Quantitative Insights into HiddenCampers

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Abstract

Camping as an activity has been around for centuries. People from all ages and demographics enjoy escaping the work-life to enjoy the greens. We created Hidden Campers, which was designed to aid such users by helping them discover camping site locations across the New England area.

The results presented in this paper illustrate how our system effectively allowed users to find campsites in a time-efficient manner relative to other systems. Our study involved surveying and testing about 30 people on campus, ranging across different demographics and age groups. Focusing on the key requirements of the travelers, we find that the design and simplicity of HiddenCampers reinforces users to use the application much more than the other applications.

Introduction

Camping has evolved into a highly fragmented tourism sector, maturing beyond its origins as an inexpensive, temporary setting in a rural environment. It has been equated with tenting and outdoor recreation traditionally over the years. For a great majority, however, it involves sleeping at least one night in a recreational vehicle (RV), caravan, cabin, or any other type of temporary shelter where the comforts of home can be enjoyed. Camping is an accommodation choice, ranging from basic to luxury RVs and upscale cabins. While camping as a form of accommodation as well as a more holistic activity can be found on every continent and has occurred in various forms for thousands of years [1], the focus of our study is on the United States, specifically New England.

With our system, Hidden Campers (HC), we focus solely on the geo-location aspect of campsites in the region comprising the states Maine, Vermont, New Hampshire, Massachusetts, Rhode Island and Connecticut. HC allows users from all walks of life to discover and find camping locations in the areas described above.

In order to do so, our experiment comprised of gathering students from the Northeastern University campus and asking them to participate in our testing experiment. This involved students from Marino Center, Curry Student Centre, ISEC and Snell Library.

Our testing research was motivated towards allowing users to find camping sites that are easy to lookup without involving much hassle or extraneous input. We tried a summative technique to carry this out. For the experiment, we proceeded with a coin-flip approach, wherein “Heads” meant that users had to test HC and “Tails” meant they had to test another equivalent system, which we randomly selected too. Testing here meant that users had to discover/ find campsites in the least possible time.

Our *Null Hypothesis* for the experiment was :

The design of HC influences the users’ ability to find campsites faster relative to other systems.

The *Alternate Hypothesis* was :

The design of HC influences the users’ ability to find campsites slower relative to other systems.

Based on the results from this approach, we calculated the time it took for users to carry out the goal task and the statistics are presented in a later section.

Previous Work

Our previous work listed websites that offer functionality for providing camping locations as well but somewhat lacked in simplicity and time efficiency.

Systems like HipCamp offer much more of an AirBnB approach wherein users had to pay for campsites for their camping experience.

Another system called ReserveAmerica was a lot more complicated to navigate and had an outdated look and feel.

According to one of the literature reviews from Pennsylvania State University, [2] backcountry and wilderness recreation rely heavily on camping which creates areas of high impact. The quality of customer’s recreation could be affected by design and condition of campsites.

Students at University of Central Florida whose main motive was to examine the RV Travelers’ Camping

experience [3] attempted to decode the underlying theme of keyword that users search while looking for camping sites. Two researchers independently reviewed the postings to identify themes, patterns, and topic areas. Themes from both researchers' lists were discussed and compared, ending with a comprehensive list of six major themes: campsite attributes, outdoor activities, surrounding area, campground policies, and staff. And again setting up an RV at the designated campsite can be very time consuming, which is why, at HiddenCampers, users do not have to worry about any of that. They would review the campsites that already have facilities and recreational activities that they want.

Methods

The research method used for this study was a quantitative one under which interviews and an experiment was conducted across the campus with 30 people. These people all belonged to different demographics and age groups ranging from 18 years to 24 years. Their personal experiences were observed and integrated in the results. Behavioral aspects of all our target users in the experiments were recorded and analyzed.

We used a structured interview used in most forms of research wherein a set of questions were asked at the end of the experiment being described next. For the actual experiment, we directed the users to execute certain tasks relevant to our system. We asked the users to flip a coin, and depending on the face value of the flip result, the users were asked to test a certain system. For instance, "Heads" entailed users to test HC and carry out tasks such as browsing and searching for campsites, making a profile to review existing campsites or the campsites they visited and adding more campsites from their personal travel-log to the system. These tasks were representative of the essential functioning of our system and alternative systems and gave us a metric to test the time-efficiency.

The other existing systems we used to test against HiddenCampers were other equivalent websites like reserveamerica.com and hipcampers.com that offer similar functionality to users. The main idea behind conducting our experiment was to test for the satisfaction of the hypotheses provided in the Introduction. Our system was designed and developed keeping in mind Nielsen's Design Heuristics so as to not only allow users to use an application that allows them to successfully carry it's intended tasks, but also to do that in less time and more ease of understanding and fluidity. The intention behind a summative technique was that we had already performed a formative approach during our paper prototyping phase. That formative practice gave us great insight into what needed to be refined and fixed in our application until we were satisfied with how we envisioned it. Quantitative research made it possible to get a deeper understanding of the working of our system in order to test it against what's already out there.

