



Cognitive Walkthrough Report

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Executive Summary

Expedia launched in 2001 is a travel booking website owned by Expedia group. It is one of the world's leading full-service online travel booking platform (newsroom.expedia.com/fast-facts). Travelers can choose and book from the widest selection of flights, hotels, vacation rentals, cruises, activities and attraction for their trip.

The usability study of Expedia.com website was performed by using cognitive walkthrough method. One of the advantages of this method is its ability to quickly and easily identify important usability problems. For this study four usability experts from Pratt participated to evaluate the website. This report identifies usability problems and provide the following recommendations:

1. *Provide affordance by adding a feature of flexible dates.*

The website does not have any option of selecting flexible dates. Providing a section to choose for flexible dates on the calendar will help in comparing prices and finding the cheapest/best combination.

2. *Improve visibility and feedback of the sort feature.*

The sort feature can be improved by moving it to a more conventional position. Feedback can be improved by using better signifiers when the sort button is clicked.

3. *Better display of the breadcrumbs.*

Breadcrumbs can be displayed properly by mentioning the stage number with each action and highlighting the current stage more significantly.

4. *Clear and discoverable summary section.*

The summary of booking can be made clearer by separating it into different sections with bold headings making it more visible. This will help in glancing through what has been booked for the trip.

Implementing these recommendations will improve the usability of the website making the complete booking process work smoothly and lead to increased popularity.

Table of Contents

<i>Executive Summary</i>	1
<i>Introduction</i>	3
<i>Methodology</i>	3
Procedure	3
Target Audience	3
Task and correct action sequence	4
<i>Results and Recommendations</i>	5
Recommendation 1: Provide affordance by adding a feature of flexible dates.	5
Recommendation 2: Improve visibility and feedback of the sort feature.	6
Recommendation 3: Better display of the breadcrumbs.	7
Recommendation 4: Clear and discoverable summary section.	8
<i>Conclusion</i>	10
<i>References</i>	11
<i>Appendix</i>	11

Introduction

Expedia launched in 2001 is a travel booking website owned by Expedia group. It is one of the world's leading full-service online travel booking platform (newsroom.expedia.com/fast-facts). Travelers can choose and book from the widest selection of flights, hotels, vacation rentals, cruises, activities and attraction for their trip. In 2008 it was accoladed as the most admired internet companies in the United States (https://en.wikipedia.org/wiki/Expedia_Group).

The purpose of this study is to understand the usability of the website for first time users utilizing cognitive walkthrough method. This report also identifies the potential usability problems and provide recommendations which require least effort in implementation.

Methodology

The usability study of Expedia.com website was performed by using cognitive walkthrough method. This is a usability inspection method which helps to evaluate the learnability of the user, mainly by exploration (Wharton et al., 1994). According to this method users use simple logical reasoning to accomplish their well-defined goals.

One of the advantages of this method is its ability to quickly and easily identify important usability problems when resources to perform usability test are limited (Lars-Ola and Anna-Lisa, 2013). Additionally, this method is used to fix problems during the initial stages of the prototypes and help solve any usability concern beforehand.

Procedure

This method was performed by defining the inputs for the chosen interface, collecting the data from the participants, analyzing each step of the action sequence and finally making recommendations to fix the problems.

For this study four usability experts from Pratt participated to evaluate the website. The evaluation was done by demonstrating the users each step of the action sequence to be completed followed by asking the users to perform the correct action sequence from the beginning.

Target Audience

The target users were first-time visitors to the Expedia.com website who are comfortable browsing the internet. They are aged between 22 to 28 and are familiar with the process of booking hotels and flights online.

Task and correct action sequence

The task to be completed by the experts was to book a flight and hotel for a roundtrip from New York to Seattle for a duration of one week (dates may vary). Below is the correct action sequence which the experts needed to perform:

1. Click "Bundle and Save"
2. Select "Leaving From" and "Going To"
3. Select "Dates"
4. Click "Search"
5. Sort hotels by "Price"
6. Choose and click on a hotel
7. Click "Choose a room" and "Select"
8. Sort flights by "Lowest Price"
9. Click "Select This Fare"
10. Click "Final Details"

Once the correct action sequence was demonstrated to the experts, they performed the action sequence starting from step 1. Assuming the role of a novice user they evaluated each step using the following four criteria:

