

# Human-Computer Interaction

**CAA2:**

**Definition: Synthesis of the proposal**

UOC

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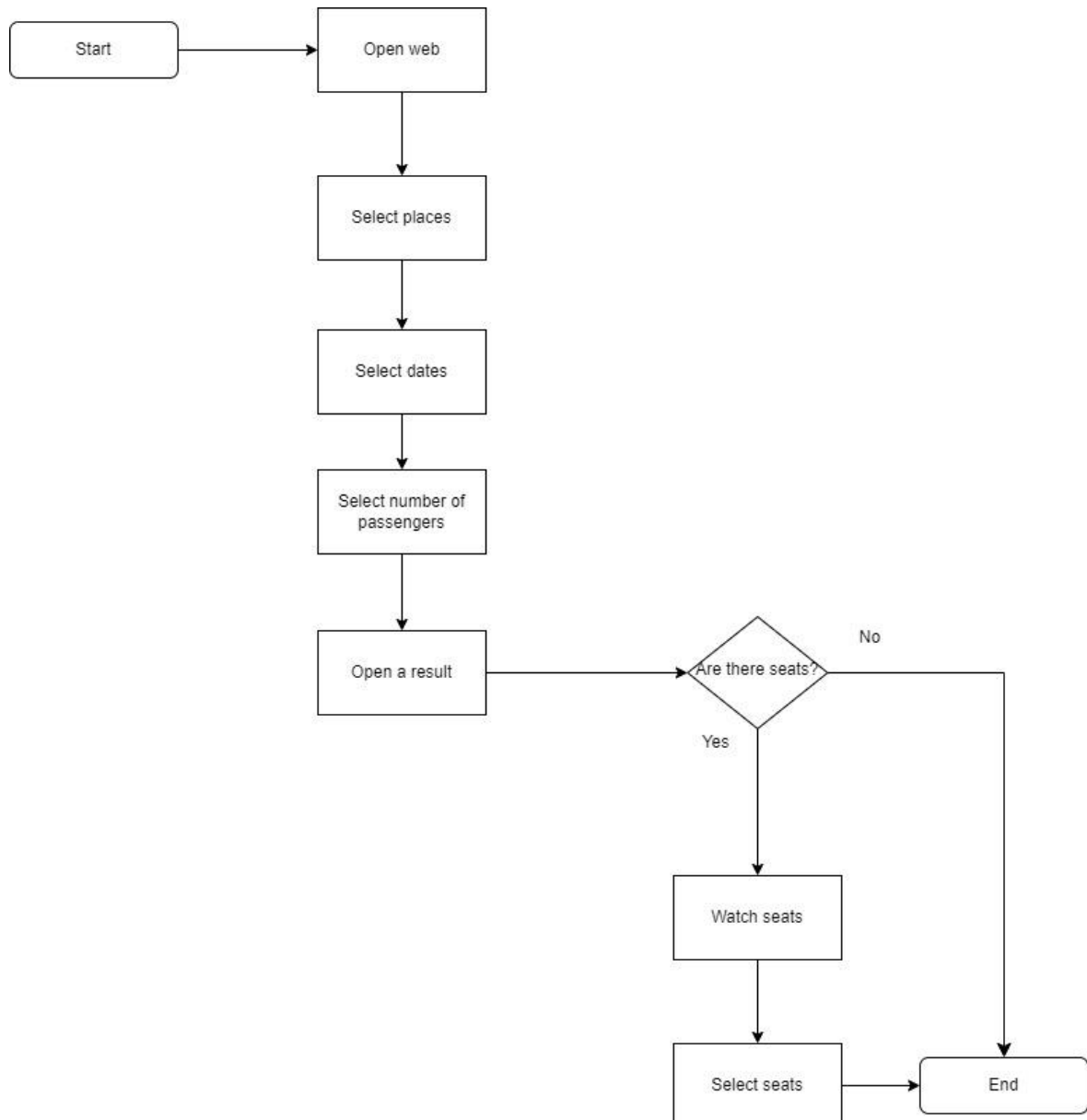
## Introduction

For this challenge 2, I have used two of the three applications that were analyzed in the previous work. Specifically, I have selected Edreams and Google flights, since they have been the applications that have had the best usability and with a better designed interface. To make the flowcharts I have chosen Edreams since its operation stands out from the other applications. On the other hand, to do the interviews I have used Google flights due to its look and feel and because most users are familiar with Google and its apps.

# 1.Flowcharts

In this section I am going to make two flowcharts based on the operation of the Edreams website. To select the activities of the requirements, I have based myself on the analysis of the positive and negative insights that we carried out in challenge 1. Specifically, I have selected select seats and compare airlines.

