Assignment M3

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Abstract—The task of booking multi-destination trips on Expedia can be an exhaustive process. Having to purchase flights and hotels separately, and hotels for each destination separately does not make for an intuitive interface. The interface should provide a way for users to book and purchase all flights, hotels, and cars all at once as opposed to having to book them separately. During this study, I will be obtaining useful information from travelers about their experience using Expedia or similar tools to improve the multi-destination booking process on Expedia.

1 BRAINSTORMING PLAN

For this assignment, I will be conducting individual brainstorming. I will spend four days brainstorming ideas that will help me develop the three design alternatives that I will be using to create my prototypes. My goal is to produce between 15 to 20 design ideas. Throughout the four days, I will jot down my ideas as bullet points in a word document. Unfortunately, since I am working as a single designer, I will not be conducting any group brainstorming. Although I will not be conducting group brainstorming, I realize its benefits and how it can help narrow down, clarify, and improve ideas. After my individual brainstorming, I will flesh out my ideas using some of the different thought experiments discussed in the "Design Alternatives" lesson. I will develop three different ideas (or design alternatives) in which I will be prototyping in the following sections.

2 BRAINSTORMING EXECUTION

During my individual brainstorming, I was able to come up with 20 different ideas. As mentioned above in my brainstorming plan, I spent four days coming up with the ideas, keeping notes in a word document. As a result, I believe I came up with some well-thought-out ideas that I will flesh out to come up with my three design alternatives. Below is a list of my ideas:

1. Design both a mobile and desktop web interface
2. Make sure that the website is ADA Compliant
3. Implement authentication (Social Login)
4. Ability to add items to cart, similar to e-commerce site
5. Add a multi-city section to the already implemented "stays" option
6. Native IOS and Android App
7. Add a hotel review section
8. Implement personalized views based on users past selections
9. Side by side hotel comparisons
10. Ability to remove items from cart
11. Ability to select multiple hotels at once
12. Add a multi-destination tab next to the "Packages" tab
13. Within the multi-destination tab, users will select the number of destinations
14. Within the multi-destination tab, users will select the total amount of days for the vacation
15. Within the multi-destination tab, users will select in this order: Hotel, Flights, Rental Cars
16. Within the multi-destination tab, departure/ return times can't conflict
17. Ability to save the current users process
18. [Feedback] If an item in the cart is no longer available, notify the user to have them remove it
19. [Feedback] The number of items in cart will be shown to the user
20. [Feedback] Display a message after an item has been added to the cart: "Your item has been added to your cart."

3 SELECTION CRITERIA

After fleshing out the high-level ideas that I came up with during my individual brainstorming, I was able to identify my three different design alternatives. My process for fleshing out the ideas was pretty simple. I started by removing all items that were unfeasible. I concluded that creating a native IOS and Android app was unfeasible, as I do not have much mobile development experience. Then, I removed items that did not address the problem that I am trying to solve. The three ideas that I ended up removing were ideas number 7,8, and 9. These ideas are cool features that I wouldn't mind implementing into the interface in the future, but they did not have anything to do with the current problem. After

removing those ideas from the list, I was left with all ideas that I felt could address the problem. I analyzed the remaining ideas and combined ideas that I felt can be used together to help address the problem more efficiently and intuitively, which resulted in three different design alternatives.

The first design alternative is to implement a shopping cart, which would allow users to put all of their hotel, flight, and rental car selections in the cart to be purchased all in one transaction. The second design alternative is implementing a "multi-city" hotel option on the existing user interface. This option will be similar to the "multi-city" flight option that currently exists on the site. It would allow users to select and purchase all of their hotels for each destination in one transaction. The last design alternative is adding a "Multi-Destination" tab to the tab section on the homepage. This tab would provide the user with an assistive interface that will take them step by step through the process of booking a multi-destination trip. In the end, they will be able to purchase all of the items (hotels, flights, and rental cars) required for their multi-destination trip in one transaction.

Based on the data inventory I posed in assignment M2, users who feel that the current process to book multi-destination trips is moderate to hard will benefit from all three of these design alternatives. Some more than others; however, all of the design alternatives will improve the process in some capacity. Also, based on the data inventory, the interface needs to be accessible to users in many different environments, home, work, library, etc. Since I will be building onto the existing Expedia interface, these implementations will be accessible to all users who can access it now, which I would assume are all users who have internet access.

4 TEXTUAL PROTOTYPE

During the interview and think-aloud needfinding exercises that I conducted on the previous assignment, users stated that they wish there were a way to purchase all of their hotels, flights, and rental cars for their multi-destination trips at once. Expedia doesn't currently provide this feature. Users are required to purchase everything separately. Hotels for the different destinations have to be selected and purchased individually. There is no way to select and purchase hotels for all destinations in a single transaction. Users can purchase all of their

flights in one transaction, but there is no way to add hotel selections to the transaction. The hotels have to be purchased separately.

