

# User Testing Report

By Petra Kabátová for Coursera course Evaluating Designs With Users

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## Executive summary

This report describes evaluation method and findings on Google Travel portal [www.google.com/travel](http://www.google.com/travel). This site is a portal for optimizing flights – it finds flight options across different booking sites and allows user to book services connected with travelling such as hotels and plan their sightseeing trip.

I have used “Think aloud protocol” for observing participants who were working on 6 different tasks that should cover the main functionalities of the webpage. Participants answered small interview about their flight reservation habits before testing and in debriefing we discussed their impressions and problems during testing.

After debriefing participants filled out standard SUS questionnaire to map their impression of user interface.

For the whole time I took video recording of screen and faces of participant to be able to analyze the whole process with method of Affinity wall.

The whole time I was referring to standard rules in field of UX design known as Jacob Nielsen Heuristics.

I summarized whole findings in appendix in Key Findings attachment. The most relevant issues are elaborated in next text with suggested recommendations.

Users had most problems with date-picker function, system velocity and were confused by Explore menu item which reminded them much more complex function from competitors sites.

## Introduction

In the whole study I was trying to find out how well are users able to understand and use the system interface without previous training – if the system is intuitive and works with standards set by competitors to make it easier to learn new system.

The goals of the website [www.google.com/travel](http://www.google.com/travel) is to offer alternative to flight booking sites such as kayak.com or momondo.com. It allows user to pick the cheapest flight or book hotel. It is beneficial for all people who are booking online flying tickets.

I am trying to find out, if the website is easy to use for people, who did not have try it before and have previous experience with competitive flight reservation websites.

Participants in these tests are supposed to try out most common task on reservation portals: to find flights for one-way, round or multi trip, which is the core activity of portals like this. Except for task completion I am also looking for their subjective impression of the site, which tells me more about the possible future adoptability of the tested site.

## Methods

Target population are all people interested in online booking flights. I have address this group of people with simple questionnaire with behavioral criteria: "Have you booked in the past year online flight?" This question selects people, who have already some kind of experience with online booking flights. Other question : " Have you tried [www.google.com/travel?](http://www.google.com/travel?)" had narrowed down the possible participants to those who are new to Google Travel site, since I am interested in learning curve of novices and intuitiveness of the website.

For this study I recruited two members of my family. Both are middle-aged with computer skills varying from mediocre to expert. Test was carried out in Slovak language to have the same starting line for both participants.

First I found out their level of experiences with online booking system. Due to Corona crisis these results were slightly moved to lower number of online orders. Both of them were in the group with 1-3 flight per year, but based on their professional career and computer expertise I have divided them, as mentioned, in two levels: average and expert user.

I used User Test Script to help me assist with the testing process, Pre-test questionnaires about the common behavior regarding the online booking flights, task description provided by the course tutors Evaluating Designs With Users also the debriefing questionnaire which was trying to explain impression of the testing site and occurred incidents. All of those are enlisted in Appendixes section.

I took video and audio recording of the whole procedure, as well as notes written down in logging sheets and analyzed them, I concentrated on critical incidents that occurred during the Think Aloud Protocol. For user testing I used method of Think Aloud Protocol. This method is working with one testing participant, who is solving representative tasks without any help, and one moderator.

Participant, a representative of target group, is encouraged to comment all things that are happening on the screen and also his thoughts and feelings relevant to task.

After the tasks are completed participant and moderator have short interview regarding the testing procedure and overall feelings about the tested service.

Participant also fills out a System Usability Scale questionnaire that quantifies his subjective rapport to the tested service.

I had 2 rounds of tests with Slovak version of the site and Slovak instructions, which are mother language of tested subjects.

I used Nielsen`s Heuristics to support my findings (link in references). Here is the short overview:

1. FEEDBACK: Visibility of system status
2. METAPHOR: Match between system and the real world
3. NAVIGATION: User control and freedom
4. CONSISTENCY: Consistency and standards
5. PREVENTION: Error prevention
6. MEMORY: Recognition rather than recall
7. EFFICIENCY: Flexibility and efficiency of use
8. DESIGN: Aesthetic and minimalist design
9. RECOVERY: Help users recognize, diagnose, and recover from errors
10. HELP: Help and documentation

Each finding has assigned severity of the problem:

- 1) Cosmetic problem only – need not be fixed unless extra time is available on project
- 2) Minor usability problem – fixing this should be given low priority
- 3) Major usability problem – important to fix, so should be given high priority
- 4) Usability catastrophe – imperative to fix this before product can be released

