

# Group 14 Project 6

## Evaluation Plan

Elliot Bates

School of Electrical Engineering and Computer Science  
Oregon State University  
Corvallis, OR, USA

Kyle Bedell

School of Electrical Engineering and Computer Science  
Oregon State University  
Corvallis, OR, USA

Josh Geller

School of Electrical Engineering and Computer Science  
Oregon State University  
Corvallis, OR, USA

Daniel O'Farrell

School of Electrical Engineering and Computer Science  
Oregon State University  
Corvallis, OR, USA

Jessica Spokoyny

School of Electrical Engineering and Computer Science  
Oregon State University  
Corvallis, OR, USA

**Abstract** - The current mobile experience for the existing ToursByLocals.com site has a number of 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. Having received initial feedback on our prototype replacement, we have refined it, and now look to perform more in-depth evaluation.

### I. ANALYTICAL EVALUATION

Our team has decided to use Nielsen's heuristics to evaluate our mobile UI as well as a few more heuristics which apply specifically to mobile interfaces. This will allow us to determine whether our design is suitable for our product as well as show us areas for improvement.

The task we will evaluate is 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. This is the main purpose of the ToursByLocals website and will be the main process performed by users. We want to make sure that this task runs smoothly and efficiently from start to finish.

The user perspective we will take while doing this evaluation is that of an English-speaking male or female

who travels. There is a wide age range for travelers, however the majority of travelers who would use our mobile site would be between the ages of 20-50. This user would be a smartphone owner and one who can navigate websites and apps proficiently. This user perspective has been chosen because younger, smartphone-using travelers are the target users of the UI we are creating.

Our aim with this design was to upgrade an existing mobile site that we feel has sub-par design and is not user-friendly. In order to improve upon the existing interface and to be sure that the changes we are making are appropriate, we will perform analytical and empirical evaluations.

We will be using Nielson's heuristics for this evaluation with the addition of 3 heuristics developed for modern mobile interfaces. We chose to utilize heuristics for our analytical evaluation because of their simplicity and informality which will prove very useful at this stage of the design process. Using heuristic evaluation prior to user testing will greatly reduce the design errors discovered by users later on. The questions that we will be asking are contained in a checklist, which can be found in appendix C.

These questions will be used by three expert evaluators who will mark each with either 'yes', 'no', or 'N/A' and have the option to add comments where necessary. These marks will be reported in a document and later the expert team will discuss problems, assign priorities and suggest solutions.

The data that all of the evaluators gather will be explicit answers to the heuristics questions and sub questions. After evaluating the results of these evaluations, we will be able to easily identify problems and gaps within our system. The feedback we obtain from this analytical evaluation coupled with the feedback from the empirical evaluation will serve as the basis for any changes we make in our design.

### II. EMPIRICAL EVALUATION

#### A. Goal

The primary goal is to determine if our mobile interface can be successfully used to carry the primary task it was designed for; booking a tour via a mobile device. Specific attention will be paid to usability problems related to:

- 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*

Our intended evaluation subject is a male, approximately 25 years old, unmarried, young professional, lacks dietary restrictions, enjoys travelling, and is smartphone savvy. We feel this user represents our primary demographic. This user has aptitude with smartphones and mobile devices, and has used similar services in the past to order travel-related products like airfare and accommodation.

#### *C. User Task*

The user will be asked to book a tour in New York City using the prototype of the ToursByLocals mobile site. This will allow us to evaluate whether our latest prototype version is an improvement on previous iterations by comparing feedback to that previously received through Piazza. It will also allow us to see overall how the prototype is used by a typical user.

#### *D. Empirical Data Collection*

For this empirical evaluation, a usability study will be performed using a paper prototype of the mobile interface. We will record the session audio, and the evaluator will take detailed notes of relevant actions, objects, space, and mannerisms.

The data we collect from this interaction will help us identify and assess the usability problems outlined in the Goals section above.

The paper prototype is easy to construct and provides rich feedback appropriate for this stage of evaluation. It allows for an interactive experience without committing to a high-fidelity prototype that may need to be substantially changed, depending on the results of the evaluation.

Since the user will be encouraged to talk aloud during their interaction, audio recordings of the session will allow us to capture this feedback so the evaluator can concentrate on recording non-auditory details.

### III. MATERIALS

#### *A. Usability test script*

We will be using parts of Steve Krug's basic usability script<sup>[1]</sup> skeleton to initiate the session. Only the introduction and test explanation sections will be used to prepare the user and give them some informal instruction. The script can be found in appendix A.

#### *B. Paper prototype*

A paper prototype consisting of all of the screens of our mobile interface will be used for the interaction. The user will click/swipe with their finger, and the evaluator will switch out the screens accordingly. The paper prototype can be found in appendix B.

#### *C. Question strategy*

We will not be preparing any structured questions or follow-up questions for this evaluation. Instead, we will simply instruct the user to think aloud while they attempt to complete the task we describe. Any questions about the interface that are directed to the evaluator during the interaction will not be answered.

