Practices & Theories in Interaction Design

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1 Summary & Rationale: Design Process

The design process began with a group discussion regarding strategies for gathering user requirements for building a system that would increase public engagement with the high street. It was agreed that observation sessions would take place in the high streets of Clapham and Brixton, to be followed by semi-structured interviews. Some research was done to ensure that the targeted high streets were suitable, and the audience sufficiently diverse (Appendix A).

The first observation session was conducted in Clapham at midday on Saturday 9th November 2013. The group split into two teams to observe two different high streets (St. John Hill Street and Northcote Road). One street had the majority of specialty shops, cafes and eateries while the other featured mainly department stores and supermarkets.

Both teams drew a rough map of the area (Appendix B) where the observations would occur and noted their exact positions. Robson's framework (Robson 2002) was chosen by both teams as a facilitator of the whole process, rather than the less complex practitioner's framework suggested by Rogers, Sharp, Preece (Rogers, Sharp, Preece 2013).

As proposed by Robson, team members noted details about the space where activities were taking place. This included the actors and their activities, objects that were used, specific acts and user goals. Robson also suggests that observers note whether something that's occurring is part of a special event. This parameter, however, was not applicable in either of the observation sessions. The patterns that were observed at Clapham Junction concerned mainly satisfying the need for beverages and food, shopping, using bank facilities, as well as getting somewhere by means of public transport. Additionally, a young person asked a passerby for instructions on where to get bus 337, an elderly man asked a team member where he could get a taxi, while a middle aged woman asked for directions to the Greek Orthodox Church outside the rail stations' main entrance. This observation session was conducted under heavy rain and lasted about 1 hour 30 minutes.

The same strategy was followed in Brixton where similar requirement patterns were observed. In this case, however, two different themes were observed: pram users and individuals with disabilities (vision impairment, mobility difficulties).

To further explore what tasks people perform on high streets and to comprehend how they experience it, semi-structured interviews were conducted (Appendix D). This style was preferred as it provides a solid guide to the interviewers, ensuring that they will cover all topics. However, semi-structured interviews allow for flexibility to rephrase, elaborate, add or even omit questions. Furthermore, an effort was made to include in the sample of high street interviewees, a range of socio-economic background and age groups. The majority

of interviewees were either frequent users of the high streets in Clapham Junction and Brixton, or had visited these areas for different reasons recently. Three interviewees had never visited any of the above high streets, before the day of the observation session. They were, nonetheless, interviewed as the group wished to explore what people's reactions would be on a high street they were visiting for the first time.

Motivations, such as the rationale behind user choices (for example, one particular high street over another), reactions to unexpected situations (losing a valuable or being separated from a dependent), overall satisfaction and suggestions to improve on the experience surfaced during interview sessions.

Findings were organised in a spreadsheet to facilitate the analysis process (Appendix C). It was through this process that the main requirements were identified, which fuelled the creation of three personas (Anthony, Sadie and Sola, see Appendix E). Captured data was utilised to give personas goals, skills, and concerns (Brown 2011), and were further enhanced by a few personal details to "bring them to life" (Cooper 2008). Anthony's persona, for example, was based on Interviewee 6 who clarified that they were not "the kind of person who likes to ask strangers on the streets for information", and Interviewee 9, who mentioned difficulties relating to running errands on the high street when accompanied by a dependent with a physical disability.

Scenarios were preferred to storyboards as a way of communicating user experience at this stage (Appendix G). It was felt that words, rather than drawings would help team members get a better grasp of the problems users face on the high street - "scenarios are a form of analysis of the interviews and represent what happens today in real-world settings" (Mackay 2002). Requirements identified from the analysis and interviews were written on post-it notes that were then stuck on a wall for group members to derive goals, tasks and motivations (Appendix F). Anthony's scenario was based on comments that interviewees would retrace their steps to find a lost valuable. Sola's scenario was based on a remark by Interviewee 6 on the difficulties often faced by mothers looking for breastfeeding friendly premises on the high street, and on a comment by Interviewee 12 on problems relating to parking prams in coffee shops and restaurants. It was decided that the scenarios would be used to inspire the design of a device, by being written as an ideal perspective on how tasks would be completed.

2 Discussion: Proposed Design

It was decided to design a small-form-factor, wearable device that would be suitable for use on any high street. In all observations and interviews, no data was captured that would limit the activities in the scenarios to a particular high street. Moreover, specific high streets are not even named in the scenarios.

The process of designing low fidelity wireframes started with a discussion on whether to follow the horizontal or the vertical approach (Rogers, Sharp, Preece 2013). It was decided that a vertical approach, that favours detailed design for a limited number of functions, would be adopted. The prototype would be demonstrated in the form of interactive wireframes, rather than a paper-prototype as this would make facilitation easier and allow participants to interact with designs on a touch screen. Building on Anthony and Sola's scenarios, the group focused on two requirements: Retracing the user's journey on the high street to facilitate the retrieval of a lost item, and locating breastfeeding friendly premises (according to mothers spoken to, breastfeeding friendly premises are those that are not too crowded, conform to hygiene standards and do not play loud music).

When designing the physical device, it was taken into consideration that two high street users (Interviewee 6 and Interviewee 7) stressed that they would rather not carry another device similar to a smartphone. Interviewee 6 declared a preference for "something wearable", thus encouraging the group to discuss the possibility of prototyping a small, wearable device. Group members went on to discuss existing products and technologies that could work as a source of inspiration for the device. Referencing existing technologies, moreover, ensures that the design will be rooted in reality. These were sketched on a whiteboard (Appendix H). Next to those items the tasks of the personas were highlighted (Retrace Steps, Breastfeeding), as well as the main disability variables (vision impairment, hearing impairment, physical disabilities) that needed to be taken into account. The purpose of this exercise was to brainstorm new ideas, as suggested by Rogers, Sharp and Preece (Rogers, Sharp, Preece 2013).

Following repetitive brainstorming sessions the first set of ideas about the device's functions and interface presentation surfaced. These ideas were presented in the form of paper-based sketches (Appendix I). Each group member provided feedback on each other's sketches. Paper-based sketches were used as they "are quick to modify" and "support the exploration of alternative designs and ideas" (Rogers, Sharp, Preece 2013). Group members compared the different design alternatives, and decided which designs would be the most appropriate. One team member suggested showing a map, but the others argued that the screen would be too small for that to be feasible. It was from this process that the first set of ideas regarding functionality and interface presentation derived. These ideas were then developed

into wireframes for the purpose of user testing (Appendix J).

Concerning the device's physical attributes, it was decided that it would feature both a touchscreen and a voice interface in an effort not to exclude members of the public with visual impairment, as well as to provide speed and ease of use for every user. That would mean that the device would feature an audio input and output feature. The device, moreover, would allow the user to adjust the touchscreen according to their personal preferences, making fonts bigger and add or subtract contrast. It has to be conceded, however, that given the device's relative small size, and consequently limited screen space, that fitting larger fonts or even icons would be a significant challenge. In the scenarios created during the conceptual design phase, persona Anthony operates the device with his hands, whereas persona Sola interacts with the device with voice commands.

Environmental requirements (Rogers, Sharp, Preece 2012) were also considered, despite not being demonstrable on wireframes. Thus, if the proposed device was to be mass produced it would have to be constructed of water resistant material given the UK's wet climate – both observation sessions were conducted on rainy days. Furthermore, as London's high streets tend to be particularly noisy, the device should be accompanied by a headset.

The evaluation sessions that followed revealed a series of usability problems on both functions. The wireframes were converted into an interactive prototype on an iPhone using an application called "Flinto" (Appendix K). The evaluation strategy was centred around the DECIDE framework (Rogers, Sharp, Preece 2012), whilst it was also decided that the evaluation would be based on "think aloud" sessions that according to Hornbaek "is widely considered the 'gold standard' for usability evaluation" (Hornbaek 2010). During the process it was decided that a member would act as a facilitator - this was deemed necessary as the breastfeeding scenario presumes voice command technology which the prototype was unable to implement. It was also decided that these sessions would be followed by semi-structured interviews to further determine whether the user journey and the interface made sense, whether it allowed the users to complete their goals and whether they considered the interaction with the device easy (Appendix L). Sessions were not timed as it would not have been possible to obtain objective data due to the facilitator needing to control the "voice input" part of the wireframes.

Users considered the functional aspects of the device very useful. Its feature for finding a breastfeeding friendly premise was tested with five participants. All thought the layout was clear, that the process was quick and not complicated. The breastfeeding and baby-changing icons were easily identified, however, all participants had difficulties understanding the icon representing how crowded a place was. This could be resolved by designing alternative icons and testing them with users.

Two participants were confused by the timeline/step-by-step view of a route and would have

preferred a map. A map view could easily be added to the design, though it is likely that the size of the device would make this hard to use. Confusion was largely because of the linear nature of a high street causing the timeline to be identified as a map. Higher fidelity designs could resolve this in future user testing, alternatively the removal of lines from the timeline could help in avoiding the mental model of it appearing as a map.

The feature for aiding the user to retrieve a lost valuable was tested on five participants. Three participants found the labelling confusing (expecting to locate a lost item under the "Find" menu meant for locating shops and cafes). One participant mentioned that it would be preferable to contact a human being rather than leave a message with the high street.

It was not obvious in the prototype, that the date selector was showing only visits to the high street and not all dates, thus one participant believed they needed to enter details of the high street in the text field. Naming which high street was visited and advising the user that all information about their trip will be submitted could fix this.

3 References

- Brown D.M, (2011) Communicating Design: Developing Website Documentation For Design and Planning. New Riders.
- Cooper A. (2008) Perfecting Your Personas. Cooper, May 15. http://www.cooper.com/journal/2001/08/perfecting_your_personas.html [8 Nov 2013]
- Hornback, K.Dogmas (2009) "Dogmas in the Assessment of Usability Evaluation Methods", Behaviour & Information Technology, vol. 29, January, pp. 97–111.
- Mackay, W. (2002), Video to Support Interaction Design, DVD, ISBN 1–58113–516–5, ACM, New York.
- Robson, C. (2002) Real World Research (2nd edition). Blackwell Publishing.
- Rogers, Y., Sharp, H. and Preece, J. (2013) Interaction Design: Beyond Human-Computer Interaction (3rd edition). Wiley.

4 Appendices

4.1 Appendix A: Diversity Review of Clapham Junction and Brixton

The high street in Clapham Junction is located next to "the busiest railway station in the UK" (1) and it features a wide variety of shops and services. In terms of demography the area is characterised by ethnic and socio-economic diversity (according to a 2011 census for Wandsworth, 53.3% of the population were White British, whereas 30.3% had lower managerial and professional occupations, 8.9% students, and 20.8% had higher managerial positions, 5.4% unemployed). On the other hand, the Borough of Lambeth, with Brixton in its very heart, is "extremely ethnically diverse" and has the "second highest proportion of single people in the country", and the "second lowest proportion of married couples" (www.lambeth.gov.uk). In Lambeth, Whites account for 67% of the population, with the African-Caribbean community based mainly in Brixton. What makes Brixton particularly interesting is that despite the fact that a big part of it (in total 5 areas, according to the 2011 census provided by the Borough of Lambeth) are classified amongst the 10% most deprived in the country, its vibrant market and wide variety of shops, restaurants, and popular bars attract a significant number of visitors.

 $^{^1{\}rm The~Independent,~2012-http://www.independent.co.uk/news/uk/home-news/power-cut-derails-uks-busiest-hub-clapham-junction-7736592.html$

4.2 Appendix B: High Street Observation Notes, Sketches, Maps

High street observation notes.

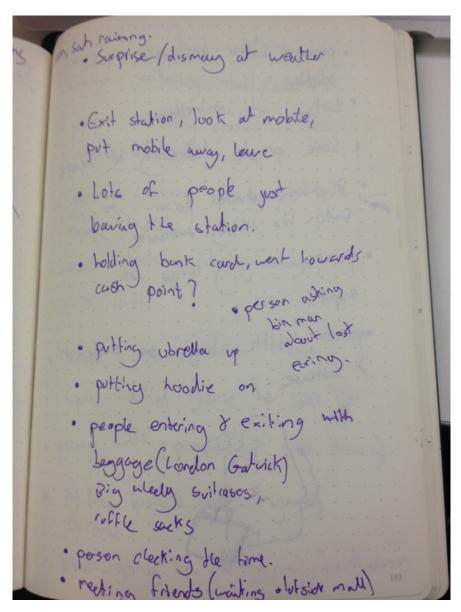


Figure 1: Observation Notes.