1. Will the user try to achieve the right effect?
(Does the next step make sense? Will users know what they should be looking for in order to move on? Does the conceptual model make sense?)
2. Will the user notice if the correct action is available?
(If they know what they're looking for, will they be able to find it easily? Is the action clearly discoverable?)
3. Will the user associate the correct action with the effect trying to be achieved?
(Once they find it, will they know what to do with it? Does it look like a link? button, etc.? Are there good signifiers?)
4. If the correct action is performed, will the user see that progress is being made toward solution of the task?
(If they take action, will they know whether it worked? Is there adequate feedback?)

These four criteria were answered as a yes or no response and notes were taken throughout the process. Analysis was done for each yes or no which was considered either as a success or failure story. Detailed evaluation of these notes is in the Appendix section of the report. Notes

were then analyzed, and potential usability problems were addressed by giving recommendations (John and Packer, 1995).

Results and Recommendations

Expedia.com website offers various options to plan a trip like booking flights, hotels, cruises and bundled deals. All these options are clearly discoverable on the main page making it easy to use. The buttons on the website are consistent and have good discoverability affording the user to continue the process smoothly. However, there is a scope for improvement in the usability for first-time users of the website which is discussed below in detail by utilizing the cognitive walkthrough method.

Recommendation 1: Provide affordance by adding a feature of flexible dates.

The feature to add dates is easily discoverable. The signifiers on the drop-down calendar are also used effectively with an immediate color change when the dates are selected (see fig.1).

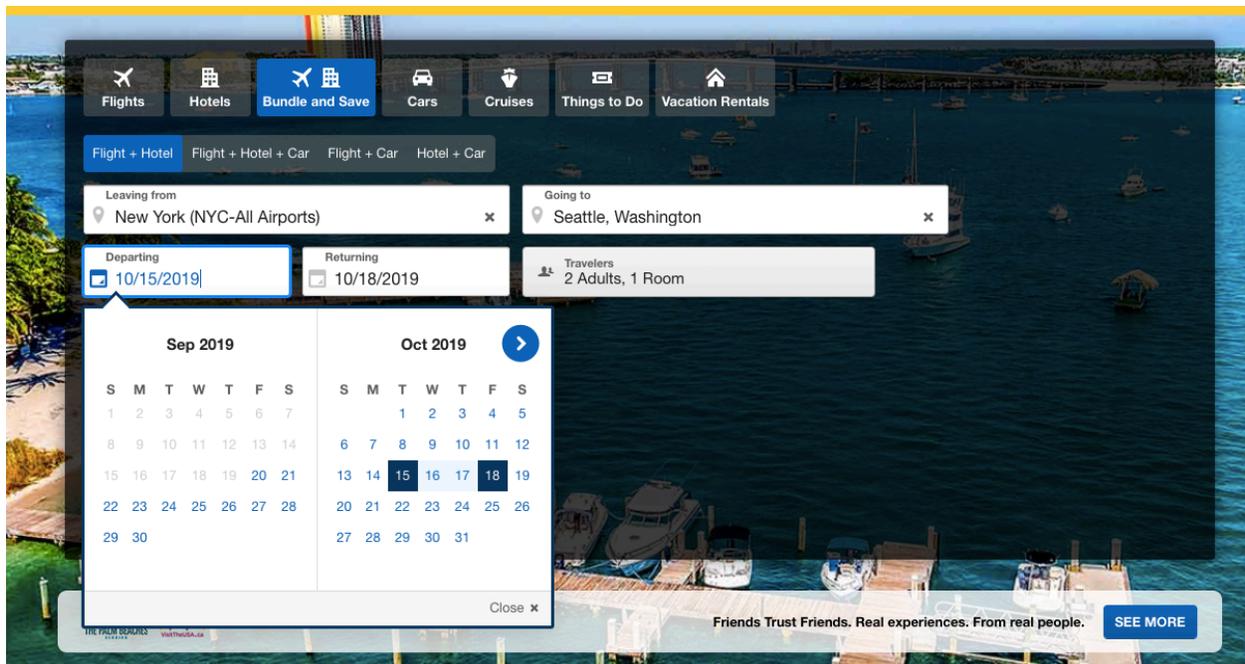


Fig. 1: Easily discoverable flight dates selection screen.

