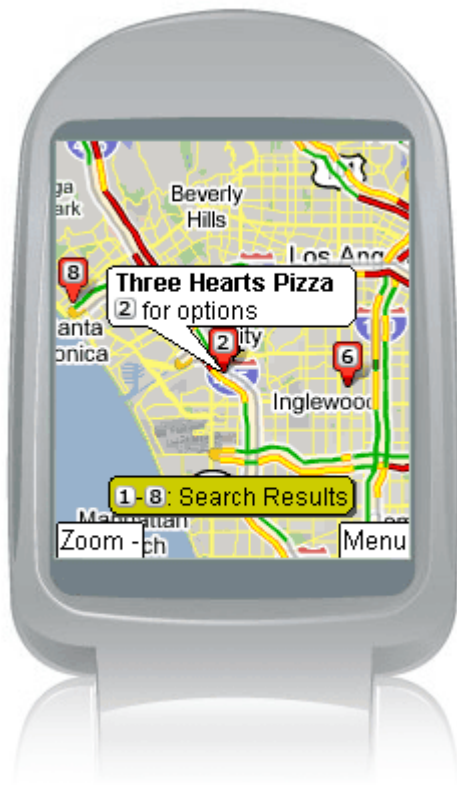


## SI 622 - Assignment 2

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### Personas and Scenarios Google Maps for Mobile



Gaurav Anand | Mail box: 205 | February 1, 2008

# Overview: Google Maps for Mobile

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Google Maps for Mobile or GMM is the version of Google Maps that is available for usage on mobile phones. Our group's semester long project will focus on user-centered evaluation of this application by using it exclusively on Blackberry phone. The GMM application consists of following features, among other things:

- **Real-time traffic** — tells where the congestion is, and helps estimate delays in major US metropolitan areas.
- **Detailed directions** — displays route on the map, together with step-by-step directions.
- **Integrated search results** — local business locations and contact information appear all in one place, integrated on the map
- **Easily movable maps** — interactive maps allows zoom in or out
- **Satellite imagery** — gives a bird's eye view of the desired location

To guide our group's evaluation of this application, we decided to create some user personas and scenarios. Each team member has drafted three personas that illustrate our target population and two scenarios demonstrating standard situations where our personas will need to use the system. Furthermore, as a group, we conducted interviews with five existing users of the application. This set of users does not proportionally represent the demographic distribution of the users of the application, but does reflect a diverse set of users in terms of varied experience with application, and mapping technology in general. This document offers my three user personas, two scenarios, and an appendix of the interview transcripts conducted by the entire group.

## Persona 1: Jeannette Brown

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*“It doesn’t store maps, and has no voice capabilities.”*

Jeanette is a frequent user of paper maps, but she has also tried various mobile mapping services. She narrates her GMM experience as useful, but suffering from various flaws. For example, she thinks that GMM routes are only useful if she can remember them: If there are 3 or 4 turns, it’s really helpful; if it’s 16 turns, it’s not helpful because you need to keep referring to the device. GMM also doesn’t have voice capabilities, which could be very helpful while driving.

### **Demographics**

- 29 year old female
- Lives in Columbus, OH

### **Marital Status**

- Engaged to high-school sweetheart
- Has no children

### **Education and Occupation**

- Holds Master’s in Mechanical Engineering from Ohio State University
- Pursuing PhD at School of Biomedical Engineering at Ohio State University; Focusing on artificial limbs technology
- Works part-time as GSRA

### **Computer and Mobile Proficiency**

- Have been using computer for more than 12 years; Currently owns IBM Think pad; Not too comfortable with MAC
- Uses mobile phone for MP3, radio, international calls using Skype, msn messenger, talking to friends, checking emails, and text messaging

## Persona 2: Theodore S. Ludwig

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*“It doesn’t exactly tell me where I am.”*

Theodore likes to see information in a ‘large-scale context.’ He loves using paper maps over any other mapping service because paper maps provide a context of near-by locations. He feels paper maps are especially useful on a cross-country long drive because they provide multi-state view, and help him decide the route that he should take.

He has been using Google Maps on Mobile (GMM) for about a year, but he is not entirely satisfied. He complains that GMM gives good list of directions but it lacks context, as it does not exactly tell him ‘where he is.’