### 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)

#### IV. 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

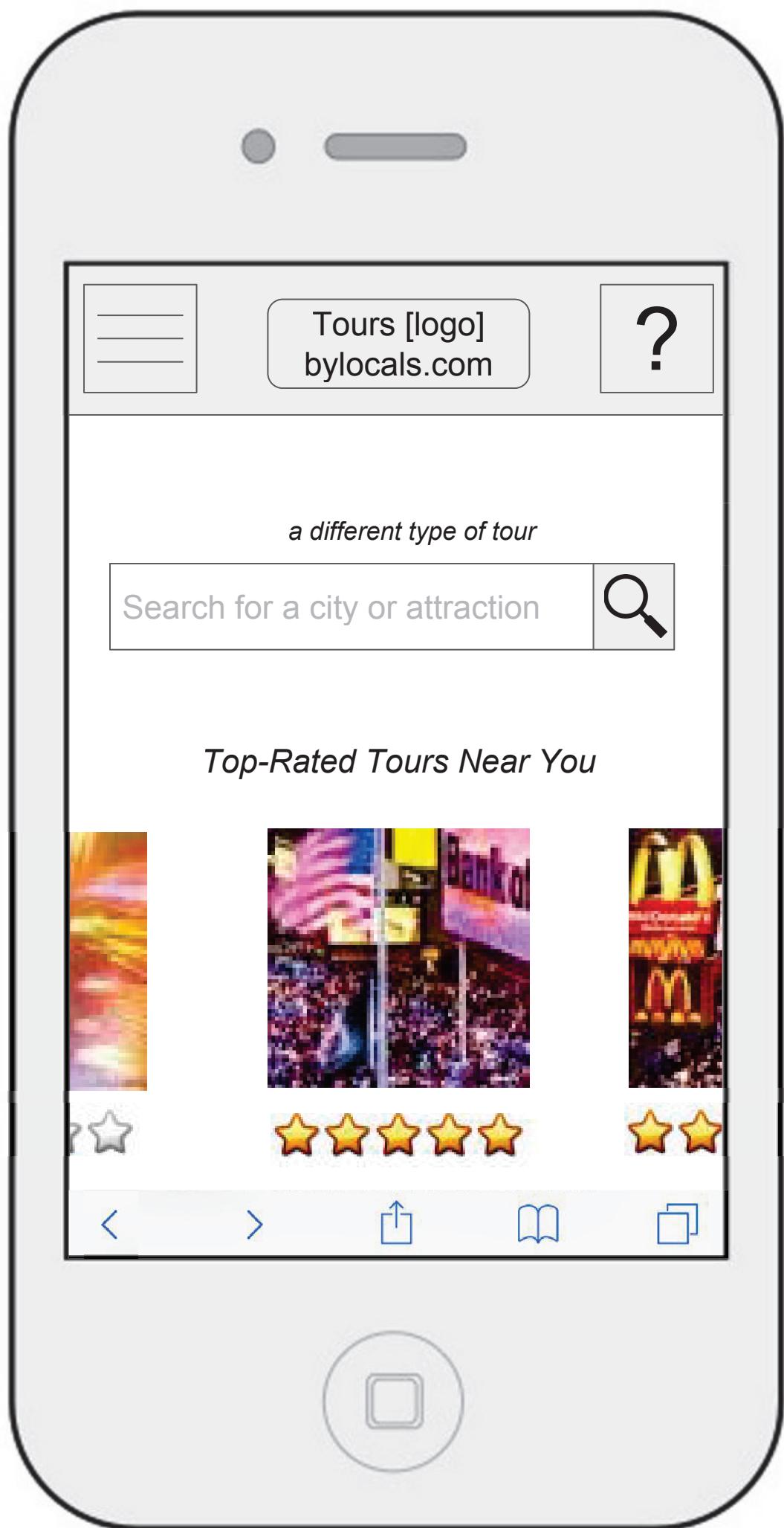
Before we look at the site, I'd like to ask you just a few quick questions. First, what's your occupation? Good. Now, roughly how many hours a week would you say you spend using the Internet, including email? How do you spend that time? In a typical day, for instance, tell me what you do, at work and 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

