# Parking Lots Map Test

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## Introduction

parking-lots-map.herokuapp.com serves as an application to find where to park the users vehicles on the location they want on the map, this in an attempt to make it much easier as most of the current map applications don’t provide clear enough information about parking lots, their fees and other relevant information.

A usability test is intended to determine the extent an interface facilitates a user’s ability to complete routine tasks. Typically the test is conducted with a group of potential users either in a usability lab, remotely (using e-meeting software and telephone connection), or on-site with portable equipment. Users are asked to complete a series of routine tasks. Sessions are recorded and analyzed to identify potential areas for improvement to the web site.

The parking-lots-map.herokuapp.com usability test was conducted by its developer Nicolás Buitrago Castaño using a live version of the app hosted by heroku.com. The test administrator was present in the testing room. The session captured each participant’s navigational choices, task completion rates, comments, overall satisfaction ratings, questions and feedback.

## 

## Executive Summary

The parking-lots-map.herokuapp.com developer conducted an onsite usability test at his house on April 21st, 2017. The purpose of the test was to assess the usability of the web interface design, information flow, and information architecture.

Three guest participants participated in test 1. Each individual session lasted approximately 3:05 minutes. Test scenarios didn’t differ due to the small amount of participants to gather the most consistent information possible.

In general, all participants found the parking-lots-map.herokuapp.com web site to be clear, straightforward, and 100% thought the web site was easy to use.

The test identified only a few minor problems including:

• Lack of a logo for it to look more friendly.

• Header(Banner) taking too much space in certain devices.

• Lack of a short description or slogan under the logo.

• Lack of responsiveness on the parking lot popup information.

This document contains the participant feedback, satisfactions ratings, task completion rates, ease or difficulty of completion ratings, time on task, errors, and recommendations for improvements. A copy of the scenarios and questionnaires are included in the Attachments’ section.

## Methodology

### Sessions

The test administrator contacted the participants verbally. Each individual session lasted approximately 3:05 minutes. During the session, the test administrator explained the test session and asked the participant to fill out a brief background questionnaire. Participants read the task scenarios and tried to find the information on the website.

After the last task was completed, the test administrator asked the participant to rate the website overall by using a 5-point Likert scale (Strongly Disagree to Strongly Agree) for eight subjective measures including:

* Ease of use
* Frequency of use
* Difficulty to keep track of location in website
* Learnability - how easy it would be for most users to learn to use the website
* Information facilitation – how quickly participant could find information
* Look & feel appeal – homepage’s content makes me want to explore the site further
* Site content – site’s content would keep me coming back
* Site organization

In addition, the test administrator asked the participants the following overall website questions:

• Recommendations for improvement.

• What the participant liked most.

### Participants

All participants were related to the administrator and had not seen the website ever before. The two participants were females with basic understanding of website navigation and no knowledge of web development.

**Profession**

Participants were asked their professions and registered on this report.

**Profession**

| **Occupational Therapist** | **Veterinary Medic and Zootechnist** | **International and government financist** |
| --- | --- | --- |
| 1 | 1 | 1 |

### Evaluation Tasks/Scenarios

Test participants attempted completion of the following tasks to complete test scenarios/tasks and each participant completed a self-directed task (i.e., a task of their choice):

1. Search manually for a parking lot.
2. Search by the search box for a parking lot.
3. Find the current location.
4. Search for a parking lot nearby the current location.
5. Browse the information of the parking lot.

## Results

### Task Completion Success Rate

All participants successfully completed the 6 tasks.

**Task Completion Rates**

| **Participant** | **Task 1** | **Task 2** | **Task 3** | **Task 4** | **Task 5** |
| --- | --- | --- | --- | --- | --- |
| **1** | **√** | **√** | **√** | **√** | **√** |
| **2** | **√** | **√** | **√** | **√** | **√** |
| **3** | **√** | **√** | **√** | **√** | **√** |
| **Success** | **3** | **3** | **3** | **3** | **3** |
| **Completion Rates** | **100%** | **100%** | **100%** | **100%** | **100%** |

### Time on Task

The time on task of each participant varied according to their tech expertise. Some tasks were inherently more difficult to complete than others and is reflected by the average time on task.

Task 5 required participants to browse the parking lot information after looking for it and took the longest time to complete (mean = 72 seconds). However, completion times ranged from 30 to 150 seconds (approximately more than 2 minutes).

**Time on Task**

|  | **P1** | **P2** | **Avg. TOT\*** |
| --- | --- | --- | --- |
| 1. Search manually for a parking lot. | 15 | 20 | 17.5 |
| 1. Search by the search box for a parking lot. | 5 | 10 | 7.5 |
| 1. Find the current location. | **2** | 3 | 2.5 |
| 1. Search for a parking lot nearby the current location. | 3 | 4 | 3.5 |
| 1. Browse the information of the parking lot. | 45 | 90 | 67.5 |

### Errors

Nicolás Buitrago Castaño captured the number of errors participants made while trying to complete the task scenarios.

The task that had errors that slowed down the flow was browsing the popup information of the selected parking lot, as it didn’t display as expected in smaller screen sized devices. This did not prevent the successful completion of the task but just jeopardized it.

### Summary of Data

The table below displays a summary of the test data. Low completion rates and satisfaction ratings and high errors and time on tasks are highlighted in red.