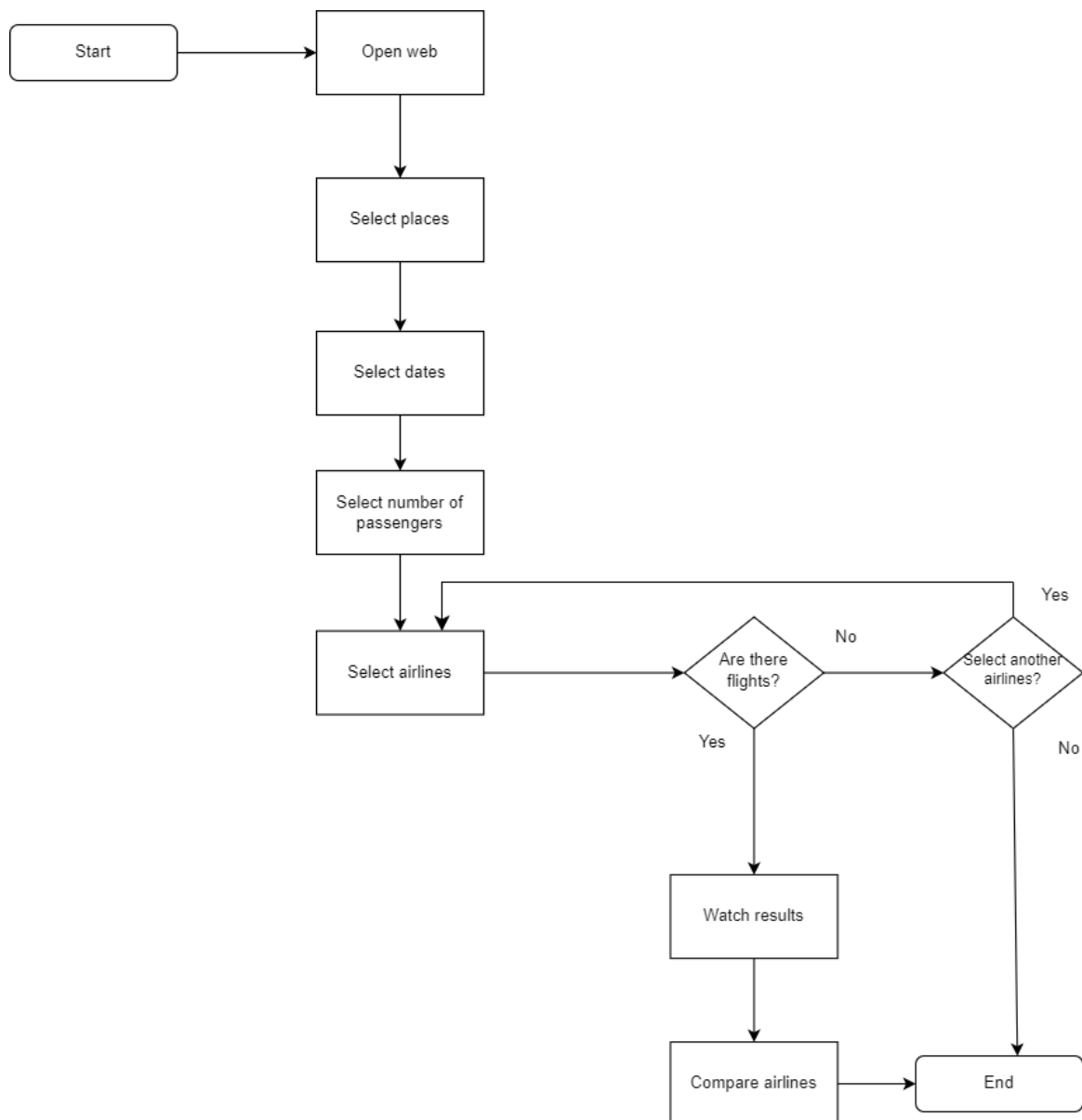
## Select seats



To complete this task it is necessary to do 7 steps, however, if there are no free sites the task would only last 5 steps. There is only this way to select the seats within the page, since the option appears when you perform the search and open a search result. However, I see the final part of the process as quite problematic, because the results that appear in the

search do not indicate if you can select a seat. So, if there are no selectable seats, it simply does not put it previously, so the user could get upset since perhaps the result meets the rest of the requirements that have been filtered and is within their budget. On the other hand, if there are seats, when you click on the result, a small map of the plane appears with the available seats. The clearest points are those related to the flight search, since it is only necessary to fill in the fields in the search engine, and if you do not fill them in, the page will not load results since the fields are mandatory.

## Compare airlines



We can see that there are two ways to complete this task. If the users filter by airlines and there are tickets available according to their requirements, the steps are 7. However, if there are no flights according to the airlines selected by the customers, the steps will be 8. These will be the only ways to complete the task. On the other hand, I think the point of selecting airlines is very clear, since users have a sidebar to select airlines. The only negative point is that the web allows you to select airlines even if there are no flights available, so in this case the web should only list the airlines that operate.

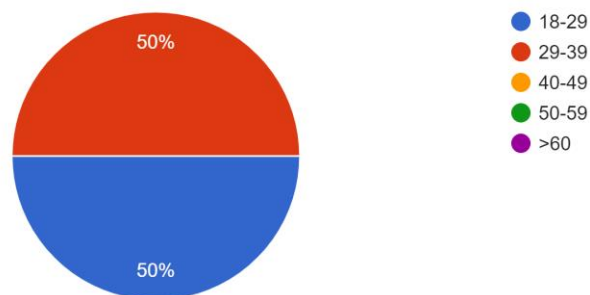
## 2. User Testing

### Identification

To carry out the using testing, I have selected two people who match the user profiles that I developed in challenge 1 of the course. Therefore, I have interviewed Sabina and Nicolás Montaña. Both have different profiles in terms of income, age and lifestyle, so they can enrich the analysis to better perform our interface. In addition, to validate that both profiles meet the characteristics, I have carried out a brief demographic questionnaire to verify it.

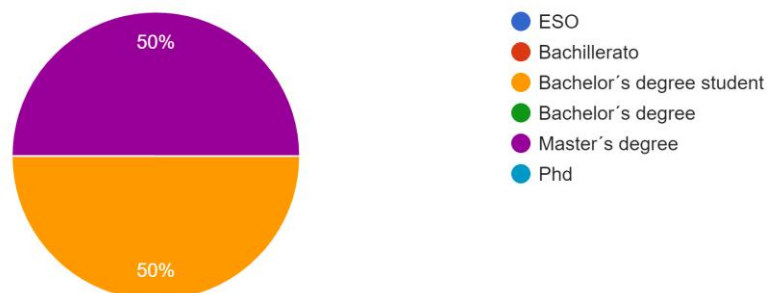
What is your age range?

