


However, most of the traveler's needs that we discovered through bodystorming (driving directions, map of airport, meeting new people, where to eat, etc.) can be solved by existing mobile services. On the other hand, we realized that access to data was a critically unmet need: both our initial user interviews and bodystorming showed that it was one of travelers' biggest problems, and providing them with access to data would allow them to find the rest of the information that they need using the mobile services that they are already familiar with.

Meanwhile, we had begun to come up with various ideas for a business plan. We analyzed our three major ideas (NFC-based advertising, a "travel buddy" social service that connects locals and travelers, and data service reselling), creating value diagrams for each and analyzing the pros and cons to determine which path to pursue.

Service Idea 1: NFC-Based Advertising

The NFC-based advertising idea (shown to the right) is based on new NFC tag technology, which we found promising. We would offer ad placement and analytics services to advertisers, purchasing advertisement space from transit authorities to place NFC tags on bus stops. This would allow mobile phone users to use their NFC-enabled phones to browse useful and updated information (e.g. bus schedule) and integrated ads by scanning the NFC tags. Mobile phone users would provide metrics and analytics data to us, which would be packaged in an aggregated analytics report and sold back to advertisers.
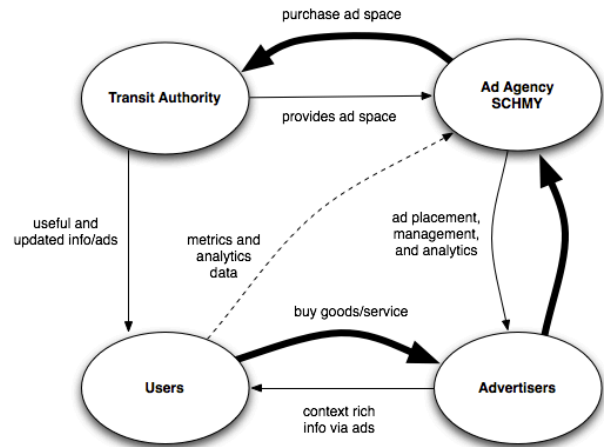
However, this idea requires usage of NFC, a relatively new technology. NFC is powerful and we certainly liked the possibilities it opened in advertising, but very few mobile phones are currently equipped with an NFC chip. We did not want to run the risk of making our entire service dependent on a technology that may or may not become successful, and thus quickly rejected this idea.

Service Idea 2: "Travel Buddy"

Our second idea, which we nicknamed the "Travel Buddy" application, revolved around the connections between locals and travelers. We found in our early user research that there was a rising new kind of travel exemplified by Couchsurfers: one not about traditional tourism, but rather about people and social connections. To address this idea, we came up with the idea of an application that connects locals and international travelers, while suggesting local things to do for the traveler. However, we knew that this kind of idea would require data usage: something that international travelers currently do not have access to. Thus, this idea forced us to be both a data service provider and an application developer. In short, we would purchase 3G data service from current mobile carriers (e.g. AT&T) and then resell the data service to travelers, while simultaneously providing the Travel Buddy application.
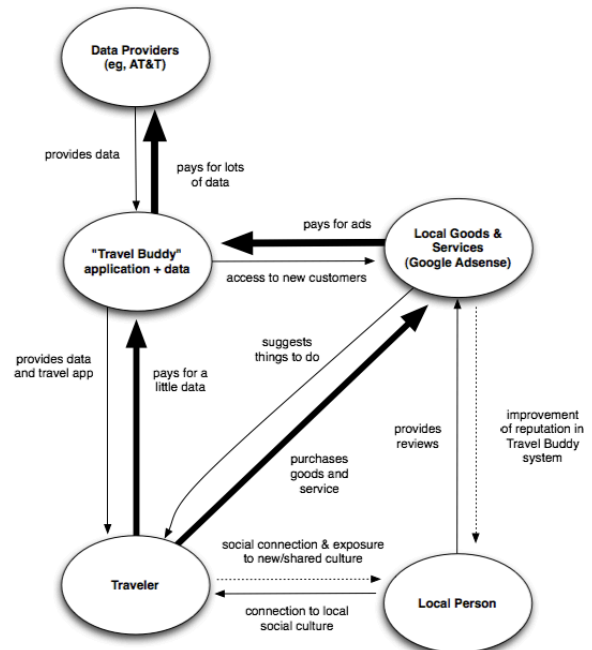
This seemed like a very disjointed solution, requiring us to tackle two separate and difficult problems at once. The value diagram became immediately complex upon adding data, and – even if we were successful at handling both problems concurrently – it seemed unclear that we would be able to motivate local people to provide reviews of local goods and services.