## Findings and Recommendations

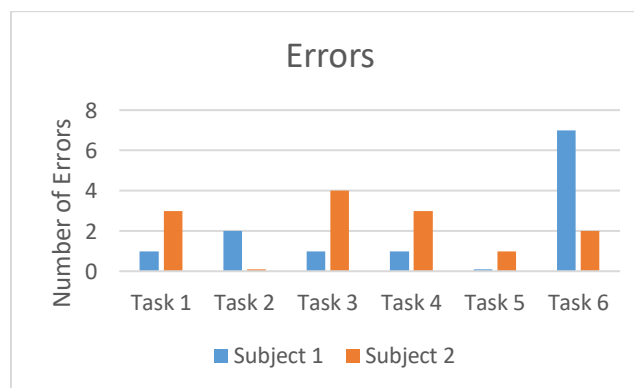
### Summary results

83 % tasks were completed during the testing process. Testing subjects were quite satisfied with product, but had problems with some functions and responsive time of the website.

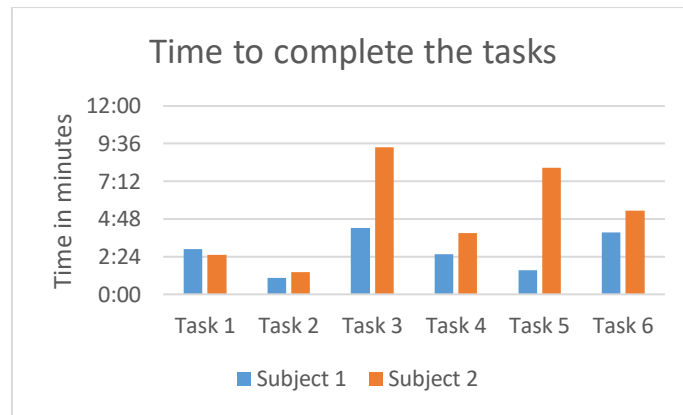
	Subject 1	Subject 2
<b>Task 1</b> send itinerary by email	finished	did not finished
<b>Task 2</b> for more people cheapest option	finished	finished
<b>Task 3</b> multi city trip	finished	critical incident
<b>Task 4</b> select by time of departure and arival	finished	finished
<b>Task 5</b> hotel ratings	finished	finished
<b>Task 6</b> price notification	finished	did not finished

*Subject 1 –Expert level, has finished all the tasks, Subject 2 –Average Experiences level, has experienced 1 critival incident and 2 task did not finish.*

After finishing all the tasks users took System Usability Scale questionnair which show score 72.5 points which is slightly better than avarege 68 points (out of 100 points) and shows room for improvements. This number is also relevant for future adoptability for users who are thining about to use the system after first exploration. It was taken fresh after the task. I assume subjects were slightly frustrated with speed of the website in specific conditions and missing functionality for undeciede travellers (when they don't know exact time and destinations). Here I see a big room for future improvements.



*Graph showing the error rate for specific tasks.*



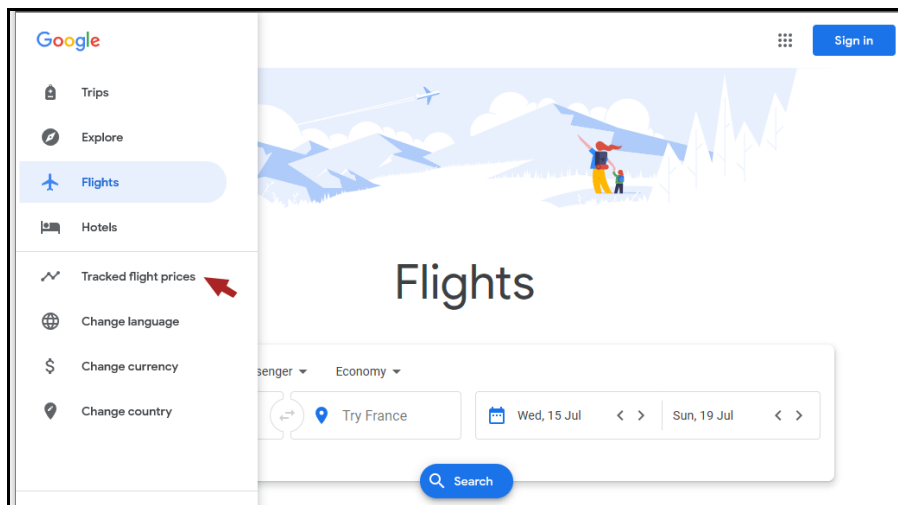
*Time for each task needed.*

## Key Findings

### Finding 1: Price monitoring link is hard to find when unlogged to Google account

Severity: 3/4

When user is logged it is not a problem to find link for price tracking. But when user is not logged to Google account he has to go to left hamburger menu and there he/she can find the link. This task was not completed by all the users, because they did not expect the link on this place.