2 respuestas



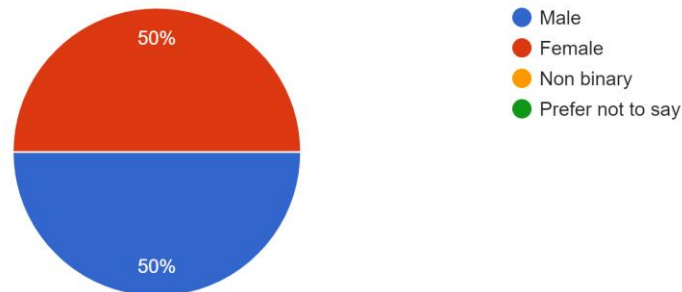
What is your educational level?

2 respuestas



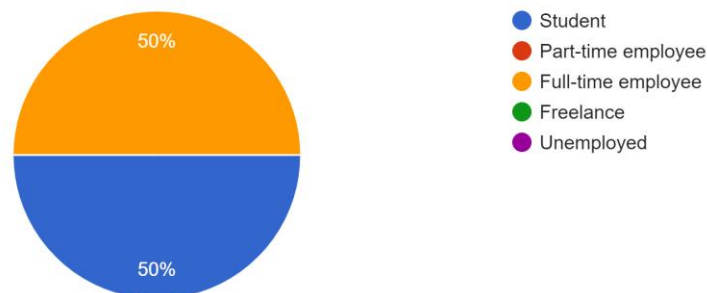
What is your gender?

2 respuestas



What is your work situation?

2 respuestas



## Interviews and task script

To carry out the interviews I have selected requirements 2 and 3. Specifically, in requirement 2 I have done a script with three tasks and in the requirement 3 I have done the script with two tasks, all the tasks have been selected based on the insights of challenge 1. To do the interview, I have used the Google forms tool and I have communicated with the users telematically through Skype.

What we want to achieve with these interviews is to extract information about the most positive and negative aspects of the Google flights interface to later translate it into our website. So, the interview script consisted of proposing a series of tasks to be carried out in the search engine, and then a few questions about their experience doing their tasks.

The results of the interviews can be seen in the documents attached to this file.

## Analysis

From the interviews we have obtained several conclusions.

- **Select seats:** We note that within the page there is no possibility of selecting the seats on the chosen flights. One of our users has had a false success, because she has managed to select the seats but outside the web, so she has not achieved the



objective within the search engine. On the other hand, the other user has not gone beyond Google flights.

Imagine that you want to take a trip to Cambodia for 3 weeks and that you want to select the seats of the flights you have chosen. Could you explain the steps you needed to achieve it?

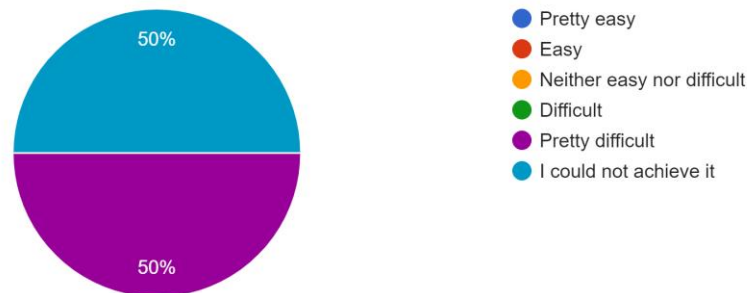
2 respuestas

First, i put my trip in the first gaps about departure and destination, as the dates (for example, from the 15th of may to 2nd of june) and then click in the explore button. Then, i will chose in the filters economy seats, choose the combination with less hours and stops, departing time that fits me better, then choose one of the airlines they offer in the web (eDreams) and after choosing the best price with suitcase i will go to choosing the seats.

After selecting the flight date and the flight, I was diverted to booking.com, so it's not possible to select the seat in google flights.

Select how it has turned out for you to reach the result.

2 respuestas



- Hand luggage: In this task the users have not had much difficulty in achieving the task. We observe that Sabina again makes the mistake of following the task on another web page, which has made it more difficult for her. However, Nicolás has continued on Google flights and has completed the task successfully and without complications.

You want to know if the flights include hand luggage. Tell us how you managed to reach the goal.

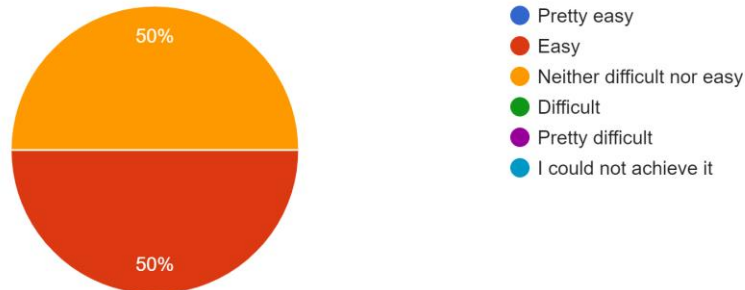
2 respuestas

I will use the bags filter, then select between the offers they give that are more cheaper. Then, the web makes me go to another company (eDreams) and choose there the type of suitcase i can bring

After selecting the date and the place of destination of the flight, a list of available flights opens, on which a filter selection menu appears that allows you to search between flights that do allow hand luggage.

Select how it has turned out for you to reach the result.