One difficulty was inability to choose flexible dates. The website does not have any option of selecting flexible dates. This option is helpful in checking for the best date combination for the trip. Providing a section to choose for flexible dates (see fig. 2) on the calendar will help to compare prices and find the cheapest/best combination.

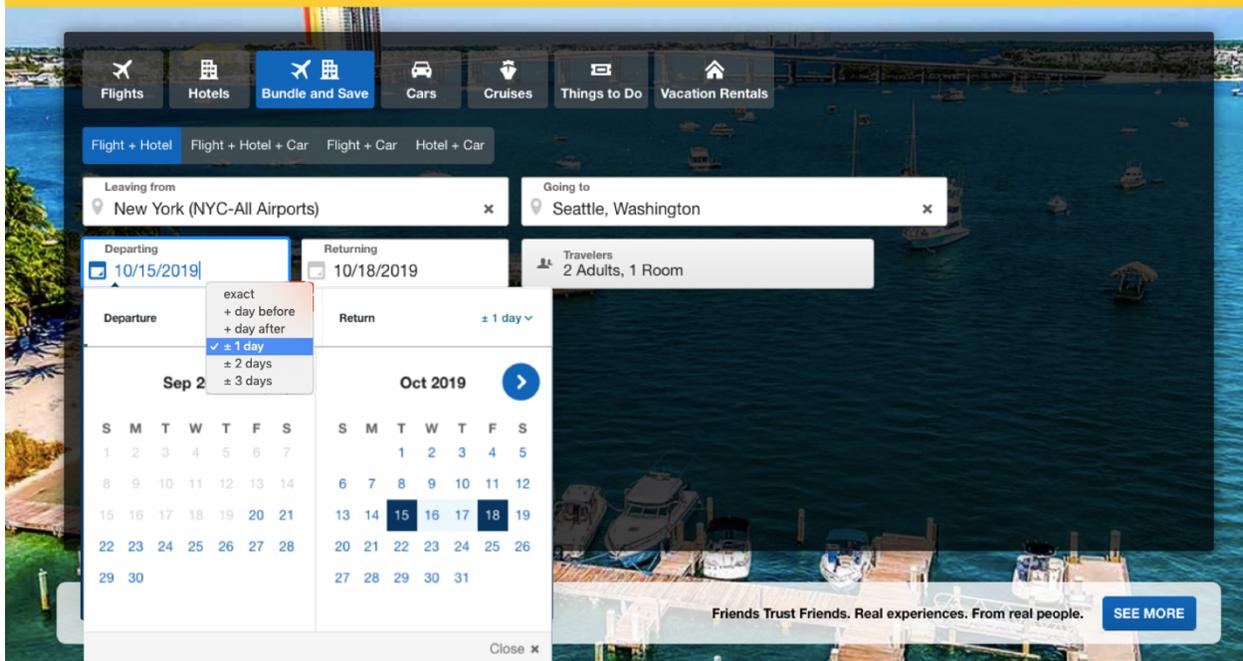


Fig. 2: Flight date selection with flexible date option

Recommendation 2: Improve visibility and feedback of the sort feature.

During the process of sorting the hotel by price the experts faced difficulty in using the sort feature as it looks like a navigation bar (see fig. 3). Moreover, when sort is selected the feedback lacks visibility as only a blue line above the option appears.

