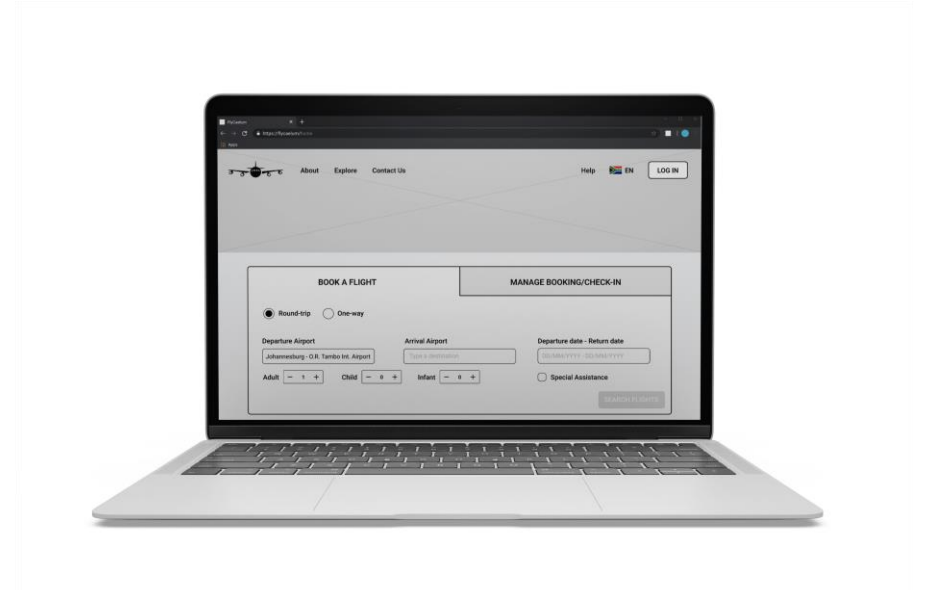


# FlyCaelum [“fly-khaey-luhm”]

(‘Caelum’ meaning the ‘sky/heaven’ in Latin)

Jan. 2023 – Jun. 2023 | UX Design

FlyCaelum is a **fictional start-up airline company** where I had to **simplify the flight-booking process**. This is my final project for **UX Design Institute (UXDI)**, which resulted in a Professional Diploma in UX Design.



## Duration

6 months

## Project goals

To design & build a **middle-fidelity prototype** of an airline website (which can be tested with users) that is accompanied by a **detailed set of wireframes**.

## Tools

MS PowerPoint  
Google Forms  
Miro  
Figma

## Roles

UX Researcher  
UX Designer

# Design Process

## 1 Research

Competitive benchmarking  
Online survey  
Note-taking  
Usability testing

## 2 Analysis

Affinity diagram  
Customer Journey Map

## 3 Design

Flow diagram  
Interaction design (sketches)

## 4 Prototyping

Middle-fidelity prototype  
Annotations

## 5 Evaluation

## 6 Reflection

# Research

Competitive benchmarking

Online survey   Note-taking   Usability testing

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- Well-known, award-winning international airlines
- Assumed they would have **good solutions** to common flight-booking problems

The most used local airline in South Africa (where I'm from)

South Africa's newest airline (launched in 2020)





I reviewed existing airline websites to familiarise myself with their **layout and conventions**; focusing on the **homepage**, **flight selection** and **passenger details** screen.

I wanted to see **their solutions** to common flight-booking problems, and be aware of **issues** to not repeat in my own work.