To resolve this issue, I will implement a shopping cart to store all of the user's selections. How it will work is, after the user makes a selection, say for a hotel at their first destination, it will add it to their shopping cart. They will also have the ability to add multiple hotels, flights, and rental cars to their shopping cart. The interaction will be very similar to other eCommerce sites. The interface will contain a shopping cart icon in the right corner of the navigation. Next to the shopping cart will be a number signifying the number of items the user currently has in their cart. The shopping cart icon will be a button that, when clicked, will navigate the user to the cart summary page. This page will show the user a list of their items (hotels, flights, and rental cars). Each of these items will have a remove button, which will allow the user to remove the item from their cart. If one of their items is no longer available when they land on the cart summary page, the system will notify them and remove it from the page. After removing the item, the system will prompt the user if they would like to make another selection. If the user selects yes, the system will provide them with a list of recommendations.

For example, a user might select a Delta flight from Cleveland, OH to Miami, FL, on July 4th at 6 am. After selecting this flight, their hotels, and rental cars, they proceed to the cart summary page. By the time they reach this page, the flight has been sold out. The system will remove this selection from the checkout page and recommend other flights to Miami, FL, on that same day at around the same time if there are some available. The user does not have to choose any of the recommendations. The system will also provide them a way to go back to the flight selection page to choose their flight. On the cart summary page, there will be a total cost and a "Checkout" button. This checkout button will take them to the checkout page to purchase all of their items in one transaction.

4.1 Evaluation

This design alternative addresses the user's inability to purchase their hotels, flights, and rental cars in one transaction, making booking a multi-destination trip a time-consuming and tedious task. Addressing this issue, in turn, makes booking a multi-destination trip much simpler for frequent and casual travelers. Albeit helpful, this design alternative isn't explicitly dedicated to booking

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multi-destination trips. I will discuss a better-suited design alternative later on in this paper.

5 VERBAL PROTOTYPE

I will present my verbal prototype to a person who has experience booking a multi-destination trip on Expedia. Below is my opening statement, explaining the issue with the current interface and how I plan to improve it.

"I am looking to redesign the current Expedia interface to make the process of booking multi-destination trips more efficient and intuitive. As currently constructed, the interface provides a multi-city flight option that allows users to select multiple flights. This feature is useful as it provides a way for users booking multi-destination trips to purchase all of their flights in one transaction. However, the process for purchasing hotels isn't as efficient. Users are required to purchase hotels for different destinations separately. They can't select hotels for all of their destinations and purchase them in one transaction. Purchasing these hotels separately can make booking a multi-destination trip very time-consuming, especially if the user needs hotels for many locations. My goal is to reduce the time spent booking hotels to make this process less time-consuming."

I will then follow up with a more detailed description of how I plan on fixing this issue to achieve my goal. Below are the improvements that I will be describing to the person and feedback that I hope to receive from them.

"I plan on adding a multi-city hotels option, similar to the multi-city flights option. The option will allow users to specify the different destinations and the check-in and check-out times. The interface will provide an 'Add a destination' button to give users the ability to add as many destinations as they would like. When the 'Search' button is selected, it will take the user to the hotel selection page (currently on the site). It will allow them to select a hotel for the first destination, the second, and so on. Once the user has selected the hotels for all of the destinations, they will be taken to the hotel selection summary page. Here, the user will see a list of all of their items (selected hotels). They will have the ability to remove the items if they would like. After that, the user can purchase all of their items in one transaction. The user will still need to purchase their flights separately as the hotel section won't let you add multiple flights."

After explaining these improvements to the person, I will ask them if they feel the improvements would help make booking a multi-destination trip simpler and why. I would also ask if they have any suggestions on how they would improve this implementation.

5.1 Evaluation

This design alternative will somewhat simplify the task of booking multi-destination trips and make the process less time-consuming for frequent and casual travelers. However, it isn't as efficient and intuitive as the other design alternatives. This design alternative doesn't allow you to purchase hotels, flights, and rental cars in one transaction, which is essential in making the multi-destination booking process as simple as possible.

6 WIREFRAME PROTOTYPE

The first four pages of my wireframe contain an interface similar to the current Expedia homepage, except they contain a "Multi-Destination" tab to go along with the other tabs (Stays, Flights, Cars, Packages, etc.). Users will utilize this tab if they are looking for a simple and intuitive way to book their multi-destination vacations. It will provide them with an assistive interface that will take them through the process of booking, step by step. This "Multi-Destination" tab contains four separate sections: a stays, flights, cars, and saved progress section. Only one of these sections can be shown at any given time within the interface. The bottom left of each section (excluding the saved process section) displays the current step the user is on and how many steps there are left.