Service Idea 3: Reselling Data (DataHopper)

Our third idea eventually became DataHopper: as a data service provider, we would sell very short-term, affordable data plans to travelers. Since the costs of deploying our own mobile network infrastructure are far too high, we would purchase data service from current carriers (e.g. AT&T) and resell to our customers. Meanwhile, we could abstract away all of the technical details that travelers would need to know if they were to handle their own data needs (the seemingly arcane difference between phone types like GSM and CDMA, etc).
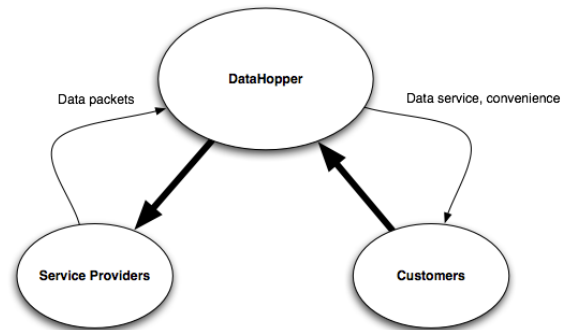
For our target audience (foreign travelers), affordable and convenient access to data is crucial: it allows them to use any mobile services while they travel to the US. Since this was clearly the most established need and seemed like a very feasible plan, we decided to focus on this business model and proceeded to flesh out our idea in a scenario with a focus on the overall holistic experience.

Persona & Scenario

Primary Persona: Kazimir Klaus

Kazimir is a 29-year old journalist from the Czech Republic going on a three-week vacation to Seattle with his friend, Domek. He enjoys traveling and likes to keep a travel blog, but as a budget traveler, data is often too expensive for him to worry with. He carries an Android phone and a laptop, but isn't extremely tech-savvy when it comes to cell phone technologies and is completely clueless when it comes to technical mobile phone standards like GSM and CDMA. His common travel needs include directions, food recommendations, and blogging access.

Supporting Persona: Domek Holan

Domek is a 30-year old teacher from the Czech Republic. Also a budget traveler, he is an amateur photographer on the side who loves nineties rock and uses an iPhone. This is his first time in the USA, and, being an adventurer by nature, he wants to explore as much as he can.
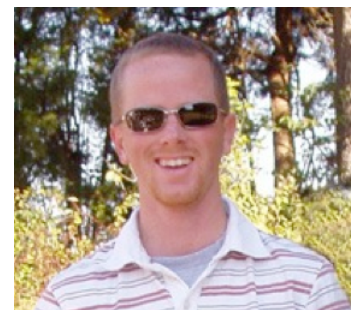
Scenario of Use

Kazimir and Domek first discover DataHopper after booking their flights to Seattle online. They see an ad introducing them to DataHopper, and decide that it sounds like a good idea.
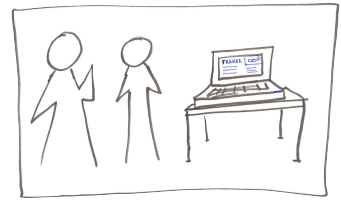

The two arrive in the Seattle airport, where they find DataHopper's vending machine. The vending machine presents them with a variety of pricing plans and options; they rent one from the machine simply by swiping their credit card, and receive a small Mifi device with instructional details.

Once getting to their rental car, they start to play with and set up their Mifi device. They switch it on as the instructions tell them to, connect their devices to the new hotspot using the passcode that came with the device, and are immediately able to use GPS on their phones to figure out how to get to where they're staying.
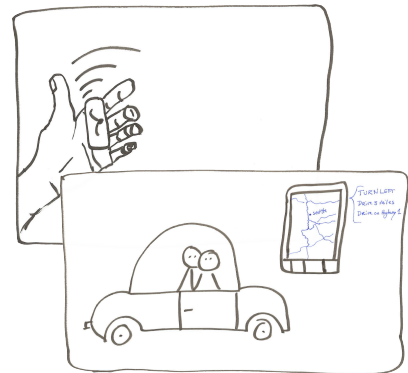
Throughout their trip, the two are able to use their now data-enabled devices (with the Mifi unit in their pocket) to explore the city in ways they wouldn't have otherwise been able to. The data access provides them with freedom, self-sufficiency, and the ability to really explore their surroundings. Kazimir uses it to update his travel blog on his laptop, for example. They both use it to find great local places to eat when they get hungry. They even meet a really friendly local at the park who has family from the Czech Republic, and they pop out their phones and friend her on Facebook before departing so they keep in touch.
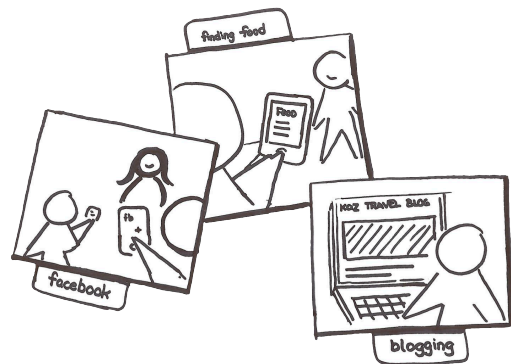
After having an amazing time in Seattle, Kazimir and Domek return to the airport and find the vending machine where they rented the device. They return the device by placing it back into the machine, and receive a receipt with a little thank-you message before heading contentedly toward their departure gate.