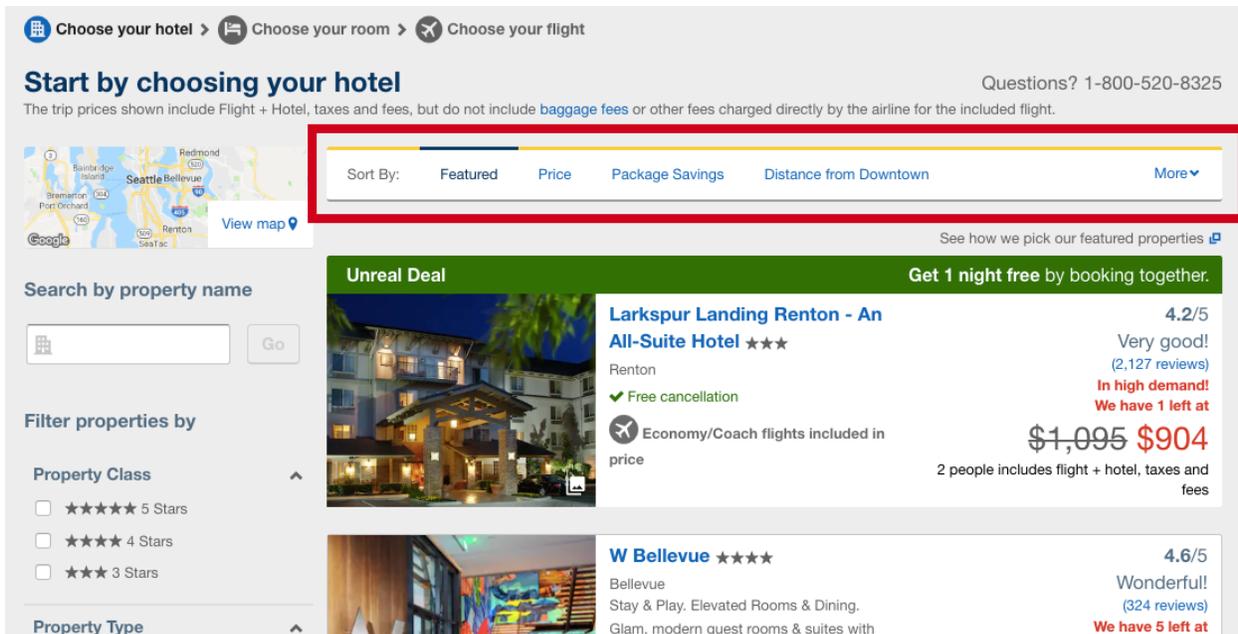


Fig. 3: Difficulty in using the feature to sort hotels by prices low to high.

In order to improve the conceptual model of sort feature the option can be moved to top-right (see fig. 4). Feedback can be improved by changing the content of the option to “Price: Low to High” (see fig.4). This will help to clearly know that the hotels have been sorted by prices from low to high. Also, when filters are used there can be a section adjacent to the sort option to show the current filters selected (see fig. 4).

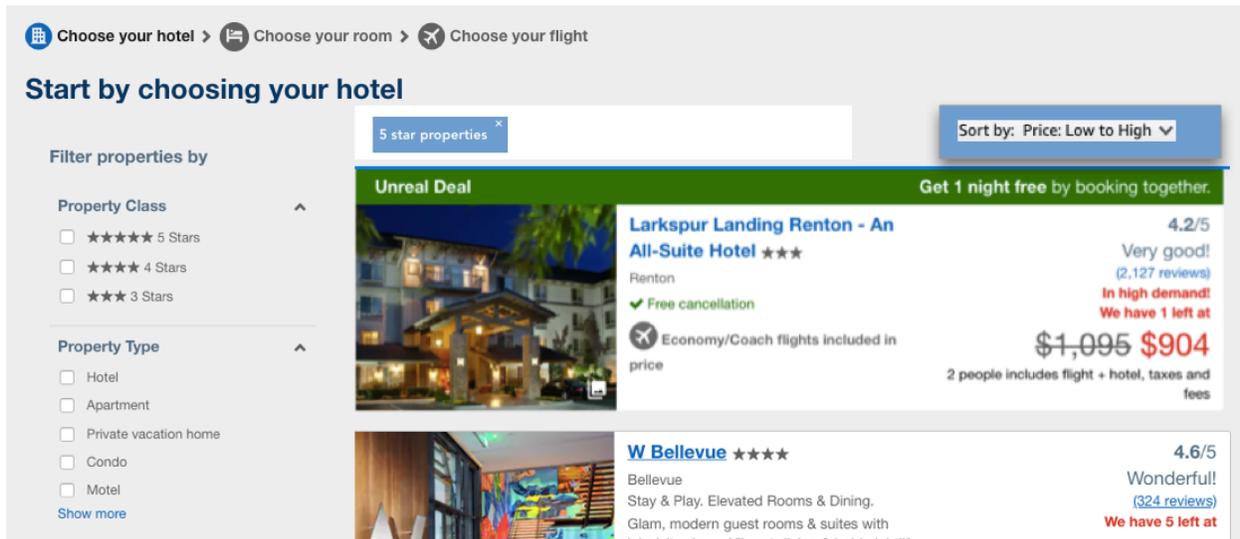


Fig. 4: Improved position of sort option and display of selected filters.