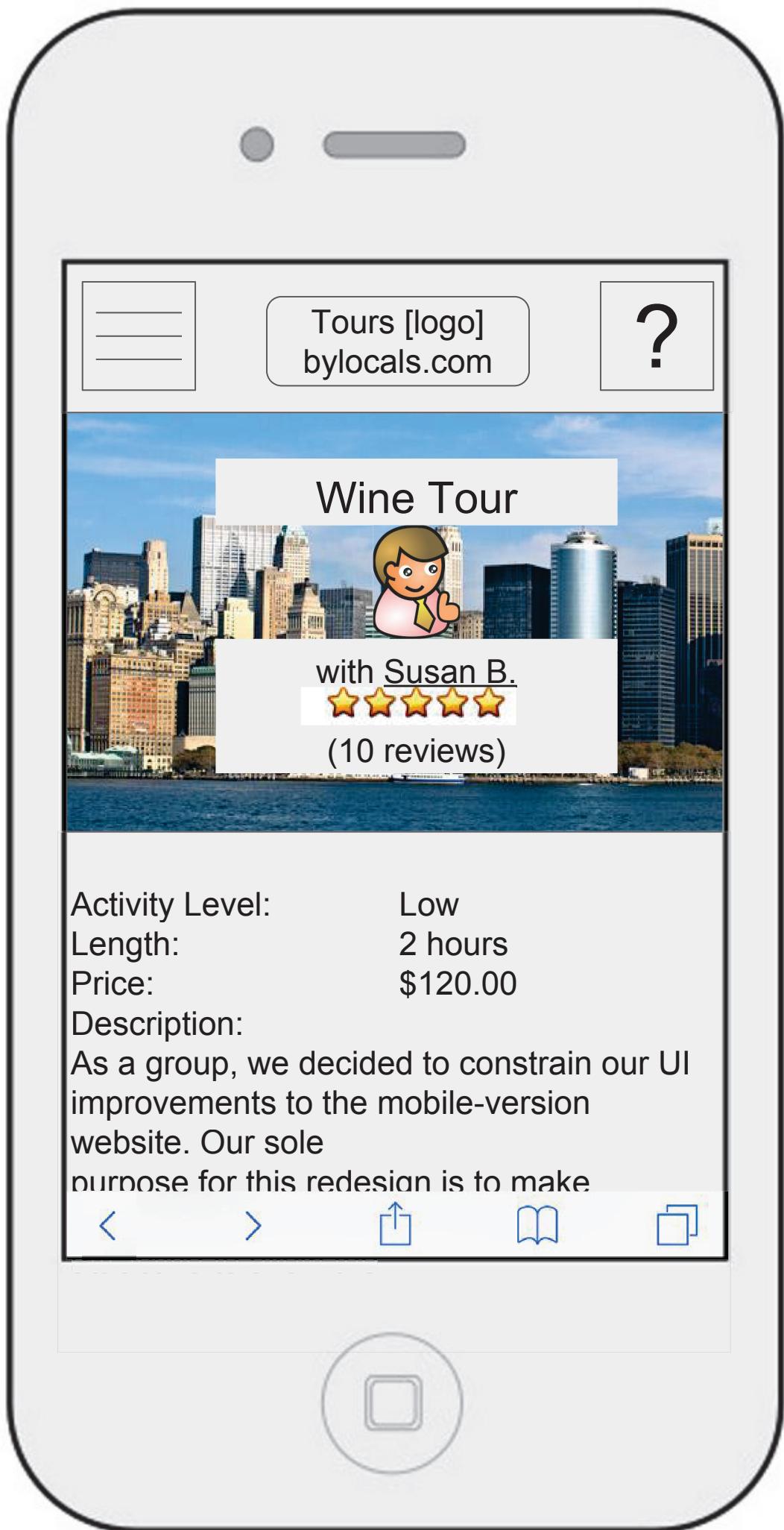


A smartphone screen showing a mobile application interface. At the top, there is a header bar with three icons: a list icon, a logo for 'Tours [logo] bylocals.com', and a question mark icon. Below the header is a button labeled 'Advanced Search'. The main search area contains a search bar with the text '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:

---

[!\[\]\(c1c23851d2a30cb6478029273bb8e4a4\_img.jpg\)](#) [!\[\]\(a6b9d537ade5cf45a66ee3a813e9094b\_img.jpg\)](#) [!\[\]\(ec53459f38187785891e752376d79262\_img.jpg\)](#) [!\[\]\(9f131dd88db234ebbfbe2fbc2cfedb95\_img.jpg\)](#) [!\[\]\(2fac82cdca070ecbf1b4cfe55f366fd9\_img.jpg\)](#)

Tours [logo]  
bylocals.com

?

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

---

Tours:

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

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

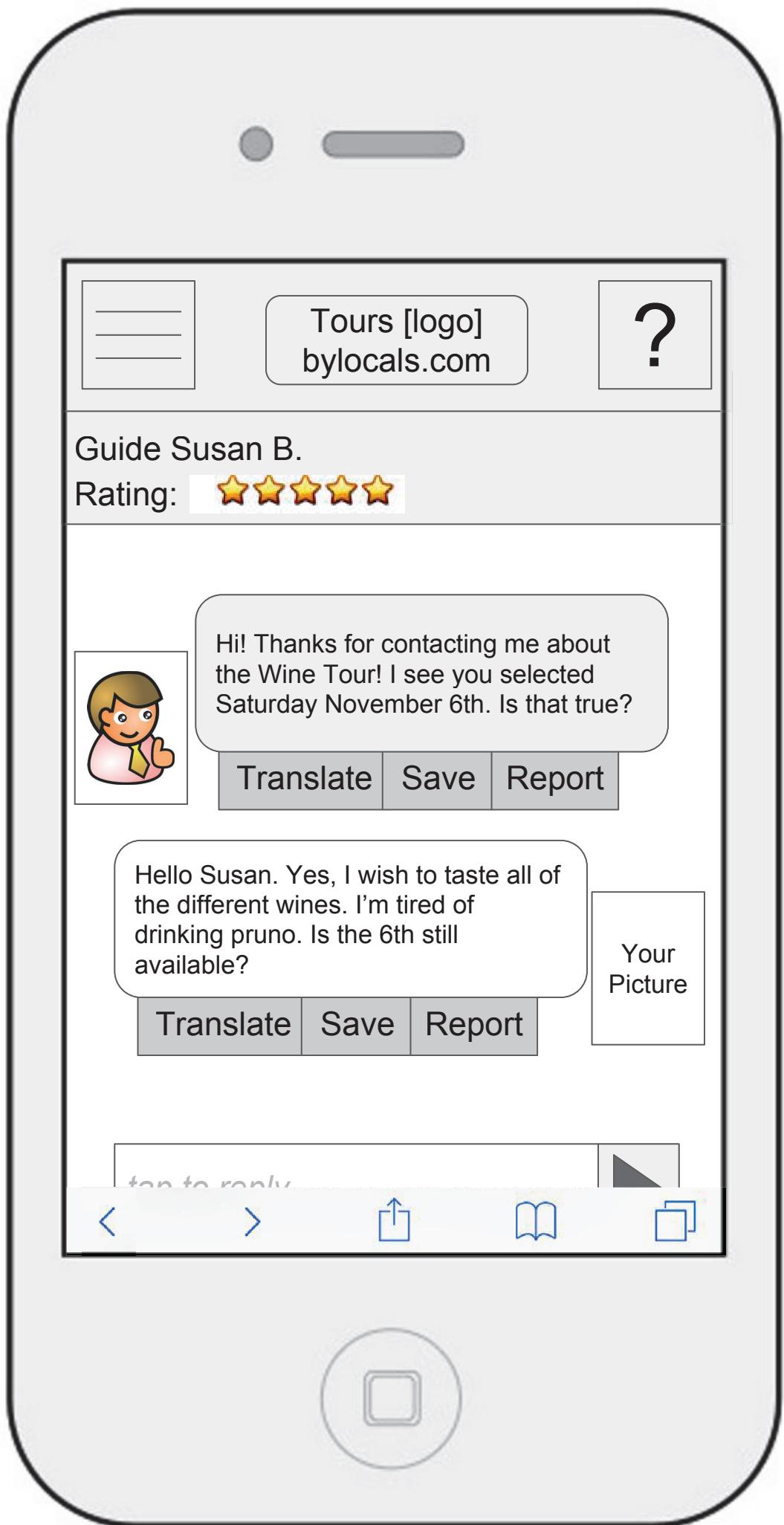
---

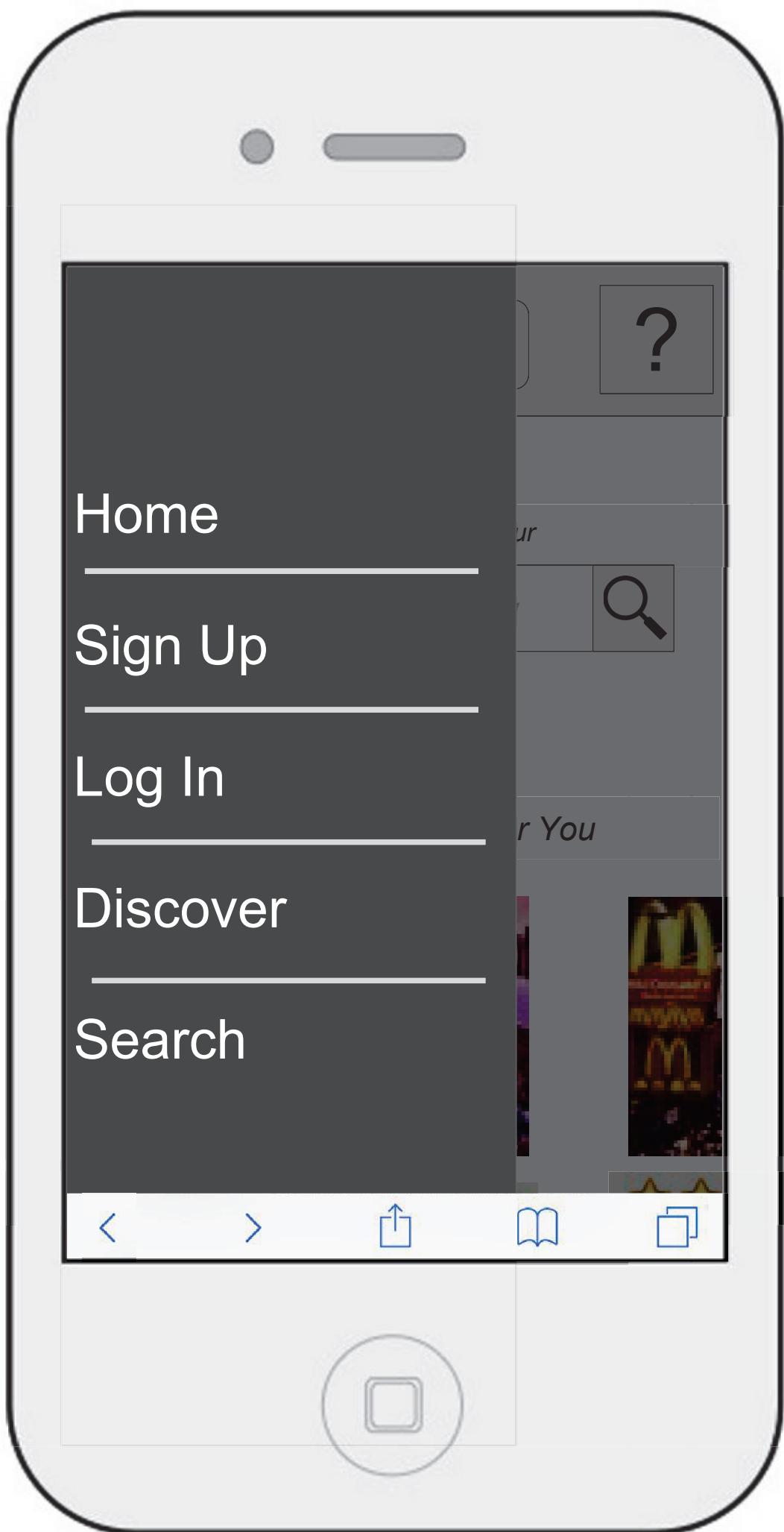
Reviews:

★★★★★ 6/12/15

Jane: Susan was so amazing!

< > ⬆️ 📖 🗃





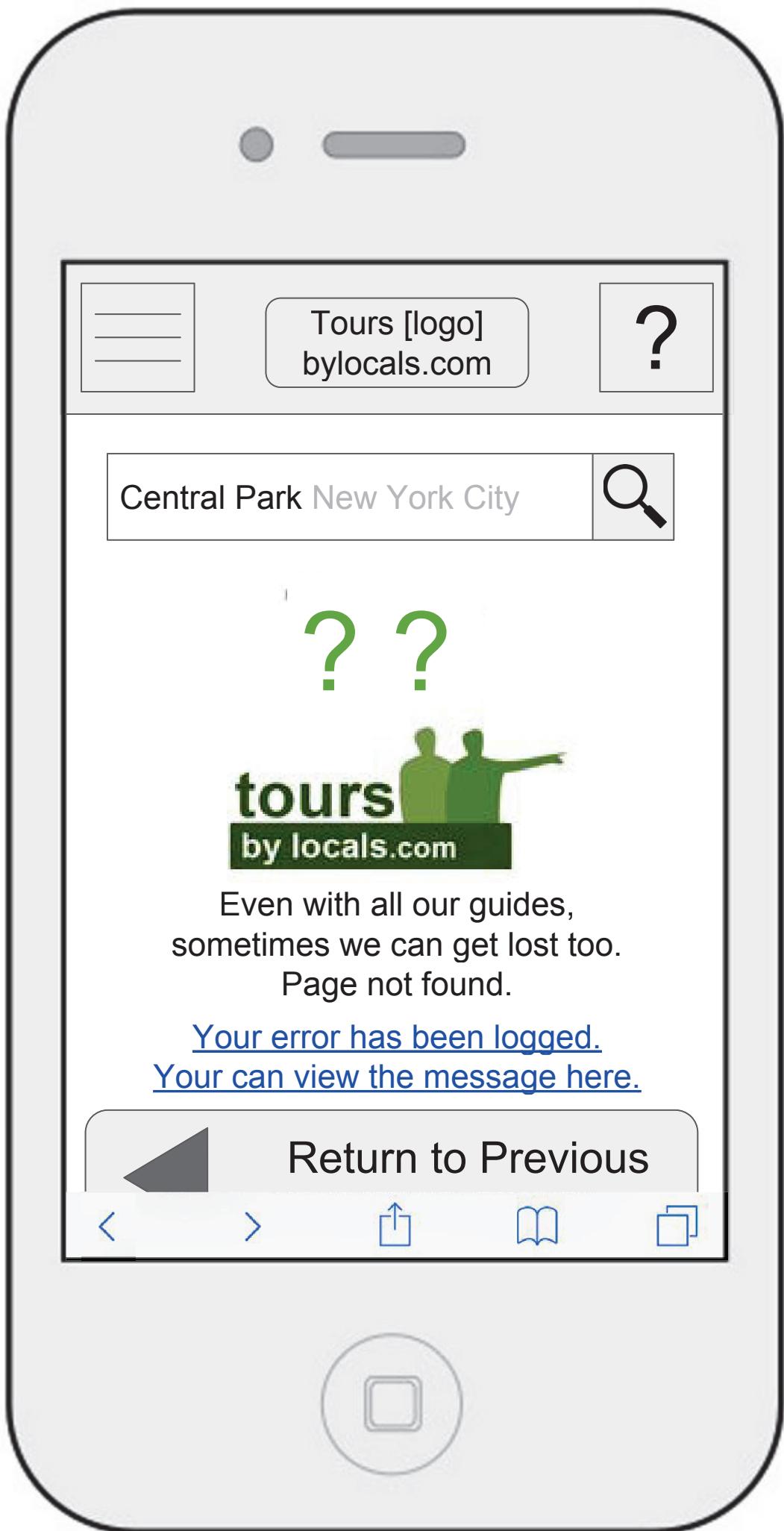
## How it Works

Help

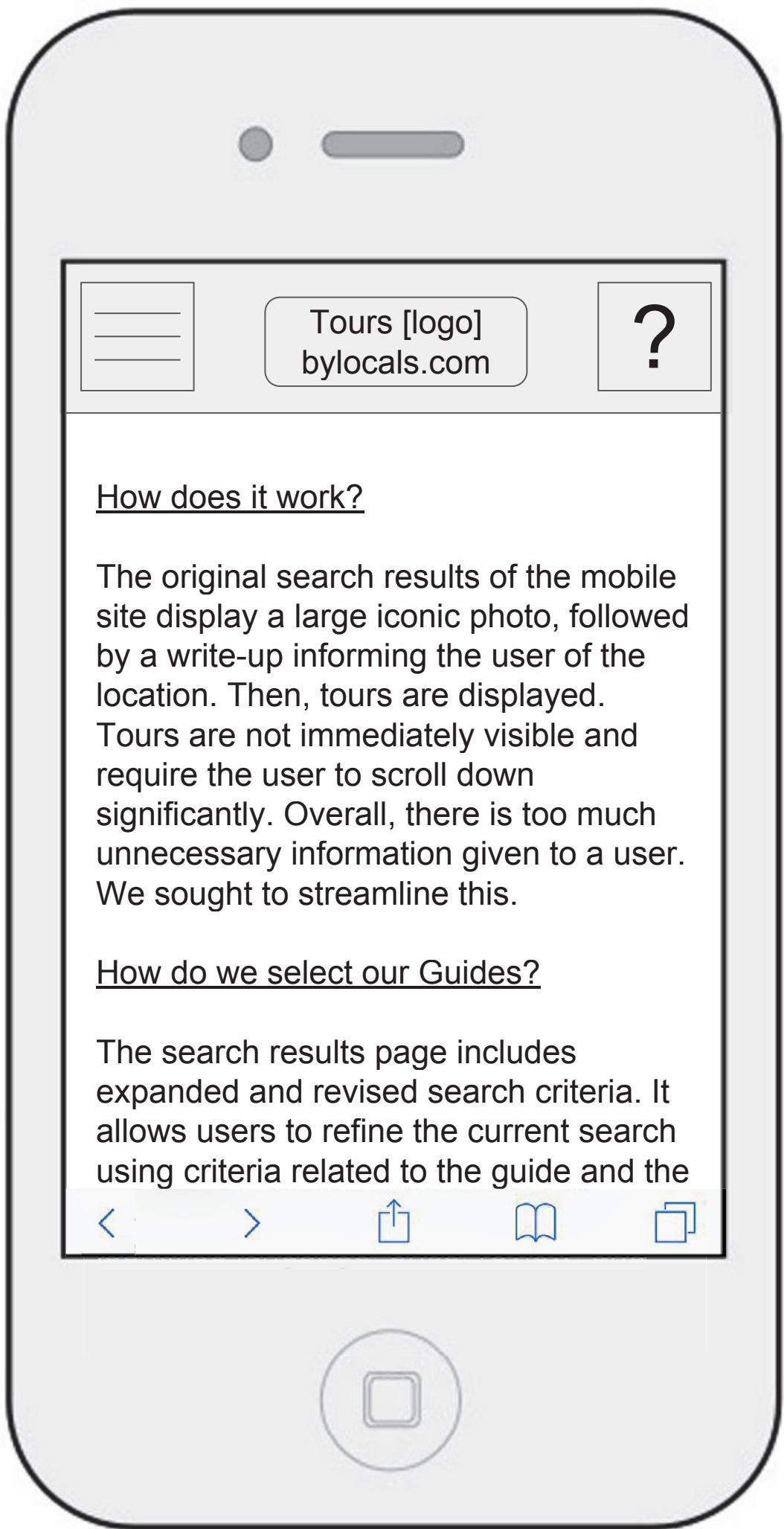