### **Demographics**

- 38 year old male
- Lives in Ann Arbor, MI

### **Marital Status**

- Married
- Father of a 4-year boy and 9-month twins

### **Education and Occupation**

- Holds Bachelor’s degree in Social Sciences from Hope College
- Works as Regional Manager of Technical Services at Adler Center for Media Planning in Chicago.
- Field of profession is IT Infrastructure management and Web Development

### **Computer and Mobile Proficiency**

- Got his first computer in 1982, started using newsgroups and Internet in 1986; Comfortable with both Windows and MAC
- Uses mobile phone for calling only; finds mobile browser ‘terrible;’ hardly uses

## Persona 3: Alan Larkin

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### Demographics

- 29 year old male
- Lives in New York City, NY

### Marital Status

- Never Married

### Education and Occupation

- Holds Bachelor's Art Education
- Works as Freelance House Painter

### Computer and Mobile Proficiency

- Comfortable with both Windows and MAC; Owns a Dell Inspiron PC
- Uses mobile phone for calling, texting, and recently for VZ Navigator; Wishes to use email

*“It’s not easy/ fast to zoom-in and -out.”*

Since Alan is a freelancer, his work frequently requires him to visit new and unfamiliar places within and out of the city. In his experience: when people call him for a job, they don’t give the directions to their homes, assuming that he will find out somehow.

Alan likes to have a ‘general idea’ of the directions before starting a journey. If possible, he always tries to find the address into Online Google Maps in order to get an overview of the area and route on a larger screen. He finds mapping services on tiny phone screens hard to use.

## Scenario 1: Alan Larkin

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Alan is returning home after spending a busy day of painting one of the houses in New Jersey. He receives a call, while he is driving, from one of the prospective customers. The prospective customer wants him to visit his home so that he can see the scope of the new painting job. The customer is in a hurry to get his house painted, and insists that Alan should visit his house tonight itself. The customer only told about his address, and left on Alan to figure out the directions to his home.

Perplexed by the name of unheard location, Alan calls his sister, who is usually with her computer, to ask about the driving directions to the concerned location. Unfortunately, Alan finds that his sister is not available to answer his query. His next available option is to search for the desired location by using Google Maps on Mobile phone.

Alan searches for the desired location and finds some route directions. However, Alan does not find it very helpful as the location is completely new for him. He is trying to get a general idea of the location rather than to find exact directions. He wants to know about the peripheral locations so that he gets a general idea of which direction he should head. Small screen size of the mobile doesn't let him see the peripheral locations, which he is more interested in the initial stage. He tries zooming-in and -out but he finds it too slow, especially because he is driving.

## Scenario 2: Theodore S. Ludwig

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Theodore is on a holiday trip with his wife and children at an unfamiliar location. In the middle of night, Theodore discovers that his son has fever. Theodore sets out to take his son to the hospital. Theodore had vague idea about the way to the hospital, but when he set out he got lost because it was dark.

He stopped at a gas station and asked for directions, but the people at the gas station did not know. He sees a building near-by, and enters the address of that building into the GMM. GMM tells him to “go North on street X,” but since he did not know which way that was; he has to go back and ask again. After repeated trial, GMM helps him reach at his destination.

Although GMM helped him reach hi destination and was proved useful, Theodore found GMM difficult as it did not really tell him, where exactly he was.

# Appendix: Original Interview Transcripts

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## 1. Yunju

### Introduction

First of all, we appreciate you taking time out of your day and agreeing to be a part of our research. Our team is in the process of evaluating a location-aware mobile mapping application, and we are trying to get a sense of both current and potential users. We have a list with some questions we want to make sure we cover, but our interviews may cover additional material as well if it turns out to be relevant. Please feel free to elaborate or comment on any topic you feel might be useful. Finally, we are trying to get a complete picture of our interviewees, including demographic information. If you feel uncomfortable answering any specific question, feel free to say so and we will move on. Before we begin, do you have any questions?

### Demographic

1. How old are you? (also record gender)
  - 29/ F
2. How would you characterize your education level?
  - Pursuing PhD in Mechanical Engineering from College of Engineering at UM
3. Would you be comfortable telling us your range of income?
  - \$1800 per month
4. Are you currently employed? What is your job title?
  - Works as GSI
5. What is your company or organization's primary product or service?
  - UM
6. What is your primary language?
  - Primarily Korean. Also speaks English

### Lifestyle/Psychographic

1. What are your hobbies?
  - Likes playing tennis and rugby
2. How would you describe your life overall? Fast-paced? Easy-going? Busy? Quiet?
  - It is busy, especially in this term. But I can handle it; I am positive about being busy.'
3. How many hours a day do you work?

- GSI Work + school work comes out to be more than 40 hours/ week.
4. What led you to choose your profession?
    - My profession is a combination of fields of bio mechanics and human movement, especially upper limbs. I like to prevent falling of the elderly women.
  5. How many hours a day do you spend at home, apart from sleeping?
    - Less than 1 hour.
  6. How many hours a day do you spend with your spouse or significant other?
    - I spend weekends with tennis.
  7. Do you read any magazines or websites for pleasure? What are your major sources of news and information?
    - I read Korean websites, mostly tech websites about my HTC Mogul. Also, NYtimes.com & Google news, among others. I also access these sites on my Mogul.
  8. Do you watch TV? Favorite shows?
    - I don't watch much TV. Last week I watched lot of the Australian open tennis tournament. My favorite TV show is Sponge Bob.
  9. Do you surf the web for entertainment?
    - Sometimes I watch YouTube. Most of the time I am on my laptop WIFI – I use Mogul as a modem where there is no free WIFI.

