

# Group 14 Project 7

## Evaluation

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**Abstract - The current mobile experience for the existing ToursByLocals.com site has a number of a major usability issues. The site is not optimized for mobile devices, and is difficult to read, navigate, and interact with while away from a desktop computer. After refining our prototype, we performed in-depth evaluations to get insights from test users and experts.**

### I. ANALYTICAL EVALUATION

#### A. Goal

The main goal of our analytical evaluation was to identify any problems associated with the design of our mobile UI. A predetermined set of guidelines was utilized to uncover major usability issues quickly. The resulting feedback serves to inform our team on the extent to which the system is compatible with the intended users' needs and preferences.

#### B. User and Task

The user perspective assumed while doing this evaluation was that of an English-speaking male or female who travels (age 20-30). This user is a smartphone owner and one who can navigate websites and apps proficiently. This perspective has been chosen because younger, travelers are the target users of the UI we are creating.

The task that we evaluated was booking a tour from start to finish on a mobile device - a process which involves first searching by area, reading tour reviews, reading guide reviews, contacting the guide, and finally checking out. We wanted to make sure that this task could be performed by the user efficiently and adhered to the heuristic guidelines. Booking a tour is the primary purpose of the ToursByLocals website and is the main process performed by users so it was important for us to ensure that our system was designed with the mobile user's experience in mind.

#### C. Techniques Used

We used Nielsen's heuristics for this evaluation with the addition of 3 heuristics developed for modern mobile interfaces. We chose to utilize heuristics because of their simplicity and informality which is very useful in these early stages of the design process. Applying the results of the 3 expert heuristic evaluations will greatly reduce the design errors discovered by users later on. After the evaluations were performed independently, the expert team met to discuss problems/issues, assign priorities and suggest solutions.

#### D. Materials

For these evaluations, we used a heuristics checklist, which can be found in appendix E.

#### E. Data Collected

The data gathered from the three expert evaluations consists of the completed checklists. Each heuristic and sub-heuristic was marked with either 'yes', 'no', or 'N/A' and comments were added where the evaluators felt necessary. The three completed checklists can be found in appendix F.

#### F. Adherence to Plan

Our plan for the analytical evaluation was to perform three (3) independent expert evaluations then meet to compare findings and discuss results. We successfully adhered to this plan and no changes were necessary

#### G. Results

The three experts discussed the heuristic guidelines that were not met by the design prototype (i.e., where 'No' was selected by one or more of the experts), comparing each sub-heuristic question and discussing in detail when there were opposing answers. A summary of the insights from this meeting can be found below:

- Feedback should be added to the messaging feature that allows the user to see whether the message was delivered/read. This could be accomplished with check marks next to the individual messages (similar to WhatsApp).
- Standard footers should be added to each page (About,

Careers, Press, Site Map, Terms & Privacy ...)

- Tours and Guides should be characterized based on their state, i.e., when a user clicks on a link for a tour then returns to the search results, that tour should be made a different color signaling that it has already been viewed.
- Links should be clearly indicated (underlining/made to look buttony)
- Hotspots for links should be large and obvious (i.e., when a user wants to click on a tour from the search page, the entire box should be clickable - not just the name of the tour).
- The user should be able to tell that he/she is using the mobile version of the site. This could be achieved by redirecting automatically to m.toursbylocals.com when a mobile device is detected.
- The mobile site should include a link to the desktop version of the website.
- A FAQ section should be added (this could be combined with the ‘How it Works’ section) This could also help to address the security concerns mentioned by our users in the interviews.
- Clicking “Book Tour” should lead to a checkout page and contain payment information/instructions.
- Make sure the ToursWithLocals logo is a button that links to the home page.
- Make it clear that a user must be logged in to message guides.
- When deleting an account or making a payment, users should be presented with double confirmation (“Are you sure you want to ... ?”).
- We should make a landscape mockup of one prototype page to show how it would work in that orientation.
- The Advanced Search pane should use buttons instead of checkboxes for easier selection.
- Selecting a date in the Advanced Search pane should bring up the selection menu for month and day.
- We should add the ability to touch to expand lengthy text, for example for reviews or tour descriptions.
- Our search box should have autocomplete.
- If the tour search returns 0 results, then the system should suggest an alternative but similar search that it knows will return results.
- If there is an error in a form (such as the registration form) the error should be highlighted when the page is redisplayed to show the user where their mistake is.
- There could be some option for ‘first time users’ which provides additional on-screen instructions through arrows pointing to features and prompts explaining them.
- The main search page should allow for a variety of searches (country, city, zip code, landmark, phone number etc.). Information about the types of search that can be performed should be included in the documentation.
- After login, the user should be able to access a section

called ‘My Account’ which would include: saved past searches, wish lists, bookmarked guides, etc.

- There should be an option to email a tour/guide to a friend.
- Once a tour has been booked, users should have the ability to download a file (this could potentially be an image) which contains information about the tour they have booked. It should contain information such as the tour guide’s contact information, and also an emergency contact number if there are problems for the traveler.
- Once a user has logged in to the website, the ‘login’ button should change to ‘logout’.

For future analytical evaluations, we decided to remove the heuristics that were irrelevant to our product. All of the checklist items that were marked N/A by all three experts will be discarded in order to shorten the time needed to perform these evaluations and focus only on applicable topics.

## II. EMPIRICAL EVALUATION

### A. Goal

Our primary goal is to determine if our mobile interface can be successfully used to carry the primary task if was designed for: booking a tour via a mobile device. By doing this, we seek to find insight into the user’s mental model and ensure that our design matches the user’s expectations. We will pay specific attention to usability problems associated with:

- Efficiency/Functionality: Can the user successfully book the tour?
- Learnability: Can the user navigate the interface without assistance?
- Design: Is there any confusion caused by the structure/flow of the screens?
- Content: Can the user locate all of the tour information they need?

### B. Evaluation User

The participants name was Daniel H. He is 26 years old, unmarried, young professional, lacks dietary restrictions, enjoys travelling, and is smartphone savvy.

### C. User Task

Daniel was asked to book a tour in New York City using the prototype of the ToursByLocals mobile site. This allowed us to evaluate if our latest prototype version had improved on previous iterations based on feedback on Piazza. We were also able to observe how a primary user would interact with the prototype.

### D. Techniques Used

We used a walkthrough with a paper prototype. This low fidelity option was chosen due to the rich data we could collect which could then be used to modify our prototype easily. Daniel was asked to think out loud while interacting

with the paper prototype. This method would allow us to identify any common obstacles that would detract from our product's efficiency. Due to the limitations of the paper prototype, additional instructions were given.

#### *E. Materials*

For the empirical evaluation we used parts of Steve Krug's basic usability script<sup>[1]</sup> skeleton to initiate the session. Only the introduction and test explanation sections were used to prepare the user and give them some informal instruction. The script can be found in appendix A. A paper prototype consisting of all of the screens of our mobile interface was used for the interaction. The user clicked/swiped with their finger, and the evaluator switched out the screens accordingly. The paper prototype can be found in appendix B.

#### *F. Data Collected*

The interviewer made observations about the circumstances and setting of the interview. Observations can be found in appendix C. The interview has also been transcribed and can be found in appendix D, along with a link to an audio recording of the interview.

#### *G. Adherence to Plan*

Our original plan was to perform a usability study using a paper prototype of the mobile interface. We also planned on not preparing any structured questions or follow-up questions for the evaluation. The subject would be simply instructed to think aloud while they attempted to complete the task described. If the user would have asked questions about the interface that were directed to the evaluator during the interaction, they were not be answered.

This plan was largely adhered to. The user was instructed to think aloud while working their way through the paper prototype. However, the adherence to the evaluator being silent was not as closely followed. First, the evaluator spoke out of necessity to clarify certain aspects of the paper prototype to the user. Second, the evaluator was nervous during the interview and worried that not enough data would be collected. The initial task was completed in under 5 minutes, with minimal usage of the website.

#### *H. Results*

The user was somewhat confused by the paper prototype and its inherent limitations. However, he appreciated the novelty of it. He voiced his opinion over any area of the website where he felt something was out of place or unusual. He was able to successfully book a trip and use many of the auxiliary features necessary to accomplish the task. A summary of the insights from this interview follows:

- The home screen should be refined and have the 'tours near you' section reconsidered. We should reconsider what the user will want to see when they land on the home screen.

- The method for selecting the dates should be more intuitive and feature a more obvious availability color scheme.
- There should be an easy way for guides to list their credentials to establish a sense of security. There could be a dedicated section in the tour guide profile displaying this.
- The 'Discover' button should be removed; it will serve no purpose for either a new user or experienced user.
- The 'Help' Menu button within the [?] Menu should be reconsidered. Currently it is superfluous with 'How it works' also being on the same menu.
- While it was not mentioned, there is an option to bookmark the guide and this was well received. That option should be better integrated into the design.

#### REFERENCES

- [1] - Steve Krug's basic usability script  
[http://www.indiana.edu/~audioweb/T284/krug\\_questions.html](http://www.indiana.edu/~audioweb/T284/krug_questions.html)

### III. APPENDICES

#### Appendix A – Usability Test Script<sup>[1]</sup>

##### Introduction

Hi, \_\_\_\_\_. My name is Steve Krug, and I'm going to be walking you through this session.

You probably already know, but let me explain why we've asked you to come here today: We're testing a web site that we're working on to see what it's like for actual people to use it.

I want to make it clear right away that we're testing the site, not you. You can't do anything wrong here. In fact, this is probably the one place today where you don't have to worry about making mistakes.

We want to hear exactly what you think, so please don't worry that you're going to hurt our feelings. We want to improve it, so we need to know honestly what you think.

As we go along, I'm going to ask you to think out loud, to tell me what's going through your mind. This will help us.

If you have questions, just ask. I may not be able to answer them right away, since we're interested in how people do when they don't have someone sitting next to them, but I will try to answer any questions you still have when we're done.

We have a lot to do, and I'm going to try to keep us moving, but we'll try to make sure that it's fun, too.

You may have noticed the camera. With your permission, we're going to videotape the computer screen and what you have to say. The video will be used only to help us figure out how to improve the site, and it won't be seen by anyone except the people working on the project. It also helps me, because I don't have to take as many notes. There are also some people watching the video in another room.

If you would, I'm going to ask you to sign something for us. It simply says that we have your permission to tape you, but that it will only be seen by the people working on the project. It also says that you won't talk to anybody about what we're showing you today, since it hasn't been made public yet.

Do you have any questions before we begin?

##### Background information questions

Before we look at the site, I'd like to ask you just a few quick questions. First, what's your occupation?

Good. Now, roughly how many hours a week would you say you spend using the Internet, including email?

How do you spend that time? In a typical day, for instance, tell me what you do, at work and at home.

Do you have any favorite Web sites?

Now, finally, have you bought anything on the Internet? How do you feel about buying things on the Internet?

And what have you bought?

OK, great. We're done with the questions, and we can start looking at things.

##### Usability test

First, I'm just going to ask you to look at this page and tell me what you think it is, what strikes you about it, and what you think you would click on first.

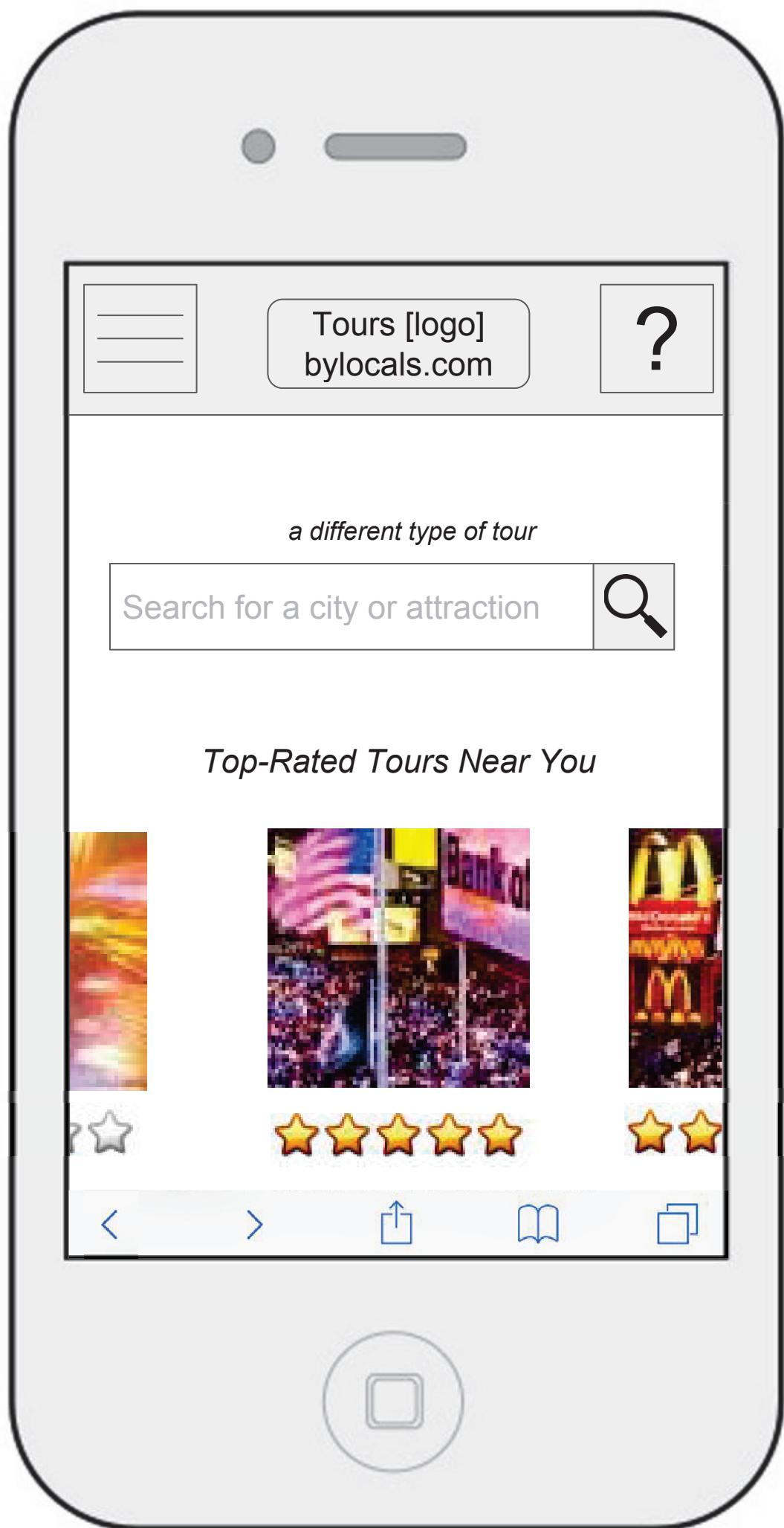
For now, don't actually click on anything, just tell me what you *would* click on.

And again, as much as possible, **it will help us if you can try to think out loud so we know what you're thinking about.**

From this point it's up to you. Ask them to consider the elements of the site and ask for their verbal feedback every step of the way.