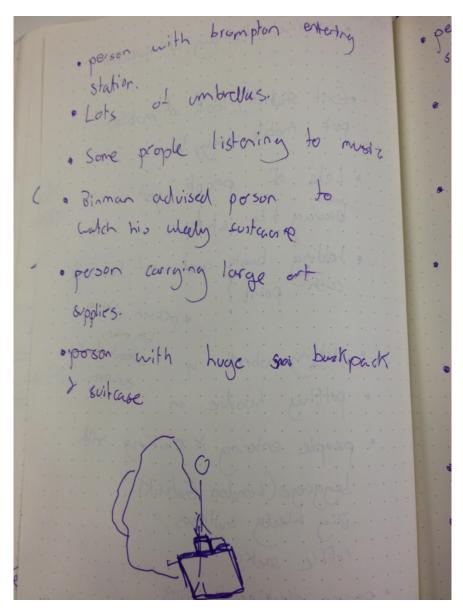


Figure 2: Observation Notes.

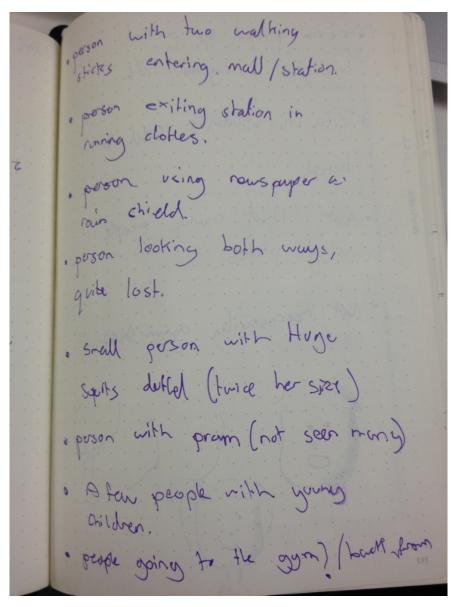


Figure 3: Observation Notes.

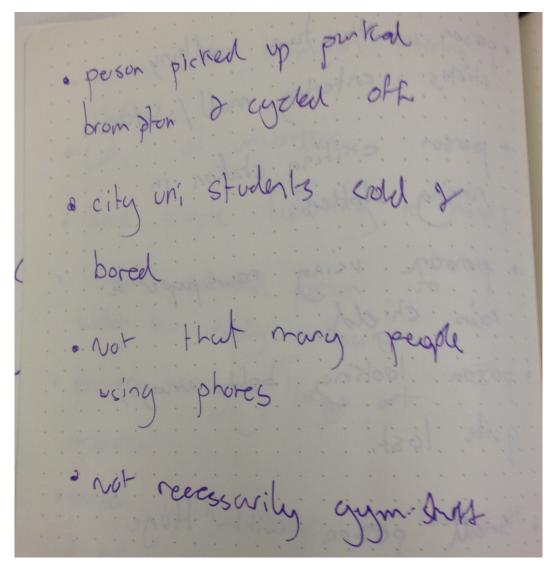


Figure 4: Observation Notes.

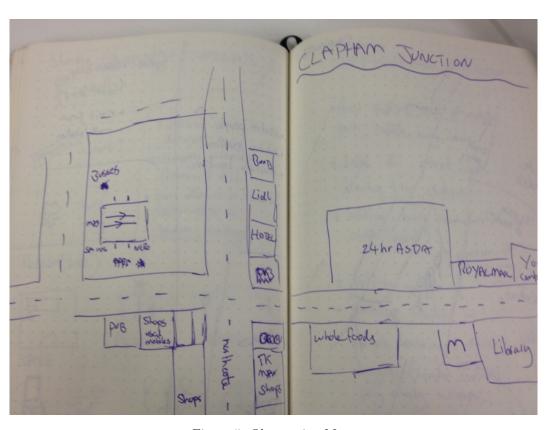


Figure 5: Observation Map.

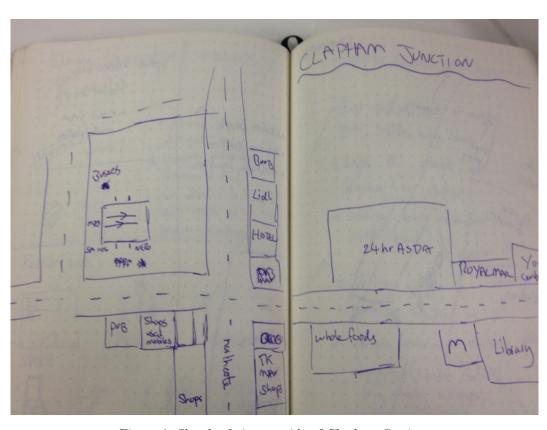


Figure 6: Sketch of view outside of Clapham Station.

4.3 Appendix C: Spreadsheet Analysis of Observations

Themes from observation sessions were organised in a spreadsheet to facilitate the data analysis process.

	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4
Goals	To go to the cinema	Show area to visitors	Shopping	Shopping
Prepared for weather	Yes	Yes	Yes	Yes
Dependants	No	Yes	No	No
Factors selecting a high street	Access to transport, Crime rate	Crime rate, variety of shops, not to far away (transport accessibility)	Variety of shops	Variety of shops, not too far (transport)
Morning/ Afternoon/Evening	When less busy	When less busy (crowded)	Afternoon	Weekends
Use of public services	No	No	Banks, Post Office	Banks
Locating shops and services	Ask someone	Google before setting out (Prepared in advance)	App on Smart Phone, or prepared in advance	Explore, Smart phone app
Losing valuables	Ask people around	Ask people, retrace steps	Probably give up	-
If separated from dependants	Set up meeting point from before, or call his/her name loud	Set up a meeting point from before, go back to stores and ask staff to call his name	Would have arranged a meeting point from before	Would have arranged a meeting point from before
Accesability	Can't recall issues	No	No	No
Type of transport used	Tube when traffic, Bus when less traffic	Bus/Tube	Walking	Bus/Tube
Satisfaction with passenger info	Very satisfied	Indifferent uses smart phone app	Yes	Would prefer more info boards at bus stops
Taxi info	Smart Phone App	Smart Phone App	Yes know number	Yes know number
Satisfaction with high street experience	Met goal easily, generally satisfied	Yes, but due to self preparation	Yes, easy to achieve goals	Yes, easy to achieve goals
Ideas for improving the experience	Easier ways for people to get to their destinations	Info desks, or a machine where you ask and someone replies automatically	More pedestrian routes	-

Figure 7: Themes from observations.

	Interviewee 5	Interviewee 6	Interviewee 7	Interviewee 8
Goals	Food	Shop clothes, Supermarket	Get my son to Sports Center	Run several errands
Prepared for weather	Yes	Yes	Yes	Yes
Dependants	No	No	Yes (small kid)	Yes (elderly woman with walking disability)
Factors selecting a high street	Variety of shops	Close to the tube	-	Accessibility (Transport accessible), and crime, big variety of shops services.
Morning/ Afternoon/Evening	When less busy (crowded)	Off peak hours, when less busy	Varies according to daily schedule	Morning
Use of public services	Post Office, Bank, Local Library	Banks (doesn't know which ATM is Free), Post Office	Banks (doesn't know which ATM is Free), Post Office	Banks (doesn't know which ATM is Free), Post Office
Locating shops and services	Explore, ask someone, or smart phone app	Explore, Smart apps	Explore, check on Google before I went out if I was in a hurry	Explore, Ask, Check Smart Phone App
Losing valuables	Retrace my steps, ask people	Retrace my steps, Look for a lost and found	Retrace steps, go back to stores I have visited	
If separated from dependants	Would have set up meeting poit in advance, or go back to last store visited	I woud have set up a meeting point from before. Maybe ask a police officer.	I don't know, retrace my steps I guees	I would have a set up a meeting point in advance.
Accesability	No	Have witness people on wheelchairs having a hard time with transport (tube/bus)	Yes, noticed people with a walking disability (wheelchairs) having trouble with subways and stairs.	Sometimes pavement is not ideal for people on wheelchairs
Type of transport used	Bus/Tube/Cycling	Tube	Tube/Bus	Bus/Tube
Satisfaction with passenger info	Yes	Yes	Yes, but not all bus stops have info boards. Also problem with replacement services buses, not clear where they are heading and not knowing when they arrive.	Not satisfied with absence of info boards at bus stops. Not satisfied with signage outside tube stations.
Taxi info		Smart Phone App	No	Smart Phone app
Satisfaction with high street experience	Yes, fairly easy to achieve my goals	Yes	Yes, easy to achieve my goal	Yes, goals met
Ideas for improving the experience	More pedestrian routes, less traffic routes	To know where 1st aid kit is, breastfeeding places	Like to know free stairs routes for buggy users	More info boards on bus stops, a free phone to call cabs on high streets

Figure 8: Themes from observations.

	Interviewee 9	Interviewee 10	Interviewee 11	Interviewee 12	Interviewee 13
Goals	Browsing around	Get dinner	To get coffee	Shopping	Shopping, socialising
Prepared for weather	Yes	Yes	-	Yes	Yes
Dependants	No	-	No	Yes (2 children)	No
Factors selecting a high street	Big Variety of shops, easy to get there (transport accessible)	Distance. Being close to where I live (walkable distance, transport accessible)	Being close to where I live	Most accessible shopping areas (transport accessible), safe (crime)	High street character
Morning/ Afternoon/Evening	-	Afternoon	Afternoon (after lunch)	When less crowded and weekends	Whenever
Use of public services	No	Post Office	Post Office	Banks, Post Office. Would also like to know where Citizens advice office is if there is one!	Banks, Post office
Locating shops and services	Explore, Check online in advance	Explore, Ask other people	Check Smart Phone App, Ask other people	Google it in advance, or ask friends	Is familiar with it
Losing valuables	Retrace my steps	Retrace my steps	_	No clear answer. Wouldn't bother if not really valuable	Retrace steps
If separated from dependants	-	Ask people	-	Ask for help from police officer	Call them
Accesability	-	-	-	Has observed that there is a lack of parking space for prams	Has witnessed problems with children on prams
Type of transport	Car/Tube	Bus	Tube	Bus/Problem with tube due to lack of elevators (not all stations have)	Walk/Train
Satisfaction with passenger info	Yes	Not satisfied with info on bus stops and train stations	No. Wants to be informed in detail about delays on Tube	No, would like to know up ahead if there's space on the bus	-
Taxi info	Knows the number	Yes have numbers		Smart Phone App	Doesn't have the need
Satisfaction with high street experience	Yes, achieved all goals	Yes, achieved goals	-	Yes, goals achieved (but thats not always the case)	Yes, very much.
Ideas for improving the experience	-	Would like the high streets to be cleaner	Would like a world with less cars and more public transport	Would like parking space for prams resolved	Would like a shop like Argos in the High Street

Figure 9: Themes from observations.

4.4 Appendix D: Interview Transcriptions

Interviewee 1

General Questions

When was the last time you visited the high street?

Last Week.

Had you been there before?

Yes

What were your goals?

To go the cinema

Is it a local high street?

No.

What was the weather like?

Not too bad! A bit cold!

Were you prepared for the weather?

Yes.

Did you have everything you needed?

Of course yes. We live in London.

Did you have dependants with you?

No.

Selecting a high street

Examples: Crime, transport, accessibility, location, shops, facilities

What factors are important to you when selecting a high street?

Transport and crime mostly.

Habits

How often do you visit high streets?

Once a month.

What times of day do you prefer to go and why?

Morning or early in the afternoon. I prefer it when it's less busy.

Civil Services

Examples: Job centre, collecting money, post office, citizens advice, banks

Do you visit high streets for public services?

I visit mostly for shopping and entertainment

Locating things

Examples: Coffee, food, cash, toilets, water, stationary, opening times

How would you locate shops & services on a high street?

Ask someone

If you lost something on the high street, how would you go about finding it?

I probably wouldn't find it! I would not bother to look for it unless it was something very important like a wallet.

If you have visited with dependants, what would you do if you got separated?

I would have set up a meeting point, such as a big shop, in advance. I could always call them, right?

Accessibility

Example: Wheelchair, Fatigue, Children

Tell me about any accessibility issues you have, or witnessed on high streets?