### Technological

1. Do you currently own a cell phone?
  - [skipped]
2. What are some of the major features you use on your phone?
  - MP3, radio, international calls using Skype, msn messenger, talking to friends, check emails the moment I wake up, some text messaging (but use it only with few people as most friends don't have texting plans)
3. Approximately how much do you pay for monthly service on your phone?
  - \$30 without tax which includes 500 minutes of call, unlimited text, unlimited wireless. Plus \$ 7 mobile insurance – so approximately \$40. I find it very cheap.
4. Do you have a data plan, i.e. do you check email or surf the web on your phone?
  - I have unlimited data plan.
5. Do you regularly use any other mobile devices (e.g. iPod, PDA)?
  - No, my Mogul does all of that. However, I have also used an mp3 player in the past.
6. What kind of computer do you have and how long have you been using it?
  - PC – IBM ThinkPad; Two and half years; have been using computer for 10 years.
7. How often do you use it?
  - All of the time, except while sleeping and taking the class. But if I have phone

signal, I can access any information on my Mogul. Sometimes I prefer using my Mogul since I don't have to wait for it to boot up.

8. What operating systems do you have experience with?
  - No experience with any other OS except Windows.
9. What software or web applications do you use daily?
  - I use Mozilla every day. I used to use Internet Explorer sometimes to access bank websites. I also run simulation software for my research, email, and use MS Office.
10. How often do you access the Internet?
  - All of the time
11. For what reasons do you access the Internet?
  - Fun; finding information; check status of items I have ordered. I don't often shop online but I do check online often because it's cheap.
12. What websites do you visit daily?
  - NYtimes.com – everyday; Google news – everyday; iGoogle personalized main page.

### Mapping Needs

1. What is your typical plan of action when you're lost?
  - I have never experienced getting lost. I am pretty good at finding directions. I plan beforehand before going to a new place and study a map.
2. What's your typical plan of action when you need to find directions from one place to another?
  - Computer/ paper maps. I travel to big cities like Chicago and Cincinnati a lot, and I have paper maps of those cities which I use.
3. How comfortable are you using paper maps?
  - I am quite comfortable. I have a big map on wall in my house. I also have lots of paper maps. I also use AAA service.
4. When and where do you typically use a paper map?
  - Before leaving for some unfamiliar place, sometimes en route also while driving.
5. Which electronic mapping tools have you used in the past (e.g. MapQuest, Yahoo! Maps, Google Maps, Microsoft Streets)?
  - I have used Google Maps, MapQuest, and Yahoo! I have also used the AAA website – they have a mapping application.
6. What, if anything, did you like about these tools?
  - Dislike: The estimated times are often inaccurate.
  - Dislike: MapQuest directions are hard to understand. I don't like it. I don't read text, I just use the map.
7. Have you ever used an electronic mapping tool to find new businesses to patronize?
  - Not much for finding a new business. I like to look for my own house, my friends'

house to make mental picture of the location – I like the satellite view.

8. Have you ever used an electronic mapping tool simply to explore an area?

- Yes, I do that.

9. Do you use a mobile mapping system? (GMM or others ... note if GMM)

- I just use GMM because my other device doesn't have GPS right now. However, next month I will be able to update the ROM and have GPS. I won't use GMM once I have GPS because it has to be kept connected all the time to get maps (as it doesn't stream maps.) Whereas Tom Tom program stores almost 1 GB of maps on the device. When I get on to the other device, I am going to use Tom Tom rather than GMM.

**if so ...**

1. How long have you been using it?

- I just downloaded GMM & have been trying it since November 07.

2. On what kind of device?

[SKIP]

3. How often do you use it?

- Not very much.

4. In what situations and environments have you used a mobile mapping application?

- Only when I cannot access PC – in a hotel/while traveling/ in car/ bus etc.

5. What are you trying to accomplish when using this application?

- I'm usually trying to find the location of a specific address

6. Describe a typical experience where you used this software recently.

- Just a few minutes back, I was looking for transportation service office which is located behind Michigan Union. I found the address from pts.umich.edu, and I entered the address in GMM to find the exact location.

7. What do you like about it?

- It does everything I want it to. I especially like the satellite view.

8. What don't you like about it?

- It doesn't store maps. Also, the show traffic feature doesn't really work.

9. If you could suggest changes, what would they be?

- I would like to see the traffic feature working. I think I would use it a lot if it works better.

10. Are there features of the application which are you aware of but never use?

- I store no favorites. I search each time I want to look for some address. If there is a bar that I want to go to, I look internet for address and then go to GMM to look at the site (Map.)