Recommendation 3: Better display of the breadcrumbs.

As booking for both the flight and hotel requires a lot of stages expedia.com has used breadcrumbs in order to improve the process. The stages however are missing the later phases like “Make Payment”, etc. (see fig. 5). Also, the current stage is not strongly highlighted.

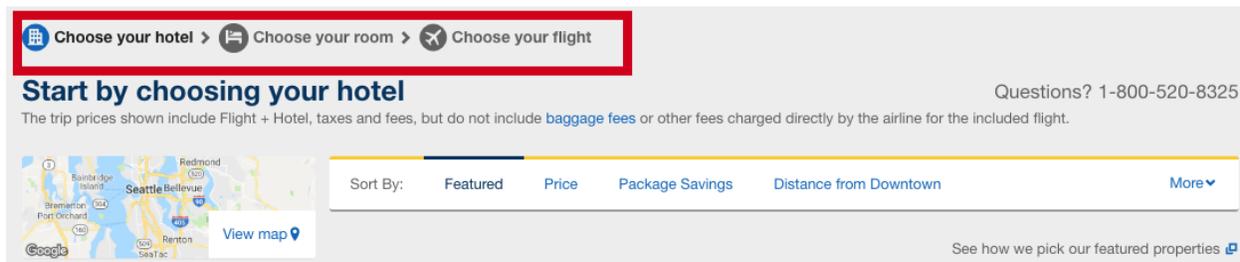


Fig. 5: Breadcrumbs missing later stages of booking.

To improve the conceptual model of the breadcrumbs the stage number can be displayed next to the option (see fig. 6) and the current stage should be highlighted more. Additional stages like “Make Payment” should also be displayed to help users to know the complete process for booking.

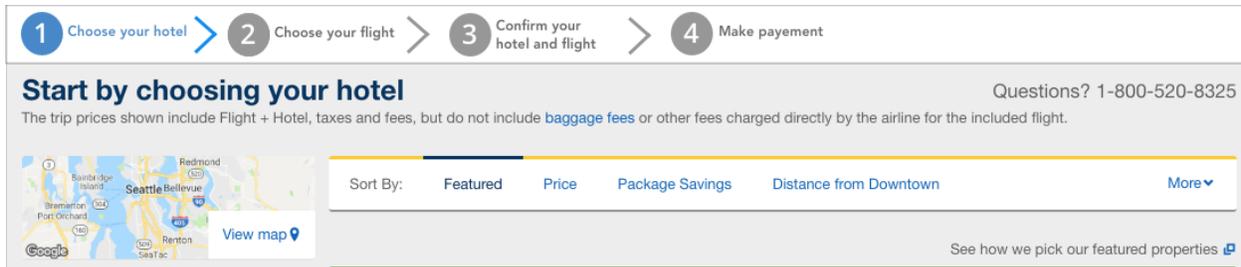


Fig. 6: Improved model of breadcrumbs with numbering and later stages of booking.

Recommendation 4: Clear and discoverable summary section.

After the selection of both flight and hotel the user gets a summary before confirming the payment. The experts found the summary to be cluttered and hidden in information like "upgrade option" etc. (see fig. 7).

Expedia Add your property Account My Lists My Trips Support Español 简体中文

Flights Hotels **Bundle and Save** Cars Cruises Things to Do Vacation Rentals Deals Rewards Mobile

Your trip to Seattle, WA

Tue, Oct 15 - Fri, Oct 18 Total price: **\$903.63**

Tue, Oct 15 - Fri, Oct 18 Roundtrip 2 travelers

jetBlue	8:41am - 12:01pm JetBlue Airways	6h 20m JFK - SEA	Nonstop
Frontier Airlines	6:20am - 5:05pm Frontier Airlines	7h 45m SEA - LGA	1 stop 1h 5m in DEN Web Fare

Fare Rules and Restrictions:

- Pay to choose your seat
- Pay to bring a carry-on bag

Frontier Airlines Package Details

Show flight and baggage fee details

[Change flights](#)

Upgrade your flight

Get more comforts and benefits by adding an upgrade.