# Research

Competitive benchmarking summary

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Competitor	Homepage	Search and Select	Entering details
	<ul style="list-style-type: none"> <li>■ Responsive but cluttered interface</li> <li>■ Quick access to own booking</li> <li>■ “Holidays” heading is ambiguous</li> <li>■ Instant accommodation for edge cases</li> <li>■ Enthusiastic CTA</li> </ul>	<ul style="list-style-type: none"> <li>■ Clean interface</li> <li>■ Users are notified about lowest prices &amp; prices going up soon</li> <li>■ There is an Edit button &amp; a Help button</li> <li>■ Flight Summary is easy to understand</li> <li>■ Drop arrow disclosing extra info.</li> </ul>	<ul style="list-style-type: none"> <li>■ Jargon is used (“NA”, “ADT”)</li> <li>■ Only South African mobile numbers are valid</li> <li>■ Booking process &amp; progress is displayed</li> <li>■ Flight summary updates accordingly</li> </ul>
	<ul style="list-style-type: none"> <li>■ Neat and responsive interface</li> <li>■ Convenient swop button</li> <li>■ Check-in is on a completely different page</li> <li>■ Too many Login points</li> </ul>	<ul style="list-style-type: none"> <li>■ Initial search can be edited</li> <li>■ Booking process &amp; progress is displayed</li> <li>■ Lowest fares for upcoming days are shown</li> </ul>	<ul style="list-style-type: none"> <li>■ Initial search can still be edited</li> <li>■ Country code can be changed to the user's preferred country</li> <li>■ Invoice can be issued</li> <li>■ Edge cases are accommodated</li> </ul>
	<ul style="list-style-type: none"> <li>■ Neat and responsive interface</li> <li>■ Language can be changed</li> <li>■ Asterisk is displayed with no explanation</li> <li>■ CTA tells users what is next</li> <li>■ Price of a return trip is shown</li> <li>■ Travel alerts are displayed</li> </ul>	<ul style="list-style-type: none"> <li>■ Surplus amount of whitespace, longer scroll time</li> <li>■ Initial search can be edited</li> <li>■ Flight details are disclosed at user's discretion</li> <li>■ Prices are displayed in user's preferred currency</li> </ul>	<ul style="list-style-type: none"> <li>■ Surplus amount of whitespace, longer scroll time</li> <li>■ Health &amp; Safety reassurance</li> <li>■ Trip summary details all look the same</li> <li>■ No option to edit flight details</li> <li>■ Users can only identify as either Male or Female</li> </ul>
	<ul style="list-style-type: none"> <li>■ Neat and responsive interface</li> <li>■ Language can be changed</li> <li>■ Users can give direct feedback</li> <li>■ Users can disclose extra info at their discretion</li> <li>■ Assistance with transport &amp; travel plans</li> </ul>	<ul style="list-style-type: none"> <li>■ Simple flight summary</li> <li>■ Initial search can be edited</li> <li>■ Currency can be changed</li> <li>■ Users can filter their search</li> <li>■ Option to view only Emirates flights on the Emirates website</li> </ul>	<ul style="list-style-type: none"> <li>■ Booking process &amp; progress is shown</li> <li>■ Information regarding travel documents &amp; COVID requirements is displayed</li> <li>■ Option for users to have undisclosed info.</li> <li>■ Option to return to the Flights page</li> <li>■ Passenger details are saved</li> </ul>

■ Good
 ■ Could be improved
 ■ Bad

# Research

Competitive benchmarking insights

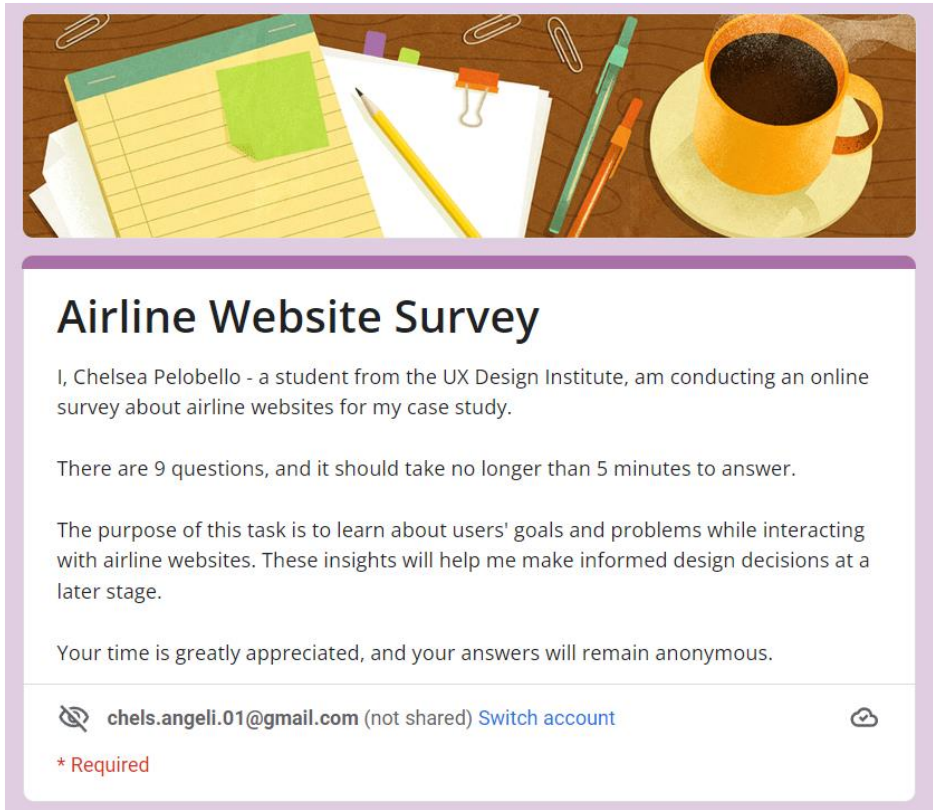
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- The task of booking a flight could be **completed** on all 4 websites.
- Some websites had the option for **Special Assistance** on the booking form, while others had the option come up in the Passenger Details page.
- Qatar Airways had a **surplus amount of whitespace** causing a **longer scrolling period** – it took longer to complete the task with them.
- Users are given **freedom and control** on every website – they can **edit initial searches**.
- **International airlines** (Qatar Airways and Emirates) include **language and currency preferences**.

# Research

Competitive benchmarking Online survey Note-taking Usability testing

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The introduction of my Google Forms survey

The next step was to **interact with users** of airline websites to understand **their goals** when they **use** an airline website.

I created an **online survey** using **Google Forms**. I shared the form's link via the **story feature on Instagram and WhatsApp** as stories get **more views** than posts. Therefore, having a higher chance of reaching people that are willing to participate.