I can't recall any

... And in shops/post-office/other establishments?

No! I probably should have, but no!

Transport

What type of transport do you use to go/leave the high street?

Bus or tube! If its late in the evening or very early in the morning I will take the bus. During daytime, however, I will take the tube as the road traffic is horrendous.

Are you satisfied by the quality of passenger information at bus stops/train stations in your area?

Absolutely

Should the need arise for you to get a mini cab do you know the number to call?

No! I will check on the Internet or an "app". I am sure I will find something.

Satisfaction

How easy has it been for you to meet your goals?

It was fairly easy. I located the cinema rather quickly. Then again I did use an "app".

Were you satisfied?

In general, yes.

How could the experience be improved?

During peak hours everything is more difficult, even walking on the pavement. Easy and quick ways to get people to their destinations would improve things. In the tube, for instance, they have a signal instructing people to keep left.

Interviewee 2

General Questions

When was the last time you visited the high street?

Last week.

Had you been there before?

Yes, several times.

What were your goals?

To show the area to visitors from abroad.

Is it a local high street?

No.

What was the weather like?

It was raining.

We're you prepared for the weather?

Yes, we had umbrellas with us.

Did you have everything you needed?

Yes.

Did you have dependants with you?

I am not sure if a group of people from abroad counts as dependents. One of them was a teenager, so I guess yes.

Selecting a high street

Examples: Crime, transport, accessibility, location, shops, facilities

What factors are important to you when selecting a high street?

Depends on my goals but I wouldn't go to a "dodgy" area! Shops variety, is of importance to me. I am after a variety of brands and prices. I am not keen on travelling for long to get to a hight street, so location is of importance.

Habits

How often do you visit high streets?

Not very often! Only when necessary.

What times of day do you prefer to go and why?

Whenever it's less busy. I avoid weekends for that reason.

Civil Services

Examples: Job centre, collecting money, post office, citizens advice, banks

Do you visit high streets for public services?

Not really, no! I would prefer to go to one which is closer and not very popular in order to get over and done with what ever I need to do quickly.

Locating things

Examples: Coffee, food, cash, toilets, water, stationary, opening times

How would you locate shops & services on a high street?

I will do an Internet search before I get there or use an "app" on my iPhone!

If you lost something on the high street, how would you go about finding it?

Whether I would try to retrieve it depends on its value. I would ask people on the street and would revisit the premises I visited earlier.

If you have visited with dependants, what would you do if you got separated?

I would have set up a meeting point in advance. Last time something like this happened to me it was in a store. I asked the employees to call his name on the speakers.

Accessibility

Example: Wheelchair, Fatigue, Children

Tell me about any accessibility issues you have, or witnessed on high streets?

I haven't noticed any important issues! I have seen people in wheelchairs looking for a ramp to cross the road.

... And in shops/post-office/other establishments?

Not really! Most places have ramps these days.

Transport

What type of transport do you use when visiting /leaving a high street?

Bus, tube, train. For longer journeys I prefer tube/train.

Are you satisfied by the quality of passenger information at bus stops/train stations in your area?

I don't have an opinion. I use the TFL site and a smartphone "app".

Should the need arise for you to get a mini cab do you know the number to call?

Again I use an "app". Sometimes, however, when I am on a restaurant I ask the staff to give me the telephone number of a local mini cab company.

Satisfaction

How easy has it been for you to meet your goals?

I m usually well prepared! I use the Internet to locate things. If something else comes up, I can use my iPhone.

Were you satisfied?

Yes, because I was well prepared!

How could the experience be improved?

I would suggest the introduction of information desks in the main high street. You would pick up a phone and people can ask questions to a municipal employee.

Interviewee 3
General Questions
When was the last time you visited the high street?
Maybe two or three days ago.
Had you been there before?
Yes!
What were your goals?
Shopping mostly.
Is it a local high street?
Yes.
What was the weather like?
Cold and dry.
We're you prepared for the weather?
Yes.
Did you have everything you needed?
Yes.
Did you have dependants with you?
No.
Selecting a high street
Examples: Crime, transport, accessibility, location, shops, facilities
What factors are important to you when selecting a high street?
I usually go where the shops I am looking for are!
Habits
How often do you visit high streets?
About once a week!

What times of day do you prefer to go and why?

Usually during my lunch break! I might go during the weekend, but that will be for very specific reasons.

Civil Services

Examples: Job centre, collecting money, post office, citizens advice, banks

Do you visit high streets for public services?

Yes, banks and post office.

Locating things

Examples: Coffee, food, cash, toilets, water, stationary, opening times

How would you locate shops & services on a high street?

Most likely I will use an "app" on my smartphone or tablet while on the high street. Most of the times, however, I will have prepared in advance.

If you lost something on the high street, how would you go about finding it?

I don't know. I wouldn't look for it, unless it was really something valuable.

If you have visited with dependants, what would you do if you got separated?

I would phone them. Perhaps I would have set up a meeting point in advance.

Accessibility

Example: Wheelchair, Fatigue, Children

Tell me about any accessibility issues you have, or witnessed on high streets?

I haven't noticed anything in particular.

... And in shops/post-office/other establishments?

No! I believe shops and other services are required by law to provide for people with disabilities.

Transport

What type of transport do you use when visiting /leaving a high street?

I usually walk!

Are you satisfied by the quality of passenger information at bus stops/train stations in your area?

Generally, yes.

Should the need arise for you to get a mini cab do you know the number to call? I have a friend who is cab drive. I would call him. Satisfaction How easy has it been for you to meet your goals? Very easy! Were you satisfied? Yes. How could the experience be improved? I would like to see more routes for pedestrians. Interviewee 4 **General Questions** When was the last time you visited the high street? About 2 weeks ago. Had you been there before? Yes. What were your goals? Shopping Is it a local high street? Yes, but not near where I live. What was the weather like? Raining. Were you prepared for the weather? Yes! My wife makes sure I am always prepared for the weather.

Did you have everything you needed?

Did you have dependants with you?

Yes!

No!

Selecting a high street

Examples: Crime, transport, accessibility, location, shops, facilities

What factors are important to you when selecting a high street?

Location and variety of shops!

Habits

How often do you visit high streets?

I'd say about once a month.

What times of day do you prefer to go and why?

During the weekends usually, as I work during the week.

Civil Services

Examples: Job centre, collecting money, post office, citizens advice, banks

Do you visit high streets for public services?

Not really! Maybe the bank!

Locating things

Examples: Coffee, food, cash, toilets, water, stationary, opening times

How would you locate shops & services on a high street?

I like to explore. I can always use an iPhone "app" if necessary.

If you lost something on the high street, how would you go about finding it?

I wouldn't look for it, unless it was something really expensive.

If you have visited with dependants, what would you do if you got separated?

I would have set up a meeting point in advance. Otherwise, I would try to reach them on the phone.

Accessibility

Example: Wheelchair, Fatigue, Children

Tell me about any accessibility issues you have, or witnessed on high streets?

No, I haven't noticed anything. I think the high steers are generally well designed! ... And in shops/post-office/other establishments? N/ATransport What type of transport do you use when visiting /leaving a high street? I can take the bus, the tube or even walk. It really depends on the time of the day. Are you satisfied by the quality of passenger information at bus stops/train stations in your area? In general, yes! However, it's annoying when there is no electronic board at the bus stop. Should the need arise for you to get a mini cab do you know the number to call? Yes! Satisfaction How easy has it been for you to meet your goals? Very easy! I know the area well! Were you satisfied? Yes. How could the experience be improved? I am not sure it can be improved, really! Interviewee 5 **General Questions** When was the last time you visited the high street? Yesterday.

Had you been there before?

What were your goals?

Food shopping.

Yes.

Is it a local high street?

Yes.

What was the weather like?

Rainy.

We're you prepared for the weather?

Yes.

Did you have everything you needed?

Yes.

Did you have dependants with you?

No.

Selecting a high street

Examples: Crime, transport, accessibility, location, shops, facilities

What factors are important to you when selecting a high street?

Location! I am not too keen on travelling too far.

Habits

How often do you visit high streets?

Three or four times a week.

What times of day do you prefer to go and why?

I usually go after work. Ideally, however, I would rather go in the morning when it's not very busy.

Civil Services

Examples: Job centre, collecting money, post office, citizens advice, banks

Do you visit high streets for public services?

I visit the post office, banks and the library.

Locating things

Examples: Coffee, food, cash, toilets, water, stationary, opening times

How would you locate shops & services on a high street?

If I haven't been there before I would probably explore the area. If I were looking for something very specific I would ask someone around or search for it on my smartphone.

If you lost something on the high street, how would you go about finding it?

I would go back and check in the places I visited. If I was in a shop I would also ask the staff there. If that failed, I would probably give up.

If you have visited with dependants, what would you do if you got separated?

I would go back to the last place we were. If he/she wasn't there, I would return home and wait for him there.

Accessibility

Example: Wheelchair, Fatigue, Children

Tell me about any accessibility issues you have, or witnessed on high streets?

I can't really think of anything.

... And in shops/post-office/other establishments?

N/A

Transport

What type of transport do you use when visiting /leaving a high street?

Bus, tube, and my bicycle.

Are you satisfied by the quality of passenger information at bus stops/train stations in your area?

Yes

Should the need arise for you to get a mini cab do you know the number to call?

I would use an "app"

Satisfaction

How easy has it been for you to meet your goals?

Fairly easy.

Were you satisfied?

Yes.

How could the experience be improved?

I would appreciate more car-free routes.

Interviewee 6

General Questions

When was the last time you visited the high street?

Today (23/11/11).

What were your goals?

To buy new clothes and go to the supermarket.

Had you been there before?

Yes.

Is it a local high street?

yes.

What was the weather like?

Sunny mostly.

We're you prepared for the weather?

Yes!

Did you have everything you needed?

I think so yes!

Did you have dependants with you?

No.

Selecting a high street

Examples: Crime, transport, accessibility, location, shops, facilities

What factors are important to you when selecting a high street?

Accessibility. It's of great importance to me that the high street is close to the underground. I always prefer to visit when it's not crowded, so I usually visit at off peak hours.

Habits

How often do you visit high streets?

Five times a week.

What times of day do you prefer to go and why?

Usually between 2pm – 5pm.

Civil Services

Examples: Job centre, collecting money, post office, citizens advice, banks

Do you visit high streets for public services?

Yes, banks very often and less often the post office.

Locating things

Examples: Coffee, food, cash, toilets, water, stationary, opening times

How would you locate shops & services on a high street?

I am the sort of person who likes to look around. So I would just do that. If I were looking for something very specific and I couldn't find it by just looking around I would use a mobile app. Bear in mind I am not the kind of person who likes to ask strangers on the street for information. And no I am not sure where I can find a free-withdrawals cash machine on a high street.

If you lost something on the high street, how would you go about finding it?

I am not sure about that. I would probably go back to all the places I was and have a look around. If there was a lost and found I would maybe head back there, but I am pretty sure there isn't.

If you have visited with dependants, what would you do if you got separated?

I would look for them at the meeting point, if there were any. Otherwise, I don't know. I would maybe try to locate a police officer and ask them to help.

Accessibility

Example: Wheelchair, Fatigue, Children

Tell me about any accessibility issues you have or witnessed on high streets?

I have witnessed a few cases of people on wheelchairs having difficulty getting on buses and the underground.

... And in shops/post-office/other establishments?

No, I haven't witnessed anything. Perhaps, there is an issue, but I haven't seen one.

Transport

What type of transport do you use to go/leave the high street?

Tube mainly.

Are you satisfied by the quality of passenger information at bus stops/train stations in your area?

9/10 times I use the tube and overall I am satisfied.

Should the need arise for you to get a mini cab do you know the number to call?

I do have an "app" on my iPhone for that!

Satisfaction

How easy has it been for you to meet your goals?

Quite easy!

Were you satisfied?

Yes.

How could the experience be improved?

My experience was overall very good. Some ideas that I have: I would like to know that there is a first aid kit available somewhere, just in case. Also I saw a mother the other day breastfeeding at Starbucks and I thought a nice idea would be places where young mother can do that on the high street. Friends of mine who recently gave birth have told me that they avoid getting out of the house with their infant because they feel uncomfortable with the idea of breastfeeding on the hight street. If someone was going to be a build a device to facilitate certain activities on the high street, another device like a mobile telephone would be too much. I already carry an iPhone. Something wearable would come in handy.