For example:

**Summary of Completion, Errors, Time on Task, Mean Satisfaction**

| **Task** | **Task Completion** | **Errors** | **Time on Task** |
| --- | --- | --- | --- |
| **1** | 2 | 0 | 17.5 |
| **2** | 2 | 0 | 7.5 |
| **3** | 2 | 0 | 2.5 |
| **4** | 2 | 0 | 3.5 |
| **5** | 2 | 1 | 105 |

### Overall Metrics

#### Overall Ratings

After task session completion, participants rated the site for eight overall measures, these measures include:

* Ease of use
* Frequency of use
* Difficulty of keeping track of where they were in the site
* How quickly most people would learn to use the site
* Getting information quickly
* Homepage’s content facilities exploration
* Relevancy of site content
* Site organization

Most of the participants (100%) agreed (i.e., agree or strongly agree) that the website was easy to use, would use it frequently, though most people would learn to use it quickly, Homepage’s content makes them want to explore site and that site content will keep them coming back.

See table below.

Result consolidation:

|  | **Strongly Disagree** | **Disagree** | **Neutral** | **Agree** | **Strongly Agree** | **Mean Rating** | **Percent Agree** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Thought Website was easy to use |  |  |  | 2 | 1 | 4.3 | 100% |
| Would use website frequently |  |  |  | 1 | 2 | 4.6 | 100% |
| Found it difficult to keep track of where they were in website |  |  | 1 | 1 | 1 | 4 | 66.6% |
| Thought most people would learn to use website quickly |  |  |  | 1 | 2 | 4.6 | 100% |
| Can get information quickly |  |  | 1 |  | 2 | 4.3 | 66.6% |
| Homepage’s content makes me want to explore site |  |  |  | 2 | 1 | 4.3 | 100% |
| Site’s content would keep me coming back |  |  |  |  | 3 | 5 | 100% |
| Website is well organized |  |  | 1 | 1 | 1 | 4 | 66.6% |

*\*Percent Agree (%) = Agree & Strongly Agree Responses combined*

**Post-Task Overall Questionnaire**

Participant 1:

|  | **Strongly Disagree** | **Disagree** | **Neutral** | **Agree** | **Strongly Agree** |
| --- | --- | --- | --- | --- | --- |
| Thought Website was easy to use |  |  |  | X |  |
| Would use website frequently |  |  |  |  | X |
| Found it difficult to keep track of where they were in website |  |  | X |  |  |
| Thought most people would learn to use website quickly |  |  |  |  | X |
| Can get information quickly |  |  | X |  |  |
| Homepage’s content makes me want to explore site |  |  |  | X |  |
| Site’s content would keep me coming back |  |  |  |  | X |
| Website is well organized |  |  | X |  |  |

Participant 2:

|  | **Strongly Disagree** | **Disagree** | **Neutral** | **Agree** | **Strongly Agree** |
| --- | --- | --- | --- | --- | --- |
| Thought Website was easy to use |  |  |  | X |  |
| Would use website frequently |  |  |  | X |  |
| Found it difficult to keep track of where they were in website |  |  |  | X |  |
| Thought most people would learn to use website quickly |  |  |  | X |  |
| Can get information quickly |  |  |  |  | X |
| Homepage’s content makes me want to explore site |  |  |  | X |  |
| Site’s content would keep me coming back |  |  |  |  | X |
| Website is well organized |  |  |  | X |  |

Participant 3:

|  | **Strongly Disagree** | **Disagree** | **Neutral** | **Agree** | **Strongly Agree** |
| --- | --- | --- | --- | --- | --- |
| Thought Website was easy to use |  |  |  | X |  |
| Would use website frequently |  |  |  | X |  |
| Found it difficult to keep track of where they were in website |  |  |  | X |  |
| Thought most people would learn to use website quickly |  |  |  | X |  |
| Can get information quickly |  |  |  |  | X |
| Homepage’s content makes me want to explore site |  |  |  | X |  |
| Site’s content would keep me coming back |  |  |  |  | X |
| Website is well organized |  |  |  | X |  |

#### 4.6.2 Likes, Dislikes, Participant Recommendations

Upon completion of the tasks, participants provided feedback for what they liked most and least about the website, and recommendations for improving the website.

**Recommendations for Improvement**

The following comments capture what the participants suggested:

* Add a Logo.
* Add a slogan.
* Add button to hide banner(header).
* Make the information popup responsive for smaller devices.

**Liked Most**

The following comments capture what the participants liked most:

* There is not a bunch of text, images prime over text, very visual app.  
  The app responds quickly.
* Users can navigate easily as in other map apps.
* Markers collapse in a cluster instead of showing a large amount of pins.
* Color palette usage.
* Its intuitive.
* Its friendly and easy to use.
* Doesn’t require a lot of browsing to find info, takes small amount of interactions to move around.

## Recommendations

The recommendations section provides recommended changes and justifications driven by the participant success rate, behaviors, and comments. Each recommendation includes a severity rating. The following recommendations will improve the overall ease of use and address the areas where participants experienced problems or found the interface/information architecture unclear.

**Search for a parking lot and browse the information (Task 5)**

Task 5 required participants to find another parking lot and browse its information.

| **Change** | **Justification** | **Severity** |
| --- | --- | --- |
| * Add a Logo to make the app friendlier. * Add a Slogan to have a better comprehension of the app. * Add a button to hide the header for a much easier navigation of the map. * Implement responsiveness on the information popup showed on map. | Participants across tests found it difficult to navigate the map with the header always being shown as it uses a big part of the screen.  Participants needed to ask what was the website for due to the lack of a descriptive slogan.  Participant found it difficult to browse the popup information on smaller screen devices of the parking lots found. | High |

## Conclusion

Most of the participants found parking-lots-map.herokuapp.com to be comprehensive, clean and uncluttered, very useful, and easy to use. Having a centralized site to find information is key to many if not all of the participants. Implementing the recommendations and continuing to work with users (i.e., real lay persons) will ensure a continued user-centered website.