Total number of responses: 30

# Research

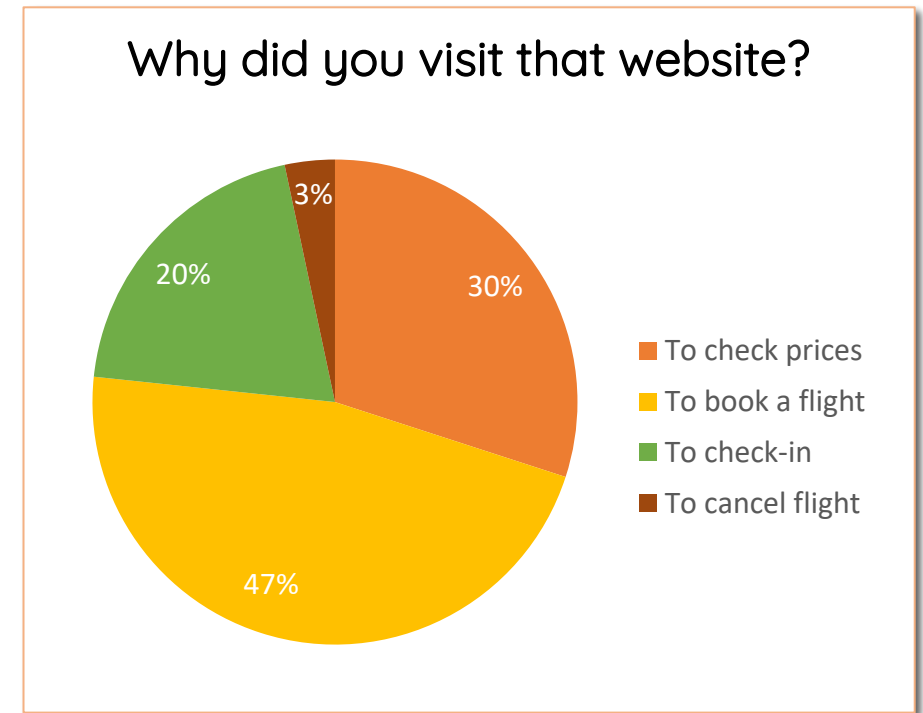
Online survey insights

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## Quantitative insights

- 47% of participants visited airline websites to **book a flight**
- 77% of participants used a **PC/Laptop** to access the airline website
- **97%** of participants were **able to achieve their goal** during their visit
- 47% of participants found that **searching and selecting flights** was the **most challenging** task during the booking process

These insights solidify the need to create a better user experience for the flight-booking process on **PC**, with careful consideration during the **flight selection** stage.



A pie chart showing why my participants visit airline websites

# Research

Online survey insights

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## Qualitative insights

- Flight selection is the most challenging task because:
  - **Can't find** the most **reasonably priced** flight at the time they needed to fly
  - Flight details are **unclear** and presented in **small fonts**
- Participants would like:
  - **Simpler** design – easier layout and **clearer data**
  - **Easier** navigation
  - **User-friendly** experience
- Airline websites are **chosen** based on the **cheapest flights offered**. Other factors include **reliability** and **service**.

These insights emphasize the need for users to **find the cheapest flight**, with their flight details **clearly explained**.



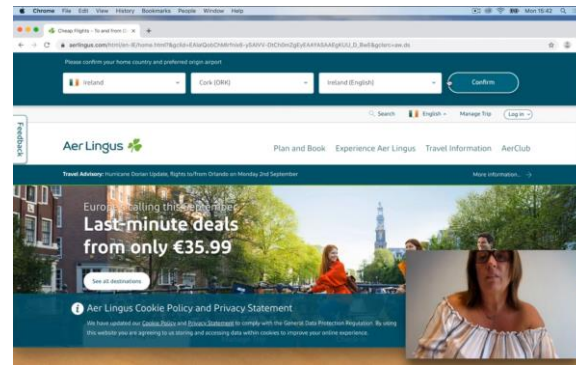
# Research

Competitive benchmarking   Online survey   Note-taking   Usability testing

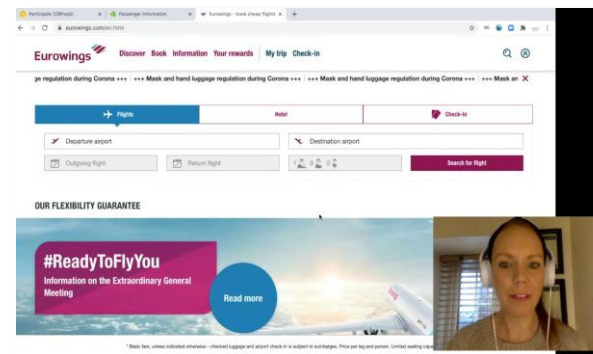
Next, I needed to **observe** how users **interact** with airline websites (through a **usability test**).

Notes about how **User 1** and **User 2** completed the respective tasks on **Aer Lingus** and **Eurowings** were taken while watching the **usability test recordings** that were **conducted** by UXDI.