11. Which features do you use most frequently?

- Finding an address
12. What do you do when you can't find the information you're looking for using your mobile mapping application?
    - It doesn't happen much with me.
  13. Have you compared this mobile mapping application with its competitors?
    - I like Tom Tom because it also has voice features and because it doesn't download the maps. I like when the software speaks to you about where you have to go... "After 100 yards you have to turn right."
  14. If so, what benefits or drawbacks does it offer over other options? Please describe.
    - GMM doesn't have voice capabilities. Voice is very helpful while driving (as you can't look at the small mobile screen), and GMM doesn't support it.
- 

## 2. David Lee

Age: 29

Education: Some graduate, 1<sup>st</sup> year PhD program, recent Masters

Income Range: GSRA stipend: \$60K last year // \$20 GSRA

Primary language is English

### Lifestyle:

Hobbies: Flying model helicopters, programming things – visualizations, hacking systems together

Lifestyle: this year, very busy – as a PhD student you do research ½ time, ½ time class work (3 classes, ½ time work, no spare time)

Time spent working: 6 days/week, 12 hours

Chose to be a PhD student to have a desire for change of setting and pace; was working as an applications engineer for about 5 years a cognitive neuroscience laboratory in San Diego before this.

Spends 4 hours a day at home; on weekends goes out and about. When he's on campus, shuttles back and forth between north & central campus on bus, sometimes in car.

Generally, wherever goes on weekends in A2 knows where he is, but travels a lot and finds himself in unfamiliar places frequently; last year, flew 40,000 miles, 2x to Hawaii (new) and all over the US.

"Google maps have been key in L.A."

In Anaheim, had coffee with a friend in a different city so had to traverse several in a row (Berea to Anaheim to Garden Grove)... finds L.A. really confusing, some streets go on forever, other just end – used GMM lots in LA, because he can use the intersections to search for a point and find where he is when he's lost (rather than having to know a precise address.)

Reads bookmarked sites on web frequently: NYT, Slashdot, and ArsTechnica every day.

Major news sources are the radio (NPR), NPR podcasts to finish the whole radio show if he has to cut out in the middle.

Watches TV: Law & Order, sometimes watches TV on the computer, uses hulu (beta) for finding online TV streams.

Surfs the web for entertainment, reads blogs, news sites (“borderline entertainment”), enthusiasts sites (DP review).

Has blog but doesn’t update it.

### **Technology:**

Own an iPhone, and uses it primarily to call people, email (sends and checks when standing in line, short responses only), listen to mp3s on shuttles between campuses. Pays \$60 per month with data plan.

Owns some other phones that have GSM but they are not active – uses them for traveling by transferring card.

Got the iPhone b/c it’s a convergence device – combines the functionality of several devices – used to use an iPod, but now uses phone only.

Has Mac Book pro and a Mac mini, and 2 other pc laptops. Equally familiar with PC, Macs & Linux.

Uses computer on a daily basis – near constant. Software used daily: word for typing documents, web browser (Firefox), terminal and x11 (windowing system used by most Linux box – helps control windows, control bars, etc.)

Internet access – near constant, because so many applications access the internet that he uses.

### **Map Use:**

He uses when he’s lost, but it depends on where he’s lost:

Locally: he’ll drive until he sees something he knows (usually when he’s lost in A2, he’s driving). If gets really lost, calls a friend and asks him to look it up. Did use Google maps for mobile once – was trying to remember if Grizzly Peak was on Washington or Liberty, so typed it into GMM and found it that way.

In an unfamiliar place: ex. Waikiki, will pull over and stop, figure out where he is; will use GMM so he can zoom in and out and get a sense of macro and micro scale. Macro for conceptual maps, micro for details.

Sometimes when he maps a route in GMM, it might be the optimal route but not the “best” route. Sometimes calculating his own route is better – this is why he uses GMM... with the zoom, he can scan around for a better route.

GMM routes are only useful if he can remember them, because following the line on the directions route is really tough; If there are 3 or 4 turns, it’s really helpful; if it’s 16 turns, it’s not helpful because you need to keep referring to the device.

For finding one place: first course of action is to use the full size computer and to print out directions, because you get BOTH list view and map view. Depending on context, next course of action will be to turn to a social network – will call someone rather than look for the directions – because they express it in a mix of conceptual and route based details “drive to garden grove, then take a right on whatever”

Is comfortable with paper maps – uses them for hikes, at least in the past and now, because there is less digital documentation of those spaces.

Which electronic mapping tools have you used? First MapQuest, then gmaps because it has more support for “fuzzy” addresses, GPS unit – bought one for his dad who travels a lot, b/c the point of interest databases are really cool, as in where is the nearest gas station. (Garmond 660 Nuvi)

Things he liked about the above systems: liked MapQuest b/c it was well integrated into Yahoo – in the past, it was frequently used by websites with an embedded map (this was a long time ago) – since, has used Gaps a lot.

Definitely uses GMaps to find businesses he hasn’t patronized before.

Has used a digital mapping to explore an area; for example used Google Earth for **browsing** – in this case, was looking at the fires in SD and interested in the metadata.