## *Appendix B – Paper Prototype*

1. Home Screen
2. Initial Search Results
  - 2.1 Advanced Search Results
3. Tour Info 1
  - 3.1 Tour Info 2
4. Tour Guide Page 1
  - 4.1 Tour Guide Page 2
5. Contact Page
6. Hamburger Button Menu
7. [?] Help Button Menu
8. Error Screen
9. Login Screen
10. How it Works Screen
11. Help Screen
12. Account Registration Screen
13. Tour Confirmation Screen

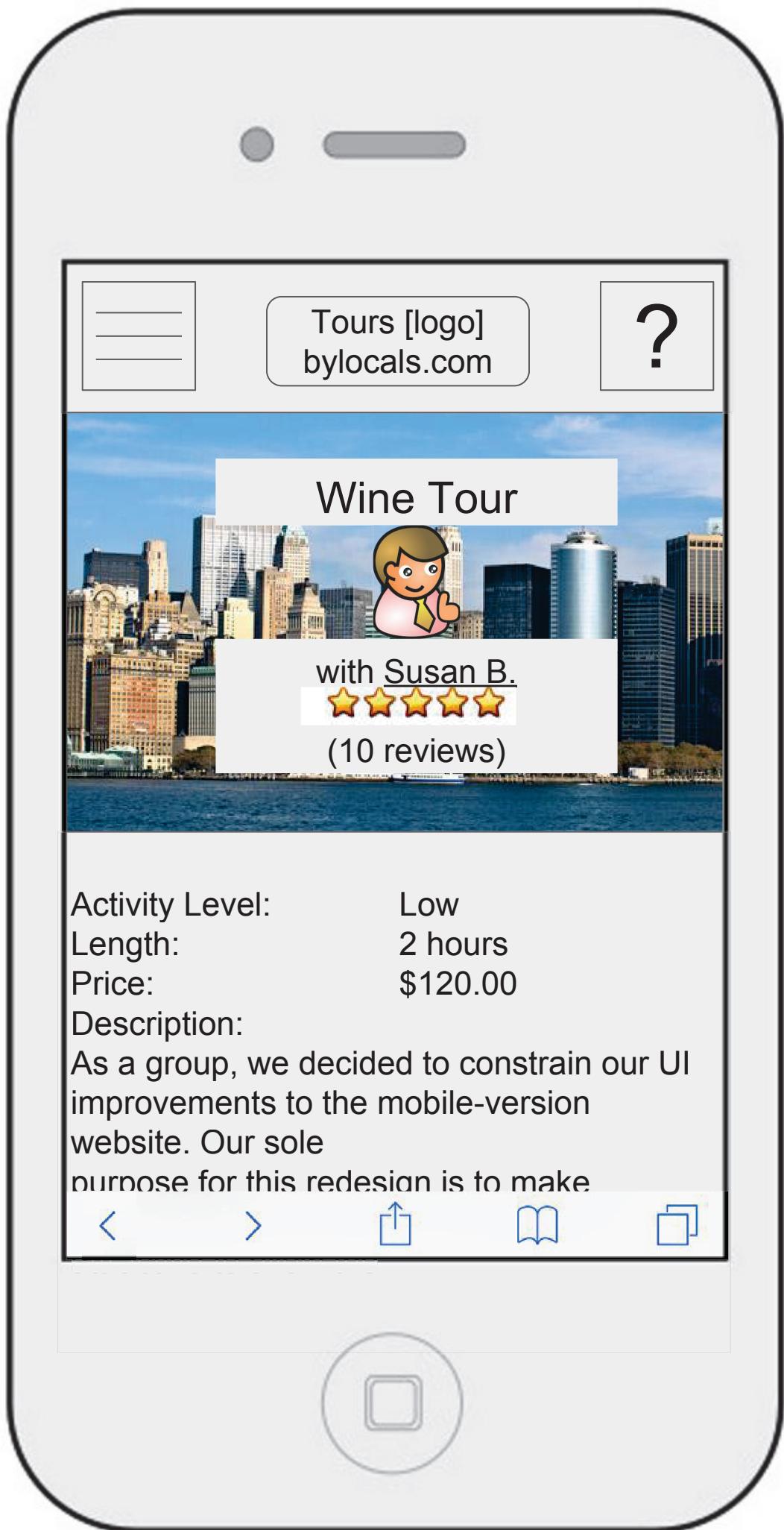


A smartphone screen showing a mobile application interface. At the top, there is a header bar with three icons: a list icon, a logo for 'Tours [logo] bylocals.com', and a question mark icon. Below the header is a button labeled 'Advanced Search'. The main search area contains a search bar with the text 'Central Park' and a magnifying glass icon. Below the search bar, the text 'Central Park New York City tours' is displayed, followed by '3 tours matched your criteria:'. Three tour results are listed in a grid format:

- Wine Tour by Susan B.** (10)  
Icon: Two wine glasses.  
Image: A cartoon character of a man with a yellow tie.  
Rating: 5 stars (yellow).  
Action: A large grey play button arrow pointing right.
- Best Food in NY... by Tom L.**  
Icon: Two wine glasses.  
Image: A cartoon character of a man with a yellow tie.  
Rating: 5 stars (yellow).  
Action: A large grey play button arrow pointing right.
- Wine Tour by Susan B.**  
Icon: Two wine glasses.  
Image: A cartoon character of a man with a yellow tie.  
Rating: 5 stars (yellow).  
Action: A large grey play button arrow pointing right.

At the bottom of the screen, there are navigation icons: a left arrow, a right arrow, a square with an upward arrow, an open book icon, and a double square icon.





The image shows a wireframe of a mobile phone with rounded corners. At the top, there's a speaker icon and a horizontal bar. On the screen, there are several UI elements:

- A small square icon on the left.
- A logo and text block in the center: "Tours [logo] bylocals.com".
- A square icon with a question mark on the right.
- A text block below the logo: "The purpose for this redesign is to make ToursByLocals' mobile site more usable and attractive to allow the company greater market access."
- A horizontal line separator.
- A text block: "Available this month:"
- A 5x7 grid calendar table showing days from Sunday to Saturday. The grid uses colors to represent availability: green for available, grey for pending, and red for unavailable. The grid looks like this:

S	M	T	W	Th	F	S
Green	Grey	Grey	Grey	Grey	Red	Green
Green	Grey	Grey	Grey	Grey	Grey	Red
Red	Grey	Grey	Grey	Grey	Red	Red
Red	Grey	Grey	Grey	Grey	Grey	Green
Red	Grey	Grey	Grey	Grey	Green	Green

- A large button at the bottom labeled "Message Guide" with a "Book Tour" button to its right, featuring a play icon.
- Navigation icons below the main button: back, forward, up, down, and search.
- A home button at the very bottom center.

 Tours [logo]  
bylocals.com 

  
Susan B.  
  
(35 reviews)

[Message Guide](#) [Write Review](#) [Bookmark The Guide](#)

Local Expert in New York City, NY, USA  
Languages: English  
Tours Given: 36  
About me:

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[!\[\]\(af70b060c7f5ad3fd9aeda2ef5aded1a\_img.jpg\)](#) [!\[\]\(b4cfdf3e141dfe7a9f943faaf35fed7e\_img.jpg\)](#) [!\[\]\(cbd03671b48369ca52254767a0035b38\_img.jpg\)](#) [!\[\]\(3b34c2562e480a11e56975539e227aae\_img.jpg\)](#) [!\[\]\(19a92605a388519ec332aa34c1f57f7a\_img.jpg\)](#)

Tours [logo]  
bylocals.com

?

ToursByLocals' mobile site more usable and attractive to allow the company greater market access.

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Tours:

  Wine Tour  
by Susan B.  
★★★★★ (10) 

  Another Tour  
by Susan B.  
★★★★★ (3) 

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Reviews:

★★★★★ 6/12/15

Jane: Susan was so amazing!

< > ⬆️ 📖 🟣

Tours [logo]  
bylocals.com

?

Guide Susan B.

Rating:

Hi! Thanks for contacting me about the Wine Tour! I see you selected Saturday November 6th. Is that true?

Translate Save Report

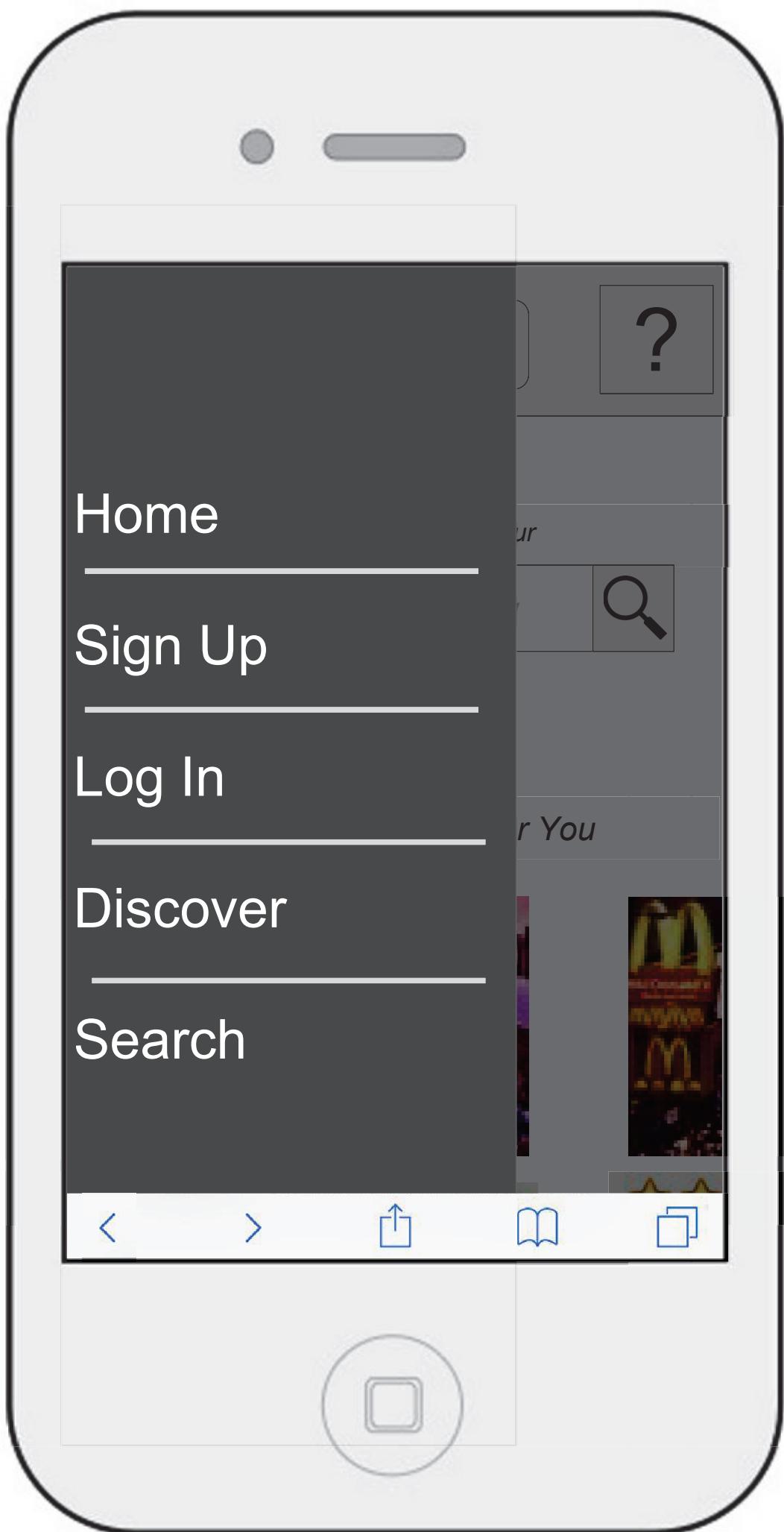
Hello Susan. Yes, I wish to taste all of the different wines. I'm tired of drinking pruno. Is the 6th still available?