2 respuestas



- Compare airlines: Both users have not had any difficulty comparing airlines, since there is a filter in Google flights to select airlines.

You want to compare the different airlines to watch which one has the best prices and the best routes. Explain what you have done to achieve it.

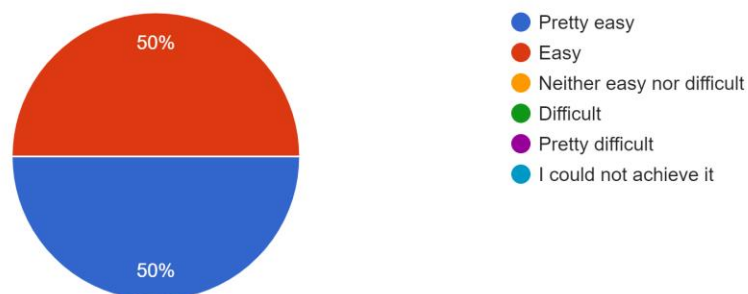
2 respuestas

In the home page there is a filter that says "airlines" that lets you select all the different companies you want to investigate. I sleep most of them, and then the own google flights sorts by best options.

Selecting the destination and flight date opens a list of flights on the left, which can be sorted by criteria such as price, airline, or stopover.

Select how it has turned out for you to reach the result.

2 respuestas



- Watch stopovers: We observed that users reached their goal quickly and using the filter menu provided by Google flights, just as they did in the previous test.

You want to select how many stopovers your flights will have. Could you indicate what steps you have taken to reach your goal?

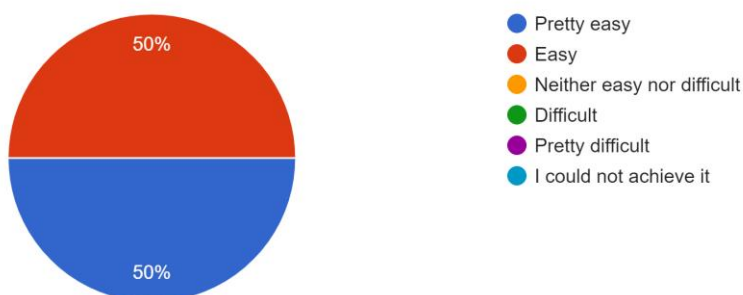
2 respuestas

In the home page there is a filter that says "stops" that lets you select the number of stops you prefer. I choose two stops because there weren't another lower option. And then the own web selects the diferent options with the number of stops i already have choosen.

In the same filter menu that I mentioned in a previous question to select flights that allow hand luggage, another filter allows you to select flights with one or two stopovers, or without stopovers.

Select how it has turned out for you to reach the result

2 respuestas



- Departure and arrival time: In this test we see that the users did not have any difficulties to achieve the objective, they simply filtered the search according to their need.

You want to select a time slot for departure and arrival at your destinations. Tell us how you got it.

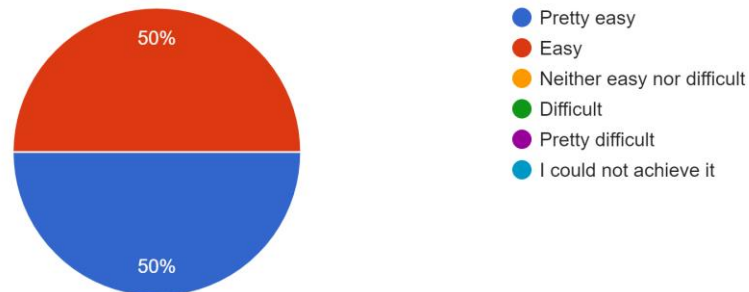
2 respuestas

In the home page there is a filter that says "times" that lets you select departure and arrival times, so you can choose and then the web shows you the options you have in base on the timigs i have choosen.

In the same filter menu that I mentioned in a previous question to select flights that allow hand luggage, another filter allows you to select flights according to the time slots.

Select how it has turned out for you to reach the result.

2 respuestas



- Positive and negative aspects: Users highly value the Google flights filter menu, since it allows a personalized search according to the characteristics of the flights. However, they feel that the page does not reflect accurate information about prices, and, on the other hand, they cannot choose the seats on the page.

Could you say us what were the main difficulties you have found in the web?

2 respuestas

I don't like that the we redirects you to another company and then they makes you pay higher prices... Also i felt like there were too many options in the google flights that then change when you get redirect to another company or they make you to call them...

The only difficulty I have found is that I been couldn't select the flight seat or see the ones that were available in google flights, and I had to change the page.

Could you say us the positive aspects of the web?

2 respuestas

Using the filters makes easier to find the best personal options, also there are a plety of diferet companies.

It is very easy to navigate through the menus, and it is very intuitive when it comes to selecting the different flight search parameters. In my opinion it is a very comfortable page to easily find a flight to your liking.