Closed Card Test:

Card sorting is an easy and reliable method to get valuable insights about how your web content should be organized in order to meet the expectations of your target group. We executed a Closed Card test wherein we gave users 10 cards (each representing either features or activities that were related to a particular campsite) and asked them to sort each of those items in 3 categories (Very important, Somewhat important, Not important). This helped us understand what feature was important while adding a campsite and which of the items influenced users' choice selection.
Closed card sorting is really straightforward since the categories and items are already decided which helps decrease abandonment rate and results in authentic data since we look at raw decision-making.

Results

Our experiments yielded varying results, offering us awareness into user's perspectives and their vision of our application.

63% of our respondents were able to carry the instructed tasks faster than an alternative system. They found our system comprehensive, yet easy to use. A lot of the users, however, pointed out certain lack of functionalities, which would usually be expected from a bigger-scale application. The statistics regarding time are represented in Figure 1.

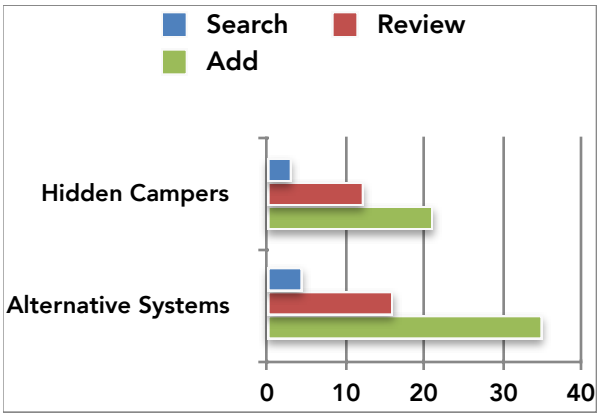

Fig 1. Average time taken in seconds to execute 3 essential tasks in both kinds of systems

Our Closed card experiment showed that features seemed to be a more important factor for women as opposed to men. About 97% of the women considered availability of toilets as a basic criteria for their decision to stay at any campsite. For men, however, accessibility to activities such as hiking trails and wildlife watching seemed more important. Our results for the same are graphically represented below.

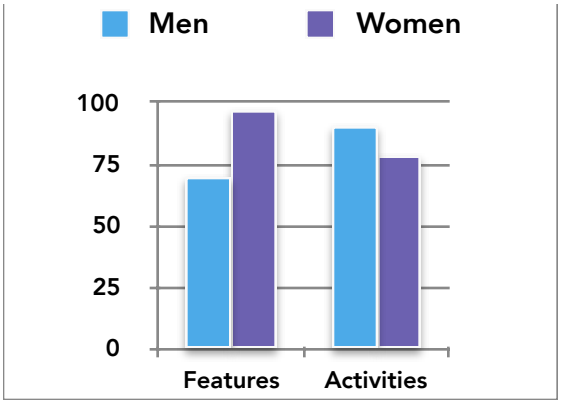

Fig 2. Percentages of men and women with respect to their preference in respective categories

About 82% users believed that "Snow Sports" and "Picnic Tables" were not so relevant as most users preferred not to camp with snow around.

All our results also led us to two considerations for a redesign :

- Add more features/activities related to the three most important features identified by the users
- Delete the least popular features for a cleaner interface.

All our results are in alignment of the satisfaction of our Null hypothesis, thereby discarding the alternative one.

At the end of our experiment, we also conducted a survey that comprised of certain questions about the overall look and feel of our system. Some of them were :

1. How effective was our system in terms of it's intended tasks?
2. What features did you like/dislike?
3. How likely are you to use our system in the future?
4. Would you prefer our system over any other system that's commercially available, offering the same functionality?

Discussion

Based on our results and observations, we identified certain functionalities that were lacking in our application. User feedback, including words like "At first", "A bit" and a bunch of sighs, were indicative of potential issues while browsing through our system.

Some users expected some kind of filter in order to search campsites. When asked what they expected, they cited a functionality where they would want to have the ability to find campsites based on their GPS location depending on features they were looking for or activities they were interested in.

Certain users expected an ability to add certain campsites to their 'Favorites' that allowed them to go back to them without having to search again.

For our future work, we also plan to include a bigger data set and the ability for users to put two points on a map, which would allow them to find campsites in between those points, making the functionality more dynamic as opposed to a static list of campsites that are currently listed.

Social media plays an extremely significant and pivotal role in online travel information and search and we plan to incorporate that in forthcoming versions. [4][5]

Consumers also get hugely influenced by recommendations they stumble across online, which helps to refine their choices further. Our research kept this under consideration but didn't entirely implement it owing to the small scope of our system. We could implement this by letting users follow each other so they can be notified in the future about each other's campsite postings. [6]

Conclusion

Our study provides a clear breakdown of the usability of our system and it's comparison against existing systems that offer similar functionality. Not only is our application time-efficient, it also satisfies Nielsen's design heuristics.

We plan to certainly offer refinements to our system in the future and broaden it's scope to make it stand out amongst the other alternative applications.

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