*Picture shows the current position of tracking prices function for not logged in users.*

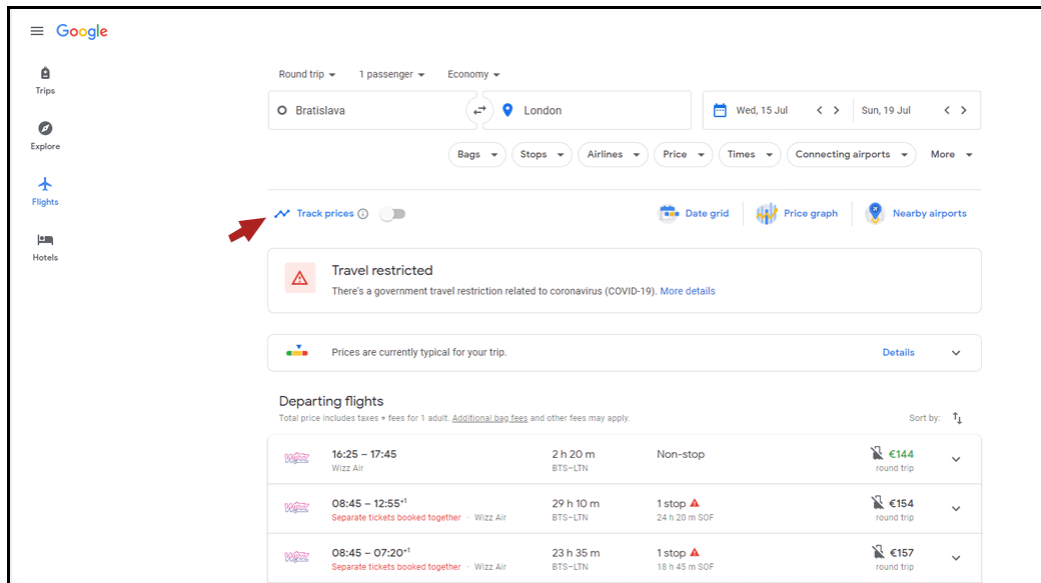
This situation violates the 4<sup>th</sup> Nielsen's heuristic: Consistency and standards (for no explicit reason there are two inconsistent options for links after and before login) and the 2<sup>nd</sup> Heuristics "Match between system and the real world", where people were trying to find the link in section prices, which would make much more sense (when they did not know how does it look like after login.)

"I think it is not there, maybe I have to be logged in."

Observation: Each user clicked on "Price" link few times to be sure if the Price monitoring function is not there.

## Recommendation:

Use the same positioning of the link as after the login., so it is visible whole time.



Screen after login with visible Track prices functionality.

## Finding 2: Two different date-picker skins

Severity: 3/4

There are 2 different date-picker skins used in flight options. One for multi-trip and one for other possible options. For some user it is very confusing, because they did not realize it is not the same one as by round-trip or single-trip and were wondering how it actually works, this was more palpable especially for less experienced user.

By multi-trip functionality user clicks on departure date and in the same window can select arrival date.

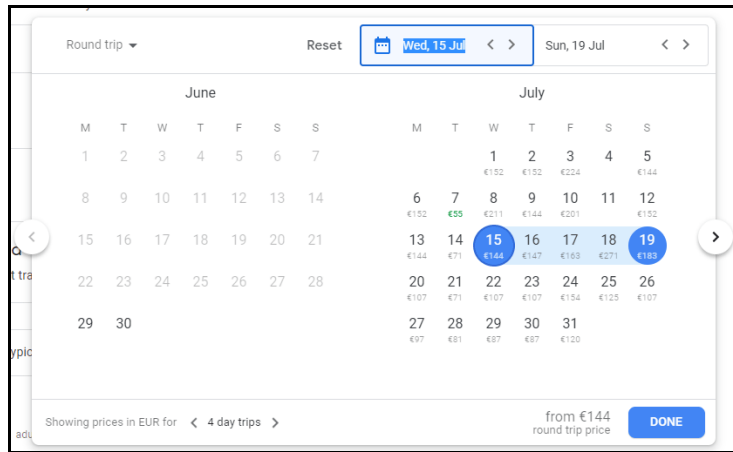
In multi-trip functionality he has to click on a date for specific flight. Users are confused by this since it is not consistent with the first date-picker skin.

„I don't understand that. I am not sure if the dates are correct.“ About multi trip date-picker.