Your Picture

Translate Save Report

Tap to reply

< > ⌂ ⌂ ⌂



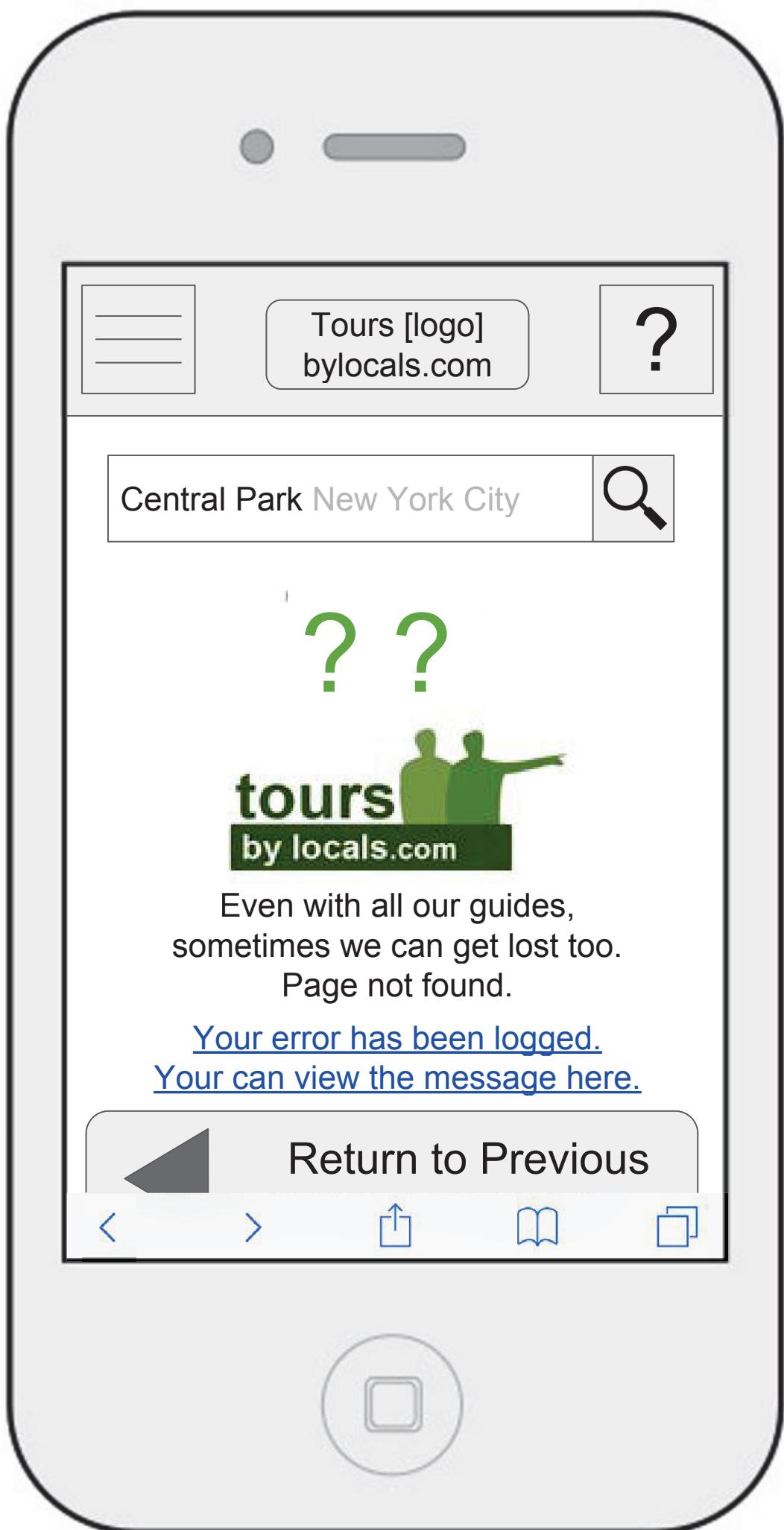
## How it Works

Help

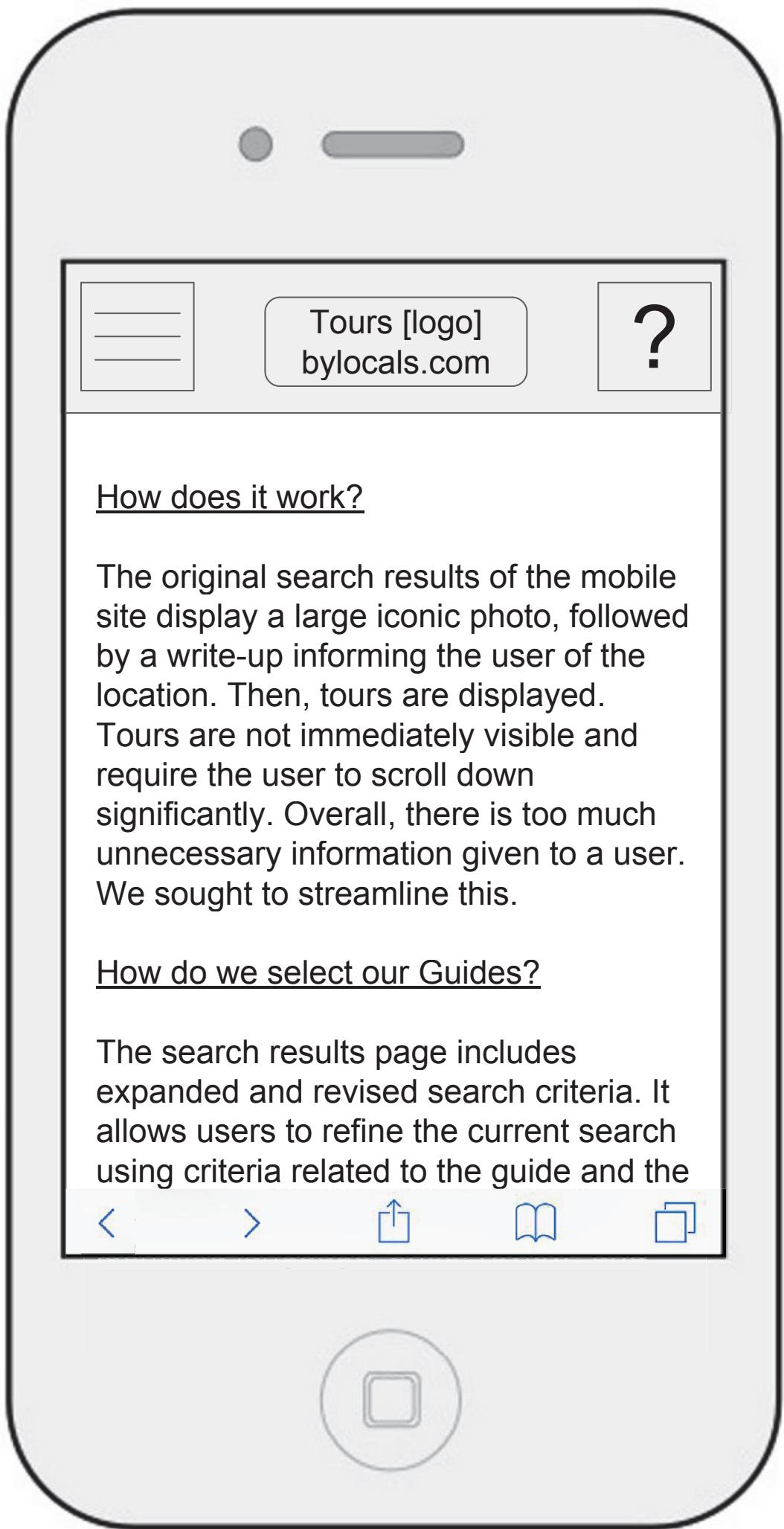
Contact Us

About Us

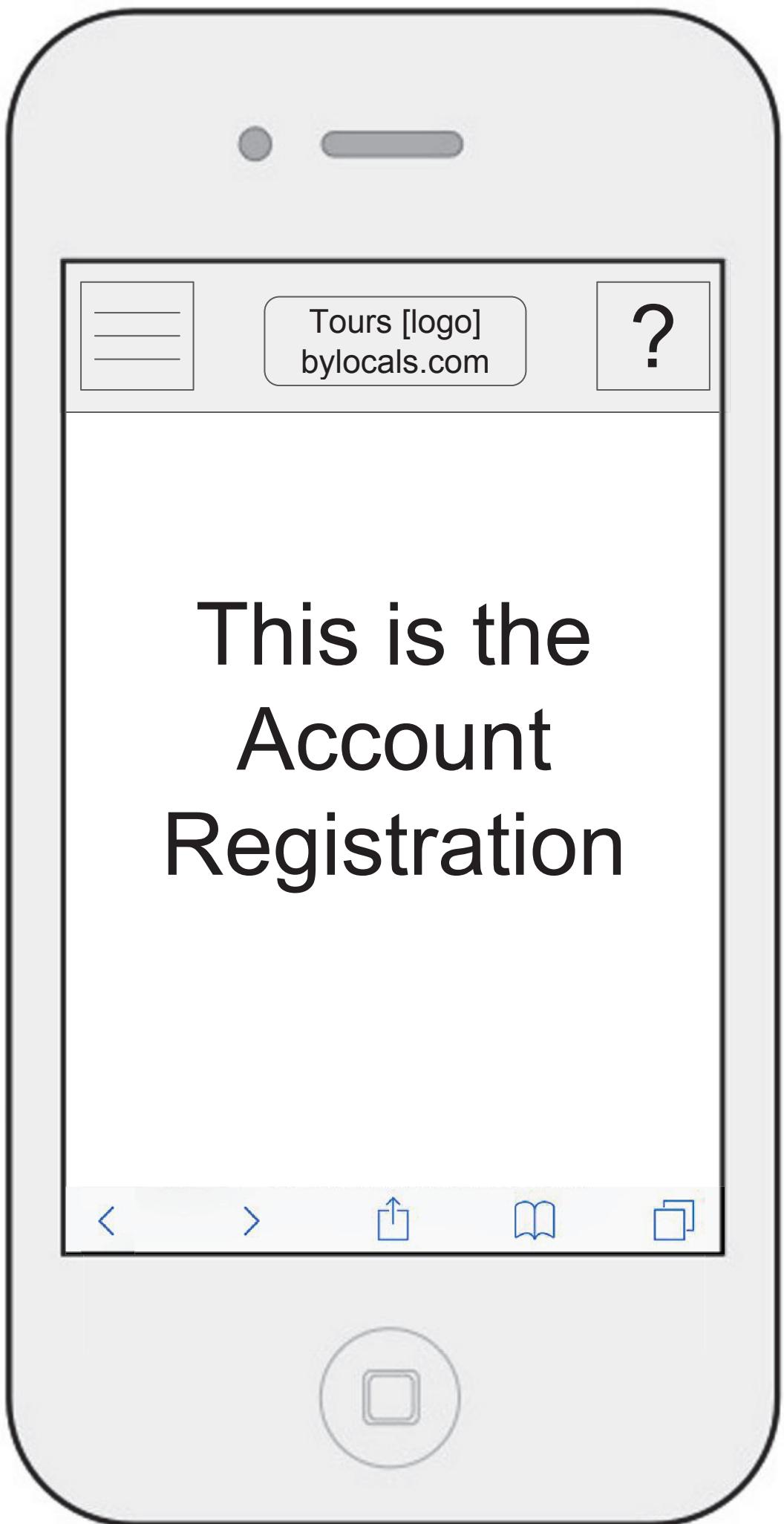


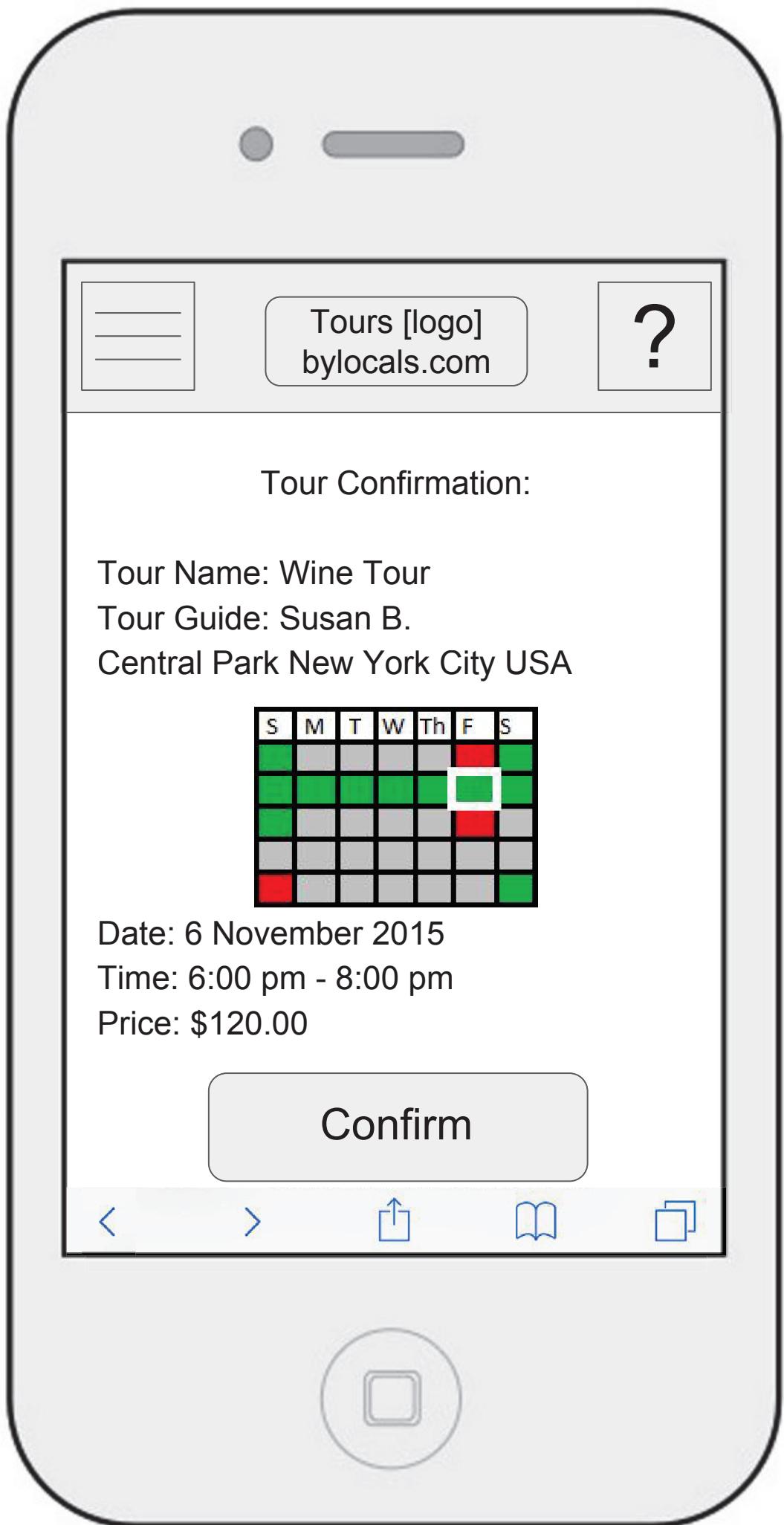












## *Appendix C – Observations*

We're in a quiet and isolated corner of a cafe near Konkuk University in Seoul, South Korea. The cafe is large and well lit with around 25 tables. We have moved from 4 different tables in order to find the quietest location in the cafe. There are approximately 4 other patrons in various locations throughout the cafe. There are two baristas situated behind the counter. The time is 10:30pm. Daniel H. (the interviewee) has just finished working and has ordered a strawberry yogurt drink. I order a grain latte. I explain to Daniel that we will be conducting a walkthrough of our primary function: booking a tour. Following this, I inform him that he will also be tasked with testing out other functions that he may want to use, such as searching help or contacting the tour guide. I inform him that I will provide information only when absolutely necessary, or clarification why a certain feature doesn't exist at the time of the walkthrough.

## *Appendix D – Transcript of Walkthrough*

[Daniel is shown the home screen]

"It looks like an app for uhh, travelling based on tours that our near you. The first thing I would click on is 'search for city or attraction'. I wouldn't search for something near me, because I assume I'm using this from home and I'm not going to need an app to tell me what to see in my hometown or home city, so I'd used the search bar."

[When asked to book the tour, Daniel gave a look of incredulity. I clarified that he should treat it like a real phone]

"Before I start, would the tour be located in the town I'm located in, or is this a future tour I want to take?"

[I tell Daniel, "yes."]

"Then I would press here, the search for city or location icon."

[the page changes]

"I would scroll up to see the different options."

[Daniel is asked what he would want to do next.]

"What would I personally search for? I would scroll up and then find something that interests me, possibly "Best Food in New York" and I would click on that button (note: the arrow button for the searched item). Once I click on the tour page, I would read the description. And then, I would book a tour. I would click on one of the available days, possibly the first... second? Friday (note: the paper prototype was printed in black & white, which led to some issues with visualizations). I would click on that and hopefully it would let me book a tour for that day."

[The screen changes]

"I would then click the confirm button and expect it to bring up a payment page."

[Daniel is asked to play around with some other features]

"I would be curious to see what other... I would be curious that there's a menu button at the top left I would click just to see what other options are available to me."

[The menu screen is given]

"So, once I'm on this page, if I'm really gonna book a tour, I would click 'sign up'. ... And this page presents me with absolutely no information [note: I explain to Daniel that we did not create an account registration screen for this

walkthrough] Fair enough. Okay, I assume that will be there and that's fine. So I would expect that once I put in the information, it would take me back to the previous screen."

[The screen changes]

"And from there, I would probably scroll through the top-rated tours near me, just to see what they have. And then I would pick one of the tours and go through the process again."

[Daniel is asked to inspect specific screens to make sure they fit with his user model. He is presented with the searched tour information page and asked to go to the tour guide page]

"I would click on the... with Susan B. I would assume Susan B. would be a hotlink to her and her profile? [screen changes to tour guide profile page] I would then click 'message the guide'."

[The screen changes to the guide message screen. Daniel studies this screen for a moment]

"And then if I had a concern about the safety I would ask her possibly for her contact information or maybe if she had any reviews that were published in another location, possibly an online magazine."

[Daniel is now asked to evaluate the options he did not need/see on his initial walkthrough, first refining his search]

"I would click on either of the triangles that say 'advanced search'. [Daniel is asked if there is enough options on the advanced search page. Daniel pauses. His eyes dart over the screen as he critiques each section.] I would, actually this seems pretty thorough. I don't see anything else I would have to add that would help me in any way."

[How would you move the page up (hide the advanced search)?]

"I would assume if you clicked it again it would go back up."

[Daniel is returned to the search results screen and seems confused. He is asked to understand the limitations of the paper prototype. He nods and proceeds and makes up a list of advanced search criteria]

"I would change the price point up to maybe \$100. Change the date to fit my schedule, and then the food and wine can be whatever."

[Would you be satisfied with this result?]

"Yeah I think everything that's been laid out, it seems very logical. The previous screen, if you touch the triangle it brings down the advanced search. If you touch it again, it brings you back to the previous screen. Everything seems to make sense."

[Daniel is now shown important pages out of order from the natural website flow for his input. First is the home screen]

"It seems pretty, it seems fine."

[Next he is shown the search results]

"Again it seems fine."

[Next he is shown tour page]

"Everything seems in the correct order. It seems fine."

[Next he is shown tour guide page]

"I think you have the main things in there. You have the 'message the guide', you can write your own review, you can bookmark the guide."

[Next he is shown the messaging the guide page]

"I actually like the 'translate this' service because with tours, you're travelling. It might not be the language you know. It's nice to have a tool that helps you speak to your guide a little bit better"

[Next he is shown the confirmation screen]

"No, it seems fine to me."

[Next, I simulate an error]

"Okay, I click on the confirm button."

[The screen changes to the error screen]

"Once I'm here I would click the 'return to previous message' or 'return to previous'."

[The screen returns to confirmation page]

"I would again try one more time just to see if it works and goes through. And confirm."

[The screen changes]

"I'm back to the error screen. So, at this point, if I got two errors in a row, I would leave the app, application and not deal with it. Two mistakes in a row is just annoying when there's too many options available."

[Next, the menu screen]

"The one thing I think is a little bit strange in here is the Discover button. If I'm new to this application, I don't, I don't know what it does. Of course you could click on it to find out. But at first glance, if I'm, if I'm going on a tour, if I'm doing something, I already have in mind what I want to do. So, I would go straight to sign up. Then, search for wherever I want. I wouldn't click Discover personally."

[Next, the help screen]

"I'm just wondering why you included a help button in there, when you already have a 'how it works'. It seems that those two are pretty similar, so I'm not sure why you have that in there."

[Finally, Daniel was asked how far of a boundary he would consider local or if the featured tours on the home screen displayed stranger options.]

"I mean I think it really depends on the city you're from. I'm from a small to mid-sized city so from where I'm from, within a 2-hour radius, I pretty much know what to do. There's not too many new things that can be available that I haven't already done. Now, if I were living in a major city, such as Austin or New York City, I would definitely use this app more, because there's more options available; more things that pop up every day. So it's really uh, based on a location. If you're in a small to mid-sized city, it's not really necessary because you know what to do. If you're in a larger city, then it's a fantastic thing."

## *Appendix E - Heuristic Evaluation Checklist*

### **1. Visibility of system status**

**The system should always keep user informed about what is going on, through appropriate feedback within reasonable time.**

#	Review Checklist	Yes	No	N/A	Comments
system status feedback:					
1.1	is there some form of system feedback for every operator action?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
1.2	if pop-up windows are used to display error messages, do they allow the user to see the field in error?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
1.3	in multipage data entry screens, is each page labeled to show its relation to others?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
1.4	are high informative contents placed in high hierarchy areas?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
1.5	All the items on a list should go on the same page: if the items are text-only and if they are sorted in an order that matches the needs of the task	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
1.6	if a list of items can be sorted according to different criteria, provide the option to sort that list according to all those criteria	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
1.7	if a list contains items that belong to different categories, provide filters for users to narrow down the number of elements that they need to inspect	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
1.8	if the list contains only one item, take the user directly to that item	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
1.9	if the list contains items that download slowly (e.g., images), split the list into multiple pages and show just one page at a time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
1.10	if an article spans several pages, use pagination at the bottom. Have a link to each individual page, rather than just to the previous and the next ones	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

location information:			
1.11	is the logo meaningful, identifiable, and sufficiently visible?	<input type="radio"/>	<input type="radio"/>
1.12	is there any link to detailed information about the enterprise, website, webmaster ... ?	<input type="radio"/>	<input type="radio"/>
1.13	are there ways of contacting with the enterprise?	<input type="radio"/>	<input type="radio"/>
1.14	in articles, news, reports ... are the author, sources, dates, and review information shown clearly?	<input type="radio"/>	<input type="radio"/>
1.15	whenever you have physical location information on your website, link it to a map and include a way of getting directions	<input type="radio"/>	<input type="radio"/>
response times:			
1.16	are response times appropriate for the users cognitive processing?	<input type="radio"/>	<input type="radio"/>
1.17	are response times appropriate for the task?	<input type="radio"/>	<input type="radio"/>
1.18	if there are observable delays (greater than fifteen seconds) in the system's response time, is the user kept informed of the system progress?	<input type="radio"/>	<input type="radio"/>
1.19	latency reduction	<input type="radio"/>	<input type="radio"/>
1.20	splash screens too long	<input type="radio"/>	<input type="radio"/>
1.21	download time: "Progress bar is preferable" and "Alternative entertainment if download time is greater than 20 seconds"	<input type="radio"/>	<input type="radio"/>
selection/input of data:			
1.22	is there visual feedback in menus or dialog boxes about which choices are selectable?	<input type="radio"/>	<input type="radio"/>
1.23	is the current status of an icon clearly indicated?	<input type="radio"/>	<input type="radio"/>

1.24	is there visual feedback when objects are selected or moved?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
1.25	are links recognizable? Is there any characterization according to the state (visited, active,)?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
1.26	low discoverability (active areas that do not look touchable): users do not know that something is touchable unless it looks as if it is	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
1.27	swiping: swiping is still less discoverable than most other ways of manipulating mobile content, so we recommended including a visible cue when people can swipe. And swipe ambiguity should be avoided: the same swipe gesture should not be used to mean different things on different areas of the same screen:	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
1.28	expandable menus should be used sparingly. Menu labels should clearly indicate that they expand to a set of options	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
presentation adaptation:			
1.29	detect if users are coming to your site on a mobile phone and direct them to your mobile site	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
1.30	include a link to your mobile site on your full site. It can direct mobile users who were not re-directed to your mobile site	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
1.31	include a link to the full site on the mobile page	<input type="radio"/> <input type="radio"/> <input type="radio"/>	

## 2. Match Between System and the Real World

The system should speak the user's language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.