John F. Kennedy Intl. (JFK) → Seattle - Tacoma Intl. (SEA) from **+ \$58.00** for all travelers

- Relax while packing! Get free bags
- Enjoy more flexibility with free cancellation
- Choose seats at no extra charge

[Show upgrades](#)

Upgrades are not available for: Seattle - Tacoma Intl. (SEA) → LaGuardia (LGA)

Tue, Oct 15 - Fri, Oct 18 3 nights 1 room

Larkspur Landing Renton - An All-Suite Hotel 4.2/5 (2127 reviews)

- ★★★★ Renton
- Studio Suite Accessible with Roll in Shower
- Free High-Speed Internet
- Free cancellation until Sun, Oct 13

[Show room information](#)

[Change hotel](#)

Getting to and from your hotel

Skip the line! 5033 people will land in Seattle, WA on the same day as you are. Check out these transportation deals for you while in Seattle, WA.

Shared Shuttle: Sea-Tac Airport (SEA) **\$156.00** roundtrip for 2 travelers

- 4 50m
- Free cancellation until Sat, Oct 12

[Show more information](#) [Add to Trip](#)

Roundtrip Flight

New York (JFK) to Seattle (SEA)
Tue, Oct 15 - Fri, Oct 18
2 Tickets: 2 Adults

Larkspur Landing Renton - An All-Suite Hotel

Tue, Oct 15 - Fri, Oct 18
1 Room: 3 nights

[Add transportation to and from your hotel for more bundled savings](#)

Starting price \$1,094.71
Bundled savings -\$191.08
Total due today: **\$903.63**

Pay as low as \$82/month

All prices include taxes & fees and are quoted in US dollars
Only 1 room & 7 tickets left at this price!

[Next: Final details](#)

Don't forget to add travel protection to your booking at checkout.

Important Trip Information

We want you to know this trip has the following restrictions regarding your flight and hotel.

- Your flight is a combination of two **one-way** fares, each subject to its own rules and restrictions. [More Details](#)
- This flight and hotel combination is not eligible for coupons.

Departure

- Tickets are **non-refundable** and **non transferable**. A fee of \$100.00 per ticket is charged for itinerary changes. Name changes are not allowed.
- The airline may charge **additional fees** for checked baggage or other optional services.

Return

- Tickets are **non-refundable** and **non transferable**. A fee of \$0.00 per ticket is charged for itinerary changes. Name changes are not allowed.
- Pay to choose your seat
- Pay to bring a carry-on bag
- Pay to bring a checked bag
- Cancellations not allowed

Fig. 7: Cluttered summary of both flight and hotel.

To make the summary clearer it can be separated into hotel and flight sections with bold headings and grouped next to each other (see fig. 8). This will help the user to get a quick glance of what has been selected before confirming payment.

Expedia Add your property Account My Lists My Trips Support Español 简体中文

Flights Hotels **Bundle and Save** Cars Cruises Things to Do Vacation Rentals Deals Rewards Mobile

Your trip to Seattle, WA
Tue, Oct 15 - Fri, Oct 18 Total price: \$903.63

Hotel Details

Tue, Oct 15 - Fri, Oct 18
3 nights 1 room

Larkspur Landing Renton - An All-Suite Hotel
★★★★
Renton
Studio Suite Accessible with Roll in Shower
✔ Free High-Speed Internet
✔ Free cancellation until Sun, Oct 13
[Show room information](#)

[Change hotel](#)

Flight Details

Departure: Tue, Oct 15 (JFK - SEA)

jetBlue	8:41 am - 12:01 pm JetBlue Airways	6h 20m JFK - SEA
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[Change flights](#)

Return: Fri, Oct 18 (SEA - JFK)

Frontier Airlines	6:20 am - 5:05 pm SEA - LGA	7h 45m SEA - LGA
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[Change flights](#)

Next: Final details

Upgrade your flight

Get more comforts and benefits by adding an upgrade.