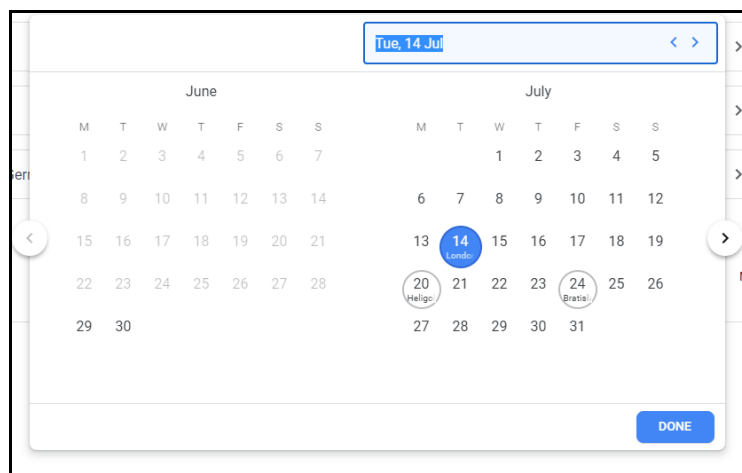
„I am looking where to add date for second destination.“

In multi-trip skin users were also missing information about the flight prices around selected dates and were not able to effectively bypass this function, which violates 3<sup>rd</sup> Heuristics „User control and freedom“ and 7<sup>th</sup> Heuristics „Flexibility and efficiency of use“, because they cannot select dates based on price.

„I might want to stay 2 days longer, if the price is better then.“



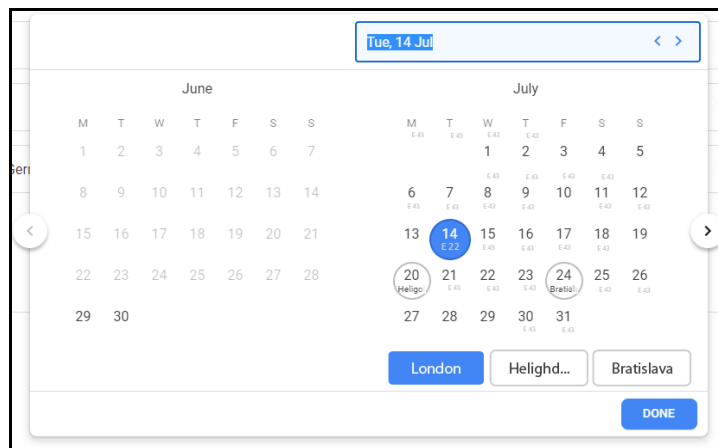
*Date-picker for round-trip*



*Multi-trip date-picker.*

**Recommendation:**

1. Use only one type of date-picker with prices.
2. Use the same mechanism on selecting dates – click on the date window just once and add buttons of destinations in the date-picker so the user can select date of specific flight and see its prices.



*Date picker with visible prices for multi trip option.*

### Finding 3: Loading time is too long

Severity: 3/4

Loading time of date-picker and in hotel section is too long. User sometime has to wait up till 8 seconds.

„I don't like the page, it is too slow.“

„I can see the prices now (in date-picker), but it is too late.“

It also leads to errors:

User has picked 16.-18. October. When he opens the date-picker he sees the current month (June) for 1 send. So he clicks on arrow to change the date. The date changes plus but not the way he is expecting (he saw June and the system wanted to show October).

„Is it working or not? Is the internet working?“

Users were often irritated and bored. They did not mention this explicitly in the debriefing section, but their adoption decisions might be influenced by this experience. This incidents violates 1<sup>st</sup> „Visibility of system status“ and 5<sup>th</sup> Heuristics „Error prevention“.

#### Recommendation:

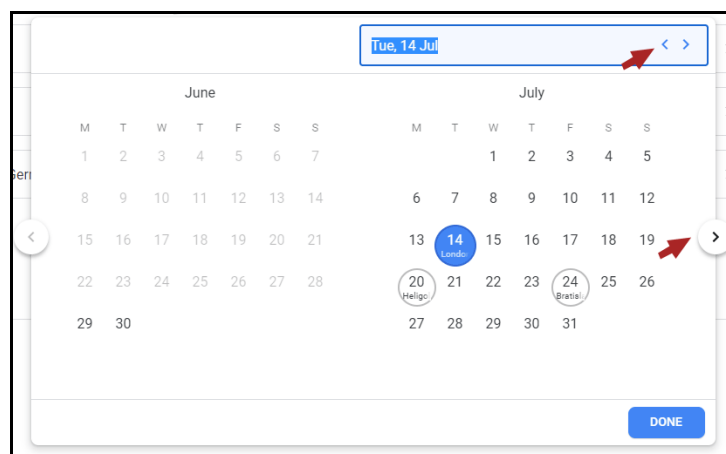
Further research how to increase the speed needed for seamless and undisturbed experience.

### Finding 4: Same orientation arrows in date-picker for dates and months

Severity: 2/4

There are arrows for change of month and change of day in date-picker, that look very similar, they have the same orientation (left-right). All users were mislead and used upper arrows ( used for adding or lowering the date by 1 day) to change the month. Some users have clicked this button few times in different tasks and were frustrated with their error.