Interviewee 7

General Question

Tell me about the last time you visited a high street

It was yesterday afternoon (20/11/13).

Had you been there before?

Yes.

What were your goals?

To get my son (he is 5 years old) to the sports centre, to use the swimming pool, where he gets swimming lessons. We walked there.

Is it a local high street?

Yes.

What was the weather like?

Not too bad. Cold but tolerable.

Were you prepared for the weather?

Yes.

Did you have everything you needed?

Yes.

Did you have dependants with you?

Yes, my 5 year old son and my 2 year old daughter.

Selecting a high street

Examples:

Crime, transport, accessibility, location, shops, facilities

What factors are important to you when selecting a high street?

The crime rate is not important. I choose to live here and I accept that I will use this high street and you sort get into terms that in the evening such things may happen.

Habits

How often do you visit high streets?

4-5 times a week.

What times of day do you prefer to go and why?

It varies. I could be after I picked my son from school, could be after I've dropped him.

Civil Services

Examples:

Job centre, collecting money, post office, citizens advice, banks

Do you visit high streets for public services?

Yes. I go to the post office, every once in a couple of weeks. My bank is not on this high street. I know where most ATMs are. The ATMs that charge me extra... that annoys me.

Locating things

Examples:

Coffee, food, cash, toilets, water, stationary, opening times

How would you locate shops & services on a high street?

I would walk up and down until I find what I am looking for. I quite like exploring so, unless I am in a real hurry I would just do that. If was in a hurry I would have checked online before going there.

If you lost something on the high street, how would you go about finding it?

It depends. If it was something valuable, I would retrace my steps. I would go back to the shops I had visited.

If you have visited with dependants, what would you do if you got separated?

That's horrible. I don't know. I suppose I would try to retrace my steps again to find him again. I would go to every shop we have been. Perhaps the supermarket. I can't imagine losing my son on the street. I am not aware of meeting points in my high street by the way.

Accessibility

Example:

Wheelchair, Fatigue, Children

Tell me about any accessibility issues you have, or have witnessed on high streets?

Yes, the pedestrian passage underneath the train station has steep steps to get to the high street. People with disabilities have to walk around the station to get to the high street and that's quite a walk. Also sometimes the main traffic lights on the high street flash green for less than 2 seconds. It's impossible for old people, or people with dependents, or people with disabilities to cross.

... And in shops/post-office/other establishments?

Nothing in particular.

Transport

Are you satisfied by the quality of passenger information at bus stops/train stations in your area?

I am more of train person, but lately I have been using the bus because it's cheaper. I am not sure if I am satisfied. Boards are good, but not all bus stops have that. That's not very good, especially on the weekend when due to infrastructure improvement works on the railway during the weekend there are replacement bus, but you just never know when they will come, nor do they say where they are going they just have this sign "Replacement Service". It's even worse coming back from central London. You just don't where you should take the replacement bus from.

Should the need arise for you to get a mini cab do you know the number to call?

I'm not sure. I think I have got the number of a company, Adison Lee, and they are more expensive than a local mini-cab service.

Satisfaction

Go through various goals they mentioned to ensure you get good coverage

How easy has it been for you to meet your goals?

I got simple goals to achieve, so it was fairly easy.

Were you satisfied?

Yes.

How could the experience be improved?

When I use a buggy for Christina, my 2 year old daughter, I often wish there were less stairs and more ramps. I would appreciate a stairs free route really. A device for improving the high street experience? That would be nice, as long as it wasn't something similar to a smartphone.

Interviewee 8

General Question

Tell me about the last time you visited a high street

Saturday

Had you been there before?

Yes, two weeks ago.

What were your goals?

To run some errands. In this case to exchange money. That wasn't easy to do because I could only exchange in the post office and outside the post office the signage was not very clear.

Is it a local high street?

Yes.

What was the weather like?

Sunny, but cold.

Were you prepared for the weather?

Yes.

Did you have everything you needed?

Yes.

Did you have dependants with you?

Yes, my mother. She has a small disability. She walks with some difficulty and some times she has difficulty with stairs and crossing roads.

Selecting a high street

Examples: Crime, transport, accessibility, location, shops, facilities

What factors are important to you when selecting a high street?

Accessibility is an issue. By that I mean to be easy to get to. Crime is another issue but you can't do a lot about that, can you? It's good if a high street has a lot of shops and public services so you run all your errands.

Habits

How often do you visit high streets?

Daily because I work in one, but for personal things once a week.

What times of day do you prefer to go and why?

Morning. I just find it easier to run my errands in the morning.

Civil Services

Examples: Job centre, collecting money, post office, citizens advice, banks

Do you visit high streets for public services?

Yes. Banks and Post Office.

Locating things

Examples: Coffee, food, cash, toilets, water, stationary, opening times

How would you locate shops & services on a high street?

If I can't find something I am other going to ask, or check an app on my smart phone. I would not for example, where the public toilets are. I don't necessarily know where an ATM that I can withdraw money without paying commission is located. I would not know where to get coffee or food specifically, but that's a lot easier to find.

If you lost something on the high street, how would you go about finding it?

I don't know. I would probably ask local shops if there is a lost and found around. Something like that.

If you have visited with dependants, what would you do if you got separated?

If there was a meeting point I would have said from before we should meet there if we get lost. But it's more likely that I would just give the person a call on their phone. If it were a child, of course, it would be different.

Accessibility

Example: Wheelchair, Fatigue, Children

Tell me about any accessibility issues you have, or have witnessed on high streets?

Sometimes the pavement is not exactly ideal for people with wheelchairs.

... And in shops/post-office/other establishments?

Yes, some shops don't offer easy access for people with disabilities. I can think of a bank that has two steps, making it hard for people on wheelchairs to get in.

Transport

What type of transport do you use to go/leave the high street?

N/A

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Are you satisfied by the quality of passenger information at bus stops/train stations in your area?

Time is of importance to meet. I usually take the bus, but I often use the overground and the tube. I am not really satisfied by passenger information at bus stops. I just think there isn't enough information. There is in some stops, but in some others there isn't. I wish there were more boards. Also I wish there was better signage when you exit a tube station, specifically about buses – which one can take you somewhere else.

Should the need arise for you to get a mini cab do you know the number to call?

Yes, because I have an app on my phone. A free phone in every station for calling a cab would be nice.

Satisfaction

How easy has it been for you to meet your goals?

It was not that difficult, In most cases you get to do what you wanted.

Were you satisfied?

Yes.

How could the experience be improved?

More and better information about where things are located.

Interviewee 9

General Question

Tell me about the last time you visited a high street

It was a couple of weeks ago, it was Cheapside.

Had you been there before?

Yes, is not far from where I work.

What were your goals?

I was just browsing around.

Is it a local high street?

Yes.

What was the weather like?

It was fairly windy.

Were you prepared for the weather?

Yes.

Did you have everything you needed?

N/A

Did you have dependants with you?

No.

Selecting a high street

Examples: Crime, transport, accessibility, location, shops, facilities

What factors are important to you when selecting a high street?

Obviously the shops, there wouldn't be any point in going to a high street if it wasn't for the shops. So variety of shops, public transport...

Habits

How often do you visit high streets?

Very rarely. I usually go to shopping malls, I browse online and then maybe go to the store to check the fittings.

What times of day do you prefer to go and why?

N/A

Civil Services

Examples: Job centre, collecting money, post office, citizens advice, banks

Do you visit high streets for public services?

No, I do everything online.

Locating things

Examples: Coffee, food, cash, toilets, water, stationary, opening times

How would you locate shops & services on a high street?

I usually go to a shopping centre, but on the high street I go there and see what is in the area, sometimes I can check online before.

If you lost something on the high street, how would you go about finding it?

I would walk back the way I came.

If you have visited with dependants, what would you do if you got separated?

I would trace my steps back and I would ask people.

Accessibility

Example: Wheelchair, Fatigue, Children

Tell me about any accessibility issues you have, or have witnessed on high streets?

N/A

... And in shops/post-office/other establishments?

N/A

Transport

What type of transport do you use to go/leave the high street?

My car, sometimes the tube.

How do you find out about the schedule of the trains?

I go to the station and check the panels.

Are you satisfied by the quality of passenger information at bus stops/train stations in your area?

Yes, unless it is really late at night, and I know there are no trains.

Should the need arise for you to get a mini cab do you know the number to call?

I have the number.

Satisfaction

Go through various goals they mentioned to ensure you get good coverage

How easy has it been for you to meet your goals?

I managed to do what I wanted to do, shopping clothes.

Were you satisfied?

Yes.

How could the experience be improved?

Nothing really, when I need something I go and buy it, when I don't need anything it would be pointless to go.

Interviewee 10

General Question

Tell me about the last time you visited a high street

It was tonight, in Camden High Street.

Had you been there before?13

Yes, I live nearby.

What were your goals?

I wanted to buy some dinner.

Is it a local high street?

Yes.

What was the weather like?

It was raining.

Were you prepared for the weather?

Yes, I had an umbrella.

Did you have everything you needed?

Yes.

Did you have dependants with you?

No.

Selecting a high street

Examples: Crime, transport, accessibility, location, shops, facilities

What factors are important to you when selecting a high street?

It depends on what I want to do. Distance is important, that is why I visit Camden High Street, because it is close to where I live.

Habits

How often do you visit high streets?

Very often, four times a week.

What times of day do you prefer to go and why?

In the afternoon normally, I work in the morning and when it is too late is getting dark. So I prefer to go in the afternoon, when there's still light and everything is open.

Civil Services

Examples: Job centre, collecting money, post office, citizens advice, banks

Do you visit high streets for public services?

Yes, for the post offices I go. Not the bank, but if I had to go to the Job Centre it would be in the high street.

Locating things

Examples: Coffee, food, cash, toilets, water, stationary, opening times

How would you locate shops & services on a high street?

I would observe, try to see if I can find what I need, or ask to someone in a shop where is the nearest office or something like that.

If you lost something on the high street, how would you go about finding it?

I would retrace my steps. I don't think I would ask people, it's so full that I don't think it would be useful.

If you have visited with dependants, what would you do if you got separated?

If they are adults, I would call them, if they are kids I would ask people.

Accessibility

Example: Wheelchair, Fatigue, Children

Tell me about any accessibility issues you have or have witnessed on high streets?

I have noticed that for instance, Camden High street, around Mornington Crescent is terrible. The streets are really narrow, and they are doing works and there is always construction gear, and it would be difficult for someone who is disabled to be comfortable shopping there.

... And in shops/post-office/other establishments?

N/A

Transport

What type of transport do you use to go/leave the high street?

Mostly the bus.

Are you satisfied by the quality of passenger information at bus stops/train stations in your area?

Not generally, because very often you don't know when the bus is gonna come, the signs with the countdown thing are not there. Sometimes you have a post with the lines but you don't know where they go.

Should the need arise for you to get a mini cab do you know the number to call?

I have a couple of numbers on my phone.

Satisfaction

Go through various goals they mentioned to ensure you get good coverage

Did you meet your goals easily?

Yes, because I know it really well.

Were you satisfied?

Yes.

How could the experience be improved?

I always feel that high streets are very dirty, I would like for them to be cleaner.

Interviewee 11

General Question

Tell me about the last time you visited a high street

I walk through the high street every day to get a coffee in Pret a Manger. In Tottenham Court Road, by UCL.

Had you been there before?

Yes.

What were your goals?

To get coffee.

Do you go shopping as well?

No, I just get the coffee.

Is it a local high street?

Yes.

What was the weather like?

N/A

Were you prepared for the weather?

N/A

Did you have everything you needed?

N/A

Did you have dependants with you?

No.

Selecting a high street

Examples: Crime, transport, accessibility, location, shops, facilities

What factors are important to you when selecting a high street?

Location, convenience to where I am.

Habits

How often do you visit high streets?

Everyday.

What times of day do you prefer to go and why?

I do it after lunch normally, after 2:30.

Civil Services

Examples: Job centre, collecting money, post office, citizens advice, banks

Do you visit high streets for public services?

I don't for the job centre and for the bank I do everything online, but I do for the post office in Russell Square.

Locating things

Examples: Coffee, food, cash, toilets, water, stationary, opening times

How would you locate shops & services on a high street?

I would check it on my smartphone. I might ask people in the street if it was a more local high street.

If you lost something on the high street, how would you go about finding it?

N/A

If you have visited with dependants, what would you do if you got separated?