The stays section, which is the first section, is where the user specifies the number of travelers (e.g. "Appendix 7.1: Multi-destination Tab - Stays Section"). The rest of this section is dedicated to specifying the destinations as well as the hotel check-in and check-out dates. This section also provides an "Add another destination" button, which will allow the user to add as many destinations as required. At the bottom of this section, there is a "Flights" button. The user should click this button after they finish specifying their stays. Clicking the button will display the next section (or step) in this tab, the flights section (e.g. "Appendix 7.2: Multi-destination Tab - Flights Section"). Like the stays section, the user will specify all of their flights and their departure dates. There is also an "Add another flight" button, which will allow the user to add as many flights as required. At the bottom of this section, there is a "Cars" button. The user should

click this button after they finish specifying their flights. Clicking the button will display the third section (or step) in this tab, the cars section (e.g. "Appendix 7.3: Multi-destination Tab - Cars Section"). This section is similar to the others in that the user will specify their pickup location and pickup and drop-off dates. There is also an "Add another car" button for the user to add as many cars as required. Since this is the last section in the multi-destination tab, there is a "Make Selections" button at the bottom. Clicking this button will take the user to the pages to select their hotels, flights, and cars. These selection pages currently exist on the site today, so I will not need to implement them.

Also, on all of the sections (excluding the save progress section) is a "Save" button. Clicking this will save the user's progress at any time during the process. I've provided a wireframe that shows what the user would see if they were to save their progress and come back later (e.g. "Appendix 7.4: Multi-destination Tab - Saved Progress Section"). The user is asked if they would like to return to where they left off. Clicking "Yes" will return the user to the step that they left off. Clicking "Start Over" will take the user back to the first step.
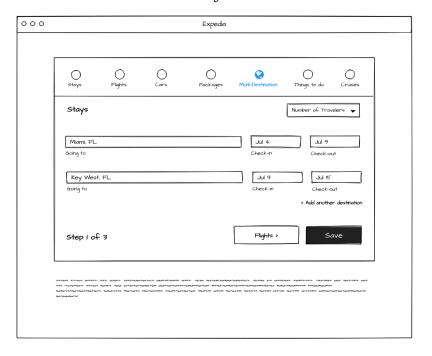
Lastly, I have provided a multi-destination trip summary page (e.g. "Appendix 7.5: Multi-Destination Trip Summary Page"). The user will see this page after making all of their selections. This page contains a summary of all of the user's selections. Each selection has an "x" button within it, which allows the user to remove it if needed. This page also shows the total cost of the user's selections as well as a checkout button. Clicking this button will take the user to the checkout page to purchase all of their items in one transaction.
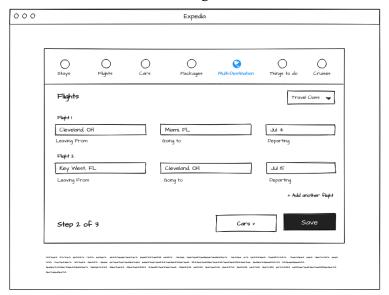
6.1 Evaluation

During the interview and think-aloud needfinding exercises that I conducted on the previous assignment, users stated that they wish there were a way to purchase all of their hotels, flights, and rental cars for their multi-destination trips at once. Also, after conducting my survey, I noticed that a significant number of users felt that the experience of booking a multi-destination trip was not easy. This prototype meets that need by providing the ability to make all selections required for the trip in one location. It also provides a trip summary page providing the user with an overview of their selections, making it easy to verify that they have made the correct selections. This is an easy-to-use tool that both frequent and casual travelers can use.
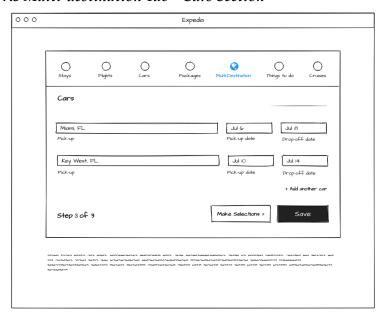
7 APPENDICES

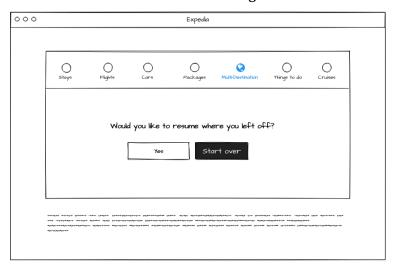## 7.1 *Multi-destination Tab - Stays Section*

7.2 *Multi-destination Tab - Flights Section*

7.3 *Multi-destination Tab - Cars Section*

7.4 *Multi-destination Tab - Saved Progress Section*

7.5 *Multi-destination trip summary screen*