# Group 14 Project 8

## Interactive myBalsamiq Prototype

*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 Ofarrell*
*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 a major usability issues. Our current interactive prototype, which is a mobile interface designed to address these issues, features design elements informed by evaluative techniques such as heuristic evaluation and usability testing.**

## I. SUMMARY

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 on most mobile devices. Our prototype is a comprehensive re-design of the user interface for travelers looking for guides and is intended to support users accessing the service from their mobile devices.

## II. DESIGN JUSTIFICATIONS

Our design decisions were informed by the outputs of two primary evaluative techniques:

1. Heuristic evaluation: To identify obvious usability issues, group members applied Nielsen's usability heuristics[1] in conjunction with additional heuristics for modern mobile interfaces[2] to our prototype.
2. Usability test: A usability test was conducted to evaluate the efficiency, learnability, design, and content of the prototype. The test involved interaction between a target user and a paper prototype.

In addition, we had received heuristic feedback from classmates based on usability criteria applied to early concepts of our design.

Based on the results of these evaluations, the following usability problems and principles were addressed by the current iteration of the prototype:

### *A. System feedback*

- **Add message statuses (decision based on heuristic evaluation).** Checkmarks indicating that a message was delivered/read were added to the messaging system. This feedback gives users valuable information regarding the current state of their communication with their guide. Without this feedback, the process is less transparent and more frustrating for users.

- **Redirect mobile users to m.toursbylocals.com (decision based on heuristic evaluation).** According to best practices for mobile interfaces, it should be obvious to users that they are accessing a mobile version of the web site. This is accomplished by redirecting mobile traffic to a specific subdomain, and giving users the ability to switch to the full desktop site if they want to (a link is available in the site footer). This decision is intended to eliminate any confusion caused by major differences between the mobile/desktop site.

- **Confirmation screens and pop-ups (decision**

**based on heuristic evaluation).** Several new confirmation screens and pop-ups have been incorporated into the current prototype. Confirmation messages are the first line of defense when it comes to providing users with adequate feedback regarding actions they have just taken.

*B. Affordances*

- **Make buttons/links more obvious (decision based on heuristic evaluation).** There were several clickable elements in our initial concepts that had ambiguous appearances and could have been mistaken as simple plain text. We underlined these links and made buttons look more "clickable" to provide affordances indicating the nature of these elements.

*C. General usability*

- **Landscape view (decision based on heuristic evaluation).** Best practices for mobile interfaces suggest testing the UI in both landscape and portrait mode to determine if any new usability issues arise based on screen orientation. We included an example view of our home page in landscape mode to show that the UI could support either scenario.
- **Larger hotspots (decision based on heuristic evaluation).** Several elements in our early concepts and prototypes did not maximize the amount of clickable real estate to support mobile users. For example, instead of just making the name of a tour clickable in the search results, the entire search result card is now clickable.
- **Advanced search pane re-design (decision based on classmate feedback, usability test, and heuristic evaluation).** Similar to the decision above, we re-designed our advanced search pane to be more mobile-friendly. Initial designs attempted to squeeze inputs more space and moving the search preferences to their own menu, the mobile usability of the search system was improved significantly.

*D. Help and documentation*

- **Help menu (decision based on usability test).** To assist users, a help menu has been incorporated to be easily-accessible from every screen. The menu includes three pages: How It Works, FAQ, and Contact. By making this menu an integral part of the main toolbar, we were able to increase the visibility of important documentation.

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

- **Form validation (decision based on heuristic evaluation).** Error and success validation states were added to the registration form to help users diagnose and recover from errors. Green and red input borders are common design elements that are familiar to most users.
- **Recover from zero search results (decision based on heuristic evaluation).** If a user searches for a keyword that returns zero search results, we improve the user experience by suggesting new searches so that they can easily recover and continue with their task. By constructively and proactively suggesting a solution, we minimize the chances that users will abandon their task.

*F. Aesthetic and minimalist design*

- **Expandable sections to de-clutter UI (decision based on heuristic evaluation).** Since our tour and guide screens can potentially contain a lot of data, we used collapsible UI sections to keep the interface minimal for mobile users with limited screen space. Users can tap a link to expand or collapse sections, keeping initial views manageable and readable. Without the ability to collapse sections, the interface would become cluttered, overwhelming, and difficult to navigate on a mobile device.

*G. Flexibility and efficiency of use*

- **Search autocomplete (decision based on heuristic evaluation).** The search input is the first thing users will see on the mobile site, so it was important to design this feature for maximum efficiency. The search input provides auto-completed suggestions based on the user's input, which educates them on the available search options while also getting them closer to their goal in a quick and efficient manner.
- **Search input flexibility (decision based on heuristic evaluation).** The valid search inputs have been expanded to be as flexible as possible, recognizing cities, location, attractions, zip codes, phone numbers, and other search categories, instead of being limited to only cities and attractions.

*H. Recognition rather than recall*

- **"My account" dashboard (decision based on heuristic evaluation):** To reduce the cognitive load of our users, we incorporated a page where the user

can access tours and guides that they have saved. This eliminates the need for the user to keep track of the tours and guides they are interested in - instead they only need to save them and return to their account dashboard.

*I. Safety*

- **Guide credentials/Background checks (based on usability test)**. Tour guide profiles include a list of credentials to increase the sense of safety, professionalism, and security. Our initial research indicated that safety was a primary concern of users, and this research was verified by our usability test. By including credentials on the guide page, we can address safety concerns and increase trust amongst users.