N/A

Accessibility

Example: Wheelchair, Fatigue, Children

Tell me about any accessibility issues you have, or have witnessed on high streets?

N/A

... And in shops/post-office/other establishments?

N/A

Transport

What type of transport do you use to go/leave the high street?

I would be at university already, but I use the tube to get to Tottenham Court Road and fro there I walk.

Are you satisfied by the quality of passenger information at bus stops/train stations in your area?

No, I'm not, because in the tube there's always delays and you never get answers why there is a slow down or a delay.

Should the need arise for you to get a mini cab do you know the number to call?

Satisfaction

Go through various goals they mentioned to ensure you get good coverage

How easy has it been for you to meet your goals?

It was easy.

Were you satisfied?

Yes.

How could the experience be improved?

I think it could be improved by fewer cars, so buses can move quickly. With more transport to access it rather than more shops.

Interviewee 12

General Question

Tell me about the last time you visited a high street

Had you been there before?

Yes, several times.

What were your goals?

Basically shopping and to get some air.

Is it a local high street?

Yes.

What was the weather like?

Cold, but sunny.

Were you prepared for the weather?

Yes, with two children you always are.

Did you have everything you needed?

Yes.

Did you have dependants with you?

Yes, two children.

Selecting a high street

Examples: Crime, transport, accessibility, location, shops, facilities

What factors are important to you when selecting a high street?

If i have the children I will go to the local as its easier /quicker so safer

What do you mean safer? Why?

If I can walk with my eyes closed and I know where everything is, and the boys know it as well. In an unknown area, I have to search to find places where I can have a coffee and at the same time I can fit the pram and the kids can have some space, and I can find good quality food. The same for shopping.

Habits

How often do you visit high streets?

Quite often- maybe every other day.

What times of day do you prefer to go and why?

Whenever is less crowded, but for the kids is like entertainment, so during weekends is fun for them.

Civil Services

Examples: Job centre, collecting money, post office, citizens advice, banks

Do you visit high streets for public services?

I wish there was citizen advice office... Or there is one at Clapham? (Laughs). For the bank and post office, yes, I visit the high street.

Locating things

Examples: Coffee, food, cash, toilets, water, stationary, opening times

How would you locate shops & services on a high street?

I check on google or I ask my friends.

If you lost something on the high street, how would you go about finding it?

Probably I wouldn't be bothered, unless it was very valuable.

If you have visited with dependants, what would you do if you got separated?

I would probably go mad, I don't know. If it was my mother I would probably call her, otherwise if I got separated from my kids I would ask a policeman.

Accessibility

Example: Wheelchair, Fatigue, Children

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Tell me about any accessibility issues you have, or have witnessed on high streets?

Yes, I have accessibility issues with my pram. There's not always space, for instance in GP I have to register with specific GP centres that have space.

... And in shops/post-office/other establishments?

Maybe some shops could have space outside or inside especially for that. For instance, my children's centre has a space like the one for the bikes to park your pram.

Transport

What type of transport do you use to go/leave the high street?

I use the bus. Often it is not easy to use the tube or train, as not all of the stations have lifts or even escalators.

Are you satisfied by the quality of passenger information at bus stops/train stations in your area?

I wish you could see from before if there is enough space in a bus...

Should the need arise for you to get a mini cab do you know the number to call?

I use a specific app.

Satisfaction

Go through various goals they mentioned to ensure you get good coverage

How easy has it been for you to meet your goals?

I try not to have any surprises, I always use my mobile phone.

Were you satisfied?

Yes in a sense... Not always though.

How could the experience be improved?

With parking space for prams.

Interviewee 13

General Question

Tell me about the last time you visited a high street

It was yesterday. Bell Street, it is a very small street (outside of London).

Had you been there before?

I go every day.

What were your goals?

Passing through, shopping, dining, meeting friends.

Is it a local high street?

Yes, it is a 10 minute walk away from home, very near to work, a centre point. It is the only place I can go shopping for food.

What was the weather like?

Autumnal and dry.

Were you prepared for the weather?

Yep, always has to be prepared for the weather.

I always have an umbrella and an overcoat at this time of the year. Since last week, I always wear a hat and suitable shoes, as sometimes I walk across the field.

How did you know it was the right time to start wearing a hat?

I felt too chilly on one occasion.

Did you have everything you needed?

Yes. Because I walk, I always have everything, a bag for shopping, money. And I make sure I have a an extra bag.

Did you have dependants with you?

N/A

Tell me about when you go with an elderly neighbour?

She's frail, she is 80, so I have to be aware of that and be careful on stairs, but there are no real special considerations.

Do you go to other other high streets?

I go to bishop Stortford, it is bigger. They have a much bigger population, 10,000 compared to 1,000, so their high street is so much bigger. There is a greater selection of shopping and food, and has brand locations like Sainsbury's, Next and Argos.

Selecting a high street

Examples: Crime, transport, accessibility, location, shops, facilities

How did you select this high street?

It's on the trainline, it's the next town up, and it is convenient to get to.

What factors are important to you when selecting a high street?

The high street character. In this one there are 17th century buildings, it's stuff with character. It's also comfortable and safe.

How would you determine that it is safe?

From living there, or renting for a while, doing some research online.

Habits

How often do you visit high streets?

Every day.

What times of day do you prefer to go and why?

Anytime, but it makes sense to do it when the stores open! Everything closes (apart from eating places) by 6pm. The eating places are open until 10–11. I do shopping in the afternoon, and I select a specific time because of work.

Civil Services

Examples: Job centre, collecting money, post office, citizens advice, banks

Do you visit high streets for public services?

I visit the post office and banks.

Locating things

Examples: Coffee, food, cash, toilets, water, stationary, opening times

How would you locate shops & services on a high street?

I have been going there for 30 years, it is very familiar.

If you lost something on the high street, how would you go about finding it?

I would walk back pop in to the various shops, maybe ask around. There is no information point.

If you have visited with dependants, what would you do if you got separated?

If they have a mobile phone I would call them. I would keep walking around to try and find them. But it's not a huge high street, so this is not a problem.

Accessibility

Example: Wheelchair, Fatigue, Children

Tell me about any accessibility issues you have, or have witnessed on high streets?

When my kids were little, pushing the prams made it difficult to get in and out of shops. Also, I can't go to some places with an elderly friend. I would choose a place based on comfort. Parking is an issue, as it affects accesibility. Friends that were visiting couldn't find a space to park, so planning was required. I don't go to different high streets due to accesibility issues.

I sometimes have difficulties carrying my shopping, as I walk a long distance. Sometimes I visit high streets that are further away because I can take the train and that makes the walking distance shorter, and I don't have to walk as far with the shopping.

... And in shops/post-office/other establishments?

N/A

How does time of day affect your needs

It's just opening times that affect decisions. I don't go when things are shut (at night and on Sunday).

Transport

What type of transport do you use to go/leave the high street?

The train, and I also walk. I used to cycle.

Are you satisfied by the quality of passenger information at bus stops/train stations in your area?

It is sometimes unattended, but there is a display that says when the trains are arriving.

Should the need arise for you to get a mini cab do you know the number to call?

I very rarely need a cab. They are next to the train station, there is no need to call.

Satisfaction

Go through various goals they mentioned to ensure you get good coverage

How easy has it been for you to meet your goals?

N/A

Were you satisfied?

Very much.

How could the experience be improved?

With a shop like Argos (although you can buy online).

4.5 Appendix E: Personas

Anthony Wintour – The Pragmatist



Figure 10: Anthony

45 years old, divorced.

Anthony, an accountant for a charity, is very pragmatic and also introverted. He only goes somewhere if he has a specific reason to and will avoid going somewhere whenever possible. Every Saturday morning he assists his mother in performing her errands. His mother has a walking disability since she suffered a stroke. He is a computer enthusiast and likes to have all the latest gadgets, and is a subscriber to "T3" Magazine.

"I am not the kind of person who likes to ask strangers on the street for information."

Goals

- Doesn't want to waste time, and wants things done quickly and efficiently.
- Wants to get home quickly and easily, by bus.
- Only wants to visit the high street during shop opening hours.

Tasks

He wants to:

- Take out cash without being charged a fee,
- Deliver a parcel to his brother in Leeds in time for his birthday,
- Aid his disabled mother with dinner by picking up a bottle of wine and some bread on the way home without being late

Concerns

- His mother may lose her balance and fall
- He likes to be on time and worries that public transport will cause him delays

Sadie Tott - The Frequent Shopper



Figure 11: Sadie

28 years old, in a relationship.

Sadie is an estate agent for Foxtons. She considers shopping for clothes, accessories and makeup a reward for the long working hours. Sadie regards shopping as a good way of alleviating stress. She enjoys the experience and visits different stores to find exactly the things that she likes. Sometimes she shops in stores that she already knows, like Topshop and H&M, but she likes discovering new ones too. She is fairly capable with computers because she uses them at work but she is not a technology enthusiast; she appreciates devices that look nice and help her get the job done.

"I want a variety of brands and prices, and as I am not going to travel for hours, location is important"

Goals

- Do shopping without too much travel between shops
- Discover exciting new shops, and nice cafes to socialise in
- Have a good day out with her friends on the weekend

Tasks

She wants to:

- Find a taxi to take her and her shopping home
- Try on a jumper in a style that she likes, and then find the best price for it on the high street
- Find out what films are showing at the cinema and what times they are showing

Concerns

- Not walking around with her shopping for too long, as she is scared that she might get mugged
- She's promised her boyfriend that she would get tickets for Gravity and she is concerned that there won't be any available in the local cinema

Sola Fadumiye - Stay at home Mum



Figure 12: Sola

38 years old, married.

Sola is a mother of two children (a 6 months old and a 2 year old). She isn't currently working because she has decided to take extended time off to raise her newborn. She is price aware and wants to find the best value for money. She prefers shopping in the morning, when the high street is less crowded. Once a week she takes her son to the sports centre, where he takes swimming lessons.

"I wish you could see beforehand if there is enough space on the bus."

Goals

- Wants to do her shopping in a safe environment, where she can be with her children
- Wants to find places that have stair free access, so she can carry the pram
- Needs to get home comfortably with public transport after shopping

Tasks

She wants to:

- \bullet Find safe/comfortable places to breastfeed
- Get home on a bus that won't be too crowded for her pram
- Arrive on time for her son's swimming lesson

Concerns

- Being separated from her children
- \bullet That she won't find a place to park her pram outside the supermarket

4.6 Appendix F: Requirements Analysis

Data gathered from observations and interviews were organised in post-it notes to create scenarios.

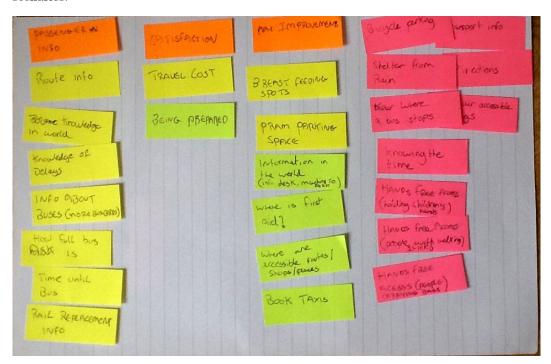


Figure 13: Requirements gathered from observations and interviews.



Figure 14: Requirements gathered from observations and interviews.



Figure 15: Requirements gathered from observations and interviews.

4.7 Appendix G: Scenarios

Scenarios were preferred to storyboards. The group considered that a written narrative would produce a more vivid and accurate description of particular stressful situations.

Scenario 1 - Anthony

Anthony has finished work and is doing his Christmas Shopping. It is dark outside and the high street is busy.

Having made several purchases in a number of shops, Anthony decides to call it a day and go home. On his way home, Anthony realises that he has lost his wallet when he goes to use his oyster card, as he keeps this in his wallet.

Thankfully Anthony has been carrying a new high street device which uses GPS to keep a record of where he has walked and what places he has visited. Anthony uses his device to look up a list of places he has been whilst on the high street and is able to retrace his steps to look for his wallet.

Unable to locate his wallet, Anthony uses his device to report it as lost to the high street operator, and also to the shops that he has visited.

Scenario 2 - Sola

Sola is out shopping with her youngest child in tow, but has been out longer than expected. Her child has started crying because he is hungry and will need to be breastfed, it's also about time for him to have his nappy changed.