LaGuardia (LGA) → Seattle - Tacoma Intl. (SEA) from 8h 58m **+\$70.00** for all travelers

- Relax while packing! Get free bags
- Enjoy more flexibility with free cancellation
- Choose seats at no extra charge

[Show upgrades](#)

Seattle - Tacoma Intl. (SEA) → Liberty Intl. (EWR) from 5h 19m **+\$60.00** for all travelers

- Relax while packing! Get free bags
- Enjoy more flexibility with free cancellation
- Choose seats at no extra charge

[Show upgrades](#)

Getting to and from your hotel

Skip the line! 5033 people will land in Seattle, WA on the same day as you are. Check out these transportation deals for you while in Seattle, WA.

Shared Shuttle: Sea-Tac Airport (SEA) 4 50m **\$156.00** roundtrip for 2 travelers
✔ Free cancellation until Sat, Oct 12
[Show more information](#) [Add to Trip](#)

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- Pay to bring a carry-on bag
- Pay to bring a checked bag
- Cancellations not allowed

Fig. 8: Clear summary section displaying hotel and flights selection.

Conclusion

Expedia.com is a very useful website to find great deals on travel and booking. With minor changes the usability experience can be enhanced a lot. The recommendations have been made keeping in mind minimal effort to implement these changes and are as follows: (1) Adding flexible date option, (2) Showing end to end booking process in the breadcrumbs, (3) Improving sort functionality, (4) Displaying summary section clearly. Implementing these recommendations will improve the usability of this website making the complete booking process work smoothly and lead to its increased popularity.

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Appendix

Step 1: Click "Bundle and Save"

Success Story: This step was clear as the button was discoverable on the top, hover effect acts as a good signifier and when the button for "bundle and save" was clicked it gave a quick feedback with a card opening just below it with various options.

Step 2: Select "Leaving From" and "Going To"

Success Story: The location and heading for this section was clear and provides various airports to select from for both departure and return. The heading as "leaving from" and "going to" are clear and affords the user to continue with the next steps.

Step 3: Select "Dates"

Failure Story: Though this section was discoverable, and it was not difficult to enter the dates. The only feature this section was missing was to select for flexible dates as it helps to figure out the cheapest and best combination to look for.

Step 4: Click "Search"

Success Story: The search button in bright yellow is clearly visible. It looks like a button and creates no confusion. When this button is clicked it even has a feedback as it takes the users to a page where the various options are displayed.

Step 5: Sort hotels by "Price"

Failure Story: Sort by price being a feature to quickly glance for the cheapest available option is being displayed on the top as a navigation bar. The options do not look like they are

clickable. The way the various options are displayed looks cluttered and user is not able to efficiently sort hotels by price. After clicking on the "Price" there is no feedback and creates more confusion as it is not clear if the hotels have been sorted from prices "low to high" or "high to low".

Step 6: Click on hotels

Success Story: The various options of the hotels are displayed in the form of list which is visible to the user. There is an image of the hotel with the price of the hotel displayed in different color from the other content. This helps the user to compare the different price when the user scrolls down as the price and images are clearly displayed. Even when the user hovers over any one of the lists the whole card of the hotel is clickable which when clicked goes to a next page.

Step 7: Click "Choose a room" and "Select"

Success Story: The location for "choose a room" is visible and displaying it as button make it easy for the user to take the next action which takes you to the various options of the room of the hotel to choose from. Even the select button after each option of the room is clear and all button are used in a consistent way which are clearly discoverable with goof feedback.

Step 8: Sort flights by lowest price

Failure Story: As was the problem with sorting for price with the hotels same was with the flights and for the flights the sort option is aligned with the filters as compared to the hotels where it was a navigation bar. This creates confusion as firstly, the conceptual model is not consistent and secondly it still creates a problem of feedback where the user is not able to figure out of the flights are sorted from "low to high" or "high to low". Also, the breadcrumbs on the page are not displayed properly as the user does not get any information of how many steps are left and also how many steps are completed for the whole process of the booking.

Step 9: Click "Select This Fare"

Success Story: This step is clear to the user as it is a consistent button which solves the purpose to select the flight with a good feedback of taking it to the next page.

Step 10: Click "Final Details"

Failure Story: When the user selects all the details for the hotel and flights this is the last section where a summary of each booking is displayed. The user is not able to figure out which bookings have been done as the main information is hidden with unnecessary information like "upgrade you flight" and "upgrade your hotel". The summary is not clearly discoverable and proper headings with different sections have not been used to clear the confusion.