#	Review Checklist	Yes	No	N/A	Comments
metaphors/mental models:					
2.1	use of metaphors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
2.2	are icons concrete and familiar?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
2.3	if shape is used as a visual cue, does it match cultural conventions?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
2.4	do the selected colours correspond to common expectations about color codes?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
navigational structure:					
2.5	if the site uses hierarchical structure, are depth and height balanced?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
2.6	navigation map, also known as site map or table of contents	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
2.7	too much navigation (TMN)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
menus:					
2.8	are menu choices ordered in the most logical way, given the user, the item names, and the task variables?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

2.9	do menu choices fit logically into categories that have readily understood meanings?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
2.10	are menu titles parallel grammatically?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
2.11	in navigation menus, are the number of items and terms by item controlled to avoid memory overload?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
simplicity:			
2.12	do related and interdependent fields appear on the same screen?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
2.13	for question and answer interfaces, are questions stated in clear, simple language?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
2.14	is the language used the same target users speak?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
2.15	is the language clear and concise?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
2.16	does the site follow the rule "1 paragraph = 1 idea"?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
output of numeric information:			
2.17	does the system automatically enter leading or trailing spaces to align decimal points?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
2.18	does the system automatically enter a dollar sign and decimal for monetary entries?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
2.19	does the system automatically enter commas in numeric values greater than 9999?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
2.20	are integers right-justified and real numbers decimal-aligned?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	

### 3. User Control and Freedom

Users should be free to select and sequence tasks (when appropriate), rather than having the system do this for them. Users often choose system functions by mistake and will need a clearly marked “emergency exit” to leave the unwanted state without having to go through an extended dialogue. Users should make their own decisions (with clear information) regarding the costs of exiting current work. The system should support undo and redo.

#	Review Checklist	Yes	No	N/A	Comments
explorable interfaces:					
3.1	can users move forward and backward between fields or dialog box options?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
3.2	if the system has multipage data entry screens, can users move backward and forward among all the pages in the set?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
3.3	if the system uses a question and answer interface, can users go back to previous questions or skip forward to later questions?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
3.4	clearly marked exits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
3.5	is the general website structure user-oriented?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
3.6	is there any way to inform user about where they are and how to undo their navigation?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
3.7	accidental activation (lack of back button)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
3.8	include navigation on the homepage of your mobile website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
some level of personalization:					

3.9	can users set their own system, session, file, and screen defaults?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
process confirmation:			
3.10	when a user's task is complete, does the system wait for a signal from the user before processing?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
3.11	are users prompted to confirm commands that have drastic, destructive consequences?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
undo/cancellation:			
3.12	can users easily reverse their actions?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
3.13	can users cancel out of operations in progress?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
menus control:			
3.14	if the system has multiple menu levels, is there a mechanism that allows users to go back to previous menus?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
3.15	are menus broad (many items on a menu) rather than deep (many menu levels)?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
3.16	if users can go back to a previous menu, can they change their earlier menu choice?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	

#### 4. Consistency and Standards

**Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.**

#	Review Checklist	Yes	No	N/A	Comments
designing consistency:					
4.1	are attention-getting techniques used with care?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
4.2	intensity: two levels only	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
4.3	color: up to four (additional colors for occasional use only)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
4.4	are there no more than four to seven colors, and are they far apart along the visible spectrum?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
4.5	sound: soft tones for regular positive feedback, harsh for rare critical conditions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
4.6	if the system has multipage data entry screens, do all pages have the same title?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
4.7	do online instructions appear in a consistent location across screens?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
4.8	have industry or company standards been established for menu design, and are they applied consistently on all menu screens in the system?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
4.9	are there no more than twelve to twenty icon types?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
4.10	has a heavy use of all uppercase letters on a screen been avoided?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
4.11	is there a consistent icon design scheme and stylistic treatment across the system?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

menus:				
4.12	are menu choice lists presented vertically?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.13	if "exit" is a menu choice, does it always appear at the bottom of the list?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.14	are menu titles either centered or left-justified?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
input fields:				
4.15	are field labels consistent from one data entry screen to another?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.16	do field labels appear to the left of single fields and above list fields?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.17	are field labels and fields distinguished typographically?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
naming convention consistency:				
4.18	is the structure of a data entry value consistent from screen to screen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.19	are system objects named consistently across all prompts in the system?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.20	are user actions named consistently across all prompts in the system?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
menu/task consistency:				
4.21	are menu choice names consistent, both within each menu and across the system, in grammatical style and terminology?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4.22	does the structure of menu choice names match their corresponding menu titles?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
4.23	does the menu structure match the task structure?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
4.24	when prompts imply a necessary action, are the words in the message consistent with that action?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
functional goals consistency:			
4.25	where are the website goals? Are they well defined? Do content and services delivered match these goals?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
4.26	does the look & feel correspond with goals, characteristics, contents and services of the website?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
4.27	is the website being updated frequently?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
system response consistency:			
4.28	is system response after clicking links predictable?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
4.29	are nowhere links avoided?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
4.30	are orphan pages avoided?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
orientation:			
4.31	about constraining orientation: users tend to switch orientation when an impasse occurs and, if the application does not support them, their flow is going to be disrupted, and they are going to wonder why it is not working	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
4.32	navigation (horizontal and vertical) must be consistent across orientations. Some applications use a different navigation direction in the two orientations; for instance, they use horizontal navigation in landscape and use vertical navigation in portrait	<input type="radio"/> <input type="radio"/> <input type="radio"/>	

4.33	inconsistent content across orientations: “Same content,” “Keep location,” and “If a feature is only available in one orientation, inform users”	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
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## 5. Error Prevention

**Even better than good error messages is a careful design which prevents a problem from occurring in the first place.**

#	Review Checklist	Yes	No	N/A	Comments
error prevention:					
5.1	are menu choices logical, distinctive, and mutually exclusive?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
5.2	are data inputs case-blind whenever possible?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
5.3	does the system warn users if they are about to make a potentially serious error?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
5.4	do data entry screens and dialog boxes indicate the number of character spaces available in a field?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
5.5	do fields in data entry screens and dialog boxes contain default values when appropriate?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
5.6	accidental activation (lack of back button)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
fat-finger syndrome:					
5.7	touchable areas are too small. Research has shown that the best target size for widgets is 1 cm × 1 cm for touch devices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
5.8	crowding targets: another fat-finger issue that we encountered frequently is placing targets too close to each other. When targets are placed too close to each other, users can easily hit the wrong one	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
5.9	padding: although the visible part of the target may be small, there is some invisible target space that if a user hits that space, their tap will still count	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

5.10	when several items are listed in columns, one on top of another (see the time example below), users expect to be able to hit anywhere in the row to select the target corresponding to that row. Whenever a design does not fulfil that expectation, it is disconcerting for users	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
5.11	do not make users download software that is inappropriate for their phone	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
5.12	JavaScript and Flash do not work on many phones; do not use them	<input type="radio"/> <input type="radio"/> <input type="radio"/>	

## 6. Recognition rather than recall

**Make objects, actions, and options visible.** The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.

#	Review Checklist	Yes	No	N/A	Comments
memory load reduction:					
6.1	high levels of concentration are not necessary and remembering information is not required: two to fifteen seconds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
6.2	are all data a user needs on display at each step in a transaction sequence?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
6.3	if users have to navigate between multiple screens, does the system use context labels, menu maps, and place markers as navigational aids?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
6.4	after the user completes an action (or group of actions), does the feedback indicate that the next group of actions can be started?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
6.5	are optional data entry fields clearly marked?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
6.6	do data entry screens and dialog boxes indicate when fields are optional?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
6.7	is page length controlled?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
6.8	the task flow should start with actions that are essential to the main task. Users should be able to start the task as soon as possible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
6.9	the controls that are related to a task should be grouped together and reflect the sequence of actions in the task	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

general visual cues:			
6.10	for question and answer interfaces, are visual cues and white space used to distinguish questions, prompts, instructions, and user input?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
6.11	does the data display start in the upper-left corner of the screen?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
6.12	have prompts been formatted using white space, justification, and visual cues for easy scanning?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
6.13	do text areas have “breathing space” around them?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
6.14	are there “white” areas between informational objects for visual relaxation?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
6.15	does the system provide visibility; that is, by looking, can the user tell the state of the system and the alternatives for action?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
6.16	is size, boldface, underlining, colour, shading, or typography used to show relative quantity or importance of different screen items?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
6.17	is colour used in conjunction with some other redundant cue?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
6.18	is there good colour and brightness contrast between image and background colours?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
6.19	have light, bright, saturated colours been used to emphasize data and have darker, duller, and desaturated colours been used to de-emphasize data?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
6.20	is the visual page space well used?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
input/output data:			

6.21	on data entry screens and dialog boxes, are dependent fields displayed only when necessary?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
6.22	are field labels close to fields, but separated by at least one space?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
menus:			
6.23	is the first word of each menu choice the most important?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
6.24	are inactive menu items grayed out or omitted?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
6.25	are there menu selection defaults?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
6.26	is there an obvious visual distinction made between “choose one” menu and “choose many” menus?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
navigation:			
6.27	use breadcrumbs on sites with a deep navigation structure (many navigation branches). Do not use breadcrumbs on sites with shallow navigation structures	<input type="radio"/> <input type="radio"/> <input type="radio"/>	

## 7. Flexibility and efficiency of use

Accelerators -- unseen by the novice user -- may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.

#	Review Checklist	Yes	No	N/A	Comments
search:					
7.1	is the searching box easily accessible?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
7.2	is the searching box easily recognizable?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
7.3	is there any advanced search option?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
7.4	are search results shown in a comprehensive manner to the user?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
7.5	is the box width appropriated?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
7.6	is the user assisted if the search results are impossible to calculate?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
7.7	a search box and navigation should be present on the homepage if your website is designed for smartphones and touch phones	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
7.8	the length of the search box should be at least the size of the average search string. We recommend going for the largest possible size that will fit on the screen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
7.9	preserve search strings between searches. Use autocompletion and suggestions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
7.10	do not use several search boxes with different functionalities on the same page	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

7.11	if the search returns zero results, offer some alternative searches or a link to the search results on the full page	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
navigation:			
7.12	use links with good information scent (i.e., links which clearly indicate where they take the users) on your mobile pages	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
7.13	use links to related content to help the user navigate more quickly between similar topics	<input type="radio"/> <input type="radio"/> <input type="radio"/>	

## 8. Aesthetic and minimalist design

**Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.**

#	Review Checklist	Yes	No	N/A	Comments
8.1	Fitt's Law: the time to acquire a target is a function of the distance to and size of the target;	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
8.2	is only (and all) information essential to decision making displayed on the screen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
8.3	are field labels brief, familiar, and descriptive?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
8.4	are prompts expressed in the affirmative, and do they use the active voice?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
8.5	is layout clearly designed avoiding visual noise?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
8.6	recognizable application icons to be found in the crowded list of applications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
mu7ltimedia content:					
8.8	does the use of images and multimedia content add value?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
8.9	are images well sized? Are they understandable? Is the resolution appropriate?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
8.10	are cyclical animations avoided?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
8.11	getting rid of Flash content	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
8.12	carousels: avoid using animated carousels, but if they must be used, users should be able to control them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

8.13	do not use image sizes that are bigger than the screen. The entire image should be viewable with no scrolling	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
8.14	for cases where customers are likely to need access to a higher resolution picture, initially display a screen-size picture and add a separate link to a higher resolution variant	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
8.15	when you use thumbnails, make sure the user can distinguish what the picture is about	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
8.16	use captions for images that are part of an article if their meaning is not clear from the context of the article	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
8.17	do not use moving animation	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
8.18	if you have videos on your site, offer a textual description of what the video is about	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
8.19	clicking on the thumbnail and clicking on the video title should both play the video	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
8.20	indicate video length	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
8.21	specify if the video cannot be played on the user's device	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
8.22	use the whole screen surface to place information efficiently: "Popovers for displaying information restricts size of frame where information will be shown" and "Small modal views present the same size constraints";	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
icons:			
8.23	has excessive detail in icon design been avoided?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
8.24	is each individual icon a harmonious member of a family of icons?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
8.25	does each icon stand out from its background?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	

8.26	are all icons in a set visually and conceptually distinct?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
menus:			
8.27	is each lower-level menu choice associated with only one higher level menu?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
8.28	are menu titles brief, yet long enough to communicate?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
orientation:			
8.29	desktop websites have a strong guideline to avoid horizontal scrolling. But for touch screens, horizontal swipes are often fine	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
navigation:			
8.30	do not replicate a large number of persistent navigation options across all pages of a mobile site	<input type="radio"/> <input type="radio"/> <input type="radio"/>	

**9. Help users recognize, diagnose, and recover from errors**

Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.

#	Review Checklist	Yes	No	N/A	Comments
9.1	To signal an input error in a form, mark the textbox that needs to be changed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

## 10. Help and documentation

Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.

#	Review Checklist	Yes	No	N/A	Comments
10.1	are online instructions visually distinct?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
10.2	do the instructions follow the sequence of user actions?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
10.3	if menu choices are ambiguous, does the system provide additional explanatory information when an item is selected?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
10.4	if menu items are ambiguous, does the system provide additional explanatory information when an item is selected?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
10.5	is the help function visible, for example, a key labeled HELP or a special menu?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
10.6	is the help system interface (navigation, presentation, and conversation) consistent with the navigation, presentation, and conversation interfaces of the application it supports?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
10.7	navigation: is information easy to find?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
10.8	presentation: is the visual layout well designed?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
10.9	conversation: is the information accurate, complete, and understandable?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
10.10	is the information relevant? It should be relevant in the following aspects:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

10.11	goal-oriented (what can I do with this program?)	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
10.12	descriptive (what is this thing for?)	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
10.13	procedural (how do I do this task?)	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
10.14	interpretive (why did that happen?)	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
10.15	navigational (where am I?)	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
10.16	is there context-sensitive help?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
10.17	can the user change the level of detail available?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
10.18	can users easily switch between help and their work?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
10.19	is it easy to access and return from the help system?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
10.20	can users resume work where they left off after accessing help?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
10.21	if a FAQs section exists, are the selection and redaction of questions and answers correct?	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
10.22	focus on one single feature at a time. Present only those instructions that are necessary for the user to get started	<input type="radio"/> <input type="radio"/> <input type="radio"/>	

## 11. Skills

The system should support, extend, supplement, or enhance the user's skills, background knowledge, and expertise ---not replace them.

#	Review Checklist	Yes	No	N/A	Comments
11.1	do not use the word "default" in an application or service; replace it with "Standard," "Use Customary Settings," "Restore Initial Settings," or some other more specific terms describing what will actually happen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
11.2	if the system supports both novice and expert users, are multiple levels of error message detail available?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
11.3	if the system supports both novice and expert users, are multiple levels of detail available?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
11.4	are users the initiators of actions rather than the responders?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
11.5	do the selected input device(s) match user capabilities?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
11.6	are important keys (e.g., ENTER, TAB) larger than other keys?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
11.7	does the system correctly anticipate and prompt for the user's probable next activity?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

## 12. Pleasurable and Respectful Interaction with the User

The user's interactions with the system should enhance the quality of her or his work-life. The user should be treated with respect. The design should be aesthetically pleasing- with artistic as well as functional value.