Sola doesn't really have the time to look around each place on the high street to see if she can find somewhere that meets her needs. However, she has a new high street information device with her that she can ask for help.

Sola checks her device for nearby cases to breastfeed in. Based on her preferences, the device returns a list of places which are friendly towards breastfeeders, have baby changing facilities and won't be too busy for a pram.

Because the device has ordered the list of places by most suitable, Sola decides to visit the first and requests that her high street device take her there.

4.8 Appendix H: Design Workshop

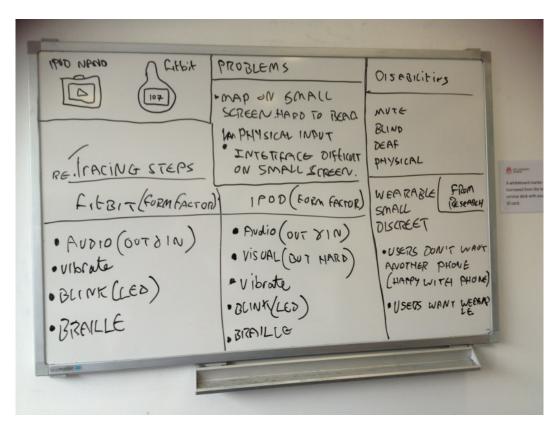


Figure 16: Existing products, were drawn on a whiteboard to generate ideas for a device with a "Retrace Steps" function. Functionality and other requirements were also written on the whiteboard. Whiteboards served as a visual stimuli to generate ideas during brainstorming sessions.

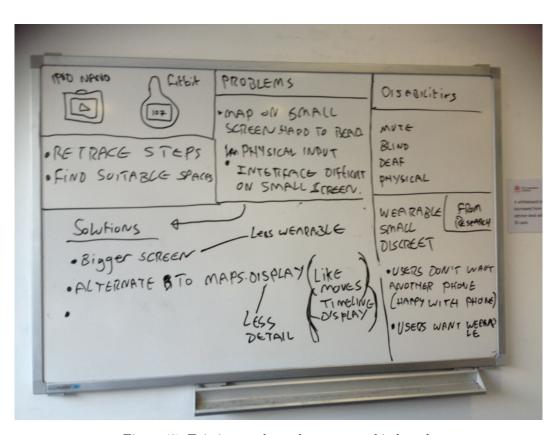


Figure 17: Existing products drawn on a whiteboard.

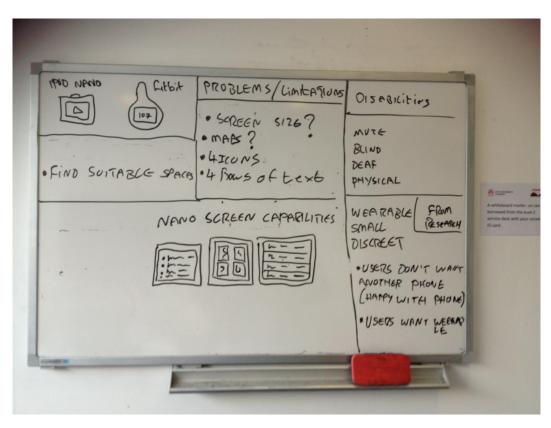


Figure 18: The same process was followed in order to generate ideas for the "Find Breast-feeding Friendly Place" function. (see below)



Figure 19: Brainstorming on whiteboard

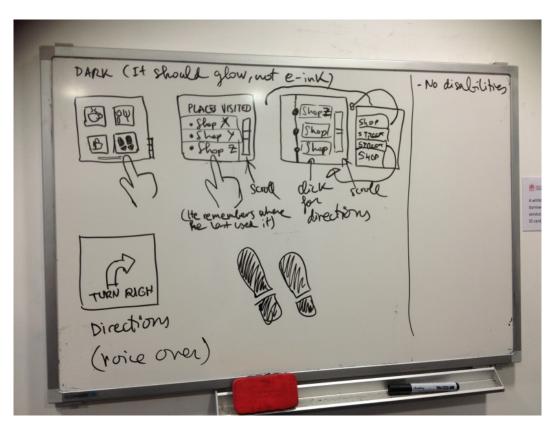


Figure 20: During brainstorming sessions group members captured ideas for the device's "Retrace Steps" and "Find me a breastfeeding friendly place" functions in sketches. (see below)

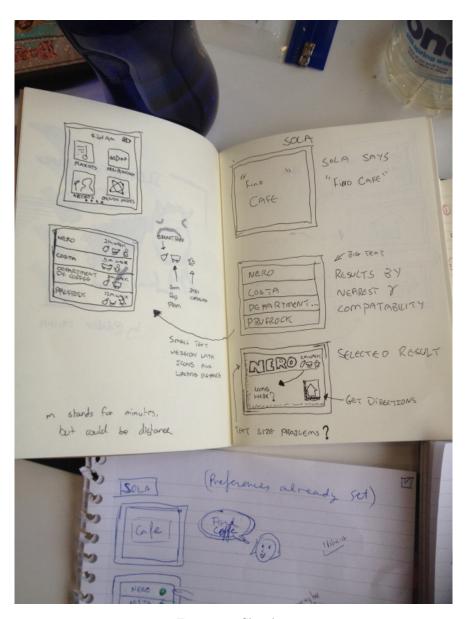


Figure 21: Sketches

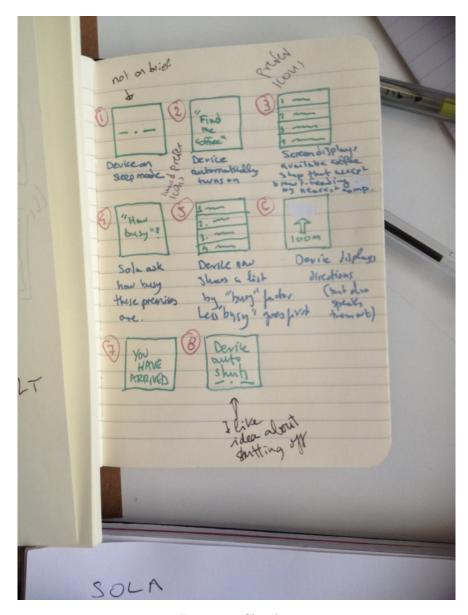


Figure 22: Sketches

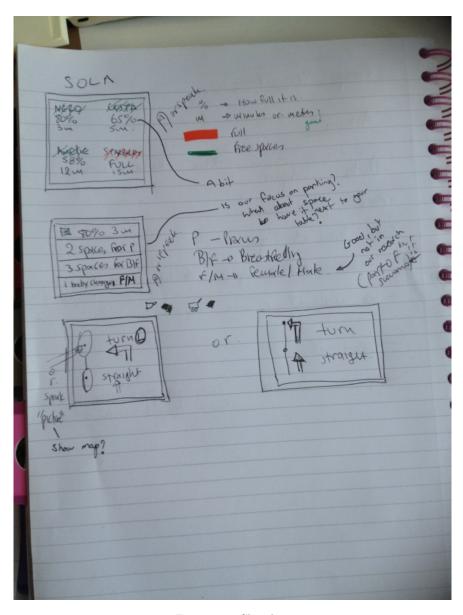


Figure 23: Sketches

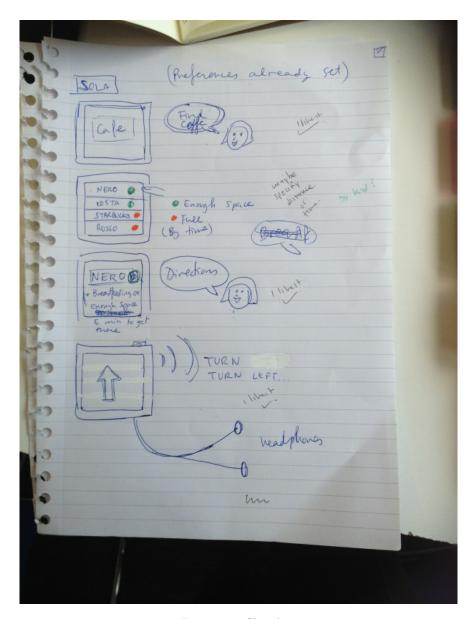


Figure 24: Sketches



Figure 25: Sketches



Figure 26: Sketches

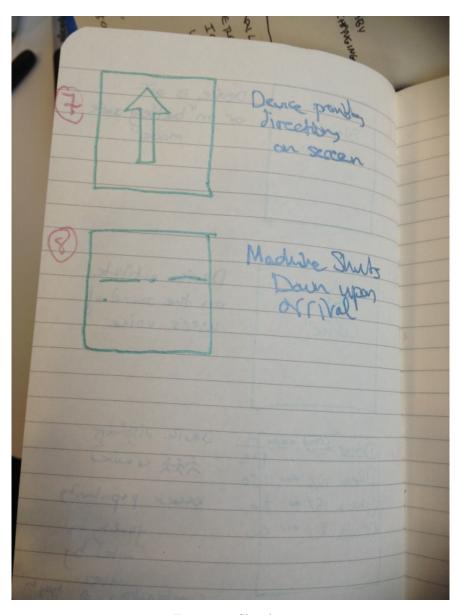


Figure 27: Sketches



Figure 28: Sketches

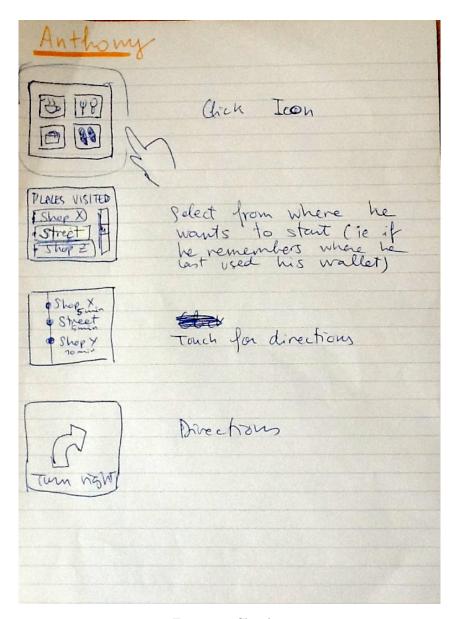


Figure 29: Sketches

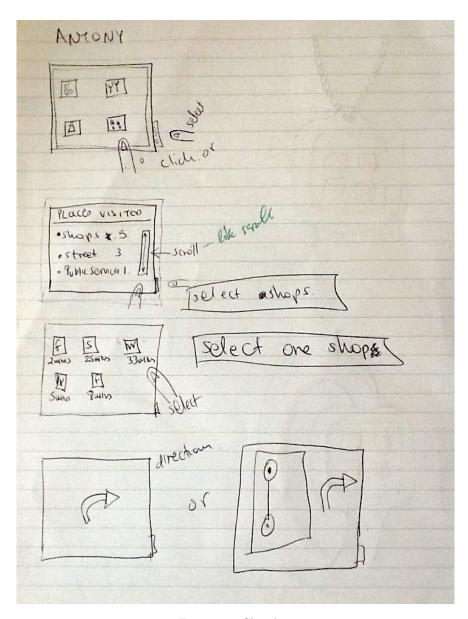


Figure 30: Sketches

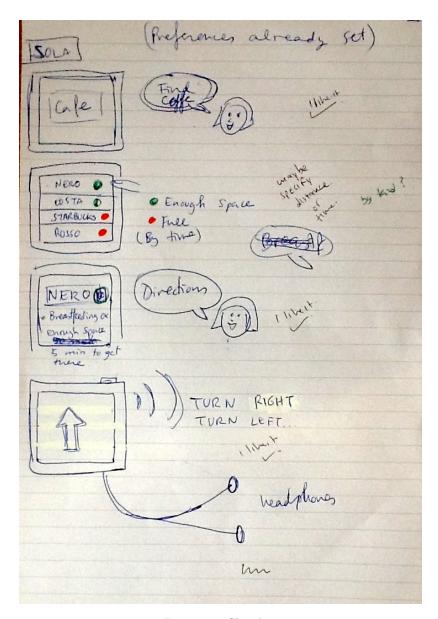


Figure 31: Sketches

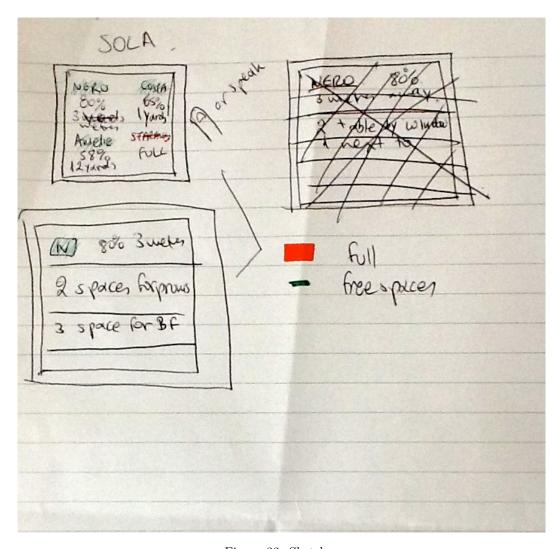


Figure 32: Sketches

4.9 Appendix I: Physical Design

The device for the high street would be "small and wearable" in different ways. It would come with different accessories to enable people to wear it on their wrist like a bracelet, around their neck, or as a clip.