Fleshing out the Details

As discussed before, DataHopper will need to become a mobile virtual network operator (MVNO), meaning that we will purchase data in bulk from data providers and resell to our end users through the usage of our rental Mifi devices. In doing so, we would provide a new outlet of revenue to the data provider by essentially allowing them to make money from customers they wouldn't have otherwise had access to; meanwhile, travelers will pay us to receive a previously inaccessible service (access to data while traveling). Meanwhile, our choice of using Mifi for implementing our service means that multiple devices can be supported easily: people often travel in groups and carry many different devices, so this is a great advantage.

We also briefly explored the potential for other revenue streams through the DataHopper service. For example, analytical data and usage metrics are collected by DataHopper and could be valuable to travel sites or transportation providers; we could sell it to them in the form of anonymized and aggregate analytics reports. Additionally, we could provide advertisement space on the brochure that comes with the device, the website that will support it, or the setup screen that appears on devices as they are registered for use. Regardless, these revenue ideas are not currently the focus of our business model: we feel that we could make a profit simply by reselling data using Mifi devices, and these are just ideas that could be explored in the future.

Once the team was settled on the basic idea, we began to concern ourselves with the technical feasibility of the implementation and any regulatory issues that might pose roadblocks. Thus, in order to get a better understanding of the current telecommunications landscape, we looked for advisers who were familiar with the industry and consulted Wendy Fong (senior strategic program manager at Carnegie Mellon's Silicon Valley campus) and Juggs Ravalia (the VP of strategic alliances at SPB Software, who also has a strong background at Windows Mobile).

Our findings include the following:
- When negotiating with carriers for price of data, a guarantee of consistent bandwidth usage throughout the day will yield better results. Carriers hate bursty traffic, especially in urban areas (which we will likely target for our service) where networks are already strained.
- Consistent bandwidth usage can be guaranteed by providing free VOIP services to customers at night.
- It is possible to set up an MVNO that deals with just data and not voice; this is extremely important, as we believe that we can achieve a cheaper price point by only providing data.
- Even if we choose not to go down the Mifi route, there are other technical possibilities for us to provide data to users; for instance, there are ways to change the phone number associated with a SIM card using just software. More importantly, though, our advisers could foresee no insurmountable technical roadblocks with our plan.
- There are no regulatory roadblocks against selling data to people based on the collection of no identifying information other than their credit cards; for example, OnStar Systems does the same thing on rental cars. However, there was some caution about potential regulatory issues in Europe if we ever decide to expand outside of the US.

We then began to examine XCOM Global, a service that serves a similar need and market as DataHopper. (http://xcomglobal.com) Travelers rent Mifi devices that provide a mobile data hotspot; devices are rented via an online website and shipped to users while they are in their home country, requiring considerable advanced preparation on the part of the traveler. Their service provides a portable wifi connection in 40 countries, including the US. XCOM rents spectrum (consistent monthly allotment of data) from larger providers like AT&T, Turkcell, and Vodafone, and has many charges for users: daily rental of data, shipping, and even insurance and cancellation fees. We believe that by limiting the scope of service to just the United States and by

removing shipping, we can greatly reduce the cost of the service. A comparison of costs is laid out in the chart below, and strongly supports the idea that we will be able to gain a great competitive edge on price and convenience alone.

	XCOM Global	DataHopper
Availability	Worldwide	US Only
Flexibility	Flat Rate Throughout	Flexible (Free VOIP at night)
Price	Rate: $18/Day Shipping: $30 Insurance Extra Cancellation Fee	Target Rate: $10/Day No Shipping No Cancellation Fee
Operation	Not MVNO	MVNO

Next Steps

We have already begun to explore the set-up costs of our service, and in doing so hope to estimate a break-even cost for our service. Our fixed costs would include creating an MVNO, acquiring Mifi handsets that create a portable data hotspot, and creating and placing vending machines. Our operating costs would include ongoing data costs, renting space for vending machines in airports, paying customer service representatives, maintaining a billing system, general maintenance of the system's physical components, and advertising costs.

After researching the fixed and variable costs, we will calculate the revenue and time needed to break even. From here, we will calculate the number of gigabytes of data needed to sell to break even. This will lead to a rough estimate of the price per gigabyte.

As mentioned earlier, we are also interested in the pros and cons of adding advertising and analytics to the revenue model. Going forward, we will research the cost of aggregate analytics data and its possible resale value and will also explore any regulatory or privacy issues involved with this. Additionally, we will research the value of adding third party advertising to any digital interfaces associated with DataHopper.

Furthermore, we are also interested in the intangible aspects of our service: the overall experience and DataHopper's potentially viral aspects. These are ideas that we have discussed briefly, but we feel deserve a more thorough examination.