## Conclusions: Proposals for improvement

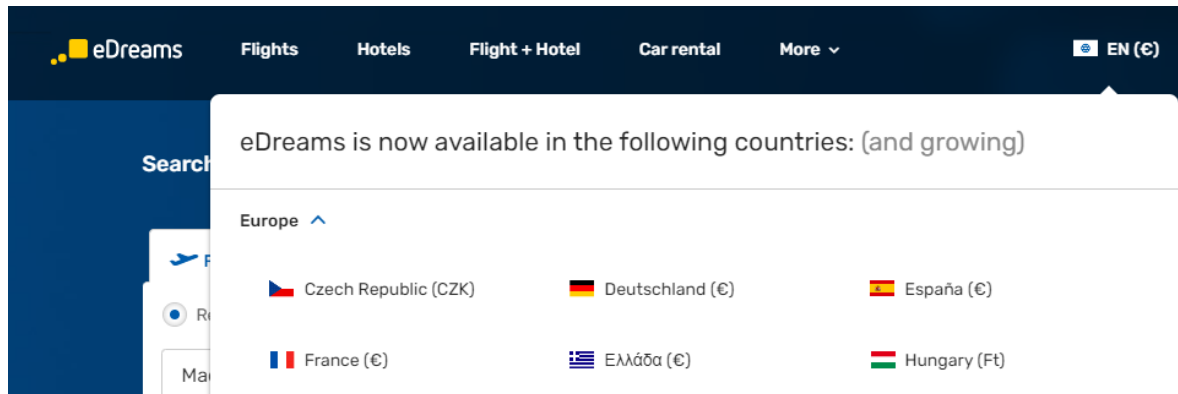
From the conclusions that we have drawn from the interviews, we can obtain a series of key points for the future design of the interface:

- The Google flights filter menu is a very relevant element to obtain a great user experience. As we have seen, both users have agreed that it allows you to create a very personalized search. In the same way, its accessibility is notable, since one of the users does not have much knowledge of ICT and it has been very intuitive.
- You cannot select seats through Google flights. This aspect is quite negative, since if we make a comparison with Edreams, they do allow you to select the seat if it is available.
- Users also comment that the page does not provide accurate information about some data, since you cannot book or buy tickets from the application, but you have to go to the website of the company that operates the flights and, sometimes, the conditions change. To solve this, the website should not take users to other websites, but rather they should be able to operate from the same site.
- However, users comment that the map was totally irrelevant to improve the experience. So, we can remove that element from the interface and increase the size of the results.

## 3.Exemplification of 7 principles of universal design.

### Edreams

- **Equitable use:** We can find an example of this principle with the option to change the language. This is part of the design so that users of different nationalities feel integrated into the web, avoiding segregation.



- **Flexibility in Use:** Edreams offers users multiple options for searching and filtering flights. In this way, users can develop the activity with precision and accuracy.

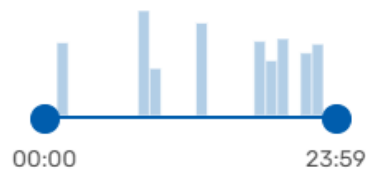
## Times



### Madrid to Hanoi



### Hanoi to Madrid



## Stops



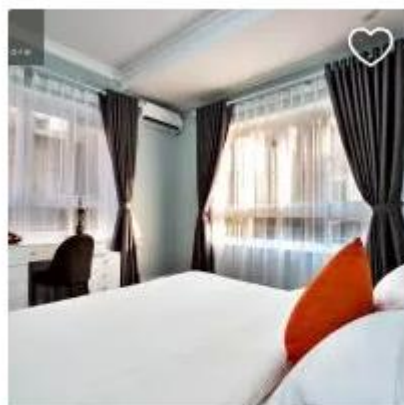
- Simple and Intuitive Use: An example would be the messages that appear in the destination search boxes, where a message appears indicating what to put. In this way, the user is placed in the execution sequence.

Where from?

↔

Where to?

- Perceptible information: An example of this principle is the images what you can see when you search hotels. This gives redundant information to the user.



## HANZ Memory Legends Hotel ★★

[Hoan Kiem, Hanoi](#) - [Show on map](#) - 0.9 km from centre

Limited-time Deal

### Superior Queen Room

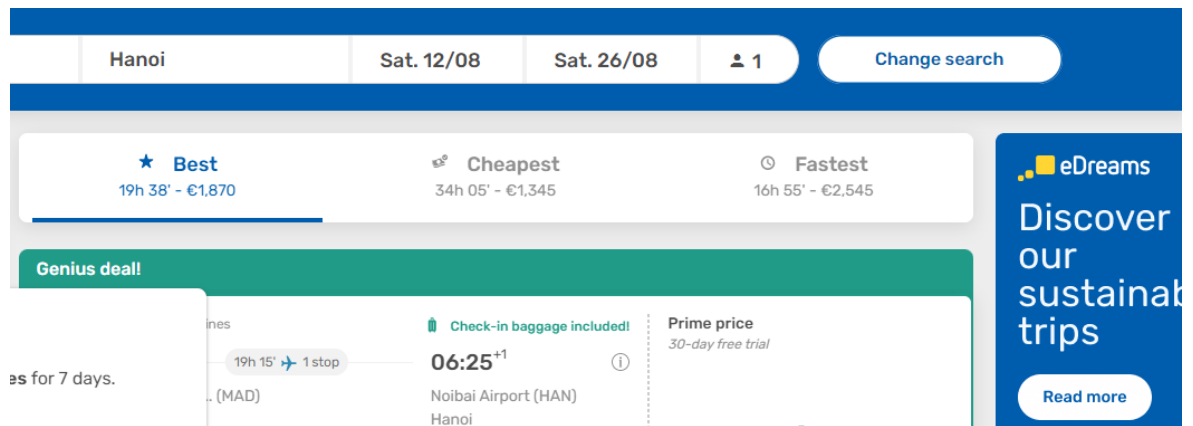
1 large double bed

**Free cancellation**

You can cancel later, so lock in this great price today.

**Only 4 rooms left at this price on our site**

- Error tolerance: Edreams offers users the option to undo or modify their search criteria, helping them to avoid and correct errors. In this way, it gives the option to revert the changes and obtain the initial configurations.



- Low Physical Effort: Edreams is designed to be easily operated without excessive physical effort or discomfort, with large buttons and clickable links that can be accessed using a mouse, keyboard, or touch screen.