Figure 33: The device attached to a necklace.

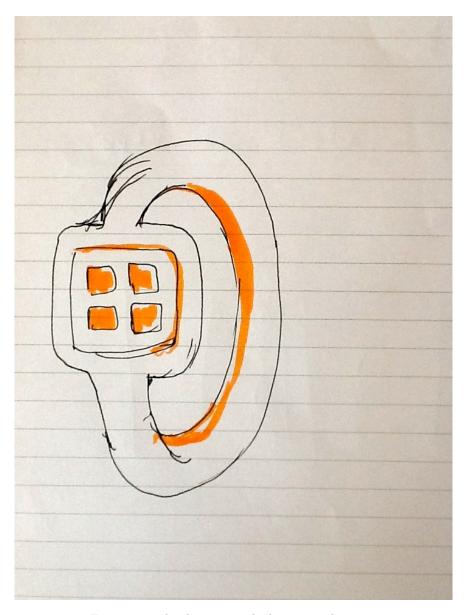


Figure 34: The device attached to a watch strap.

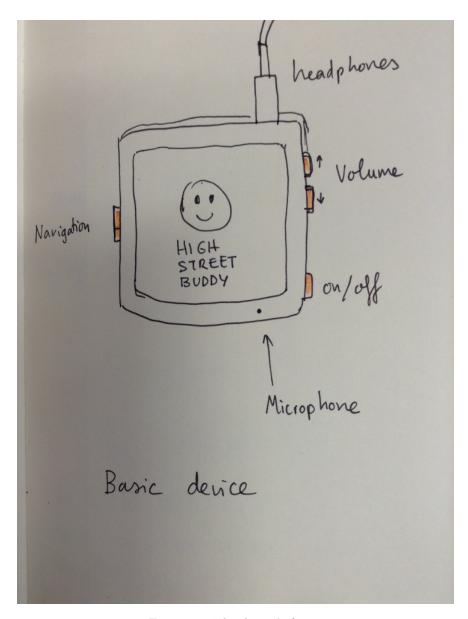


Figure 35: The device's front.

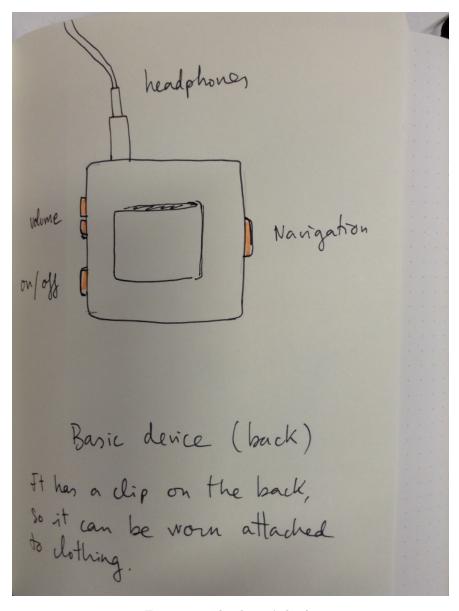


Figure 36: The device's back.

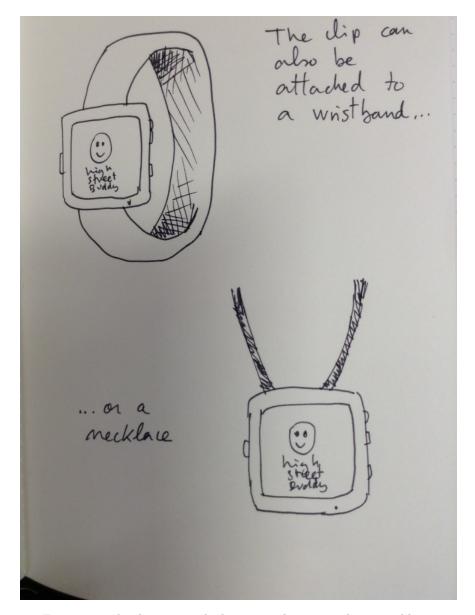


Figure 37: The device attached to a watch strap and to a necklace.



Figure 38: The device attached to a watch strap.

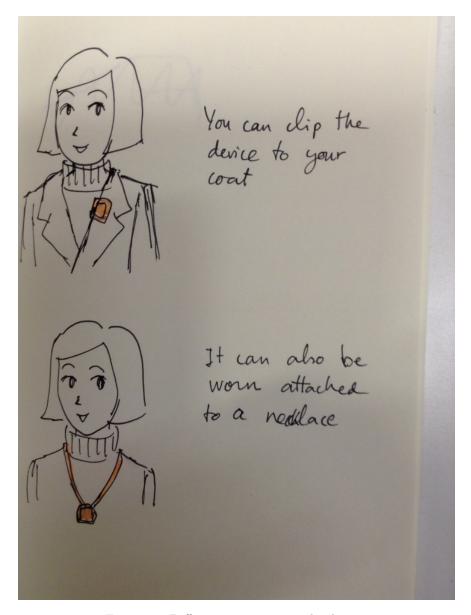


Figure 39: Different ways to wear the device.

4.10 Appendix J: Wireframes

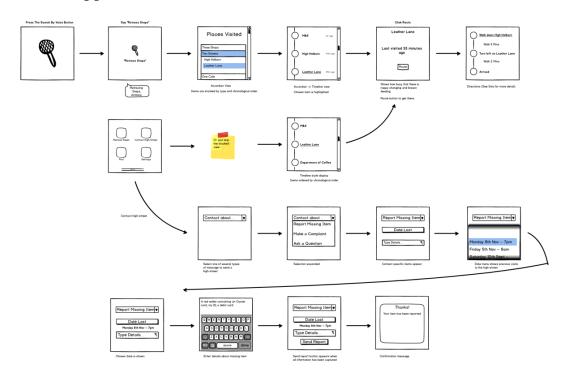


Figure 40: The wireframe prototype for "Retracing steps" function.

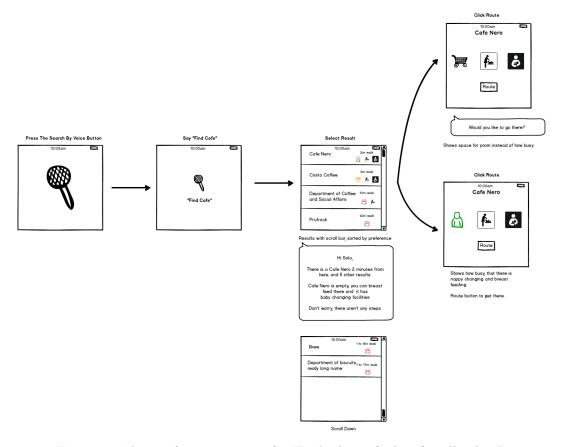


Figure 41: The wireframe prototype for "Find a breast feeding friendly place".

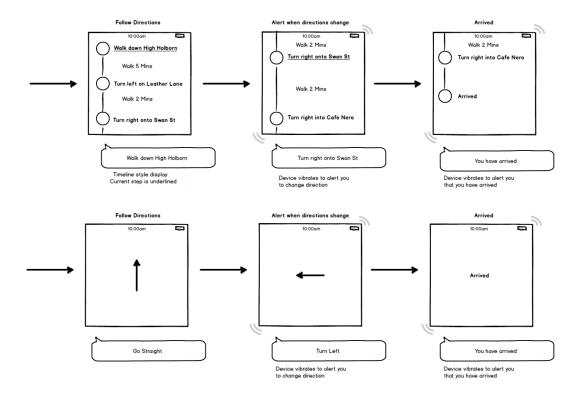


Figure 42: The wireframe prototype for "Find a breastfeeding friendly place". (Cont.)

4.11 Appendix K: Evaluations

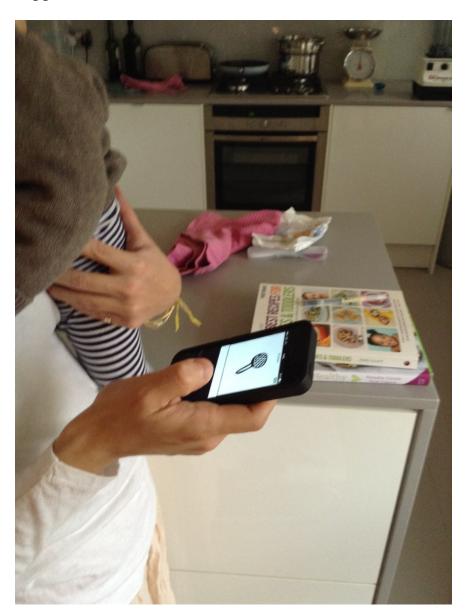


Figure 43: Joanna Cave, holding her 5 months daughter, Sophie-May, evaluates the interactive prototype created with "Flinto" on an iPhone. Joanna told group members Ioannis Masouras and Ana Crespo-Roca that finding breastfeeding friendly places on the high street was a real problem for her.

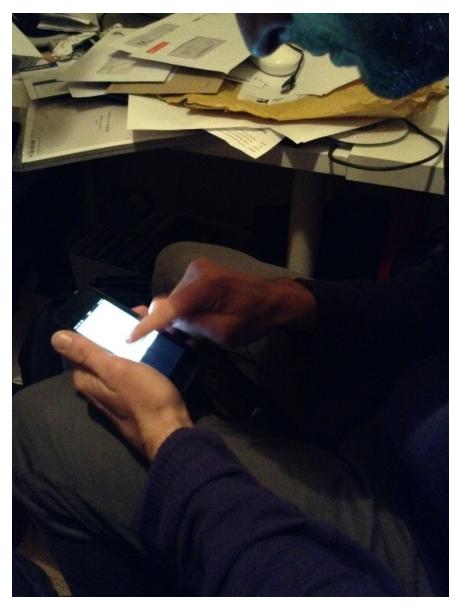


Figure 44: Ian Clark tests the interactive prototype for the "Retrace Steps" function. Ian thought that such a function could be really useful. However, he had a problem understanding the timeline feature. He thought it was a map.

4.12 Appendix L: Findings from evaluations

Joanna Cave

- You can't tell how crowded it is. This is baby changing, this is baby breastfeeding, but this you can't tell what this other one is. It shouldn't be like that, it should be like a crowd of a lot of people. This is important because a lot of places (like shops) are packed.
- You could also improve the icons by adding some text.
- The layout and the route are fine.
- It was really short, that is good. You don't have time when you are with the baby.

Ismini Sigala

- This is changing, this is distance, breastfeeding... I'm not sure about what these green, yellow, red things mean. The colour works, maybe having one human instead of several will work. Red is always "don't go".
- It would be handy to have maps as well.
- The process was quick. I prefer stuff that is simple, not complicated.
- Keep it ad free, or put them on the bottom.

Katerina Athanasopoulou

- The best thing to say about a place where a mother can go and breastfeed without worrying that someone will look at her in a sort of a sideways manner, is to say a breastfeeding friendly place. There isn't a place that can not allow you, it would be discrimination against women. There are some cafés and shops that are breastfeeding friendly. It would be interesting for you to talk with people who are advocates of breastfeeding as well, such as the NCT.
- It says that there are these cafés or shops a few minutes walk away. There are baby changing facilities and they are breastfeeding friendly, but I don't understand what the little man means.
- Maybe a symbol of a buggy would be better, a place that is not crowded might not have space for a buggy, or it might be upstairs.
- Will this have a map? If it is a small area you could include a small map of the area. I quite like having a little visual map, it gives you an idea of how close you are. You wouldn't have to see all the map, you wouldn't need much detail.