#	Review Checklist	Yes	No	N/A	Comments
12.1	protect users' work, also as "For data entry screens with many fields or in which source documents may be incomplete, can users save a partially filled screen?"	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
12.2	do the selected input device(s) match environmental constraints?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
12.3	are typing requirements minimal for question and answer interfaces?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
12.4	does the system complete unambiguous partial input on a data entry field?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
input data:					
12.5	users dislike typing. Compute information for the users. For instance, ask only for the zip code and calculate state and town; possibly offer a list of towns if there are more under the same zip code	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
12.6	be tolerant of typos and offer corrections. Do not make users type in complete information. For example, accept "123 Main" instead of "123 Main St."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
12.7	save history and allow users to select previously typed information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
12.8	use defaults that make sense to the user	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
12.9	If the application does not store any information that is sensitive (e.g., credit card), then the user should definitely be kept logged in (log out clearly presented)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

12.10	minimize the number of submissions (and clicks) that the user needs to go through in order to input information on your site	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
12.11	When logging in must be done, use graphical passwords at least some of the time, to get around typing	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
12.12	Do not ask people to register on a mobile phone; skipping registration should be the default option	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
12.13	When logging in must be done, have an option that allows the user to see the password clearly	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
shopping:			
12.14	when you present a list of products, use image thumbnails that are big enough for the user to get some information out of them	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
12.15	on a product page, use an image size that fits the screen. Add a Link to a higher resolution image when the product requires closer inspection	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
12.16	offer the option to email a product to a friend	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
12.17	offer the option to save the product in a wish list	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
12.18	on an e-commerce site, include salient links on the homepage to the following information: locations and opening hours (if applicable), shipping cost, phone number, order status, and occasion-based promotions or products	<input type="radio"/> <input type="radio"/> <input type="radio"/>	
banking and transactions:			
12.19	whenever users conduct transactions on the phone, allow them to save confirmation numbers for that transaction by emailing themselves. If the phone has an embedded screen-capture feature, show them how to take a picture of their screen	<input type="radio"/> <input type="radio"/> <input type="radio"/>	

### 13. Privacy

The system should help the user to protect personal or private information- belonging to the user or the his/her clients.

#	Review Checklist	Yes	No	N/A	Comments
13.1	are protected areas completely inaccessible?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
13.2	can protected or confidential areas be accessed with certain passwords	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
13.3	is there information about how personal data is protected and about contents copyright?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
13.4	for multiuser devices, avoid being permanently signed in on an application	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
13.5	If the application does store credit card information, it should allow users to decide if they want to remain logged in. Ideally, when the user opts to be kept logged in, he/she should get a message informing of the possible risks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

## *Appendix F - Completed Heuristic Evaluation Checklists*

### **1. Visibility of system status**

**The system should always keep user informed about what is going on, through appropriate feedback within reasonable time.**

#	Review Checklist	Yes	No	N/A	Comments
system status feedback:					
1.1	is there some form of system feedback for every operator action?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
1.2	if pop-up windows are used to display error messages, do they allow the user to see the field in error?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
1.3	in multipage data entry screens, is each page labeled to show its relation to others?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
1.4	are high informative contents placed in high hierarchy areas?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
1.5	All the items on a list should go on the same page: if the items are text-only and if they are sorted in an order that matches the needs of the task	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
1.6	if a list of items can be sorted according to different criteria, provide the option to sort that list according to all those criteria	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
1.7	if a list contains items that belong to different categories, provide filters for users to narrow down the number of elements that they need to inspect	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
1.8	if the list contains only one item, take the user directly to that item	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	
1.9	if the list contains items that download slowly (e.g., images), split the list into multiple pages and show just one page at a time	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	
1.10	if an article spans several pages, use pagination at the bottom. Have a link to each individual page, rather than just to the previous and the next ones	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	

location information:				
1.11	is the logo meaningful, identifiable, and sufficiently visible?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
1.12	is there any link to detailed information about the enterprise, website, webmaster ... ?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
1.13	are there ways of contacting with the enterprise?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
1.14	in articles, news, reports ... are the author, sources, dates, and review information shown clearly?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
1.15	whenever you have physical location information on your website, link it to a map and include a way of getting directions	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>
response times:				
1.16	are response times appropriate for the users cognitive processing?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>
1.17	are response times appropriate for the task?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>
1.18	if there are observable delays (greater than fifteen seconds) in the system's response time, is the user kept informed of the system progress?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>
1.19	latency reduction	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>
1.20	splash screens too long	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>
1.21	download time: "Progress bar is preferable" and "Alternative entertainment if download time is greater than 20 seconds"	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>
selection/input of data:				
1.22	is there visual feedback in menus or dialog boxes about which choices are selectable?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
1.23	is the current status of an icon clearly indicated?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>

1.24	is there visual feedback when objects are selected or moved?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
1.25	are links recognizable? Is there any characterization according to the state (visited, active,)?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
1.26	low discoverability (active areas that do not look touchable): users do not know that something is touchable unless it looks as if it is	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
1.27	swiping: swiping is still less discoverable than most other ways of manipulating mobile content, so we recommended including a visible cue when people can swipe. And swipe ambiguity should be avoided: the same swipe gesture should not be used to mean different things on different areas of the same screen:	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
1.28	expandable menus should be used sparingly. Menu labels should clearly indicate that they expand to a set of options	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
presentation adaptation:			
1.29	detect if users are coming to your site on a mobile phone and direct them to your mobile site	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
1.30	include a link to your mobile site on your full site. It can direct mobile users who were not re-directed to your mobile site	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
1.31	include a link to the full site on the mobile page	<input type="radio"/> <input checked="" type="checkbox"/> <input type="radio"/>	

## 2. Match Between System and the Real World

The system should speak the user's language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.

#	Review Checklist	Yes	No	N/A	Comments
metaphors/mental models:					
2.1	use of metaphors	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
2.2	are icons concrete and familiar?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
2.3	if shape is used as a visual cue, does it match cultural conventions?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
2.4	do the selected colours correspond to common expectations about color codes?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
navigational structure:					
2.5	if the site uses hierarchical structure, are depth and height balanced?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
2.6	navigation map, also known as site map or table of contents	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	
2.7	too much navigation (TMN)	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	
menus:					
2.8	are menu choices ordered in the most logical way, given the user, the item names, and the task variables?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	

2.9	do menu choices fit logically into categories that have readily understood meanings?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
2.10	are menu titles parallel grammatically?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
2.11	in navigation menus, are the number of items and terms by item controlled to avoid memory overload?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
simplicity:			
2.12	do related and interdependent fields appear on the same screen?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
2.13	for question and answer interfaces, are questions stated in clear, simple language?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
2.14	is the language used the same target users speak?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
2.15	is the language clear and concise?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
2.16	does the site follow the rule "1 paragraph = 1 idea"?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
output of numeric information:			
2.17	does the system automatically enter leading or trailing spaces to align decimal points?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
2.18	does the system automatically enter a dollar sign and decimal for monetary entries?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
2.19	does the system automatically enter commas in numeric values greater than 9999?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
2.20	are integers right-justified and real numbers decimal-aligned?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	

### 3. User Control and Freedom

**Users should be free to select and sequence tasks (when appropriate), rather than having the system do this for them. Users often choose system functions by mistake and will need a clearly marked “emergency exit” to leave the unwanted state without having to go through an extended dialogue. Users should make their own decisions (with clear information) regarding the costs of exiting current work. The system should support undo and redo.**

#	Review Checklist	Yes	No	N/A	Comments
explorable interfaces:					
3.1	can users move forward and backward between fields or dialog box options?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
3.2	if the system has multipage data entry screens, can users move backward and forward among all the pages in the set?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
3.3	if the system uses a question and answer interface, can users go back to previous questions or skip forward to later questions?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
3.4	clearly marked exits	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
3.5	is the general website structure user-oriented?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
3.6	is there any way to inform user about where they are and how to undo their navigation?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
3.7	accidental activation (lack of back button)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
3.8	include navigation on the homepage of your mobile website	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
some level of personalization:					

3.9	can users set their own system, session, file, and screen defaults?	<input type="radio"/> <input checked="" type="radio"/> <input type="radio"/>	
process confirmation:			
3.10	when a user's task is complete, does the system wait for a signal from the user before processing?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
3.11	are users prompted to confirm commands that have drastic, destructive consequences?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
undo/cancellation:			
3.12	can users easily reverse their actions?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
3.13	can users cancel out of operations in progress?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
menus control:			
3.14	if the system has multiple menu levels, is there a mechanism that allows users to go back to previous menus?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
3.15	are menus broad (many items on a menu) rather than deep (many menu levels)?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
3.16	if users can go back to a previous menu, can they change their earlier menu choice?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	

#### 4. Consistency and Standards

**Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.**

#	Review Checklist	Yes	No	N/A	Comments
designing consistency:					
4.1	are attention-getting techniques used with care?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
4.2	intensity: two levels only	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
4.3	color: up to four (additional colors for occasional use only)	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
4.4	are there no more than four to seven colors, and are they far apart along the visible spectrum?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
4.5	sound: soft tones for regular positive feedback, harsh for rare critical conditions	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
4.6	if the system has multipage data entry screens, do all pages have the same title?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
4.7	do online instructions appear in a consistent location across screens?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
4.8	have industry or company standards been established for menu design, and are they applied consistently on all menu screens in the system?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
4.9	are there no more than twelve to twenty icon types?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
4.10	has a heavy use of all uppercase letters on a screen been avoided?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
4.11	is there a consistent icon design scheme and stylistic treatment across the system?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	

menus:				
4.12	are menu choice lists presented vertically?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
4.13	if "exit" is a menu choice, does it always appear at the bottom of the list?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>
4.14	are menu titles either centered or left-justified?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
input fields:				
4.15	are field labels consistent from one data entry screen to another?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
4.16	do field labels appear to the left of single fields and above list fields?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
4.17	are field labels and fields distinguished typographically?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
naming convention consistency:				
4.18	is the structure of a data entry value consistent from screen to screen?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
4.19	are system objects named consistently across all prompts in the system?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
4.20	are user actions named consistently across all prompts in the system?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
menu/task consistency:				
4.21	are menu choice names consistent, both within each menu and across the system, in grammatical style and terminology?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>

4.22	does the structure of menu choice names match their corresponding menu titles?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
4.23	does the menu structure match the task structure?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
4.24	when prompts imply a necessary action, are the words in the message consistent with that action?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
functional goals consistency:			
4.25	where are the website goals? Are they well defined? Do content and services delivered match these goals?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
4.26	does the look & feel correspond with goals, characteristics, contents and services of the website?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
4.27	is the website being updated frequently?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
system response consistency:			
4.28	is system response after clicking links predictable?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
4.29	are nowhere links avoided?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
4.30	are orphan pages avoided?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
orientation:			
4.31	about constraining orientation: users tend to switch orientation when an impasse occurs and, if the application does not support them, their flow is going to be disrupted, and they are going to wonder why it is not working	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
4.32	navigation (horizontal and vertical) must be consistent across orientations. Some applications use a different navigation direction in the two orientations; for instance, they use horizontal navigation in landscape and use vertical navigation in portrait	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	

4.33	inconsistent content across orientations: “Same content,” “Keep location,” and “If a feature is only available in one orientation, inform users”	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
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## 5. Error Prevention

**Even better than good error messages is a careful design which prevents a problem from occurring in the first place.**

#	Review Checklist	Yes	No	N/A	Comments
error prevention:					
5.1	are menu choices logical, distinctive, and mutually exclusive?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
5.2	are data inputs case-blind whenever possible?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
5.3	does the system warn users if they are about to make a potentially serious error?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
5.4	do data entry screens and dialog boxes indicate the number of character spaces available in a field?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
5.5	do fields in data entry screens and dialog boxes contain default values when appropriate?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
5.6	accidental activation (lack of back button)	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	
fat-finger syndrome:					
5.7	touchable areas are too small. Research has shown that the best target size for widgets is 1 cm × 1 cm for touch devices	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	some data entry very small, could use buttons
5.8	crowding targets: another fat-finger issue that we encountered frequently is placing targets too close to each other. When targets are placed too close to each other, users can easily hit the wrong one	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	
5.9	padding: although the visible part of the target may be small, there is some invisible target space that if a user hits that space, their tap will still count	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	

5.10	when several items are listed in columns, one on top of another (see the time example below), users expect to be able to hit anywhere in the row to select the target corresponding to that row. Whenever a design does not fulfil that expectation, it is disconcerting for users	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/>	
5.11	do not make users download software that is inappropriate for their phone	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
5.12	JavaScript and Flash do not work on many phones; do not use them	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/>	

## 6. Recognition rather than recall

**Make objects, actions, and options visible.** The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.

#	Review Checklist	Yes	No	N/A	Comments
memory load reduction:					
6.1	high levels of concentration are not necessary and remembering information is not required: two to fifteen seconds	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
6.2	are all data a user needs on display at each step in a transaction sequence?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
6.3	if users have to navigate between multiple screens, does the system use context labels, menu maps, and place markers as navigational aids?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
6.4	after the user completes an action (or group of actions), does the feedback indicate that the next group of actions can be started?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
6.5	are optional data entry fields clearly marked?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
6.6	do data entry screens and dialog boxes indicate when fields are optional?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
6.7	is page length controlled?	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	
6.8	the task flow should start with actions that are essential to the main task. Users should be able to start the task as soon as possible	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
6.9	the controls that are related to a task should be grouped together and reflect the sequence of actions in the task	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	

general visual cues:

6.10	for question and answer interfaces, are visual cues and white space used to distinguish questions, prompts, instructions, and user input?	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/>	
6.11	does the data display start in the upper-left corner of the screen?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
6.12	have prompts been formatted using white space, justification, and visual cues for easy scanning?	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/>	
6.13	do text areas have “breathing space” around them?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
6.14	are there “white” areas between informational objects for visual relaxation?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
6.15	does the system provide visibility; that is, by looking, can the user tell the state of the system and the alternatives for action?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
6.16	is size, boldface, underlining, colour, shading, or typography used to show relative quantity or importance of different screen items?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
6.17	is colour used in conjunction with some other redundant cue?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
6.18	is there good colour and brightness contrast between image and background colours?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
6.19	have light, bright, saturated colours been used to emphasize data and have darker, duller, and desaturated colours been used to de-emphasize data?	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/>	
6.20	is the visual page space well used?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
input/output data:			

6.21	on data entry screens and dialog boxes, are dependent fields displayed only when necessary?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
6.22	are field labels close to fields, but separated by at least one space?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
menus:			
6.23	is the first word of each menu choice the most important?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
6.24	are inactive menu items grayed out or omitted?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
6.25	are there menu selection defaults?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
6.26	is there an obvious visual distinction made between "choose one" menu and "choose many" menus?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
navigation:			
6.27	use breadcrumbs on sites with a deep navigation structure (many navigation branches). Do not use breadcrumbs on sites with shallow navigation structures	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	

## 7. Flexibility and efficiency of use

**Accelerators -- unseen by the novice user -- may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.**

#	Review Checklist	Yes	No	N/A	Comments
search:					
7.1	is the searching box easily accessible?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
7.2	is the searching box easily recognizable?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
7.3	is there any advanced search option?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
7.4	are search results shown in a comprehensive manner to the user?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
7.5	is the box width appropriated?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
7.6	is the user assisted if the search results are impossible to calculate?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
7.7	a search box and navigation should be present on the homepage if your website is designed for smartphones and touch phones	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
7.8	the length of the search box should be at least the size of the average search string. We recommend going for the largest possible size that will fit on the screen	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
7.9	preserve search strings between searches. Use autocompletion and suggestions	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
7.10	do not use several search boxes with different functionalities on the same page	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	

7.11	if the search returns zero results, offer some alternative searches or a link to the search results on the full page	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/>	
navigation:			
7.12	use links with good information scent (i.e., links which clearly indicate where they take the users) on your mobile pages	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
7.13	use links to related content to help the user navigate more quickly between similar topics	<input type="radio"/> <input checked="" type="checkbox"/> <input type="radio"/>	could get cluttered, user can navigate back if they want

## 8. Aesthetic and minimalist design

**Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.**

#	Review Checklist	Yes	No	N/A	Comments
8.1	Fitt's Law: the time to acquire a target is a function of the distance to and size of the target;	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
8.2	is only (and all) information essential to decision making displayed on the screen?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
8.3	are field labels brief, familiar, and descriptive?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
8.4	are prompts expressed in the affirmative, and do they use the active voice?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
8.5	is layout clearly designed avoiding visual noise?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
8.6	recognizable application icons to be found in the crowded list of applications	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
mu7ltimedia content:					
8.8	does the use of images and multimedia content add value?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
8.9	are images well sized? Are they understandable? Is the resolution appropriate?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
8.10	are cyclical animations avoided?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
8.11	getting rid of Flash content	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
8.12	carousels: avoid using animated carousels, but if they must be used, users should be able to control them	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	

8.13	do not use image sizes that are bigger than the screen. The entire image should be viewable with no scrolling	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
8.14	for cases where customers are likely to need access to a higher resolution picture, initially display a screen-size picture and add a separate link to a higher resolution variant	<input type="radio"/> <input checked="" type="checkbox"/> <input type="radio"/>	we should add this feature
8.15	when you use thumbnails, make sure the user can distinguish what the picture is about	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
8.16	use captions for images that are part of an article if their meaning is not clear from the context of the article	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
8.17	do not use moving animation	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
8.18	if you have videos on your site, offer a textual description of what the video is about	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
8.19	clicking on the thumbnail and clicking on the video title should both play the video	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
8.20	indicate video length	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
8.21	specify if the video cannot be played on the user's device	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
8.22	use the whole screen surface to place information efficiently: "Popovers for displaying information restricts size of frame where information will be shown" and "Small modal views present the same size constraints";	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
icons:			
8.23	has excessive detail in icon design been avoided?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
8.24	is each individual icon a harmonious member of a family of icons?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
8.25	does each icon stand out from its background?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	

8.26	are all icons in a set visually and conceptually distinct?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
menus:					
8.27	is each lower-level menu choice associated with only one higher level menu?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
8.28	are menu titles brief, yet long enough to communicate?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
orientation:					
8.29	desktop websites have a strong guideline to avoid horizontal scrolling. But for touch screens, horizontal swipes are often fine	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
navigation:					
8.30	do not replicate a large number of persistent navigation options across all pages of a mobile site	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	

## **9. Help users recognize, diagnose, and recover from errors**

**Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.**

#	Review Checklist	Yes	No	N/A	Comments
9.1	To signal an input error in a form, mark the textbox that needs to be changed	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	

## 10. Help and documentation

Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.