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User 1 using Aer Lingus for Task 1



User 2 using Eurowings for Task 2



## Task 1

- Return flight from **Cork, Ireland** to **Faro, Portugal**
- 2 Adults

User 1 dates: Sat. 26 Oct. 2019 – Fri. 01 Nov. 2019

User 2 dates: Sat 24 Oct. 2020 – Fri. 30 Oct. 2020



## Task 2

- Return flight from **London, England** to **Barcelona, Spain**
- 2 Adults



User 1 dates: Sat. 26 Oct. 2019 – Fri. 01 Nov. 2019

User 2 dates: Sat 24 Oct. 2020 – Fri. 30 Oct. 2020

# Research

Note-taking summary

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	Good	Bad	User Suggestions
	<ul style="list-style-type: none"> <li>Both users <b>successfully completed</b> task 1</li> <li>Users were <b>able to interpret</b> most features</li> <li><b>Cork was already filled in</b> on the homepage's booking form</li> <li>Interaction with <b>pop-up calendar</b></li> <li><b>Nearby dates and prices</b> can be seen <b>straight away</b></li> <li>The process is <b>easy, straightforward</b></li> </ul>	<ul style="list-style-type: none"> <li>User 1 <b>missed the 'Search Flights' CTA</b> on the homepage</li> <li>"<b>I can't find where to book.</b>"</li> <li>User 2 <b>scrolled</b> through a list of countries to find 'Ireland'</li> <li>The travel banner <b>took up most of the homepage</b></li> <li><b>Confusing layout</b> of flight details</li> <li>"<b>...should [Aer Lingus] not know that I'm in Ireland and that it would naturally populate?</b>"</li> <li><b>Plain-looking website</b></li> </ul>	<ul style="list-style-type: none"> <li>The <b>'Search Flights' CTA</b> needs to be a <b>more stand out colour</b></li> <li>Display other available flight times, otherwise say <b>"One flight daily"</b></li> <li><b>Change the layout</b> of the flight details</li> <li>Have the option of a <b>simple</b> amount of baggage</li> <li><b>Less pop-ups</b></li> </ul>
	<ul style="list-style-type: none"> <li>Both users <b>successfully completed</b> task 2</li> <li>Users were <b>able to interpret</b> most features</li> <li>"<b>...nice bright Search for Flights</b>"</li> <li><b>Prompted</b> user to fill in outstanding details</li> <li><b>Clear</b> flight details; <b>easier</b> process</li> <li><b>Warnings</b> are given before proceeding</li> <li><b>Colourful</b> interface</li> <li><b>Useful</b> information icons &amp; <b>chat feature</b></li> <li><b>Saved steps</b> in Airport selection process</li> </ul>	<ul style="list-style-type: none"> <li><b>Car hire</b> was instantly offered</li> <li><b>Ambiguous pricing</b> (for one passenger or two)</li> <li>Cost of 'Flex option' <b>wasn't displayed</b> at first glance</li> <li><b>Repetitive</b> baggage form</li> <li><b>Displaying unavailable options</b></li> <li><b>No "x"</b> to close the info window</li> <li>5:30 on homepage was <b>confusing</b></li> <li><b>Unsure</b> what 'Preferred seating' entailed</li> <li>Initially <b>unsure</b> what "From £4 Save your price" meant</li> </ul>	<ul style="list-style-type: none"> <li><b>Clearer communication</b> about the different airports</li> <li>The <b>"From £4 Save your price"</b> could be worded better</li> </ul>

# Research

Competitive benchmarking   Online survey   Note-taking   Usability testing

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At this stage, it was expected that I conduct my own usability test. I did an **in-person** usability test **with my sister**.

The following tasks were given:

## Task 1



- **Return** flight from **Johannesburg, South Africa** to **Amsterdam, Netherlands**
- 2 Adults
- Fri. 16 June 2023 – Fri. 23 June 2023

## Task 2





- **Return** flight from **Johannesburg** to **Cape Town, South Africa**
- 2 Adults
- Sat. 14 Oct. 2023 – Sat. 21 Oct. 2023

The user was able to complete both tasks. However, it's important to note that factors such as **confusing layouts and formats**, as well as **no further explanation of jargon used**, hindered the user from completing the task in a timely manner.

# Research

## Usability test summary

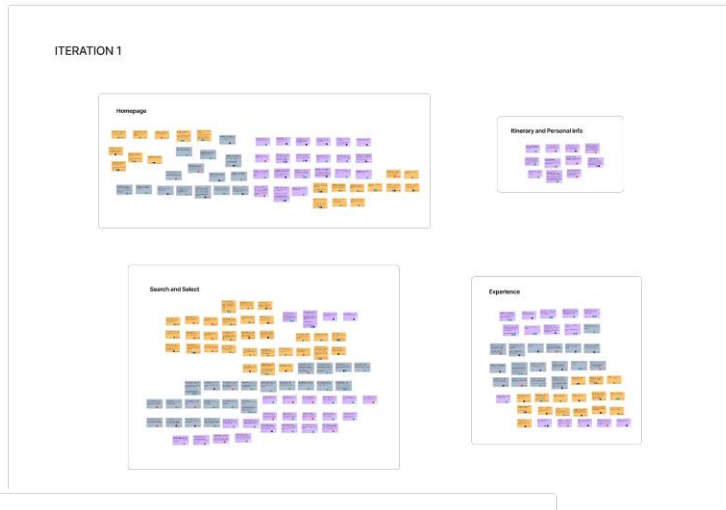
[View original PDF](#)