„This sucks.“

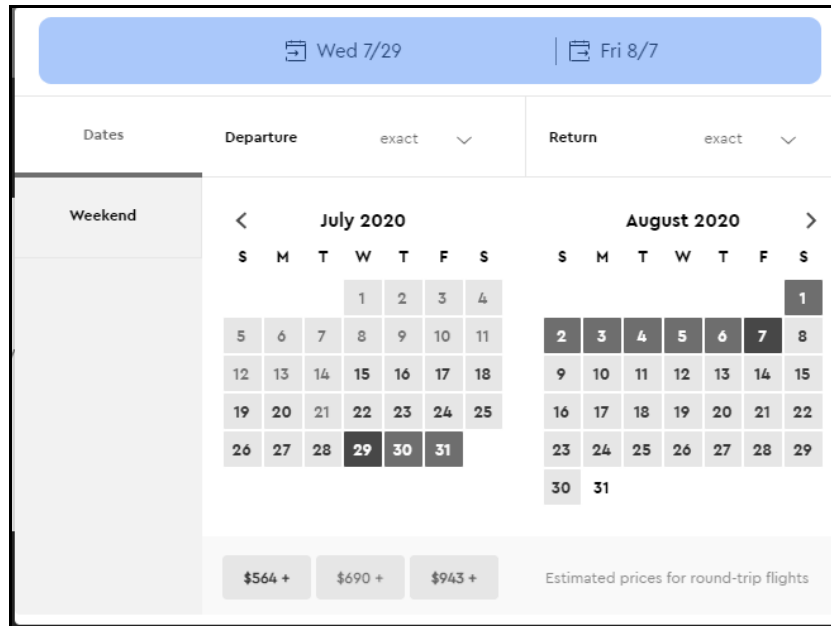


*Arrows for changing the day and month have the same appearance and users were confused by using them – usually they wanted change month with upper arrows.*

Arrows look too similar, their appearance violates the 3<sup>rd</sup> Heuristics „User control and freedom“ and 4<sup>th</sup> „Consistency and standards“.

**Recommendation:**

I suggest not to use upper arrows when the date-picker window is open (only when it is closed like on momondo.com site) so only one set of arrows is visible at the same time.



*Upper arrows are not visible when date-picker is opened.*

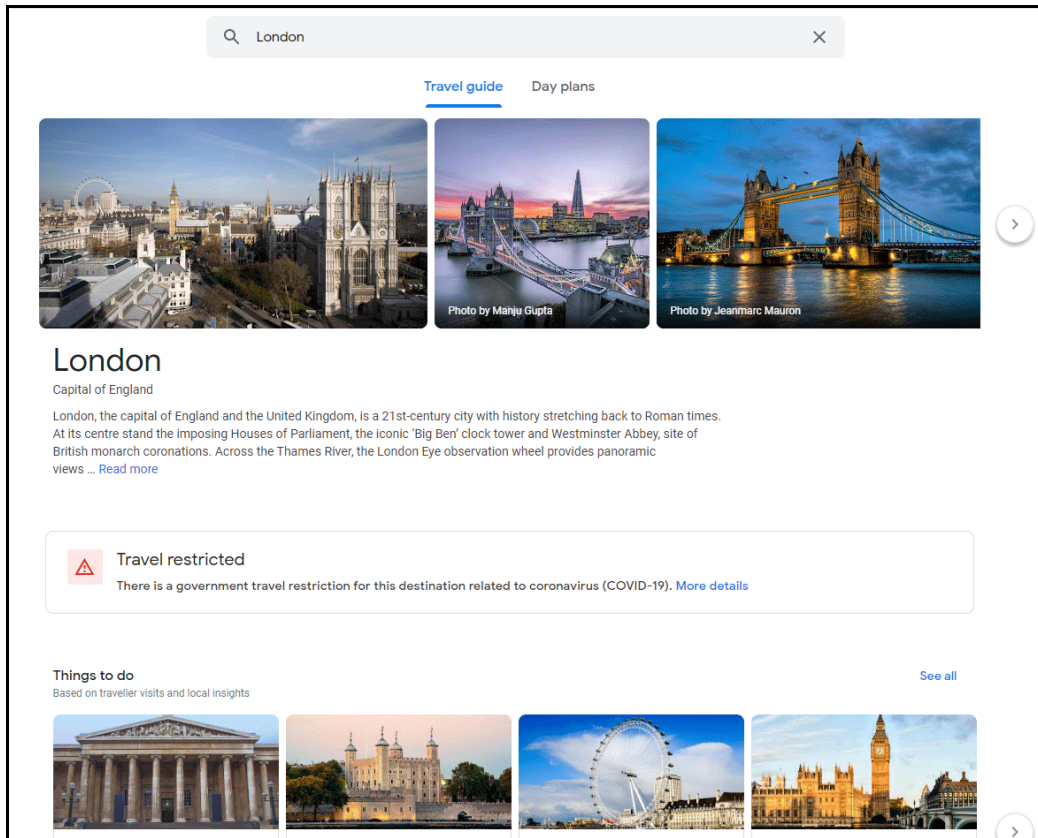
**Finding 5: Trip builder function expected**