**Search Flights**

- Size and space for approach and use: Edreams provides users with ample space and size for approach, reach and manipulation, regardless of their body size, mobility or posture.


## Google flights

- Equitable Use: Google Flights is designed to be accessible to users with diverse abilities, including those who may use assistive technologies like screen readers.

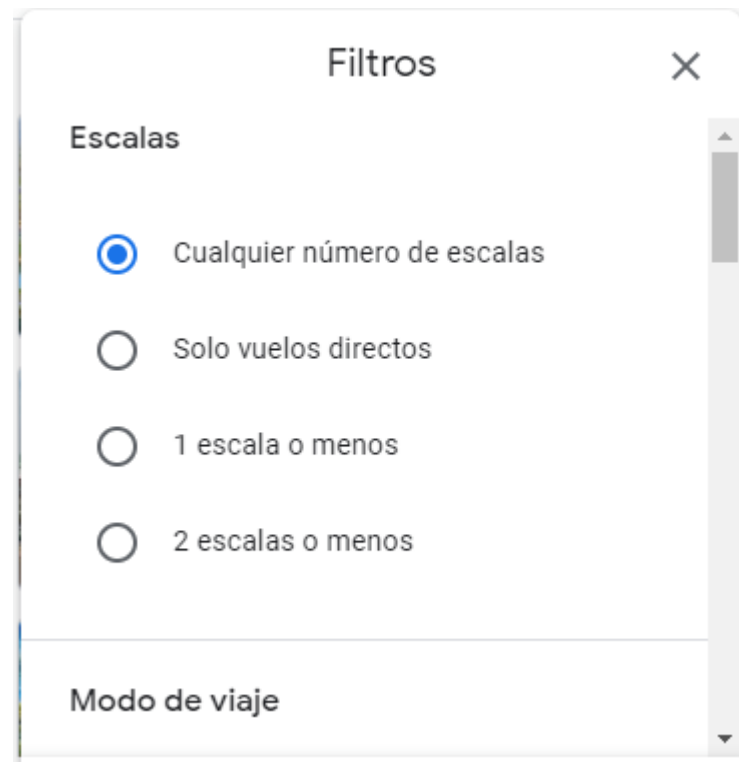
### Cómo activar o desactivar el lector de pantalla

La configuración del lector de pantalla solo se aplica a Hojas de cálculo, Presentaciones, Formularios, Dibujos y Documentos de Google en un navegador como Chrome. Cuando uses estos productos, un lector de pantalla podrá leer en voz alta el texto de la pantalla.

Para que funcione esta configuración, debes tener un lector de pantalla, como NVDA, JAWS, VoiceOver o ChromeVox.

1. Abre tu [Cuenta de Google](#) . Es posible que debas acceder.
  2. A la izquierda, haz clic en **Información personal**.
  3. En "Preferencias generales para la Web", haz clic en **Accesibilidad**.
  4. Activa o desactiva la opción **Lector de pantalla**.
- Flexibility in Use: As in Edreams, Google Flights offers users multiple options for searching and filtering flights based on their preferences, such as price.





- Simple and Intuitive Use: Google Flights has a clean and easy interface, with clear labels and simple icons.

↔ Ida y vuelta ▾ 👤 1 ▾

- Perceivable information: Google Flights provides users with clear and accurate flight information. For example, the prices stand out for their contrast when the flights appear.

1.072 €

- Tolerance for Error: Google Flights allows users to make changes to their search criteria.

↔ Ida y vuelta ▾ 👤 1 ▾ Turista ▾

○ Madrid	📍 Camboya
📅 mié, 17 may	dom, 21 may

- Size and space of focus and use: Google Flights is designed to be accessible to users who want to use the application on the phone, where they can see that the interface is displayed correctly.

Google

Viajes Explorar Qué hacer **Vuelos** Hoteles Alquiler

**Vuelos**

↔ Ida y vuelta 1 Turista

Lima ↔ ¿A dónde qui...

jue, 9 sept | lun, 13 sept

El coronavirus (COVID-19) podría afectar a los viajes. [Ver aviso de viaje](#)