	Good	Bad	User Suggestions
	<ul style="list-style-type: none"> <li>The user <b>successfully completed</b> task 1</li> <li>The ribbon with the <b>different dates and costs was useful</b></li> <li>The <b>filters were useful and helpful</b></li> <li>The user was able to briefly explain the different fare options</li> <li>Good comparison format</li> <li>The <b>information icon was helpful</b></li> <li>The user liked that the frequent flyer option could be <b>toggle</b>d</li> <li>Expectations were met</li> <li><b>No surprising elements</b></li> </ul>	<ul style="list-style-type: none"> <li>The user <b>struggled</b> to input the dates – she found it <b>“annoying”</b> to specify the year to get to the month</li> <li>User information was <b>erased</b> as soon as she went into another tab</li> <li>Fare options <b>were</b>n’t organised by <b>price</b></li> <li>The lowest return fare <b>didn’t load</b>, but the only direct flight’s fare loaded</li> <li>The format of the date in the itinerary was <b>confusing</b></li> <li>Email option for flight details was at the bottom – easily missed</li> <li>User <b>didn’t know</b> what “Flying Blue” meant, <b>no extra info given</b></li> </ul>	<ul style="list-style-type: none"> <li>The <b>Blue Member option</b> should’ve come up <b>before</b> she had to input her details</li> </ul>
	<ul style="list-style-type: none"> <li>The user <b>successfully completed</b> task 2</li> <li>Input info was <b>saved</b></li> <li>The user was able to briefly explain what Flexible dates and different fare options entailed</li> <li>Flight details and prices <b>updated automatically</b></li> <li><b>Help feature</b> is a good touch</li> <li><b>“Really good”</b> experience; <b>“seamless”</b></li> </ul>	<ul style="list-style-type: none"> <li>User <b>didn’t know</b> what “2 Fee-free Changes” meant, <b>no extra info given</b></li> <li><b>Not obvious</b> that User was on the <b>Return flights</b> page</li> <li>User was <b>unsure</b> what “NA” and “ADT” meant</li> </ul>	

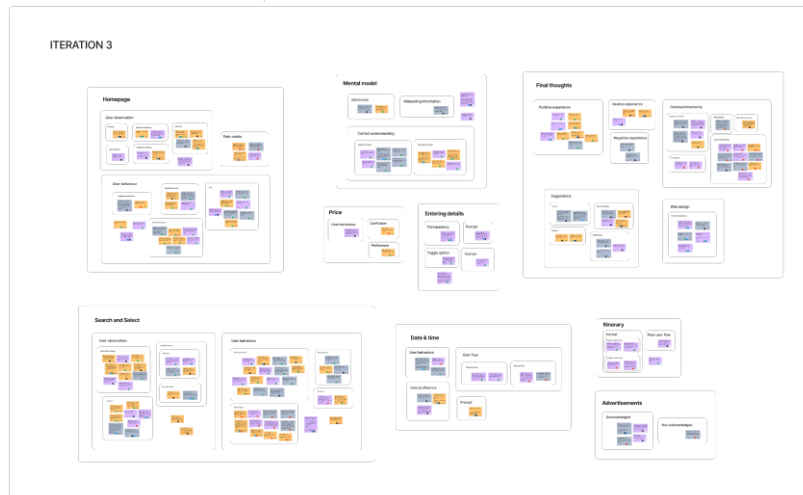
# 2 Analysis

Affinity diagram Customer Journey Map

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Iteration 1



Iteration 3

Having made **thorough notes from 3 usability tests**, it was fitting to create an **Affinity diagram** as my partner (who has an IT background) and I needed to **sort large volumes of data** into smaller groups of **specific niches**.

The session was done **in-person** and **hosted on FigJam**.

Pain-points to prioritise:

- A **lack of information** made users unsure what certain terms meant, causing confusion.
- Users spent more time looking for the next step when **CTAs didn't stand out**.
- **Confusing layouts**, having unavailable options displayed and no explanation of errors contributed to a negative experience.