Severity: 3/4

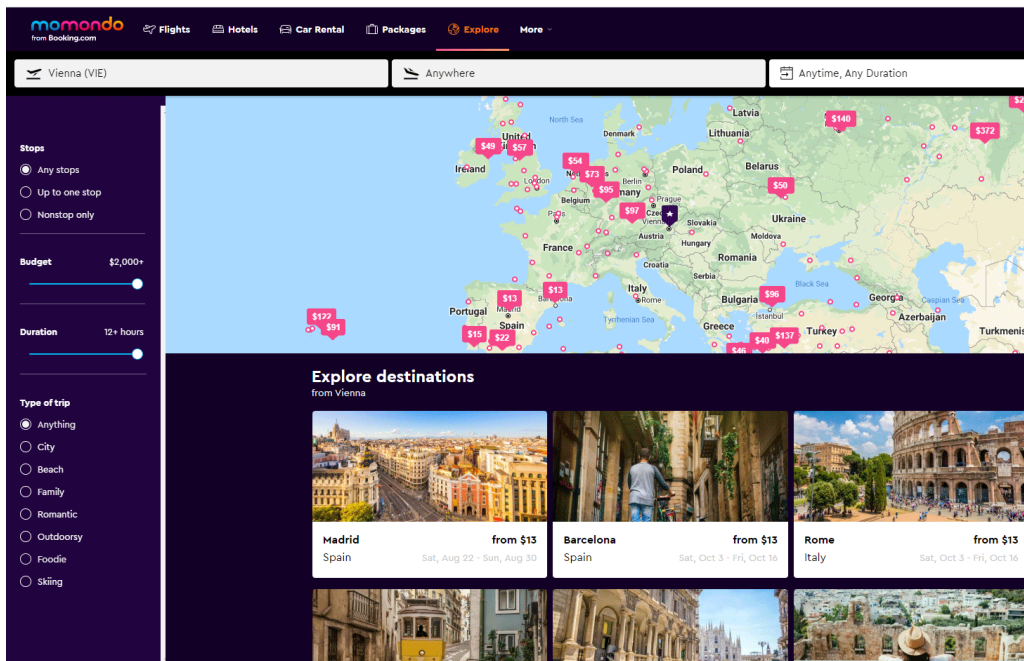
Users tried click on Explore menu item in hope to have functionality similar to kayak Trip builder, where they could experiment with the dates and destination to find some interesting combination.

Currently the Explore link offers only tips for sightseeing in different cities. Users just get distracted in finishing their task. This violates 4<sup>th</sup> Heuristic “Consistency and standards” (in momondo.com Explore link offers possibilities for travelling with filters for undecided users). User who have previous experiences with flight optimization pages have already built mental model how should similar portals work and are frustrated when similar functionality is missing. The exact name drain away their attention and are therefore less effective by finishing the task.

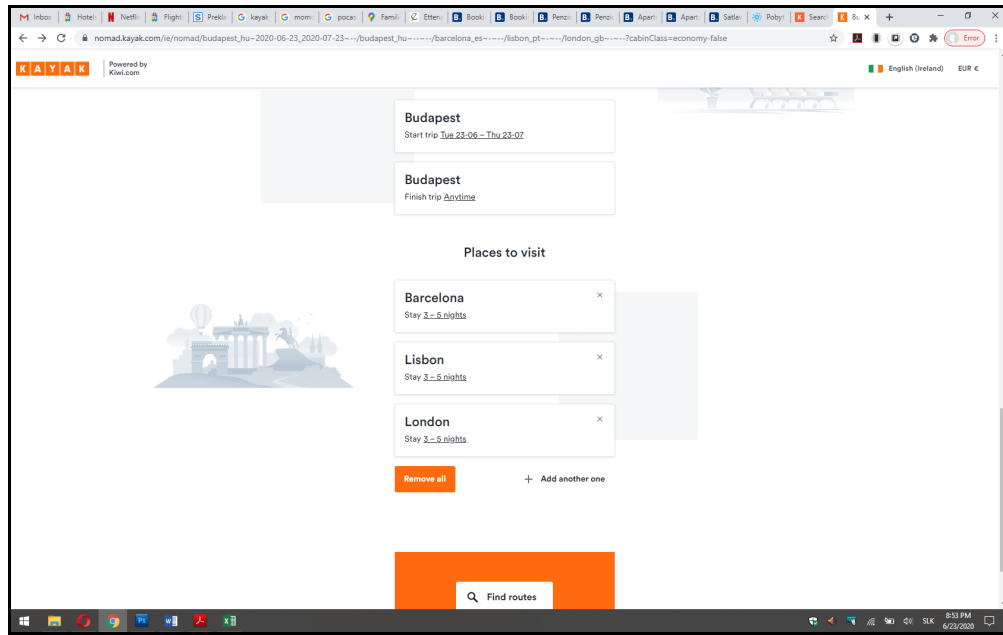
“I am missing functionality like on kiwi, where I can optimize my dates.”