Christina Prifti

- Maybe you could change the icon to show how busy the place is its not very clear... as I thought it means family or children at first, then the colour helped (but she had to ask me in order to confirm it)
- If the device is on sleep and the microphone activates it that means that if I talk to a friend for a place ie. nero it will start the gps? or when I will say find cafe I have to say the name of the device/keyword?
- Generally I liked it if it was on market I would buy it.
- Retrace steps and report missing valuable

Ismini Sigala

- What does "find" mean? You should rename it, I thought it might be "find the item".
- It was pretty quick.

Ian Clark

- I knew where to press, it was clear and quick.
- The route (he's referring to the streets with the points) was a bit confusing, because I would prefer a map.

Katerina Athanasopoulou

- It would be a good idea of contacting a person, talking to a person. When I have lost stuff I feel I need to talk to a person, I don't feel they are going to read the e-mail. It could even be a messaging service, sometimes if you are a bit upset you might not be in the mood for typing. For something that is a lost property, an answering machine would be a good idea, then they could contact you on this machine.
- I would like to have some kind of map. I think it would be useful to retrace my steps in a map.

George Metallinos

- "Contact High Street" did not make sense. It's more like you contact a service responsible for the high street. I found it misleading. I feel the same for the "make complaint" or "ask question" function . I was unsure it was for the high street or the device.
- Maybe rename it to "forum" or "contact ... (name of the device)"

- "Find" is also confusing as I thought I could go there to get help finding a lost item.
- Maybe registry or facilities or amenities etc.
- It was quicker than I expected.

Rajat Nath

- Very quick and easy to use, however the "find" icon is not very clear as I tried that first in order to find my lost wallet. Perhaps you should change the name.
- When I report the lost item do I have to say at which area/high street I was when I lost it? Since it has a GPS will it locate me straight away and post it to the forum automatically? That would save time.

4.13 Appendix M: Consent Forms



Participant Information Sheet Title of Study: Testing of a High Street Device Prototype

This project consists of testing a paper prototype of a device for the high street. It was designed by a group of postgraduate students (Rachel Graves, loannis Masouras, Georgia Kontosorou and Ana Crespo Roca) as part of the coursework for INM355, Practices and Theories in Interaction Design.

The purpose of the study is to evaluate the usability of the prototype. It will involve using an app in a smartphone that the students will provide for the testing. The participant will be asked to talk about his or her impressions when using it. He or she may be interviewed afterwards and he or she may be asked to fill out a questionnaire about the experience. The testing will be recorded by video and/or audio, it will take approximately 15 minutes, and it will involve no risks for the participant.

Participation is voluntary, and participants may withdraw at any stage, or avoid answering questions. Any recorded data will only be used for this university project and won't be shared with any third parties.

If the participants have any inquiries about the research or want to be informed of the results, they may contact Ana Crespo at $\underline{Ana.Crespo-Roca.1@city.ac.uk}$.

City University London complaints clause:

If you would like to complain about any aspect of the study, City University London has established a complaints procedure via the Secretary to Senate Research Ethics Committee. To complain about the study, you need to phone 020 7040 3040. You can then ask to speak to the Secretary to Senate Research Ethics Committee and inform them that the name of the project is "Testing of a High Street Device Prototype for INM355 Practices and Theories in Interaction Design".

You could also write to the Secretary at:
Anna Ramberg
Secretary to Senate Research Ethics Committee
Research Office, E214
City University London
Northampton Square
London
EC1V 0HB
Email: Anna.Ramberg.1@city.ac.uk

Figure 45: The information sheet for participants.

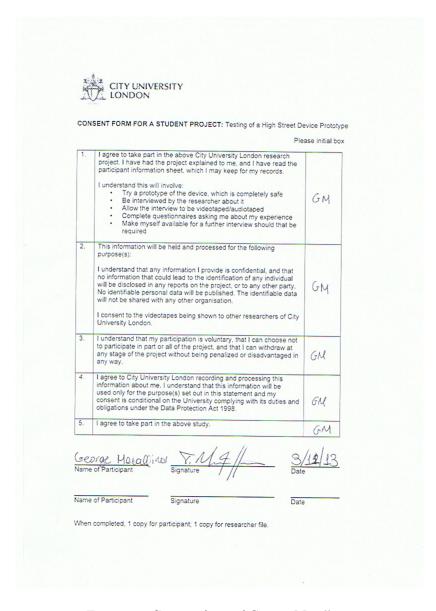


Figure 46: Consent form of George Metallinos.



Figure 47: Consent form of Rajat B. Nath.

CON	ISENT FORM FOR A STUDENT PROJECT: Testing of a High Street Dr	,
1.	I agree to take part in the above City University London research	ase initial bo
	roject. I have had the project explained to me, and I have read the participant information sheet, which I may keep for my records. I understand this will involve: Try a prototype of the device, which is completely safe Be interviewed by the researcher about it Allow the interview to be videotaped/audictaped Complete questionnaires asking me about my experience Make myself available for a further interview should that be required	CP
2.	This information will be held and processed for the following purpose(s): Lunderstand that any information I provide is confidential, and that no information that could lead to the identification of any individual will be disclosed in any reports on the project, or to any other party. No identifiable personal data will be published. The identifiable data will not be shared with any other organisation. Lonsent to the videotapes being shown to other researchers of City University London.	a
3.	I understand that my participation is voluntary, that I can choose not to participate in part or all of the project, and that I can withdraw at any stage of the project without being penalized or disadvantaged in any way.	CP
4.	I agree to City University London recording and processing this information about me. I understand that this information will be used only for the purpose(s) set out in this statement and my consent is conditional on the University complying with its duties and obligations under the Data Protection Act 1998.	G
5.	I agree to take part in the above study.	CP
	hishua hith Signature Date of Participant Signature Date	11-13

Figure 48: Consent form of Christina Prifti.



Please initial hor

1.	I agree to take part in the above City University London research project. I have had the project explained to me, and I have read the participant information sheet, which I may keep for my records.	
	I understand this will involve: Try a prototype of the device, which is completely safe Be interviewed by the researcher about it Allow the interview to be videotaped/audiotaped Complete questionnaires asking me about my experience Make myself available for a further interview should that be required	100
2.	This information will be held and processed for the following purpose(s):	
	I understand that any information I provide is confidential, and that no information that could lead to the identification of any individual will be disclosed in any reports on the project, or to any other party. No identifiable personal data will be published. The identifiable data will not be shared with any other organisation.	w
	I consent to the videotapes being shown to other researchers of City University London.	
3.	I understand that my participation is voluntary, that I can choose not to participate in part or all of the project, and that I can withdraw at any stage of the project without being penalized or disadvantaged in any way.	W
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5.	I agree to take part in the above study.	

Keterina Athayasopon na Name of Participant	Signature	4/12/1 Date
Name of Participant	Signature	Date
When completed, 1 copy fo	r participant; 1 copy for researcher file.	

Figure 49: Consent form of Katerina Athanasopoulou.



Please initial box

1.	I agree to take part in the above City University London research project. I have had the project explained to me, and I have read the participant information sheet, which I may keep for my records. I understand this will involve: Try a prototype of the device, which is completely safe Be interviewed by the researcher about it Allow the interview to be videotaped/audiotaped Complete questionnaires asking me about my experience Make myself available for a further interview should that be required	15
2.	This information will be held and processed for the following purpose(s): I understand that any information I provide is confidential, and that no information that could lead to the identification of any individual will be disclosed in any reports on the project, or to any other party. No identifiable personal data will be published. The identifiable data will not be shared with any other organisation. I consent to the videotapes being shown to other researchers of City University London.	15
3.	I understand that my participation is voluntary, that I can choose not to participate in part or all of the project, and that I can withdraw at any stage of the project without being penalized or disadvantaged in any way.	15
4.	I agree to City University London recording and processing this information about me. I understand that this information will be used only for the purpose(s) set out in this statement and my consent is conditional on the University complying with its duties and obligations under the Data Protection Act 1998.	15
5.	I agree to take part in the above study.	15

Name of Participant Signature Date

When completed, 1 copy for participant; 1 copy for researcher file.

Figure 50: Consent form of Ismini Sigala.



Please initial box

1.	I agree to take part in the above City University London research project. I have had the project explained to me, and I have read the participant information sheet, which I may keep for my records.	
	I understand this will involve: Try a prototype of the device, which is completely safe Be interviewed by the researcher about it Allow the interview to be videotaped/audiotaped Complete questionnaires asking me about my experience Make myself available for a further interview should that be required	10
2.	This information will be held and processed for the following purpose(s):	
	I understand that any information I provide is confidential, and that no information that could lead to the identification of any individual will be disclosed in any reports on the project, or to any other party. No identifiable personal data will be published. The identifiable data will not be shared with any other organisation.	10
	I consent to the videotapes being shown to other researchers of City University London.	
3.	I understand that my participation is voluntary, that I can choose not to participate in part or all of the project, and that I can withdraw at any stage of the project without being penalized or disadvantaged in any way.	ıc
4.	I agree to City University London recording and processing this information about me. I understand that this information will be used only for the purpose(s) set out in this statement and my consent is conditional on the University complying with its duties and obligations under the Data Protection Act 1998.	10
5.	I agree to take part in the above study.	10

Name of Participant

Signature

Date

Date

When completed, 1 copy for participant; 1 copy for researcher file.

Figure 51: Consent form of Ian Clark.



Please initial box

1.	I agree to take part in the above City University London research project. I have had the project explained to me, and I have read the participant information sheet, which I may keep for my records.		
	I understand this will involve: Try a prototype of the device, which is completely safe Be interviewed by the researcher about it Allow the interview to be videotaped/audiotaped Complete questionnaires asking me about my experience Make myself available for a further interview should that be required	X	
2.	This information will be held and processed for the following purpose(s):		
	I understand that any information I provide is confidential, and that no information that could lead to the identification of any individual will be disclosed in any reports on the project, or to any other party. No identifiable personal data will be published. The identifiable data will not be shared with any other organisation.	14	
	I consent to the videotapes being shown to other researchers of City University London.		
3.	I understand that my participation is voluntary, that I can choose not to participate in part or all of the project, and that I can withdraw at any stage of the project without being penalized or disadvantaged in any way.	74	
4.	I agree to City University London recording and processing this information about me. I understand that this information will be used only for the purpose(s) set out in this statement and my consent is conditional on the University complying with its duties and obligations under the Data Protection Act 1998.	3	
5.	I agree to take part in the above study.	11	
TOANIA CATVE Name of Participant Signature 3/12/13. Date			
Name	Name of Participant Signature Date		
When completed, 1 copy for participant; 1 copy for researcher file.			

Figure 52: Consent form of Joanna Cave.

4.14 Appendix N: Who Did What

Activity	Responsibility
Initial Planning of Coursework	At an initial meeting, group members agreed that due to constraints imposed by conflicting time schedules, the use of an online medium was necessary and so it was decided to create dedicated space on Google Drive where ideas, data gathered and supporting documents could be shared. It was also decided where the observations sessions would take place.
Observation Sessions	All group members took part in the observation sessions.
Planning of Semi-Structured Interviews	All group members took part in the planning of the interviews.
Carrying Out Semi-Structured Interviews	All group members did interviews to find more details about information requirements.
Capturing Requirements from Observations	All group members took part in the analysis of
and Interviews	data from observations and semi-structured
Creating Personas	interviews to capture requirements. All group members contributed to the creation of personas.
Creating Scenarios	All group members contributed to the creation of scenarios.
Creating Wireframes	All group members created low-fidelity wireframes individually and shared them with the others for feedback and refinement.
Creating the Physical Form of the Device	All group members participated in a brainstorming session to decide the physical form of the device.
Creating Interactive Prototypes	Rachel Graves created interactive prototypes with Balsamiq and Flinto. Interactive prototypes were then tested by Ioannis Masouras, Ana Crespo Roca and Georgia Kontosorou.
Evaluation of Prototype	Evaluation of the interactive prototypes by all four members. In all sessions one member acted as facilitator, while the other conducted a semi-structured interview with participant.
Organizing Documentation for the Report	All group members shared documentation on Google Drive for the report.
Writing the Report	Ioannis Masouras was the main author of the report with contributions from Rachel Graves and Ana Crespo Roca. Rachel Graves, Ana Crespo Roca and Georgia Kontosorou edited the final version.