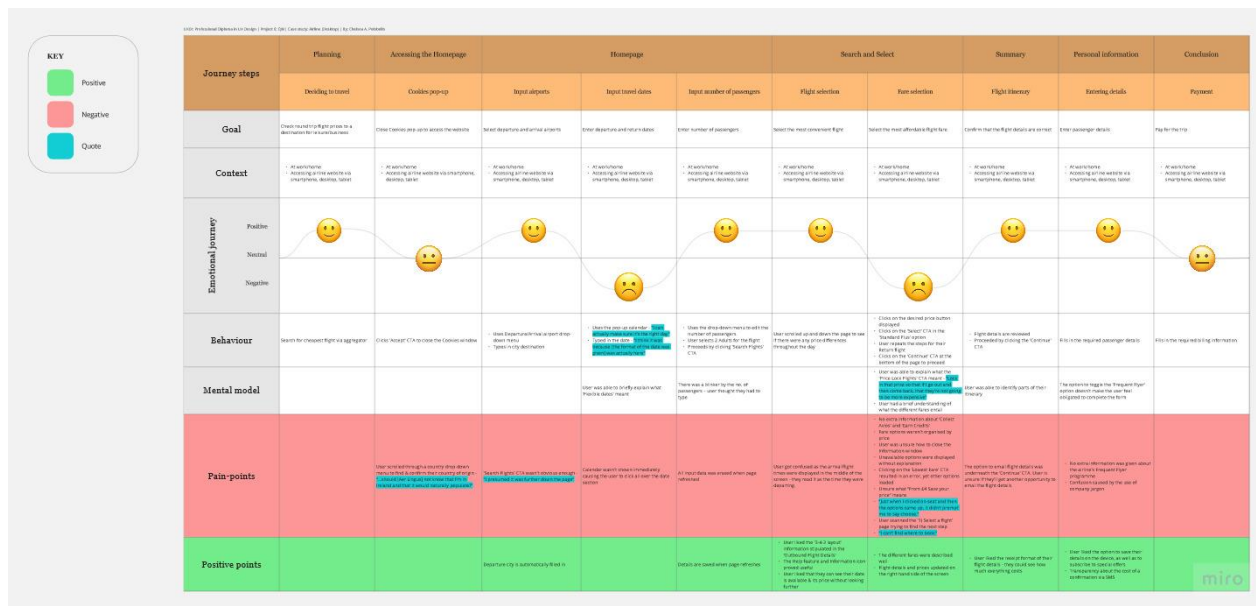
# Analysis

Affinity diagram Customer Journey Map

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The **groupings** were used for my **Customer Journey Map (CJM)** – a diagram that **highlights** aspects of the user’s journey that need to be **prioritised and fixed**. I used **Miro** to create the diagram.

- Flight-booking is a **mostly positive** experience.
- **Inputting travel dates** is a **poor** experience - the calendar wasn’t displayed.
- **Selecting fare options** is also a **poor** experience:
  - Fare options **weren’t organised by price**
  - **Unavailable** options were displayed
  - The user **didn’t know** where to book or what to do next
  - Terms were **unclear**
- The process **ends on a neutral note** (during **payment** of the flight).



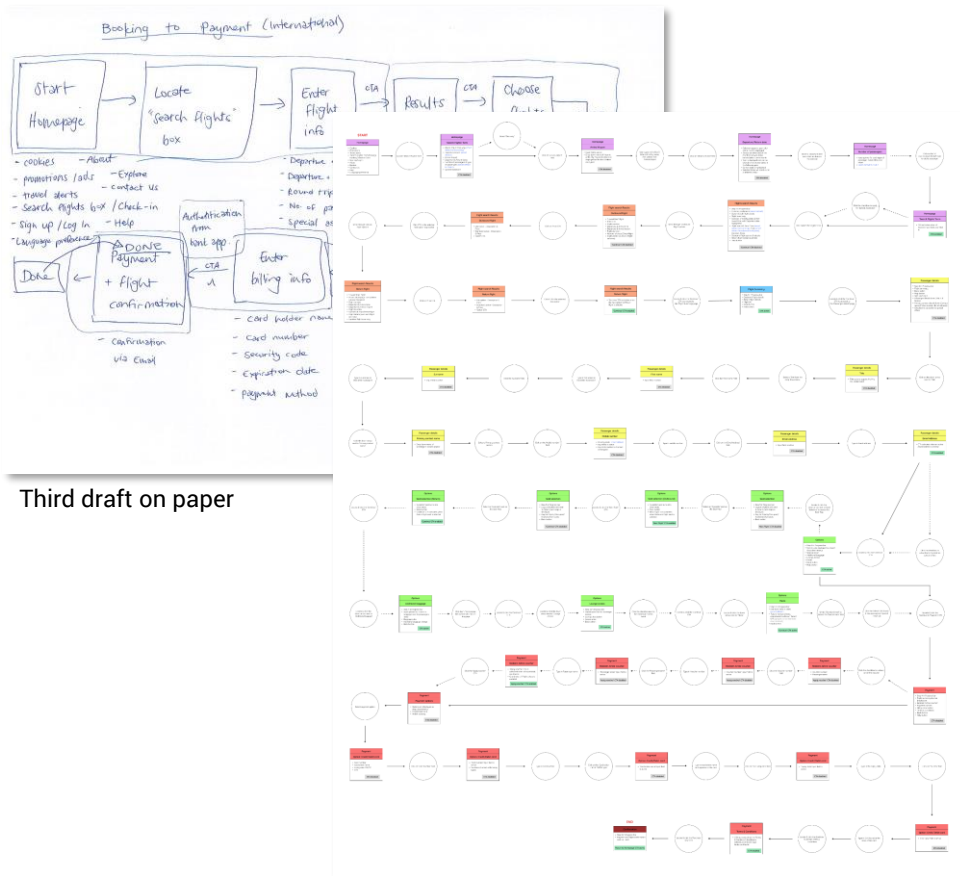
Customer Journey Map

# Design

## Flow diagram

## Interaction Design (sketches)

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Third draft on paper

Third draft on Figma

A **flow diagram** was then drawn on **Figma** to define the **high-level flow** of the airline website, i.e., Visiting an airline website to **book a flight**.