#	Review Checklist	Yes	No	N/A	Comments
10.1	are online instructions visually distinct?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
10.2	do the instructions follow the sequence of user actions?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
10.3	if menu choices are ambiguous, does the system provide additional explanatory information when an item is selected?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
10.4	if menu items are ambiguous, does the system provide additional explanatory information when an item is selected?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
10.5	is the help function visible, for example, a key labeled HELP or a special menu?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
10.6	is the help system interface (navigation, presentation, and conversation) consistent with the navigation, presentation, and conversation interfaces of the application it supports?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
10.7	navigation: is information easy to find?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
10.8	presentation: is the visual layout well designed?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
10.9	conversation: is the information accurate, complete, and understandable?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
10.10	is the information relevant? It should be relevant in the following aspects:	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	

10.11	goal-oriented (what can I do with this program?)	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
10.12	descriptive (what is this thing for?)	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
10.13	procedural (how do I do this task?)	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
10.14	interpretive (why did that happen?)	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
10.15	navigational (where am I?)	<input type="radio"/> <input checked="" type="checkbox"/> <input type="radio"/>	
10.16	is there context-sensitive help?	<input type="radio"/> <input checked="" type="checkbox"/> <input type="radio"/>	first time user button?
10.17	can the user change the level of detail available?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
10.18	can users easily switch between help and their work?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
10.19	is it easy to access and return from the help system?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
10.20	can users resume work where they left off after accessing help?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
10.21	if a FAQs section exists, are the selection and redaction of questions and answers correct?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
10.22	focus on one single feature at a time. Present only those instructions that are necessary for the user to get started	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	

## 11. Skills

The system should support, extend, supplement, or enhance the user's skills, background knowledge, and expertise ---not replace them.

#	Review Checklist	Yes	No	N/A	Comments
11.1	do not use the word "default" in an application or service; replace it with "Standard," "Use Customary Settings," "Restore Initial Settings," or some other more specific terms describing what will actually happen	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
11.2	if the system supports both novice and expert users, are multiple levels of error message detail available?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
11.3	if the system supports both novice and expert users, are multiple levels of detail available?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
11.4	are users the initiators of actions rather than the responders?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
11.5	do the selected input device(s) match user capabilities?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
11.6	are important keys (e.g., ENTER, TAB) larger than other keys?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
11.7	does the system correctly anticipate and prompt for the user's probable next activity?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	

## 12. Pleasurable and Respectful Interaction with the User

The user's interactions with the system should enhance the quality of her or his work-life. The user should be treated with respect. The design should be aesthetically pleasing- with artistic as well as functional value.

#	Review Checklist	Yes	No	N/A	Comments
12.1	protect users' work, also as "For data entry screens with many fields or in which source documents may be incomplete, can users save a partially filled screen?"	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
12.2	do the selected input device(s) match environmental constraints?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
12.3	are typing requirements minimal for question and answer interfaces?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
12.4	does the system complete unambiguous partial input on a data entry field?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
input data:					
12.5	users dislike typing. Compute information for the users. For instance, ask only for the zip code and calculate state and town; possibly offer a list of towns if there are more under the same zip code	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
12.6	be tolerant of typos and offer corrections. Do not make users type in complete information. For example, accept "123 Main" instead of "123 Main St."	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
12.7	save history and allow users to select previously typed information	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
12.8	use defaults that make sense to the user	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
12.9	If the application does not store any information that is sensitive (e.g., credit card), then the user should definitely be kept logged in (log out clearly presented)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	

12.10	minimize the number of submissions (and clicks) that the user needs to go through in order to input information on your site	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
12.11	When logging in must be done, use graphical passwords at least some of the time, to get around typing	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
12.12	Do not ask people to register on a mobile phone; skipping registration should be the default option	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
12.13	When logging in must be done, have an option that allows the user to see the password clearly	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
shopping:			
12.14	when you present a list of products, use image thumbnails that are big enough for the user to get some information out of them	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
12.15	on a product page, use an image size that fits the screen. Add a Link to a higher resolution image when the product requires closer inspection	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
12.16	offer the option to email a product to a friend	<input type="radio"/> <input checked="" type="checkbox"/> <input type="radio"/>	
12.17	offer the option to save the product in a wish list	<input type="radio"/> <input checked="" type="checkbox"/> <input type="radio"/>	
12.18	on an e-commerce site, include salient links on the homepage to the following information: locations and opening hours (if applicable), shipping cost, phone number, order status, and occasion-based promotions or products	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
banking and transactions:			
12.19	whenever users conduct transactions on the phone, allow them to save confirmation numbers for that transaction by emailing themselves. If the phone has an embedded screen-capture feature, show them how to take a picture of their screen	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	

### 13. Privacy

The system should help the user to protect personal or private information- belonging to the user or the his/her clients.

#	Review Checklist	Yes	No	N/A	Comments
13.1	are protected areas completely inaccessible?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
13.2	can protected or confidential areas be accessed with certain passwords	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
13.3	is there information about how personal data is protected and about contents copyright?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
13.4	for multiuser devices, avoid being permanently signed in on an application	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
13.5	If the application does store credit card information, it should allow users to decide if they want to remain logged in. Ideally, when the user opts to be kept logged in, he/she should get a message informing of the possible risks	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	

## *Appendix C - Heuristic Evaluation Checklist*

### **1. Visibility of system status**

**The system should always keep user informed about what is going on, through appropriate feedback within reasonable time.**

#	Review Checklist	Yes	No	N/A	Comments
system status feedback:					
1.1	is there some form of system feedback for every operator action?	n			Could include read/delivered reports for messaging
1.2	if pop-up windows are used to display error messages, do they allow the user to see the field in error?	n/a			
1.3	in multipage data entry screens, is each page labeled to show its relation to others?	n/a			
1.4	are high informative contents placed in high hierarchy areas?	y			
1.5	All the items on a list should go on the same page: if the items are text-only and if they are sorted in an order that matches the needs of the task	y			
1.6	if a list of items can be sorted according to different criteria, provide the option to sort that list according to all those criteria	y			
1.7	if a list contains items that belong to different categories, provide filters for users to narrow down the number of elements that they need to inspect	y			
1.8	if the list contains only one item, take the user directly to that item	n			I don't think this is necessary – I would like to see that only 1 tour is available
1.9	if the list contains items that download slowly (e.g., images), split the list into multiple pages and show just one page at a time	n/a			

1.10	if an article spans several pages, use pagination at the bottom. Have a link to each individual page, rather than just to the previous and the next ones	n/a	Articles extend downward – no pg numbers
location information:			
1.11	is the logo meaningful, identifiable, and sufficiently visible?	y	
1.12	is there any link to detailed information about the enterprise, website, webmaster ... ?	n	Could include privacy site map, etc at the bottom
1.13	are there ways of contacting with the enterprise?	y	Contact us
1.14	in articles, news, reports ... are the author, sources, dates, and review information shown clearly?	y	
1.15	whenever you have physical location information on your website, link it to a map and include a way of getting directions	n	Add map/links
response times:			
1.16	are response times appropriate for the users cognitive processing?	n/a	
1.17	are response times appropriate for the task?	n/a	
1.18	if there are observable delays (greater than fifteen seconds) in the system's response time, is the user kept informed of the system progress?	n/a	
1.19	latency reduction	n/a	
1.20	splash screens too long	n/a	
1.21	download time: "Progress bar is preferable" and "Alternative entertainment if download time is greater than 20 seconds"	n/a	
selection/input of data:			
1.22	is there visual feedback in menus or dialog boxes about which choices are selectable?	y	

1.23	is the current status of an icon clearly indicated?	y	
1.24	is there visual feedback when objects are selected or moved?	y	
1.25	are links recognizable? Is there any characterization according to the state (visited, active,)?	y	Could implement color change for tours/guides already viewed
1.26	low discoverability (active areas that do not look touchable): users do not know that something is touchable unless it looks as if it is	n	
1.27	swiping: swiping is still less discoverable than most other ways of manipulating mobile content, so we recommended including a visible cue when people can swipe. And swipe ambiguity should be avoided: the same swipe gesture should not be used to mean different things on different areas of the same screen:	n/a	
1.28	expandable menus should be used sparingly. Menu labels should clearly indicate that they expand to a set of options	n/a	
presentation adaptation:			
1.29	detect if users are coming to your site on a mobile phone and direct them to your mobile site	y	url should change to indicate mobile site is being viewed
1.30	include a link to your mobile site on your full site. It can direct mobile users who were not re-directed to your mobile site	n/a	
1.31	include a link to the full site on the mobile page	n	Add link to regular site

## 2. Match Between System and the Real World

The system should speak the user's language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.

#	Review Checklist	Yes	No	N/A	Comments
metaphors/mental models:					
2.1	use of metaphors	y			
2.2	are icons concrete and familiar?	y			
2.3	if shape is used as a visual cue, does it match cultural conventions?	y			
2.4	do the selected colours correspond to common expectations about color codes?	n/a			
navigational structure:					
2.5	if the site uses hierarchical structure, are depth and height balanced?	n/a			
2.6	navigation map, also known as site map or table of contents	n		Should add to bottom of screen	
2.7	too much navigation (TMN)	n			

menus:			
2.8	are menu choices ordered in the most logical way, given the user, the item names, and the task variables?	y	
2.9	do menu choices fit logically into categories that have readily understood meanings?	y	
2.10	are menu titles parallel grammatically?	y	
2.11	in navigation menus, are the number of items and terms by item controlled to avoid memory overload?	y	
simplicity:			
2.12	do related and interdependent fields appear on the same screen?	y	
2.13	for question and answer interfaces, are questions stated in clear, simple language?	y	
2.14	is the language used the same target users speak?	y	
2.15	is the language clear and concise?	y	
2.16	does the site follow the rule "1 paragraph = 1 idea"?	y	

output of numeric information:			
2.17	does the system automatically enter leading or trailing spaces to align decimal points?	y	
2.18	does the system automatically enter a dollar sign and decimal for monetary entries?	y	
2.19	does the system automatically enter commas in numeric values greater than 9999?	y	
2.20	are integers right-justified and real numbers decimal-aligned?	y	

### 3. User Control and Freedom

Users should be free to select and sequence tasks (when appropriate), rather than having the system do this for them. Users often choose system functions by mistake and will need a clearly marked “emergency exit” to leave the unwanted state without having to go through an extended dialogue. Users should make their own decisions (with clear information) regarding the costs of exiting current work. The system should support undo and redo.

#	Review Checklist	Yes	No	N/A	Comments
explorable interfaces:					
3.1	can users move forward and backward between fields or dialog box options?	y			
3.2	if the system has multipage data entry screens, can users move backward and forward among all the pages in the set?	n/a			
3.3	if the system uses a question and answer interface, can users go back to previous questions or skip forward to later questions?	n/a			
3.4	clearly marked exits	y			
3.5	is the general website structure user-oriented?	y			
3.6	is there any way to inform user about where they are and how to undo their navigation?	n			Could add titles to top of pages

3.7	accidental activation (lack of back button)	n	
3.8	include navigation on the homepage of your mobile website	n	
some level of personalization:			
3.9	can users set their own system, session, file, and screen defaults?	n	Once logged in, past searches could be saved
process confirmation:			
3.10	when a user's task is complete, does the system wait for a signal from the user before processing?	y	
3.11	are users prompted to confirm commands that have drastic, destructive consequences?	n	Should double confirm before paying for a tour or deleting account
undo/cancellation:			
3.12	can users easily reverse their actions?	y	
3.13	can users cancel out of operations in progress?	y	
menus control:			

3.14	if the system has multiple menu levels, is there a mechanism that allows users to go back to previous menus?	n/a	
3.15	are menus broad (many items on a menu) rather than deep (many menu levels)?	n/a	
3.16	if users can go back to a previous menu, can they change their earlier menu choice?	n/a	

#### 4. Consistency and Standards

**Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.**

#	Review Checklist	Yes	No	N/A	Comments
designing consistency:					
4.1	are attention-getting techniques used with care?	y			
4.2	intensity: two levels only	n/a		What?	
4.3	color: up to four (additional colors for occasional use only)	n/a		Prototype is mostly b/w	
4.4	are there no more than four to seven colors, and are they far apart along the visible spectrum?	n/a			
4.5	sound: soft tones for regular positive feedback, harsh for rare critical conditions	n/a			
4.6	if the system has multipage data entry screens, do all pages have the same title?	n/a			
4.7	do online instructions appear in a consistent location across screens?	n/a			
4.8	have industry or company standards been established for menu design, and are they applied consistently on all menu screens in the system?	y			

4.9	are there no more than twelve to twenty icon types?	y	
4.10	has a heavy use of all uppercase letters on a screen been avoided?	y	
4.11	is there a consistent icon design scheme and stylistic treatment across the system?	y	
menus:			
4.12	are menu choice lists presented vertically?	y	
4.13	if "exit" is a menu choice, does it always appear at the bottom of the list?	n/a	
4.14	are menu titles either centered or left-justified?	y	
input fields:			
4.15	are field labels consistent from one data entry screen to another?	y	
4.16	do field labels appear to the left of single fields and above list fields?	y	
4.17	are field labels and fields distinguished typographically?	y	

naming convention consistency:			
4.18	is the structure of a data entry value consistent from screen to screen?	n/a	
4.19	are system objects named consistently across all prompts in the system?	y	
4.20	are user actions named consistently across all prompts in the system?	y	
menu/task consistency:			
4.21	are menu choice names consistent, both within each menu and across the system, in grammatical style and terminology?	y	
4.22	does the structure of menu choice names match their corresponding menu titles?	y	
4.23	does the menu structure match the task structure?	y	
4.24	when prompts imply a necessary action, are the words in the message consistent with that action?	y	
functional goals consistency:			
4.25	where are the website goals? Are they well defined? Do content and services delivered match these goals?	y	

4.26	does the look & feel correspond with goals, characteristics, contents and services of the website?	y	
4.27	is the website being updated frequently?	n/a	
system response consistency:			
4.28	is system response after clicking links predictable?	y	
4.29	are nowhere links avoided?	y	
4.30	are orphan pages avoided?	y	
orientation:			
4.31	about constraining orientation: users tend to switch orientation when an impasse occurs and, if the application does not support them, their flow is going to be disrupted, and they are going to wonder why it is not working	n/a	Could add landscape orientation?
4.32	navigation (horizontal and vertical) must be consistent across orientations. Some applications use a different navigation direction in the two orientations; for instance, they use horizontal navigation in landscape and use vertical navigation in portrait	n/a	
4.33	inconsistent content across orientations: "Same content," "Keep location," and "If a feature is only available in one orientation, inform users"	n/a	

## 5. Error Prevention

Even better than good error messages is a careful design which prevents a problem from occurring in the first place.