Firefighters use Google earth to get an idea of the terrain – declared this as a very important tool for firefighters – a lot of people can see the terrain in 3D, for an elevated vantage point.

### Google Maps:

Has been using GMM since got the iPhone – 6 or 7 months.

Uses GMM weekly: for general info purposes. Ex. Was recently walking along a path near the Arboretum and knew he was near his house, but didn’t know how to get there, so used satellite view to find way home.

He uses GMM at home or in the car. Even at home, because phone has wifi so it’s fast! Has to do with distance: 10’ or more from computer, he’ll use GMM.

In A2, uses GMM to find out what street something is on, to make his own mental map.

What he likes about GMM:

- search for fuzzy queries – “pizza in ann arbor” vs. having to know something very specific like an address
- likes that it shows you the phone number and can call them
- likes the showing the traffic idea, but hasn’t used it yet
- “that it’s always there because... my phone is everywhere”

GMM dislikes:

- not instant – “would be great if it was instant all the time” – performance – slow load, esp. when not on wifi network
- Certain new things don’t exist on the maps – and can’t find the place.

Things interested in but never use:

- Traffic
- “Dropping the pin” – would be better if location aware technology was more precise.

Frequent features used:

-- finding a business that he already knows

If he can't find something via GMM, will use more explicit search terms in Google in a browser, then will take it back to GMM, or will ask someone.

Hasn't compared to other systems.

Do you save favorites? No. On the desktop version, will save address which is "creepy."

He says on own:

Being able to zoom in and out is really cool, and the progressive refresh (zoom existing image and fill in with more detailed pixels into area—function of way they store and transmit images)

Sometimes will use Google maps if looking for optimal route, rather than the best route; i.e., wonders if there is a more efficient way to go a route he often goes.

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## 3. Joel Frank

### Introduction

First of all, we appreciate you taking time out of your day and agreeing to be a part of our research. Our team is in the process of evaluating a location-aware mobile mapping application, and we are trying to get a sense of both current and potential users. We have a list with some questions we want to make sure we cover, but our interviews may cover additional material as well if it turns out to be relevant. Please feel free to elaborate or comment on any topic you feel might be useful. Finally, we are trying to get a complete picture of our interviewees, including demographic information. If you feel uncomfortable answering any specific question, feel free to say so and we will move on. Before we begin, do you have any questions?

### Demographic

7. How old are you? (also record gender)
  1. 29 / M
8. How would you characterize your education level?
  1. Master's Degree
9. Would you be comfortable telling us your range of income?
  1. Variable but somewhere 25-50/k
10. Are you currently employed?
  1. (skipped)
11. What is your job title?

1. Freelance finish carpenter
12. What is your company or organization's primary product or service?
  1. Finish carpentry
13. What is your primary language?
  1. English

### **Lifestyle/Psychographic**

10. What are your hobbies?
  1. Music, guitar, biking, skiing, cooking, wood-working
11. How would you describe your life overall? Fast-paced? Easy-going? Busy? Quiet?
  1. Variable, from quiet to hectic -- tried to work, but tries to keep it toward quiet
12. How many hours a day do you work?
  1. 8, but sometimes more
13. What led you to choose your profession?
  1. Finished degree in art education and had been doing carpentry (dad was a cabinet maker). Tried working for himself for a year, and a year turned into seven. Couldn't imagine doing anything else
14. How many hours a day do you spend at home, apart from sleeping?
  1. 8
15. How many hours a day do you spend with your spouse or significant other?
  1. Quality time or what?
  2. 4 – 6 hours a day
16. Do you read any magazines or websites for pleasure?
  1. Salon.com, Google News, The Onion
  2. Fine Homebuilding, Journal of Light Construction, Cooking Light Gourmet
17. What are your major sources of news and information?
  1. Google News, local newspaper website
18. Do you watch TV? Favorite shows?
  1. Lost, The Simpsons, The Boondocks
19. Do you surf the web for entertainment?
  1. Yes

### **Technological**

13. Do you currently own a cell phone?
  1. Yes
14. What are some of the major features you use on your phone?
  1. Calling
  2. Text once in a while
  3. No email, but wishes he had it
  4. Recently, VZ Navigator
15. Approximately how much do you pay for monthly service on your phone?