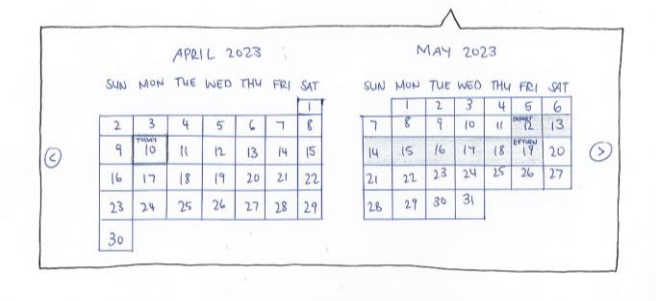
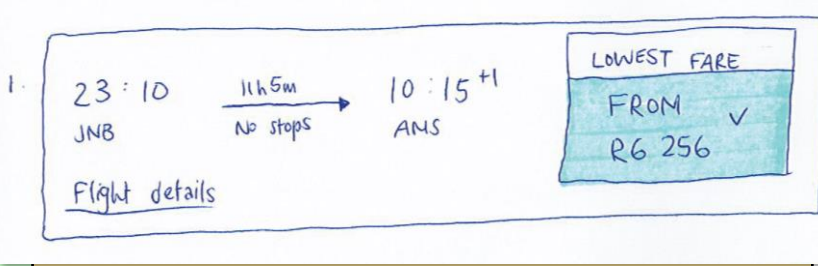
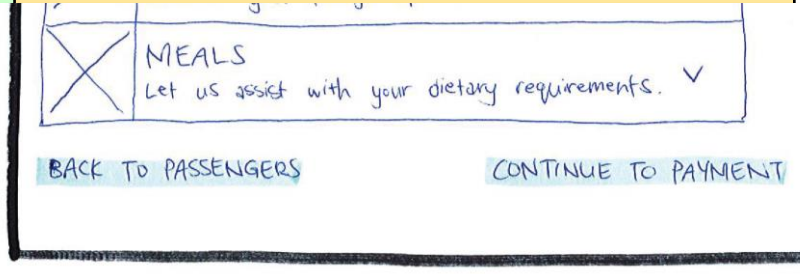
- Screen elements are displayed like a **check-list** to ensure that they're **considered** during the interaction design phase.
- Each screen has its **own colour** for **differentiation** purposes.
- **Smart default** information is displayed in **blue text**:
  - **Reduce** the number of steps to complete the task
  - Spend **less time** on the task
  - **Convenience**
- CTAs guide users to the next step:
  - **Inactive = Grey** colour; user needs to interact with the displayed content
  - **Active = Bright** colour to **attract** the user

# Design

Flow diagram

Interaction Design (sketches)

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Major pain-points to address	Possible solution/s	Sketch
<p>[from CJM] Inputting travel dates is a poor experience – calendar wasn't displayed.</p>	<p>Calendar appears upon clicking 'Departure date – Return date' field with <b>2 months displayed at a time</b>; the current month and the following month.</p>	
<p>[from Online survey] Flight selection was the most challenging task because users <b>couldn't find the most reasonably priced flight</b> at the time they needed to fly.</p>	<p>Have '<b>LOWEST FARE</b>' displayed above the cheapest flight's price. Consider using the 'Price' filter.</p>	
<p>[from CJM] The user <b>didn't know</b> where to book or what to do next.</p>	<p>CTAs are <b>descriptive</b> and displayed in a <b>bright colours</b> to attract the user.</p>	

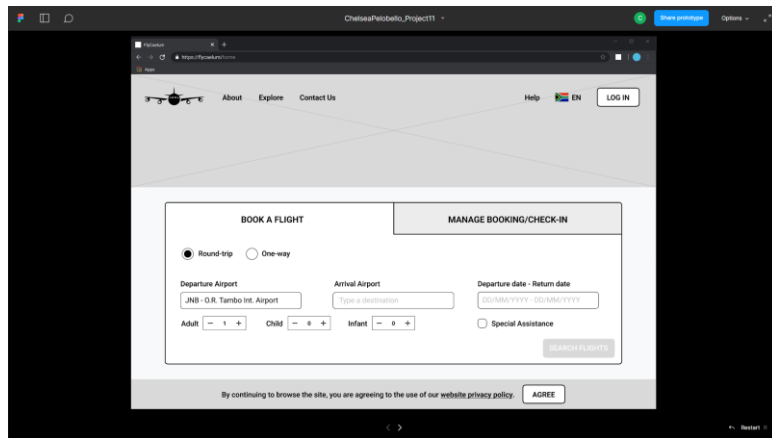


# 4 Prototyping

Middle-fidelity prototype

Annotations

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Middle-fidelity prototype of FlyCaelum's Homepage

## Task

- 1 Adult
- Return trip
- Johannesburg, South Africa to Amsterdam, Netherlands
- Fri. 12 May – Fri. 19 May 2023

I used **Figma** to create the **middle-fidelity prototype**.