#	Review Checklist	Yes	No	N/A	Comments
error prevention:					
5.1	are menu choices logical, distinctive, and mutually exclusive?	y			
5.2	are data inputs case-blind whenever possible?	n/a			
5.3	does the system warn users if they are about to make a potentially serious error?	n/a			Warn before deleting account or making payment
5.4	do data entry screens and dialog boxes indicate the number of character spaces available in a field?	n			
5.5	do fields in data entry screens and dialog boxes contain default values when appropriate?	y			
5.6	accidental activation (lack of back button)	n			
fat-finger syndrome:					
5.7	touchable areas are too small. Research has shown that the best target size for widgets is 1 cm × 1 cm for touch devices	n			

5.8	crowding targets: another fat-finger issue that we encountered frequently is placing targets too close to each other. When targets are placed too close to each other, users can easily hit the wrong one	n	
5.9	padding: although the visible part of the target may be small, there is some invisible target space that if a user hits that space, their tap will still count	n	
5.10	when several items are listed in columns, one on top of another (see the time example below), users expect to be able to hit anywhere in the row to select the target corresponding to that row. Whenever a design does not fulfil that expectation, it is disconcerting for users	n/a	
5.11	do not make users download software that is inappropriate for their phone	n	
5.12	JavaScript and Flash do not work on many phones; do not use them	n	

## 6. Recognition rather than recall

**Make objects, actions, and options visible.** The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.

#	Review Checklist	Yes	No	N/A	Comments
memory load reduction:					
6.1	high levels of concentration are not necessary and remembering information is not required: two to fifteen seconds	y			
6.2	are all data a user needs on display at each step in a transaction sequence?	y			
6.3	if users have to navigate between multiple screens, does the system use context labels, menu maps, and place markers as navigational aids?	n/a			
6.4	after the user completes an action (or group of actions), does the feedback indicate that the next group of actions can be started?	y			
6.5	are optional data entry fields clearly marked?	n			Login page could show * to indicate required
6.6	do data entry screens and dialog boxes indicate when fields are optional?	n			
6.7	is page length controlled?	y			

6.8	the task flow should start with actions that are essential to the main task. Users should be able to start the task as soon as possible	y	
6.9	the controls that are related to a task should be grouped together and reflect the sequence of actions in the task	y	
general visual cues:			
6.10	for question and answer interfaces, are visual cues and white space used to distinguish questions, prompts, instructions, and user input?	y	
6.11	does the data display start in the upper-left corner of the screen?	y	
6.12	have prompts been formatted using white space, justification, and visual cues for easy scanning?	y	
6.13	do text areas have “breathing space” around them?	y	
6.14	are there “white” areas between informational objects for visual relaxation?	y	
6.15	does the system provide visibility; that is, by looking, can the user tell the state of the system and the alternatives for action?	y	
6.16	is size, boldface, underlining, colour, shading, or typography used to show relative quantity or importance of different screen items?	y	

6.17	is colour used in conjunction with some other redundant cue?	n/a	
6.18	is there good colour and brightness contrast between image and background colours?	n/a	
6.19	have light, bright, saturated colours been used to emphasize data and have darker, duller, and desaturated colours been used to de-emphasize data?	n/a	
6.20	is the visual page space well used?	y	
input/output data:			
6.21	on data entry screens and dialog boxes, are dependent fields displayed only when necessary?	n/a	
6.22	are field labels close to fields, but separated by at least one space?	y	
menus:			
6.23	is the first word of each menu choice the most important?	y	
6.24	are inactive menu items grayed out or omitted?	y	
6.25	are there menu selection defaults?	n/a	

6.26	is there an obvious visual distinction made between “choose one” menu and “choose many” menus?	n/a	
navigation:			
6.27	use breadcrumbs on sites with a deep navigation structure (many navigation branches). Do not use breadcrumbs on sites with shallow navigation structures	n/a	

## 7. Flexibility and efficiency of use

Accelerators -- unseen by the novice user -- may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.

#	Review Checklist	Yes	No	N/A	Comments
search:					
7.1	is the searching box easily accessible?	y			
7.2	is the searching box easily recognizable?	y			
7.3	is there any advanced search option?	y			
7.4	are search results shown in a comprehensive manner to the user?	y			
7.5	is the box width appropriated?	y			
7.6	is the user assisted if the search results are impossible to calculate?	n/a			
7.7	a search box and navigation should be present on the homepage if your website is designed for smartphones and touch phones	y			
7.8	the length of the search box should be at least the size of the average search string. We recommend going for	y			

	the largest possible size that will fit on the screen		
7.9	preserve search strings between searches. Use autocompletion and suggestions	n	
7.10	do not use several search boxes with different functionalities on the same page	y	
7.11	if the search returns zero results, offer some alternative searches or a link to the search results on the full page	n	If none are available that match criteria.. suggest alternative
navigation:			
7.12	use links with good information scent (i.e., links which clearly indicate where they take the users) on your mobile pages	y	
7.13	use links to related content to help the user navigate more quickly between similar topics	y	

## 8. Aesthetic and minimalist design

Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.

#	Review Checklist	Yes	No	N/A	Comments
8.1	Fitt's Law: the time to acquire a target is a function of the distance to and size of the target;	y			
8.2	is only (and all) information essential to decision making displayed on the screen?	y			
8.3	are field labels brief, familiar, and descriptive?	y			
8.4	are prompts expressed in the affirmative, and do they use the active voice?	y			
8.5	is layout clearly designed avoiding visual noise?	y			
8.6	recognizable application icons to be found in the crowded list of applications	n/a			
multimedia content:					
8.8	does the use of images and multimedia content add value?	y			
8.9	are images well sized? Are they understandable? Is the resolution appropriate?	y			

8.10	are cyclical animations avoided?	y	
8.11	getting rid of Flash content	y	
8.12	carousels: avoid using animated carousels, but if they must be used, users should be able to control them	n/a	
8.13	do not use image sizes that are bigger than the screen. The entire image should be viewable with no scrolling	y	
8.14	for cases where customers are likely to need access to a higher resolution picture, initially display a screen-size picture and add a separate link to a higher resolution variant	n/a	
8.15	when you use thumbnails, make sure the user can distinguish what the picture is about	n/a	
8.16	use captions for images that are part of an article if their meaning is not clear from the context of the article	n/a	
8.17	do not use moving animation	n/a	
8.18	if you have videos on your site, offer a textual description of what the video is about	n/a	
8.19	clicking on the thumbnail and clicking on the video title should both play the video	n/a	
8.20	indicate video length	n/a	

8.21	specify if the video cannot be played on the user's device	n/a	
8.22	use the whole screen surface to place information efficiently: "Popovers for displaying information restricts size of frame where information will be shown" and "Small modal views present the same size constraints";	n/a	
icons:			
8.23	has excessive detail in icon design been avoided?	y	
8.24	is each individual icon a harmonious member of a family of icons?	y	
8.25	does each icon stand out from its background?	y	
8.26	are all icons in a set visually and conceptually distinct?	y	
menus:			
8.27	is each lower-level menu choice associated with only one higher level menu?	n/a	
8.28	are menu titles brief, yet long enough to communicate?	y	
orientation:			

8.29	desktop websites have a strong guideline to avoid horizontal scrolling. But for touch screens, horizontal swipes are often fine	n/a	
navigation:			
8.30	do not replicate a large number of persistent navigation options across all pages of a mobile site	y	

**9. Help users recognize, diagnose, and recover from errors**

Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.

#	Review Checklist	Yes	No	N/A	Comments
9.1	To signal an input error in a form, mark the textbox that needs to be changed	n			Highlight required fields that aren't correctly completed

## **10. Help and documentation**

**Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.**

#	Review Checklist	Yes	No	N/A	Comments
10.1	are online instructions visually distinct?	n/a			Help screen not developed
10.2	do the instructions follow the sequence of user actions?	n/a			Help screen not developed
10.3	if menu choices are ambiguous, does the system provide additional explanatory information when an item is selected?	n/a			
10.4	if menu items are ambiguous, does the system provide additional explanatory information when an item is selected?	n/a			
10.5	is the help function visible, for example, a key labeled HELP or a special menu?	y			
10.6	is the help system interface (navigation, presentation, and conversation) consistent with the navigation, presentation, and conversation interfaces of the application it supports?	n/a			Help screen not developed
10.7	navigation: is information easy to find?	y			
10.8	presentation: is the visual layout well designed?	y			

10.9	conversation: is the information accurate, complete, and understandable?	y	
10.10	is the information relevant? It should be relevant in the following aspects:	y	
10.11	goal-oriented (what can I do with this program?)	y	
10.12	descriptive (what is this thing for?)	y	
10.13	procedural (how do I do this task?)	y	
10.14	interpretive (why did that happen?)	y	
10.15	navigational (where am I?)	y	
10.16	is there context-sensitive help?	y	Faq section/message guide
10.17	can the user change the level of detail available?	n/a	
10.18	can users easily switch between help and their work?	y	
10.19	is it easy to access and return from the help system?	y	

10.20	can users resume work where they left off after accessing help?	y	
10.21	if a FAQs section exists, are the selection and redaction of questions and answers correct?	y	
10.22	focus on one single feature at a time. Present only those instructions that are necessary for the user to get started	y	

## 11. Skills

The system should support, extend, supplement, or enhance the user's skills, background knowledge, and expertise ---not replace them.

#	Review Checklist	Yes	No	N/A	Comments
11.1	do not use the word "default" in an application or service; replace it with "Standard," "Use Customary Settings," "Restore Initial Settings," or some other more specific terms describing what will actually happen	n/a			
11.2	if the system supports both novice and expert users, are multiple levels of error message detail available?	n/a			
11.3	if the system supports both novice and expert users, are multiple levels of detail available?	n/a			
11.4	are users the initiators of actions rather than the responders?	y			
11.5	do the selected input device(s) match user capabilities?	y			
11.6	are important keys (e.g., ENTER, TAB) larger than other keys?	n/a			
11.7	does the system correctly anticipate and prompt for the user's probable next activity?	y			

## 12. Pleasurable and Respectful Interaction with the User

The user's interactions with the system should enhance the quality of her or his work-life. The user should be treated with respect. The design should be aesthetically pleasing- with artistic as well as functional value.

#	Review Checklist	Yes	No	N/A	Comments
12.1	protect users' work, also as "For data entry screens with many fields or in which source documents may be incomplete, can users save a partially filled screen?"	n			
12.2	do the selected input device(s) match environmental constraints?	y			
12.3	are typing requirements minimal for question and answer interfaces?	n/a			
12.4	does the system complete unambiguous partial input on a data entry field?	n/a			
input data:					
12.5	users dislike typing. Compute information for the users. For instance, ask only for the zip code and calculate state and town; possibly offer a list of towns if there are more under the same zip code	n			Add this for account info
12.6	be tolerant of typos and offer corrections. Do not make users type in complete information. For example, accept "123 Main" instead of "123 Main St."	n/a			
12.7	save history and allow users to select previously typed information	n			Add this

12.8	use defaults that make sense to the user	y	
12.9	If the application does not store any information that is sensitive (e.g., credit card), then the user should definitely be kept logged in (log out clearly presented)	n/a	Payment page not developed
12.10	minimize the number of submissions (and clicks) that the user needs to go through in order to input information on your site	n/a	
12.11	When logging in must be done, use graphical passwords at least some of the time, to get around typing	n	
12.12	Do not ask people to register on a mobile phone; skipping registration should be the default option	y	
12.13	When logging in must be done, have an option that allows the user to see the password clearly	n/a	
shopping:			
12.14	when you present a list of products, use image thumbnails that are big enough for the user to get some information out of them	y	
12.15	on a product page, use an image size that fits the screen. Add a Link to a higher resolution image when the product requires closer inspection	y	
12.16	offer the option to email a product to a friend	n	Add this

12.17	offer the option to save the product in a wish list	n	Add this
12.18	on an e-commerce site, include salient links on the homepage to the following information: locations and opening hours (if applicable), shipping cost, phone number, order status, and occasion-based promotions or products	n/a	
banking and transactions:			
12.19	whenever users conduct transactions on the phone, allow them to save confirmation numbers for that transaction by emailing themselves. If the phone has an embedded screen-capture feature, show them how to take a picture of their screen	n	Payment/conf page

### **13. Privacy**

**The system should help the user to protect personal or private information- belonging to the user or the his/her clients.**

#	Review Checklist	Yes	No	N/A	Comments
13.1	are protected areas completely inaccessible?	y			
13.2	can protected or confidential areas be accessed with certain passwords	n/a			
13.3	is there information about how personal data is protected and about contents copyright?	n			Privacy policy
13.4	for multiuser devices, avoid being permanently signed in on an application	n/a			
13.5	If the application does store credit card information, it should allow users to decide if they want to remain logged in. Ideally, when the user opts to be kept logged in, he/she should get a message informing of the possible risks	n/a			Payment page

## Appendix C - Heuristic Evaluation Checklist

### 1. Visibility of system status

The system should always keep user informed about what is going on, through appropriate feedback within reasonable time.

#	Review Checklist	Yes	No	N/A	Comments
system status feedback:					
1.1	is there some form of system feedback for every operator action?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
1.2	if pop-up windows are used to display error messages, do they allow the user to see the field in error?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
1.3	in multipage data entry screens, is each page labeled to show its relation to others?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
1.4	are high informative contents placed in high hierarchy areas?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
1.5	All the items on a list should go on the same page: if the items are text-only and if they are sorted in an order that matches the needs of the task	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
1.6	if a list of items can be sorted according to different criteria, provide the option to sort that list according to all those criteria	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
1.7	if a list contains items that belong to different categories, provide filters for users to narrow down the number of elements that they need to inspect	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
1.8	if the list contains only one item, take the user directly to that item	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	Could mention this
1.9	if the list contains items that download slowly (e.g., images), split the list into multiple pages and show just one page at a time	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
1.10	if an article spans several pages, use pagination at the bottom. Have a link to each individual page, rather than just to the previous and the next ones	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	For tour lists, paginate to 10

location information:				
1.11	is the logo meaningful, identifiable, and sufficiently visible?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
1.12	is there any link to detailed information about the enterprise, website, webmaster ... ?	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/> About Us
1.13	are there ways of contacting with the enterprise?	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>
1.14	in articles, news, reports ... are the author, sources, dates, and review information shown clearly?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
1.15	whenever you have physical location information on your website, link it to a map and include a way of getting directions	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/> Maps (links)
response times:				
1.16	are response times appropriate for the users cognitive processing?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>
1.17	are response times appropriate for the task?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>
1.18	if there are observable delays (greater than fifteen seconds) in the system's response time, is the user kept informed of the system progress?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>
1.19	latency reduction	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>
1.20	splash screens too long	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>
1.21	download time: "Progress bar is preferable" and "Alternative entertainment if download time is greater than 20 seconds"	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>
selection/input of data:				
1.22	is there visual feedback in menus or dialog boxes about which choices are selectable?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
1.23	is the current status of an icon clearly indicated?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>

1.24	is there visual feedback when objects are selected or moved?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
1.25	are links recognizable? Is there any characterization according to the state (visited, active,)?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<i>make sure to underline links</i>
1.26	low discoverability (active areas that do not look touchable): users do not know that something is touchable unless it looks as if it is	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	
1.27	swiping: swiping is still less discoverable than most other ways of manipulating mobile content, so we recommended including a visible cue when people can swipe. And swipe ambiguity should be avoided: the same swipe gesture should not be used to mean different things on different areas of the same screen:	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
1.28	expandable menus should be used sparingly. Menu labels should clearly indicate that they expand to a set of options	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
presentation adaptation:					
1.29	detect if users are coming to your site on a mobile phone and direct them to your mobile site	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
1.30	include a link to your mobile site on your full site. It can direct mobile users who were not re-directed to your mobile site	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	<i>add link to regular site</i>
1.31	include a link to the full site on the mobile page	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	

## 2. Match Between System and the Real World

The system should speak the user's language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.

#	Review Checklist	Yes	No	N/A	Comments
metaphors/mental models:					
2.1	use of metaphors	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
2.2	are icons concrete and familiar?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
2.3	if shape is used as a visual cue, does it match cultural conventions?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
2.4	do the selected colours correspond to common expectations about color codes?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
navigational structure:					
2.5	if the site uses hierarchical structure, are depth and height balanced?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
2.6	navigation map, also known as site map or table of contents	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	Nav Map/ table of contents
2.7	too much navigation (TMN)	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	
menus:					
2.8	are menu choices ordered in the most logical way, given the user, the item names, and the task variables?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	

2.9	do menu choices fit logically into categories that have readily understood meanings?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
2.10	are menu titles parallel grammatically?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
2.11	in navigation menus, are the number of items and terms by item controlled to avoid memory overload?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
simplicity:			
2.12	do related and interdependent fields appear on the same screen?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
2.13	for question and answer interfaces, are questions stated in clear, simple language?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
2.14	is the language used the same target users speak?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
2.15	is the language clear and concise?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
2.16	does the site follow the rule "1 paragraph = 1 idea"?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
output of numeric information:			
2.17	does the system automatically enter leading or trailing spaces to align decimal points?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
2.18	does the system automatically enter a dollar sign and decimal for monetary entries?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
2.19	does the system automatically enter commas in numeric values greater than 9999?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
2.20	are integers right-justified and real numbers decimal-aligned?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	

### 3. User Control and Freedom

Users should be free to select and sequence tasks (when appropriate), rather than having the system do this for them. Users often choose system functions by mistake and will need a clearly marked "emergency exit" to leave the unwanted state without having to go through an extended dialogue. Users should make their own decisions (with clear information) regarding the costs of exiting current work. The system should support undo and redo.

#	Review Checklist	Yes	No	N/A	Comments
explorable interfaces:					
3.1	can users move forward and backward between fields or dialog box options?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
3.2	if the system has multipage data entry screens, can users move backward and forward among all the pages in the set?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
3.3	if the system uses a question and answer interface, can users go back to previous questions or skip forward to later questions?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
3.4	clearly marked exits	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
3.5	is the general website structure user-oriented?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
3.6	is there any way to inform user about where they are and how to undo their navigation?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
3.7	accidental activation (lack of back button)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
3.8	include navigation on the homepage of your mobile website	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
some level of personalization:					

3.9	can users set their own system, session, file, and screen defaults?	<input type="radio"/> <input checked="" type="radio"/> <input type="radio"/>	
process confirmation:			
3.10	when a user's task is complete, does the system wait for a signal from the user before processing?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
3.11	are users prompted to confirm commands that have drastic, destructive consequences?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
undo/cancellation:			
3.12	can users easily reverse their actions?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
3.13	can users cancel out of operations in progress?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
menus control:			
3.14	if the system has multiple menu levels, is there a mechanism that allows users to go back to previous menus?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
3.15	are menus broad (many items on a menu) rather than deep (many menu levels)?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
3.16	if users can go back to a previous menu, can they change their earlier menu choice?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	

#### 4. Consistency and Standards

Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.