1. \$40/mo
16. Do you have a data plan, i.e. do you check email or surf the web on your phone?
  1. (skipped)
17. Do you regularly use any other mobile devices (e.g. iPod, PDA)?
  1. Uses an iPod
  2. Has briefly used a hand-held GPS
18. What kind of computer do you have and how long have you been using it?
  1. Primarily a Dell Inspiron PC
  2. Has used a PC in home for 15 years
19. How often do you use it?
  1. Daily, 2-4 hours
  2. Sends emails, composes invoices
20. What operating systems do you have experience with?
  1. Comfortable with both Windows and Mac, but slightly more with Windows
21. What software or web applications do you use daily?
  1. Google Mail
  2. Word processor
  3. Google suite, including Sketchup
  4. iTunes
22. How often do you access the Internet?
  1. (Asked how long per day) 2hrs
23. For what reasons do you access the Internet?
  1. (skipped)
24. What websites do you visit daily?
  1. (skipped)

### Mapping Needs

10. What is your typical plan of action when you're lost?
  - Used to be “call Jackie” since she is usually in front of a computer
  - Now using VZ Navigator
  - Happens a lot since he's in a new town, but used to have a lot of pride in knowing Upstate NY (backroads, etc)
    1. How often do you drive to a new place (question added)
      1. A few times a week – contractors and such
      2. People don't given direction anymore, just addresses with the assumption that you'll look it up
11. What's your typical plan of action when you need to find directions from one place to another?
  - Looks it up on Google Maps and gets an overview of where he's going
  - Likes to have a broader understanding of the route before beginning a journey

12. How comfortable are you using paper maps?
  - Very
13. When and where do you typically use a paper map?
  - Typically uses a paper map as a passenger on a trip.
  - Paper maps are very difficult to use when alone, hence the benefit of audible directions for VZ Navigator
14. Which electronic mapping tools have you used in the past (e.g. MapQuest, Yahoo! Maps, Google Maps, Microsoft Streets)?
  - Mostly Google Maps
  - A little experience with hand held GPS in nautical applications
15. What, if anything, did you like about these tools?
  - Convenience (in the form of en route access)
  - However, gets a better understanding of the area/directions from a paper map or Google Maps (on a desktop)
16. Have you ever used an electronic mapping tool to find new businesses to patronize?
  - Has only searched for the location of known businesses
  - Likes the idea of using VZ Navigator to find nearby, unknown business (e.g. hardware stores, lumber suppliers)
17. Have you ever used an electronic mapping tool simply to explore an area?
  - No
18. Do you use a mobile mapping system? (GMM or others ... note if GMM)
  - VZ Navigator

**if so ...**

15. How long have you been using it?
  1. Less than a week
16. On what kind of device?
  1. Motorola KRZR
17. How often do you use it?
  1. Every day
  2. Started using it on a trip, but is now using it locally
18. In what situations and environments have you used a mobile mapping application?
  1. (skipped)
19. What are you trying to accomplish when using this application?
  1. (skipped)
20. Describe a typical experience where you used this software recently.
  1. A contractor calls him and wants him to look at a job
  2. Asks to meet at a particular time and address
  3. Often the address is in a residential area which is not designed for easy

navigation (e.g. cul de sacs, winding roads). Even a local would likely have trouble.

4. If possible, first enters the address into Google Maps in order to get an overview of the area and route on a larger screen. A tiny screen on a phone means it's hard to view in entirety.
21. What do you like about it?
22. What don't you like about it?
  1. No overview
  2. It's not easy/fast to zoom in and out
  3. VZ Navigator simplifies directions much better than Google Maps (consolidates small steps e.g. "follow this hwy", "merge onto that hwy")
  4. He can close the phone and still hear the directions. Even has a small arrow on the front display screen
  5. Audible directions are a little quite – can't play radio at the same time, even on speaker phone (said it was probably a phone problem)
  6. Likes that you can quickly scroll through all the directions on a route (i.e. can advance through several upcoming turns)
23. If you could suggest changes, what would they be?
  1. Bigger map
24. Are there features of the application which are you aware of but never use?
  1. (skipped)
25. Which features do you use most frequently?
  1. Directions
26. What do you do when you can't find the information you're looking for using your mobile mapping application?
  1. Hasn't happened
  2. Compared VZ Navigator to in-car Magellan unit in a rental car: VZ Navigator was clearer and correct than in-car. More accurate directions. It also took a lot longer to feel comfortable with the Magellan unit, whereas VZ Navigator was easy to use right away
  3. However, the Magellan unit did have a larger screen and a "3-D" down-the-road perspective
27. Have you compared this mobile mapping application with its competitors?
  1. (skipped, see previous question)
28. If so, what benefits or drawbacks does it offer over other options? Please describe.
  1. (skipped, see previous question)
29. **What else should we have asked you? Or what else do you want us to know?**  
(new question)
  1. Storing points is really helpful. Helps you get to known destinations from

unfamiliar starting points.

2. With storing points, metadata would be useful (e.g. contractor name and info)
  3. Following new routes increases understanding of a new area
30. **What criteria do you use in deciding to use a mobile mapping application**  
(question I should've asked – financial? technical?)

## 4. Steve

### Personal

Age 43, gender Male

Some college

Earns 40 to 60K

Employed as an IT manager at PWB Marketing Communications for 6 1/2 years. Does IT, some web development.

Primary language is English,

Lives in Oak Park, works in A2, originally from California (LA).