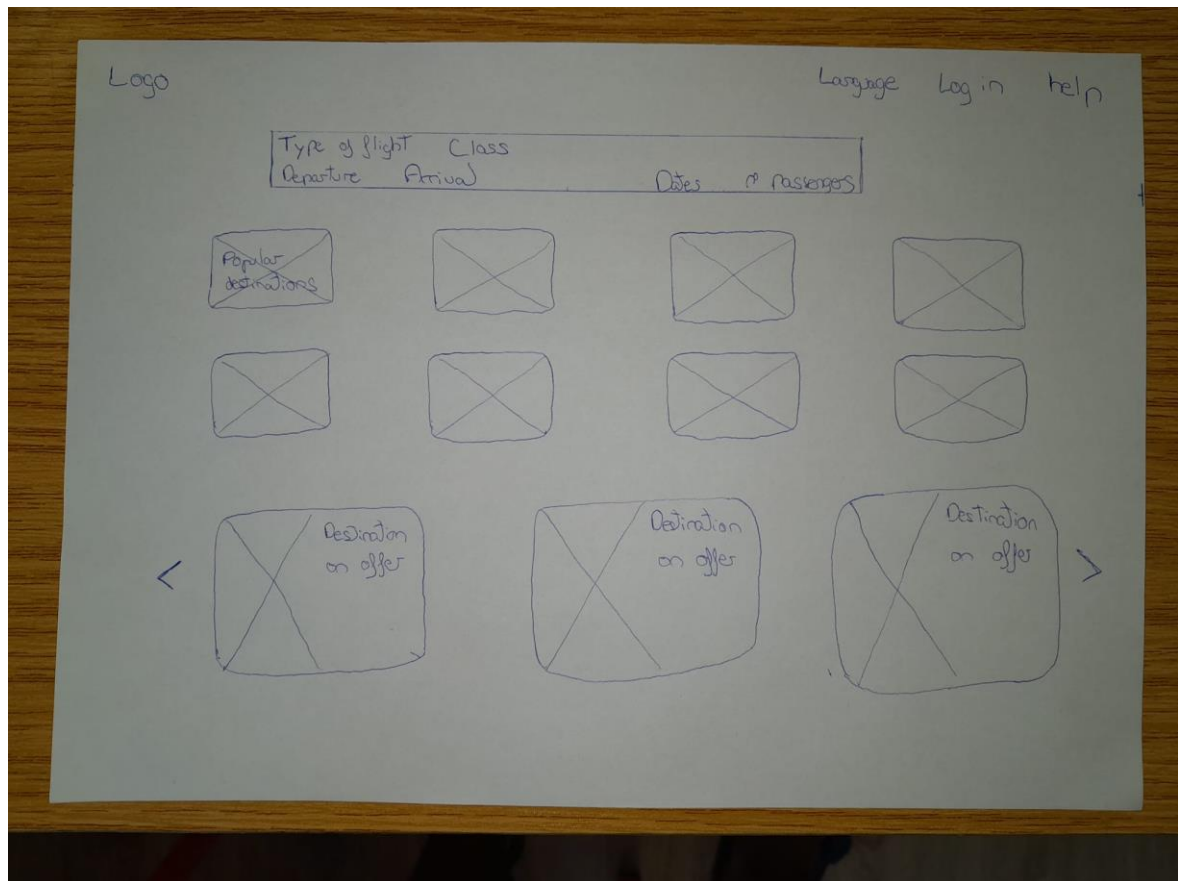
Viajes desde Lima Ida y vuelta · 1 pasajero

- Low physical effort: Google Flights has a good font size, which prevents the eyes from getting tired. So follow the WCAG guidelines for good accessibility.

○ Madrid

## 4. Solution proposal and universal Design

### Landing page



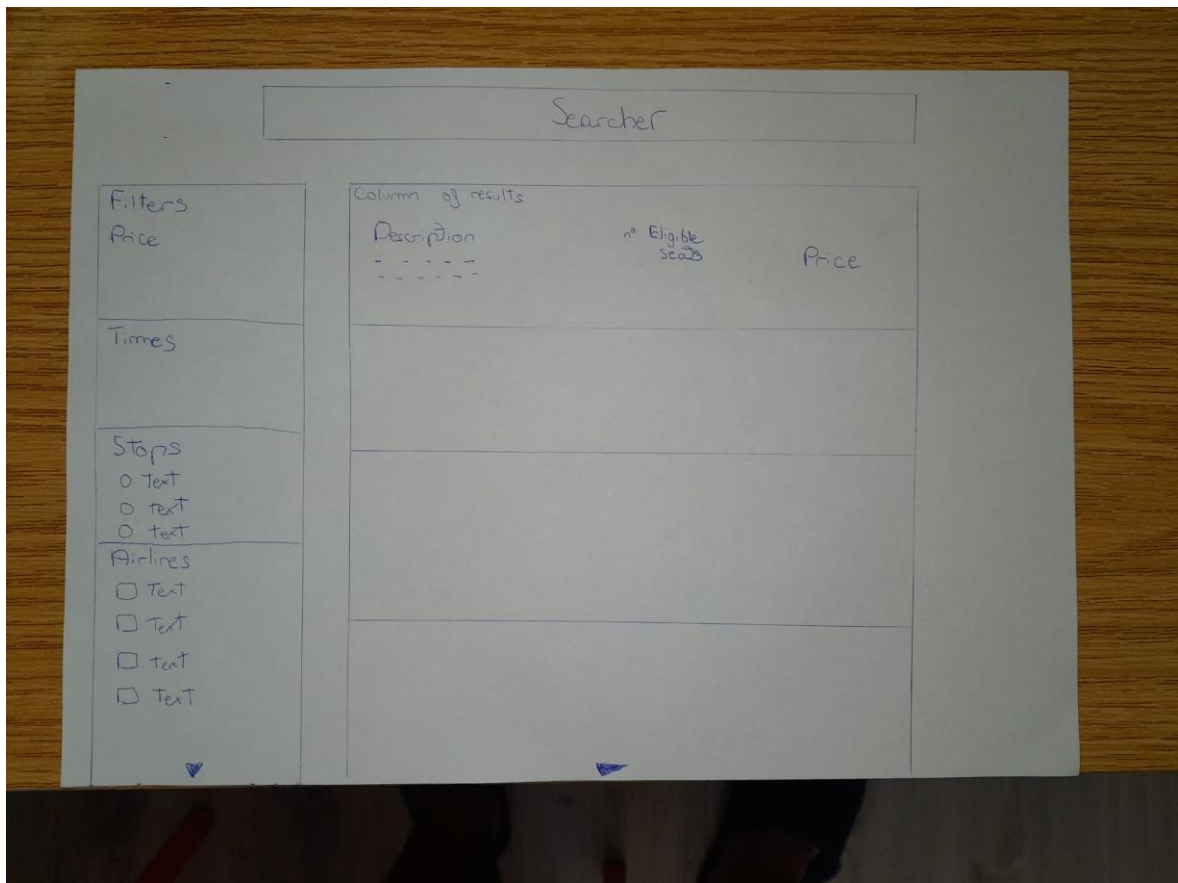
The beginning of my proposal begins with the landing page. As can be seen in the wireframe, the language, log in and help options will be in the upper tab. With the language option we are including the principle of equality on our website, just as it happens in the Edreams application.