Explore function by Google Travel offers information about things to do in different cities.



Explore functionality in momondo.com for undecided users with filters (price, duration, type etc.)



*Trip builder function on kayak.com allows user to pick cities and approximate days spend in destination within specific time period.*

#### **Recommendation:**

- 1) Try different name for the Explore menu link (Things to do, Sightseeing)
- 2) Implement new function similar to kayak Trip Builder on kayak.com or Explore on momondo.com for experienced users who are not sure about the exact dates/destinations.

#### **Limitations**

I have used for my research only two participants which is considered too little sample for user testing, however for this user research exercise is this number within allowed limits. Smaller number of participants could lead to some undiscovered issues within the study (minimum recommended number is five participants.)

I found also some misleading circumstances within the performance of the task: user did not start from the landing page (with fewer options) after every task was finished, they continued with second screen with flight detail which was very rich on information and users get sometime lost. (I assume this would not happen if they had just one task and started from landing page). I think it is worth to explore if in real life user gets in position when he/she is looking for more flights with different instructions (number of passengers, class, round/trip vs. multi-city) and perhaps to think about implementation of "New Search" button that would reset options for default values.

#### **Conclusion**

The main issues on Google Travel site are the date-picker, speed and functionality that would allow undecided users more flexibility within dates and destinations. Overall impressions were good and testing subjects told they would definitely use this site to double-check their results from other flight optimization portals.

References

<https://www.nngroup.com/articles/ten-usability-heuristics/>

## Apendixes

Test script

Tasks Instructions

SUS questionnaire

Complete list of usability findings

# User Test Script

## User Test Script

### Pretest Checklist

- Clear cookies
- Login with email: (See Note\*\* Below) password: (See Note\*\* Below)
- Remove login saved memory
- Double check success criteria
- Fill in the blanks in this Test Script, User Testing Plan, and Consent Form with the name of the website you chose for analysis.
- Print task instructions, one per page
- Print post-test questionnaire
- Print logging sheet
- Print this Test Script and Consent Form
- Start screen recording

Note\*\*: You need to create a new test email account to provide to the user. See User Test Plan for details.

### Posttest Checklist

- Stop recording, save audio and video to backup drive
- File informed consent form
- File logging sheet

### Introduction to demo

Moderator (with a big smile!): Thanks for coming in today! We're constantly trying to improve our product, and getting your frank feedback is a really important part of that.

The goal for today's session is test the website - \_\_\_\_\_. I'm here to learn from you so I'll ask a lot of questions, **but I'm not testing you**. There are no right or wrong answers.

# User Test Script

I'll start this session by asking some background questions. Then I'll show you some things we're working on, and ask you to do some tasks. As you work on the tasks, please **think aloud**.

This means that you should try to give a running commentary on what you're doing as you work through the tasks. Tell me what you're trying to do and how you think you can do it. If you get confused or don't understand something, please tell me. If you see things you like, tell me that too. I want to emphasize that, **you won't hurt my feelings** by telling me what you think. In fact, frank, candid feedback is the most helpful.

If you do get stuck, **I'm going to try not to answer your questions** or tell you what to do. I'm just trying to see what you would do if you were using it on your own. But don't worry--**I'll help you if you get completely stuck**.

Do you have **any questions** before we begin?

## Consent Form

Present Consent form, summarize it, and obtain signature

## Pre-test Questionnaire

1. Have you used \_\_\_\_\_ before?
2. Tell me about the last trip you planned.
  - a. What do you usually use to plan your trip?
  - b. What is your primary purpose for travelling?
  - c. What is your primary concern?
  - d. What is your budget?
3. What information is the most important when you are planning your trip?
4. How often do you travel?

# User Test Script

## Task Instructions

Print tasks and present them, one at a time. Read each task aloud and give the printed sheet to the participant.

## Debrief

1. **Review parts of the test where the user struggled:** What difficulties did you have on \_\_\_\_? I noticed you struggled with \_\_\_\_, can you tell me what happened? You paused here, tell me more about that.
2. **Preferences:** What did you think of the site? What did you like/dislike? Which parts of this page are most/least important to you?
3. **Changes:** If you had 3 wishes to make this better for you, what would they be? Why?
4. **Understanding:** How would you describe this to a friend?
5. **Use Cases:** Under what circumstances would you use this? Why?