About 10 months ago, had triplets, so spends every minute outside work with the babies, and a four-year old son. Used to be a computer hobbyist, not a gamer thought. Got his first computer in 1982, started using newsgroups and Internet in 1986. Also into recreational reading, fiction

Life is very busy. Works 9 hours a day, almost always works through lunch -- it's his personal MO, because nowhere to go during the hour lunch. Has an hour commute, and can be so tired - he's away from the house from 7am until 6pm at night. Sometimes dozes off during drive home! Goes to bed at 10:30pm.

Chose his profession because he had an aptitude for it and learned it years ago and found that he could make money doing it. Has been doing it for 17 years.

Spends all time on weekends at home and never goes out during week. Has had Google maps on phone but lately the triplets take up so much time that he doesn't use it much. Occasionally -- see stories below.

Daily media include the Wall Street Journal on paper and on the web, magazines: American Heritage of Invention and Technology (Quarterly), Reason and Weekly Standard. Very regularly checks Google News headlines, number one source for news is NPR (Michigan Radio) Watches

very little TV these days... House before triplets.

### Technological

Cell phone is a Palm Treo 650 with a data plan. His employer pays for it, but he's had for years and considers it his. Mostly calls, uses the browser but finds it "terrible" and uses only when desperate. Will use GMaps infrequently and often uses the calendar application.

He uses no other mobile devices, but has several computers: apple iBook (for a year); also has a Dell laptop for 3 years; a 6 year old iMac at home.

He's on the computer for at least 5 hours a day and is comfortable with Windows and Mac OS (but no others). Applications he uses every day: Mail app, billing and time keeping on web, Adium (IM), IE on Windows, Safari on the Mac, a lot of work in Google -- his colleagues use him as "research guy" so he ends up doing lots of sleuthing for his colleagues. Estimates 2 hours a week in Google.

### Mapping

When he's lost in his car, first thing is to grab a paper map book because it's faster than Google Maps if he has a vague notion of where he's going. If not, he relies on Google Maps (online) to help find the location. Doesn't often use GMM b/c the small screen limits the context of the map, and mistyping can cause problems.

When he needs to find directions from one place to another: If he's at a computer, he goes to gmaps online. Hates to ask for directions, but if there is someone in the car who might know, then he'll ask them. Will go into a gas station or store if necessary. In emergency room story, he pulls over to gas station on the way to ask directions, the guy couldn't give directions. So he asked for the address, and then he input it in as a starting point and then used that to get there. How comfortable are you using paper maps? Very comfortable "25 years ago when I started driving that's all I had" -- ask LA people about Thomas Brothers Maps -- a cult among SoCal folks with spiral bindings and every street indexed including block numbers. Just chatting with a friend who still lives in LA (he still knew what page he was in the map.) Absolutely his favorite way, because it's fast because it has context. Would love to have a bigger screen, like an iPhone, b/c screen is small.

Typically uses a paper map on long trips -- when he goes on a cross country drive he uses them (from Detroit to LA and back). Likes them because they give context -- he can look at a multi-state view, and decide on his own route; he likes to be able to put things in large scale context.

He doesn't use any other mapping apps besides GMaps online and for mobile. However, has been in cars with others who have GPS, and found it very useful, especially when not at home or traveling. Likes GPS b/c it knows where he is, which his Treo is not yet enabled to do.

## Google Maps for Mobile

Has been using GMM for about a year, always on his Treo. "I got it 5 minutes after I learned about it."

However, doesn't use it very frequently: before the triplets, used it 2x per month; after, he can only think of two instances. He always uses it just to find places he hasn't been before, e.g. a location on the way to or home from route -- he'll get directions for the diversion. He's never used it outside of car.

Some examples of usages:

ER Story:

Son had a fever, and user thought he knew his way to the hospital. But when he set out, he got lost because it was dark. Stopped at a gas station and asked for directions, but they didn't know. So he saw the address on the building, and input that into GMM. GMM told him to "go North on street X" but since he didn't know which way that was, he had to go back in and ask again. However, once he got going, it got him there fine.

Lowe's Story:

Wanted to buy a ladder on sale on Lowe's. Called 5 Lowe's stores to finally find one, but it was in an unfamiliar neighborhood. First, he looked up the Lowe's address on his home browser, and then punched it into GMM, (starting from home and going to destination) and got directions. He chose GMM because the street was new and wasn't on his paper maps; also, he would have printed directions, but the printer was broken. Went very well that time -- daylight, chose one step at a time and pressed button to advance screens, which was easy because most of the drive was on a freeway. "It was easy, and got me where I wanted to go and got me there fast."

A complaint about it is that it lacks context -- knows steps to get to a location, but he can't find context, like in a map of Michigan, say. Feels like he doesn't "know where here is". However, he hasn't used the zoom tools on GMM.