On the other hand, in the central area of the page will be the flight search engine, which will be inspired by Google flights, since Edreams has a search engine with more options but which is more uncomfortable for the eyes, since our mission is to focus this page to search for flights, and Edreams has options for hotels, cars and rentals that are not related to our objective. On the other hand, this search engine will remain active in the rest of the searches.

Below, a box will appear with block images that have popular destinations that may interest our users, these destinations will also appear based on the information obtained from cookies and if our user has logged in. And further down, a moving carousel with low price flight offers will appear.

If the user hits "Search" in the search engine or hits a suggested destination, it will take you to the search screen. However, if you hit a low-price flight, it will take you to the Customize Flight screen.

## Search

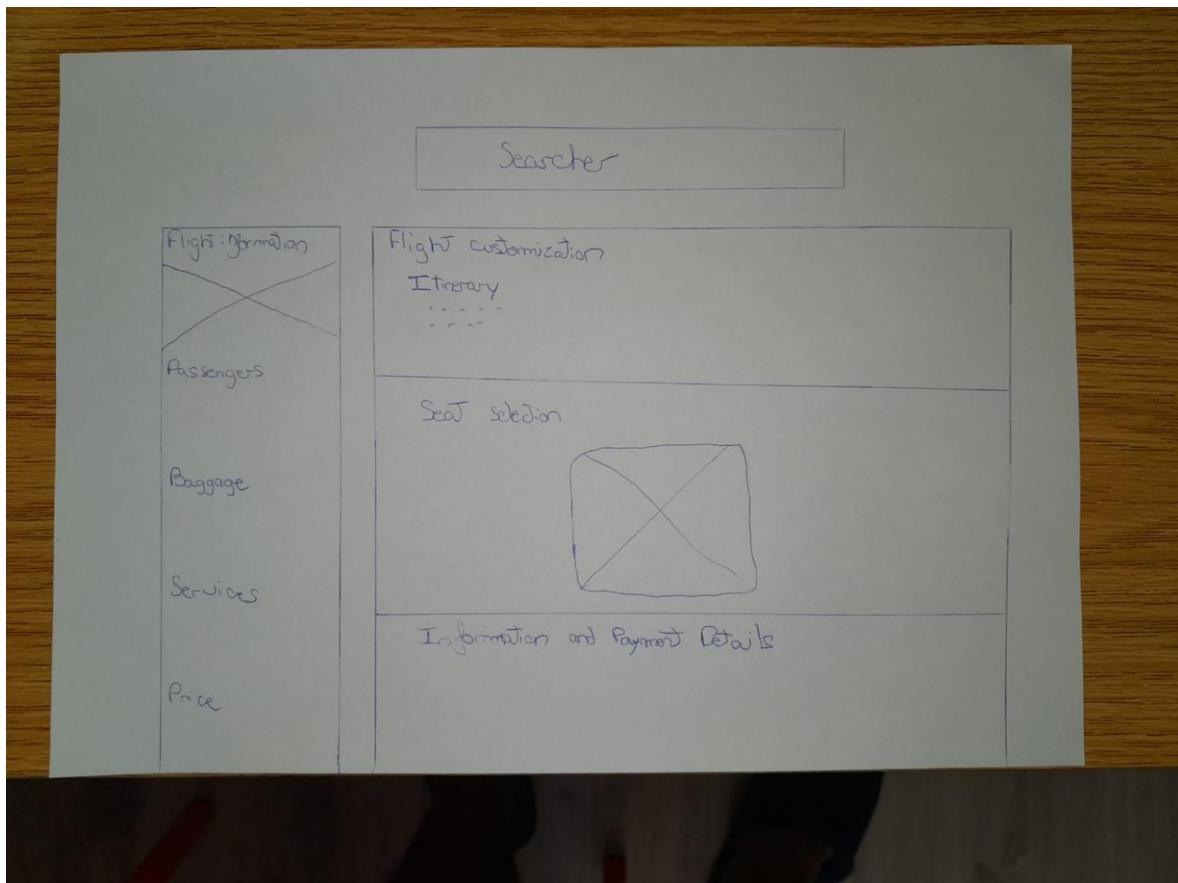


On this page the search bar continues to appear in case the user wanted to modify the characteristics that he had placed. In this way, this could serve as an example of error tolerance.

On the other hand, we have followed the analysis that we have obtained from the challenges, and we have eliminated the image of the map where the flights arrive. Instead, we have opened a side column where the filters that we have observed in google flights will appear. Among these filters, we have placed the filter to compare airlines, only this time only the name of the airlines that operate in the selected destinations and on the dates entered by the user will appear.

In addition, we have used the rest of the space to expand the size of the column of results to show more information about flights. Similarly, in this column the flights will have a small message indicating if they can choose seats, so our customers could reduce a step in the seat selection process.

## Customize Flight



This is the screen where we are going to choose the characteristics of our flight. On the left side there will be a column with the information of our selected flight. I have placed this as an element that avoids unconscious actions, so it is an example of error tolerance. By placing this element on the left, we are making the client aware all the time of the processes that are being completed.

In addition, in the center of the page there will be a large column with the different options to customize our flight and put the personal data of the users, as well as the payment details. But the most important element of this screen is the seat selection. In google flights and in Skyscanner we did not have the option to select any seat, since it sent us to an external page. To solve this, one of the customization options is to select your seat from a map of the plane that contains the available seats.