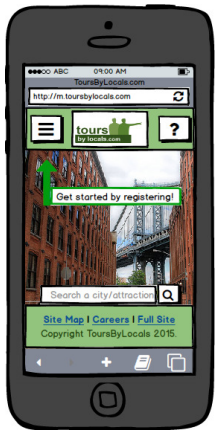
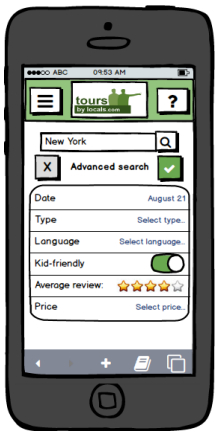
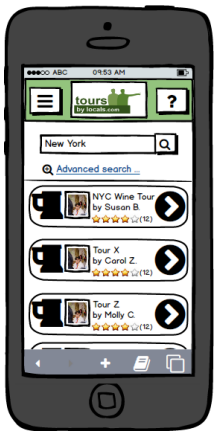
## III. REFERENCES

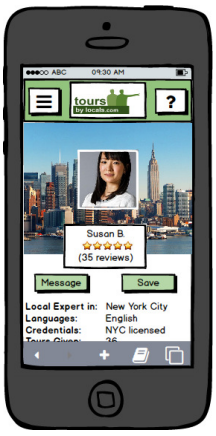
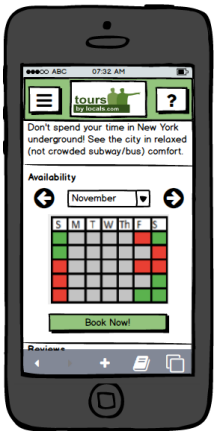
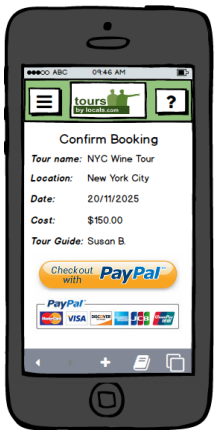
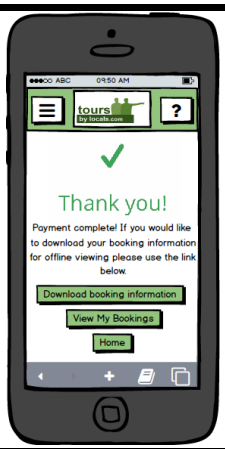
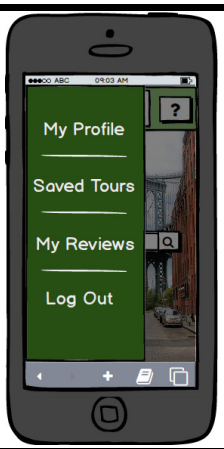
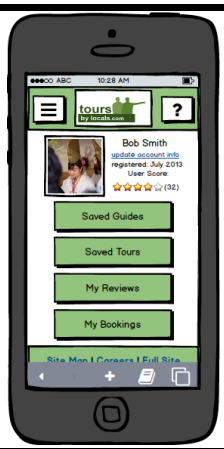
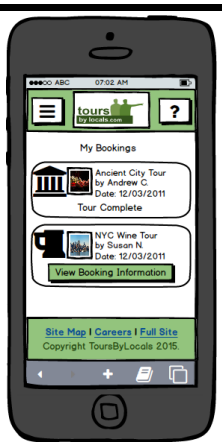
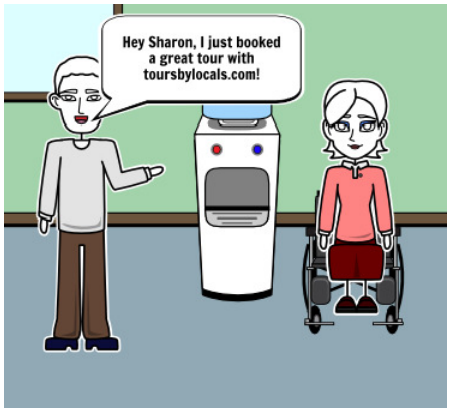

[1] http://www.nngroup.com/articles/ten-usability-heuristics/
[2] http://www.hindawi.com/journals/tswj/2014/434326/


## IV. APPENDICES

*Appendix A: Storyboard (pg. 4)*

*Appendix B: Interactive Prototype (see separate PDF attachment)*

| | | |
|---|---|---|
|  |  |  |
| Bob wishes to search for a tour and goes to use his smart phone. | Bob gets his smart phone and opens up his web browser | He navigates to the toursbylocals.com home page. |
|  |  |  |
| He navigates to the registration page and fills in his information. | He completes his registration. | He initially searches for tours in Central Park. |
|  |  |  |
| He refines his search using the advanced search menu. | He views the available tours in New York and chooses the NYC Wine Tour. | He reads about the tour and decides he wans more information about his tour guide, so he navigates to her page. |

| | | |
|---|---|---|
|  |  |  |
| He reads the tour guide information. Satisfied that this is a good tour guide he navigates back to the tour. | He selects 'book now' from the tour info page. | He reviews the booking information and proceeds to payment via paypal. |
|  |  |  |
| Having completed payment he returns to the home page. | He then decides that he does want to download the booking information. He opens up the ham-burger menu and selects 'my profile' | He then selects 'my bookings' from his profile. |
|  |  |  |
| From this page he selects to view his booking information again. | He downloads the information for offline viewing and closes his web browser. | Bob is happy with his booking and goes back to work. |