Another complaint is that GMM doesn't compensate for errors -- doesn't recalculate route if you get lost, and he finds it hard to change mid-stream. If he's in one place in the directions, he doesn't know how to go backwards, has to go all the way back to the beginning.

Also, it bothers him that it doesn't seem to cache much information, could cache more. Number one feature he'd like to be able to use: would like to be able to give as start address as a point on the map, rather than a text location (can't he do this? -- ed.)

There are no features that he's aware of that he has not used (however, there are many that he's not aware of at all -- ed.)

## 5. Susan

### Demographic

Age 26, female

Is getting MS in Public Health, and is working on an IT project for Bronson Hospital in Kalamazoo. Has been considering how to get employees and administration to implement EMRs.

Primary language is English.

Hobbies – hanging out with friends, movies, photography, graphic design

Has a pretty fast-paced life, which she says is, “self-imposed” and “a city thing.” She’s originally from L.A. Work and life blur together – work 3-4 hours a day.

She applied to her Masters out of undergrad, but took a year off . Her choice was because she decided that didn’t want to go to med school but wanted to do something health related on a wider scale.

Averages 2 or 3 hours at home; rest of time at school, at team-meetings. On weekends: hangs out with people, i.e. recently went ice-skating, and sometimes will go other places, if she has time.

Reads for pleasure: NYT, Washington Post, Wall Street Journal, CNN (all online); also reads the New Yorker in print.

She watches TV – Gray’s Anatomy, Scrubs, Project Runway – and streams it online when she misses it on the network schedule.

Surfs web for fun: Face book, People.com, Email, Style.com, streams Ugly Betty when she’s bored.

### Technology:

Has a cell phone, and mainly uses the phone, alarm, camera, and sometimes texts, but costs money so largely avoids it, because her parents pay for it because it’s a family plan. She doesn’t have a data plan on phone. Uses a paper planner.

Only other mobile device is a cell phone.

Her computer is an Isus A6000; she’s had it for two years. She’s been using computers since elementary school. Not at all comfortable with Macs.

Uses computer every day, about 4-5 hours per day.

Daily software include windows, office, email, “Firefox”, aim, Photoshop, illustrator. Tasks include: homework, graphic design for fun, communication – IM with friends, sometimes for class purposes, though for groups she mainly communications by email and phone. However, she finds massive amounts of email from school annoying.

### Mapping Needs:

Has maps in car, but will call someone first before she uses them (to ask for directions.) This is more applicable in LA, but hasn't been lost much since she came to A2. When she first got here, and didn't know anyone, she used maps that her L.A. friends got her AAA.

When starting from home, uses Google maps online exclusively because she "likes the interface." Likes being able to go to the location, to be able to see it from a satellite view, can drag it around, also being able to reroute yourself. Doesn't like how it prints because it prints a tiny little map that you can't see, so has to print the big map out herself.

"The last time I used a paper map..." (as if couldn't remember). Usually uses it in a friend's car, when they are lost.

Doesn't use any other mapping systems – used to use yahoo maps (it failed her once, so stopped it – was late to a job interview and it told her to go left instead of right) and doesn't like "how MapQuest shows up"

Once used GPS in a rented car – experience was, "it was OK" – feels like it doesn't take into account how hard it is to change lanes – doesn't take into account real driving conditions – and if it's not updated frequently, you can run into a closed freeway and it won't give an alternative. Only used it for two days when renting a car.

Liked that she could just get in the car and go (with GPS) and could set up different distance options and local options.

Found that it was hard to input the location into the GPS because it required a specific address; when didn't know it, she looked it up on Google maps using less precise data, and then put the address in the GPS.

Didn't use Google Maps online to find new places to patronize, but has used it to check out an area. Ex., used it to find a hotel in Chicago and was able to get a sense of the safety of the neighborhood by using Street View. Then was able to find stuff that was close to her conference location.

### **Google Maps**

Hasn't used GMM because doesn't currently feel a great need for it. However, if she was a frequent traveler, would have it.

"If it's there, I'd use it" but wouldn't seek it out right now if was given a blackberry.

Situations in which she imagines she might use a GMM: in a foreign city, in new areas, but "has gotten by without it before" so might not seek it out, even if she was moving to a new place.

If she had it, would probably use it to get from point A to point B, but probably wouldn't use the features for finding establishments in a particular category in an area, because "I'm well planned out when I leave in the morning" – "there is room for spontaneity if I'm familiar with an area, but not if I don't know it."

Has default locations in Google Maps, so could imagine using them on mapping applications.

Things she'd like to have in a mobile app: traffic information because then she could determine fastest route; "I'm from L.A."

"It's not something I would every consider buying for myself, maybe for my parents... Parents mentioned they wanted a GPS, and she things it would help her mom get lost less often. But she's afraid her mom might not be able to use it.

Hadn't heard of Google maps for mobile before this, but was aware that MapQuest has a mobile app – knows someone who uses it as their primary interface on their GPS.