## Conclusion

This has been incredibly helpful. Today, you mentioned...[Moderator: Try to briefly summarize some key parts of the discussion or issues.] Your input is really valuable for me and the team as we think about the next steps for these ideas. We really appreciate your taking the time to come in, and answering all of my questions. Thanks SO much!

[Moderator: Give participant incentive gift, if appropriate.]

# Tasks Instructions

## Task 1

Your manager asks you to help her plan a few trips for the company. She has heard of a website called “\_\_\_\_\_”that can help and encourages you to use it.

Plan a round trip from Detroit to Atlanta for under \$250.00 (or the next cheapest price) from January 16, 2020 to January 19, 2020. Email the itinerary to \_\_\_\_\_.

Note - Unless otherwise specified, any arrival/departure time is okay

## Task 2

4 people from the Chicago office want to attend a conference in New York from

January 8, 2020 to January 10, 2020. What is the cheapest total price of the trip?

## Task 3

Your manager wants to join the Chicago team in New York (your office is in Detroit), but then she wants to go to London for a week then return to Detroit. She plans to fly business class for the entire trip. What is the cheapest price for her trip?

## Task 4

The L.A. office manager has a meeting in New York on October 16, 2019 at noon. She wants to leave on October 15 after 9am, and can arrive anytime before 9am on the next day. How many flight options do you have?

## Task 5

Help your manager book a place to stay from October 16-18. Find the top rated hotel that has wifi for under \$350/night in New York City.

## Task 6

You want to surprise your family with a visit over Christmas but money is tight. Set up a fare alert for a trip from Detroit to Seattle from December 22, 2019 to December 26, 2019.

## Post-test questionnaire

Answer the following questions based on the scale of 1 -5 where 1 is strongly disagree and 5 is strongly agree

1. I think that I would like to use this system frequently

1                      2                      3                      4                      5

2. I found the system unnecessarily complex

1                      2                      3                      4                      5

3. I thought the system was easy to use

1                      2                      3                      4                      5

4. I think that I would need the support of a technical person to be able to use this system

1                      2                      3                      4                      5

5. I found the various functions in this system were well integrated

1                      2                      3                      4                      5

6. I thought there was too much inconsistency in this system

1                      2                      3                      4                      5

7. I would imagine that most people would learn to use this system very quickly

1                      2                      3                      4                      5

8. I found the system very cumbersome to use

1                      2                      3                      4                      5

9. I felt confident using the system

1                      2                      3                      4                      5

10. I needed to learn a lot of things before I could get going with this system.

1                      2                      3                      4                      5

# Complete list of usability findings

Finding	Description	Recommendation	Severity	
1	Price monitoring link hard to find	User could not find the link to monitor price of the flight when not logged to google account	use different position - users were looking for this functionality in Price link	3
2	Top section in flight option is over looked	There are too many things going on on the screen and user don't see this option	I would recommend add more visual hierarchy + use the new search functionality	3
3	Trip Builder function expected	Users misinterpreted the multi trip with functionality from Kayak.com - Trip builder.	Add multi trip functionality or show prices in date-pciker or add functionality 2 days up/down	3
4	Different possibilities when logged and logged	Price monitoring was easy to find when logged	Make more consistant, especially when the function is easy to use when not logged too.	3
5	2 different date-picker skins	One date picker with prices is available for round/single trip and another for multicity trip. Users were confused, did not recognize, there are two different functionalities.	Use one type of date picker - with prices	3
6	Sign-in to google account 404 page	When user wanted to sign in to google account 404 page appeared.	Fix the broken link	3
7	Loading time is too long	User gets frustrated when loading takes too long time (sometimes up to 8 seconds).	More research by IT department, how to make respond faster to users inputs.	2
8	New search button missing	Some users were confused when had to fulfill more tasks, they forgot to set all the fields to new/default values.	Add New Search functionality	2
9	Same arrows for dates and months	Date-picker uses same looking arrows for manipulating days and months. Users used them with intention to use it the exact opposite way, more times.	Don't user arrows to mainpulate days or use vertical arrows for days and horizontal for months	2
11	User is linked offsite without notification.	When users click on booking option by specific company they are redirected to companys booking site, sometime they discover after few clicks, they are on a different site.	Add notification you are redirected to a different site.	2
12	After click unexpected detail is loaded	When user clicks on an option from flight list, the same page loads again only without flight picker options. It is waste of time.	Lead click on flight detail	2
13	Price-picker is hard to use	Users are forced to accept selected ammount, because slider is hard to control.	use arrows for smaller ammounts	1