#	Review Checklist	Yes	No	N/A	Comments
designing consistency:					
4.1	are attention-getting techniques used with care?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
4.2	intensity: two levels only	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	??
4.3	color: up to four (additional colors for occasional use only)	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
4.4	are there no more than four to seven colors, and are they far apart along the visible spectrum?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
4.5	sound: soft tones for regular positive feedback, harsh for rare critical conditions	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
4.6	if the system has multipage data entry screens, do all pages have the same title?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
4.7	do online instructions appear in a consistent location across screens?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
4.8	have industry or company standards been established for menu design, and are they applied consistently on all menu screens in the system?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
4.9	are there no more than twelve to twenty icon types?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
4.10	has a heavy use of all uppercase letters on a screen been avoided?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
4.11	is there a consistent icon design scheme and stylistic treatment across the system?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	

menus:			
4.12	are menu choice lists presented vertically?	<input checked="" type="checkbox"/>	<input type="radio"/>
4.13	if "exit" is a menu choice, does it always appear at the bottom of the list?	<input type="radio"/>	<input type="radio"/>
4.14	are menu titles either centered or left-justified?	<input type="radio"/>	<input checked="" type="checkbox"/>
input fields:			
4.15	are field labels consistent from one data entry screen to another?	<input checked="" type="checkbox"/>	<input type="radio"/>
4.16	do field labels appear to the left of single fields and above list fields?	<input checked="" type="checkbox"/>	<input type="radio"/>
4.17	are field labels and fields distinguished typographically?	<input checked="" type="checkbox"/>	<input type="radio"/>
naming convention consistency:			
4.18	is the structure of a data entry value consistent from screen to screen?	<input type="radio"/>	<input checked="" type="checkbox"/>
4.19	are system objects named consistently across all prompts in the system?	<input checked="" type="checkbox"/>	<input type="radio"/>
4.20	are user actions named consistently across all prompts in the system?	<input checked="" type="checkbox"/>	<input type="radio"/>
menu/task consistency:			
4.21	are menu choice names consistent, both within each menu and across the system, in grammatical style and terminology?	<input checked="" type="checkbox"/>	<input type="radio"/>

4.22	does the structure of menu choice names match their corresponding menu titles?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
4.23	does the menu structure match the task structure?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
4.24	when prompts imply a necessary action, are the words in the message consistent with that action?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
functional goals consistency:					
4.25	where are the website goals? Are they well defined? Do content and services delivered match these goals?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
4.26	does the look & feel correspond with goals, characteristics, contents and services of the website?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
4.27	is the website being updated frequently?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
system response consistency:					
4.28	is system response after clicking links predictable?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
4.29	are nowhere links avoided?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
4.30	are orphan pages avoided?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
orientation:					
4.31	about constraining orientation: users tend to switch orientation when an impasse occurs and, if the application does not support them, their flow is going to be disrupted, and they are going to wonder why it is not working	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	<i>we are not developing for landscape</i>
4.32	navigation (horizontal and vertical) must be consistent across orientations. Some applications use a different navigation direction in the two orientations; for instance, they use horizontal navigation in landscape and use vertical navigation in portrait	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	

4.33

inconsistent content across orientations: "Same content," "Keep location," and "If a feature is only available in one orientation, inform users"



## 5. Error Prevention

Even better than good error messages is a careful design which prevents a problem from occurring in the first place.

#	Review Checklist	Yes	No	N/A	Comments
error prevention:					
5.1	are menu choices logical, distinctive, and mutually exclusive?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
5.2	are data inputs case-blind whenever possible?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
5.3	does the system warn users if they are about to make a potentially serious error?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
5.4	do data entry screens and dialog boxes indicate the number of character spaces available in a field?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
5.5	do fields in data entry screens and dialog boxes contain default values when appropriate?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
5.6	accidental activation (lack of back button)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
fat-finger syndrome:					
5.7	touchable areas are too small. Research has shown that the best target size for widgets is 1 cm × 1 cm for touch devices	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	Maybe M advanced search
5.8	crowding targets: another fat-finger issue that we encountered frequently is placing targets too close to each other. When targets are placed too close to each other, users can easily hit the wrong one	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	
5.9	padding: although the visible part of the target may be small, there is some invisible target space that if a user hits that space, their tap will still count	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	

5.10	when several items are listed in columns, one on top of another (see the time example below), users expect to be able to hit anywhere in the row to select the target corresponding to that row. Whenever a design does not fulfil that expectation, it is disconcerting for users	<input type="radio"/> <input checked="" type="radio"/> <input type="radio"/>	
5.11	do not make users download software that is inappropriate for their phone	<input type="radio"/> <input checked="" type="radio"/> <input type="radio"/>	
5.12	JavaScript and Flash do not work on many phones; do not use them	<input type="radio"/> <input checked="" type="radio"/> <input type="radio"/>	

## 6. Recognition rather than recall

**Make objects, actions, and options visible.** The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.

#	Review Checklist	Yes	No	N/A	Comments
memory load reduction:					
6.1	high levels of concentration are not necessary and remembering information is not required: two to fifteen seconds	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
6.2	are all data a user needs on display at each step in a transaction sequence?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
6.3	if users have to navigate between multiple screens, does the system use context labels, menu maps, and place markers as navigational aids?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
6.4	after the user completes an action (or group of actions), does the feedback indicate that the next group of actions can be started?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
6.5	are optional data entry fields clearly marked?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
6.6	do data entry screens and dialog boxes indicate when fields are optional?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
6.7	is page length controlled?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
6.8	the task flow should start with actions that are essential to the main task. Users should be able to start the task as soon as possible	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
6.9	the controls that are related to a task should be grouped together and reflect the sequence of actions in the task	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	

general visual cues:			
6.10	for question and answer interfaces, are visual cues and white space used to distinguish questions, prompts, instructions, and user input?	<input type="radio"/>	<input type="radio"/>
6.11	does the data display start in the upper-left corner of the screen?	<input checked="" type="radio"/>	<input type="radio"/>
6.12	have prompts been formatted using white space, justification, and visual cues for easy scanning?	<input checked="" type="radio"/>	<input type="radio"/>
6.13	do text areas have "breathing space" around them?	<input checked="" type="radio"/>	<input type="radio"/>
6.14	are there "white" areas between informational objects for visual relaxation?	<input checked="" type="radio"/>	<input type="radio"/>
6.15	does the system provide visibility; that is, by looking, can the user tell the state of the system and the alternatives for action?	<input checked="" type="radio"/>	<input type="radio"/>
6.16	is size, boldface, underlining, colour, shading, or typography used to show relative quantity or importance of different screen items?	<input checked="" type="radio"/>	<input type="radio"/>
6.17	is colour used in conjunction with some other redundant cue?	<input checked="" type="radio"/>	<input type="radio"/>
6.18	is there good colour and brightness contrast between image and background colours?	<input checked="" type="radio"/>	<input type="radio"/>
6.19	have light, bright, saturated colours been used to emphasize data and have darker, duller, and desaturated colours been used to de-emphasize data?	<input checked="" type="radio"/>	<input type="radio"/>
6.20	is the visual page space well used?	<input checked="" type="radio"/>	<input type="radio"/>
input/output data:			

6.21	on data entry screens and dialog boxes, are dependent fields displayed only when necessary?	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/>	
6.22	are field labels close to fields, but separated by at least one space?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
menus:			
6.23	is the first word of each menu choice the most important?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
6.24	are inactive menu items grayed out or omitted?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
6.25	are there menu selection defaults?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
6.26	is there an obvious visual distinction made between "choose one" menu and "choose many" menus?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
navigation:			
6.27	use breadcrumbs on sites with a deep navigation structure (many navigation branches). Do not use breadcrumbs on sites with shallow navigation structures	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	

## 7. Flexibility and efficiency of use

**Accelerators -- unseen by the novice user -- may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.**

#	Review Checklist	Yes	No	N/A	Comments
search:					
7.1	is the searching box easily accessible?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
7.2	is the searching box easily recognizable?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
7.3	is there any advanced search option?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
7.4	are search results shown in a comprehensive manner to the user?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
7.5	is the box width appropriated?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
7.6	is the user assisted if the search results are impossible to calculate?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
7.7	a search box and navigation should be present on the homepage if your website is designed for smartphones and touch phones	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
7.8	the length of the search box should be at least the size of the average search string. We recommend going for the largest possible size that will fit on the screen	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
7.9	preserve search strings between searches. Use autocomplete and suggestions	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	Add autocomplete
7.10	do not use several search boxes with different functionalities on the same page	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	

7.11	if the search returns zero results, offer some alternative searches or a link to the search results on the full page	<input type="radio"/> <input checked="" type="radio"/> <input type="radio"/>	zero results page
navigation:			
7.12	use links with good information scent (i.e., links which clearly indicate where they take the users) on your mobile pages	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
7.13	use links to related content to help the user navigate more quickly between similar topics	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	

## 8. Aesthetic and minimalist design

**Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.**

#	Review Checklist	Yes	No	N/A	Comments
8.1	Fitt's Law: the time to acquire a target is a function of the distance to and size of the target;	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
8.2	is only (and all) information essential to decision making displayed on the screen?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
8.3	are field labels brief, familiar, and descriptive?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
8.4	are prompts expressed in the affirmative, and do they use the active voice?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
8.5	is layout clearly designed avoiding visual noise?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
8.6	recognizable application icons to be found in the crowded list of applications	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
multimedia content:					
8.8	does the use of images and multimedia content add value?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
8.9	are images well sized? Are they understandable? Is the resolution appropriate?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
8.10	are cyclical animations avoided?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
8.11	getting rid of Flash content	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
8.12	carousels: avoid using animated carousels, but if they must be used, users should be able to control them	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	

8.13	do not use image sizes that are bigger than the screen. The entire image should be viewable with no scrolling	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
8.14	for cases where customers are likely to need access to a higher resolution picture, initially display a screen-size picture and add a separate link to a higher resolution variant	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
8.15	when you use thumbnails, make sure the user can distinguish what the picture is about	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
8.16	use captions for images that are part of an article if their meaning is not clear from the context of the article	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
8.17	do not use moving animation	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
8.18	if you have videos on your site, offer a textual description of what the video is about	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
8.19	clicking on the thumbnail and clicking on the video title should both play the video	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
8.20	indicate video length	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
8.21	specify if the video cannot be played on the user's device	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
8.22	use the whole screen surface to place information efficiently: "Popovers for displaying information restricts size of frame where information will be shown" and "Small modal views present the same size constraints";	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
icons:			
8.23	has excessive detail in icon design been avoided?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
8.24	is each individual icon a harmonious member of a family of icons?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
8.25	does each icon stand out from its background?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	

8.26	are all icons in a set visually and conceptually distinct?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
menus:					
8.27	is each lower-level menu choice associated with only one higher level menu?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
8.28	are menu titles brief, yet long enough to communicate?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
orientation:					
8.29	desktop websites have a strong guideline to avoid horizontal scrolling. But for touch screens, horizontal swipes are often fine	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
navigation:					
8.30	do not replicate a large number of persistent navigation options across all pages of a mobile site	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	

**9. Help users recognize, diagnose, and recover from errors**

Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.

#	Review Checklist	Yes	No	N/A	Comments
9.1	To signal an input error in a form, mark the textbox that needs to be changed	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	

## 10. Help and documentation

**Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.**

#	Review Checklist	Yes	No	N/A	Comments
10.1	are online instructions visually distinct?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
10.2	do the instructions follow the sequence of user actions?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
10.3	if menu choices are ambiguous, does the system provide additional explanatory information when an item is selected?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
10.4	if menu items are ambiguous, does the system provide additional explanatory information when an item is selected?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
10.5	is the help function visible, for example, a key labeled HELP or a special menu?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
10.6	is the help system interface (navigation, presentation, and conversation) consistent with the navigation, presentation, and conversation interfaces of the application it supports?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	Develop Help
10.7	navigation: is information easy to find?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
10.8	presentation: is the visual layout well designed?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
10.9	conversation: is the information accurate, complete, and understandable?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
10.10	is the information relevant? It should be relevant in the following aspects:	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	

10.11	goal-oriented (what can I do with this program?)	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
10.12	descriptive (what is this thing for?)	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
10.13	procedural (how do I do this task?)	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
10.14	interpretive (why did that happen?)	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
10.15	navigational (where am I?)	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
10.16	is there context-sensitive help?	<input type="radio"/> <input checked="" type="checkbox"/> <input type="radio"/>	
10.17	can the user change the level of detail available?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
10.18	can users easily switch between help and their work?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
10.19	is it easy to access and return from the help system?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
10.20	can users resume work where they left off after accessing help?	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
10.21	if a FAQs section exists, are the selection and redaction of questions and answers correct?	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
10.22	focus on one single feature at a time. Present only those instructions that are necessary for the user to get started	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	

## 11. Skills

The system should support, extend, supplement, or enhance the user's skills, background knowledge, and expertise ----not replace them.

#	Review Checklist	Yes	No	N/A	Comments
11.1	do not use the word "default" in an application or service; replace it with "Standard," "Use Customary Settings," "Restore Initial Settings," or some other more specific terms describing what will actually happen	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
11.2	if the system supports both novice and expert users, are multiple levels of error message detail available?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
11.3	if the system supports both novice and expert users, are multiple levels of detail available?	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	
11.4	are users the initiators of actions rather than the responders?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
11.5	do the selected input device(s) match user capabilities?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
11.6	are important keys (e.g., ENTER, TAB) larger than other keys?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
11.7	does the system correctly anticipate and prompt for the user's probable next activity?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	

## 12. Pleasurable and Respectful Interaction with the User

The user's interactions with the system should enhance the quality of her or his work-life. The user should be treated with respect. The design should be aesthetically pleasing- with artistic as well as functional value.

#	Review Checklist	Yes	No	N/A	Comments
12.1	protect users' work, also as "For data entry screens with many fields or in which source documents may be incomplete, can users save a partially filled screen?"	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
12.2	do the selected input device(s) match environmental constraints?	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
12.3	are typing requirements minimal for question and answer interfaces?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
12.4	does the system complete unambiguous partial input on a data entry field?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
input data:					
12.5	users dislike typing. Compute information for the users. For instance, ask only for the zip code and calculate state and town; possibly offer a list of towns if there are more under the same zip code	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	Zip code or other kind of query
12.6	be tolerant of typos and offer corrections. Do not make users type in complete information. For example, accept "123 Main" instead of "123 Main St."	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
12.7	save history and allow users to select previously typed information	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	
12.8	use defaults that make sense to the user	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	
12.9	If the application does not store any information that is sensitive (e.g., credit card), then the user should definitely be kept logged in (log out clearly presented)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	

12.10	minimize the number of submissions (and clicks) that the user needs to go through in order to input information on your site	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
12.11	When logging in must be done, use graphical passwords at least some of the time, to get around typing	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
12.12	Do not ask people to register on a mobile phone; skipping registration should be the default option	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
12.13	When logging in must be done, have an option that allows the user to see the password clearly	<input checked="" type="checkbox"/> <input type="radio"/> <input checked="" type="checkbox"/>	
shopping:			
12.14	when you present a list of products, use image thumbnails that are big enough for the user to get some information out of them	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
12.15	on a product page, use an image size that fits the screen. Add a Link to a higher resolution image when the product requires closer inspection	<input checked="" type="checkbox"/> <input type="radio"/> <input type="radio"/>	
12.16	offer the option to email a product to a friend	<input type="radio"/> <input checked="" type="checkbox"/> <input type="radio"/>	Email to friend
12.17	offer the option to save the product in a wish list	<input type="radio"/> <input checked="" type="checkbox"/> <input type="radio"/>	wish list
12.18	on an e-commerce site, include salient links on the homepage to the following information: locations and opening hours (if applicable), shipping cost, phone number, order status, and occasion-based promotions or products	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	
banking and transactions:			
12.19	whenever users conduct transactions on the phone, allow them to save confirmation numbers for that transaction by emailing themselves. If the phone has an embedded screen-capture feature, show them how to take a picture of their screen	<input type="radio"/> <input type="radio"/> <input checked="" type="checkbox"/>	

### 13. Privacy

The system should help the user to protect personal or private information- belonging to the user or the his/her clients.

#	Review Checklist	Yes	No	N/A	Comments
13.1	are protected areas completely inaccessible?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
13.2	can protected or confidential areas be accessed with certain passwords	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
13.3	is there information about how personal data is protected and about contents copyright?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Personal data
13.4	for multiuser devices, avoid being permanently signed in on an application	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
13.5	If the application does store credit card information, it should allow users to decide if they want to remain logged in. Ideally, when the user opts to be kept logged in, he/she should get a message informing of the possible risks	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	