Contact Us

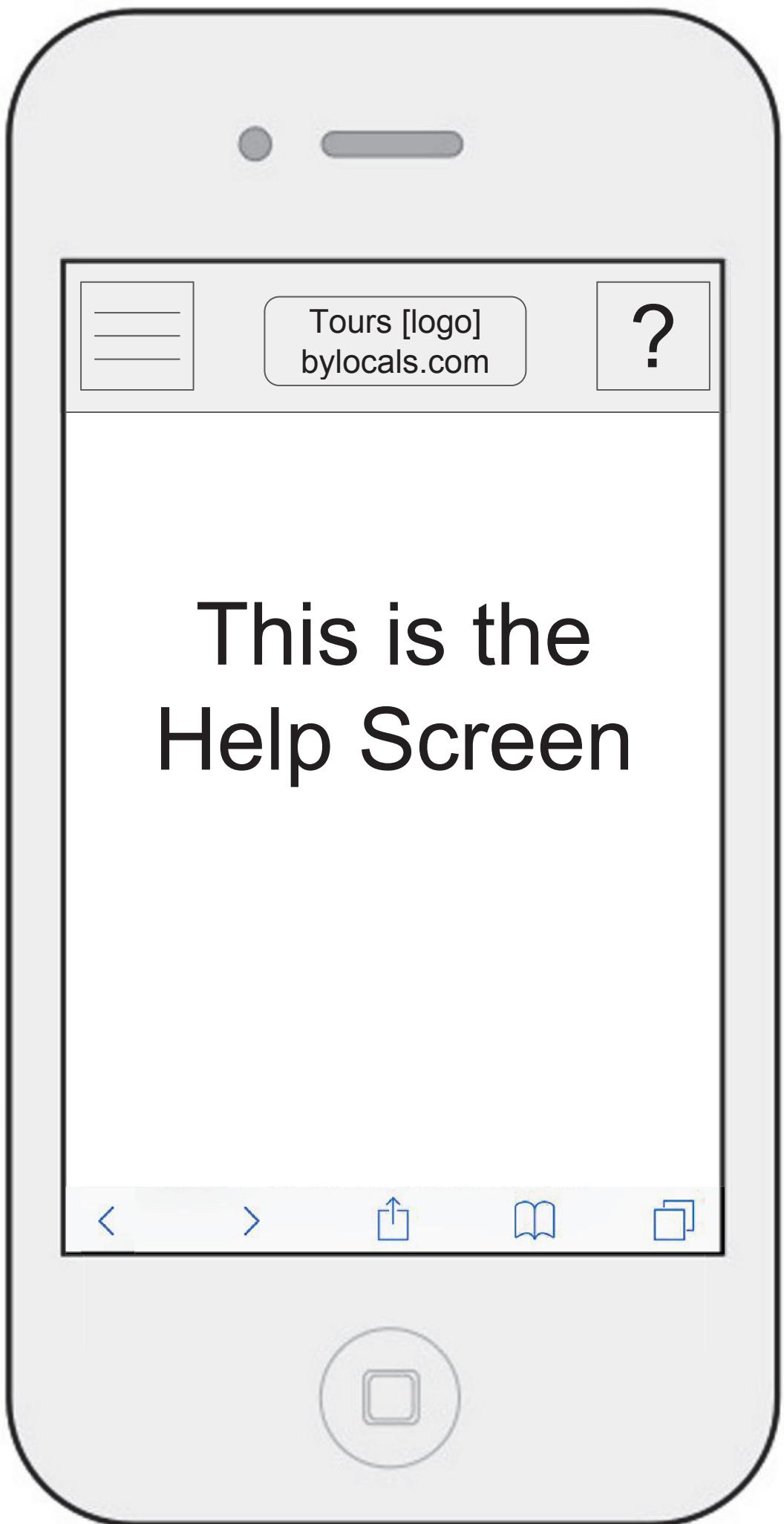
About Us

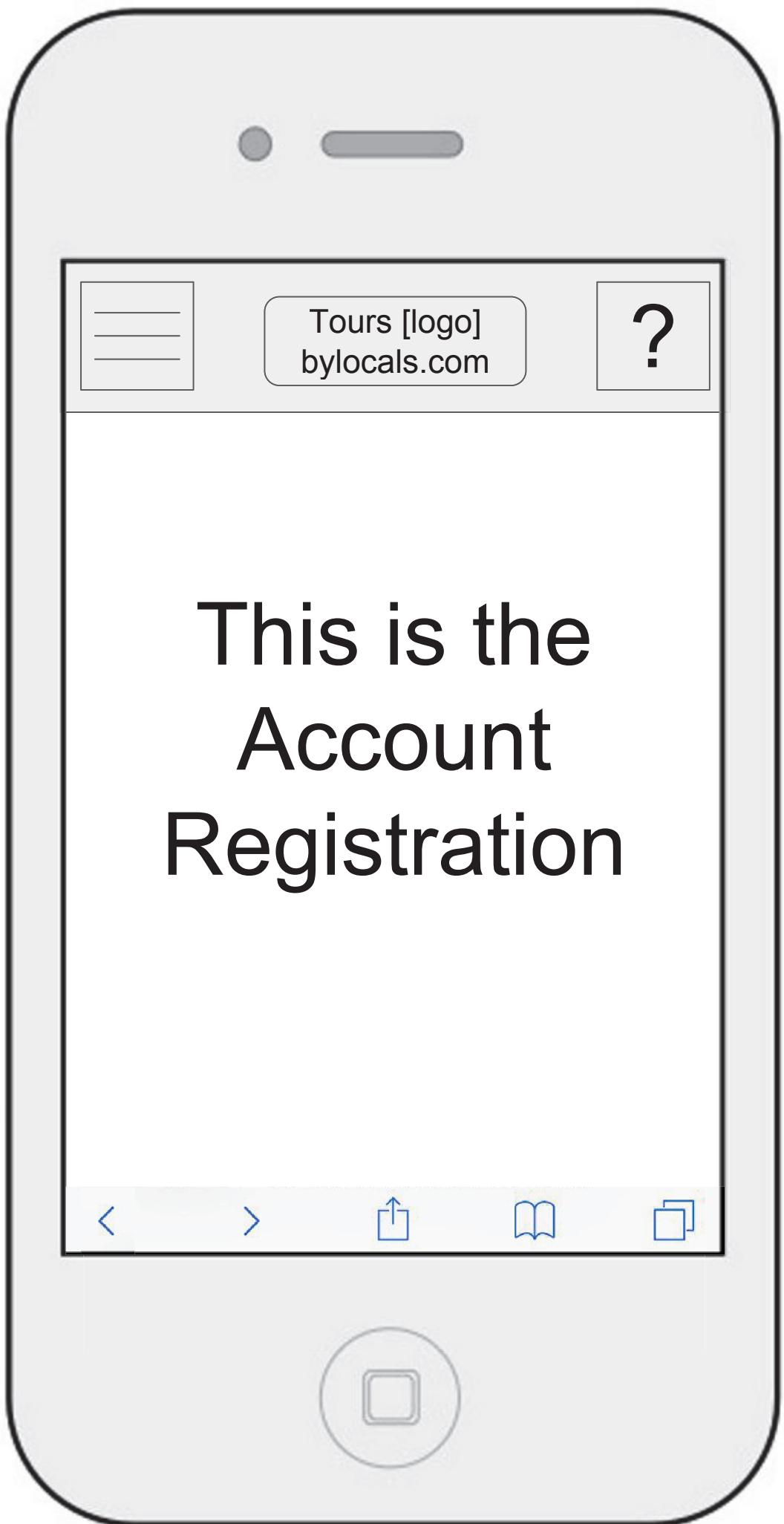


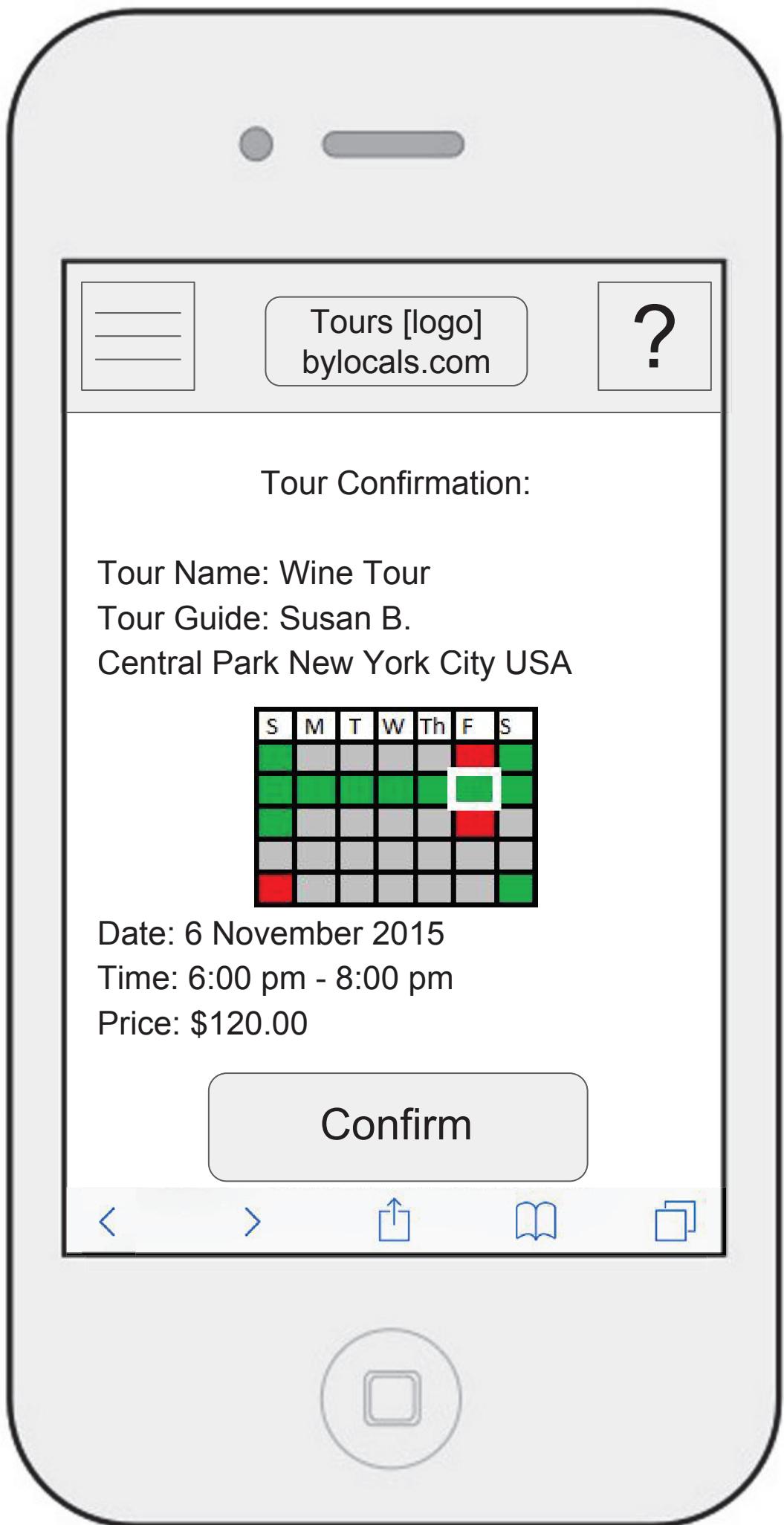












## *Appendix C - Heuristic Evaluation Checklist*

### **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 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"/> |  |
|------|--|-----------------------|-----------------------|-----------------------|--|

## 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"/> |          |