- The **sketches** helped with creating the various **screen layouts**.
- The **flow diagram** assisted me with the **type of interaction** that users will need to perform with certain elements to achieve **their goal**.

### Figma learning curves

- **Interactive calendar**
- **Drop-down menus**

I reached out for help and watched the **video tutorials supplied by UXDI** to overcome these obstacles – there were **numerous screens** involved.

This activity was **time-consuming** due to **experimentation**, which resulted in many **iterations**. I learned a lot about **design and prototyping**.

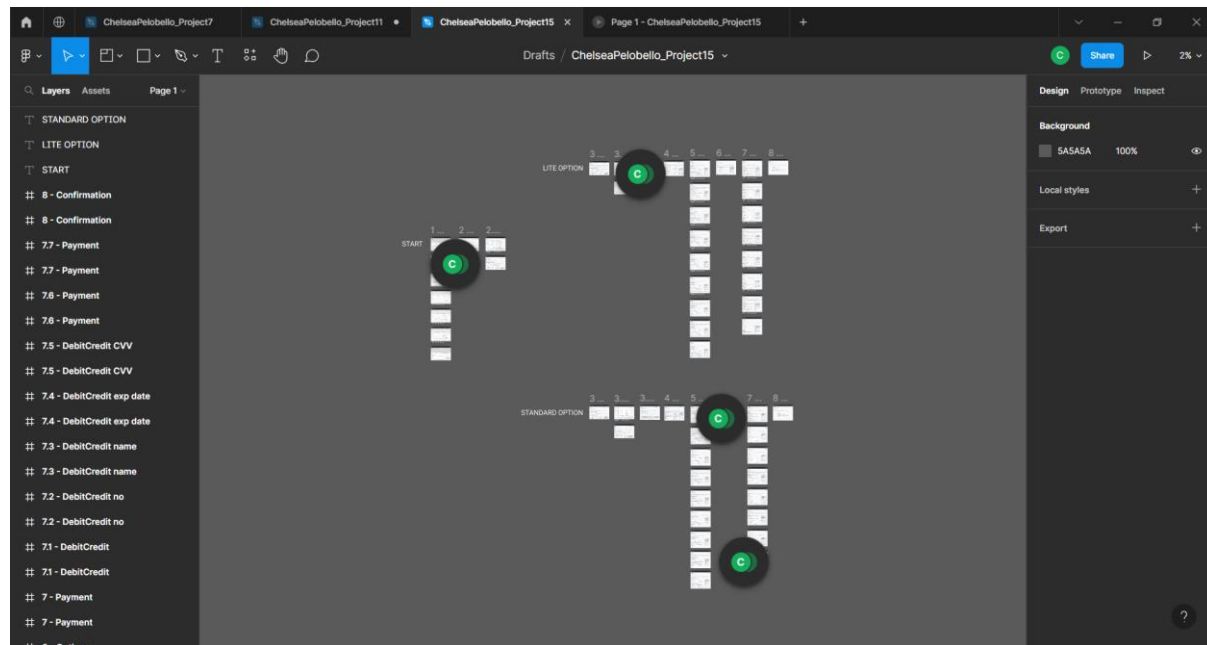
It was a good feeling to see all the work I've done over the last few months culminate into a working prototype.

# 4 Prototyping

Middle-fidelity prototype

Annotations

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Annotations for FlyCaelum

To conclude this project, **annotations** were made on the wireframes. These **technical details** are for the **developers** to ensure **accuracy**, and that **all appropriate elements are interactive** for the user to complete **their goal**.

I used the **comment section** in my **Figma prototype file** to create the annotations for convenience.

# 5 Evaluation

My middle-fidelity prototype was **tested by Kelly at UXDI** – it was a requirement for my UX Diploma – and she had the following critique:

- *“Great level of **interactivity**”*
- *“Almost all form fields are **interactive and clickable**”*
- *“**Great annotations**, very clear throughout”*
- **Confusion** between Departure and Return flights – they look like the same screen
- ‘Options’ heading is **misleading** – rather use ‘Add-ons’ or ‘Extras’

I then created **another iteration** with Kelly’s points in mind:

- Added a **‘Choose your Return Flight’ CTA** at the end of the Departures screen to lead the user to the next step.
- Changed the ‘Options’ heading to **‘Add-ons’**

**4 users** tested the update, and they managed to complete the task **without encountering problems**.

View the **updated middle-fidelity prototype** here:

[https://www.figma.com/proto/mP2GjSvIkWo9zSyonXKEJD/ChelseaPelobello\\_Project11-v2?page-id=0%3A1&type=design&node-id=1-2&viewport=169%2C-79%2C0.22&t=CoaE9DxNZPPh1b5m-1&scaling=scale-down&starting-point-node-id=1%3A2&mode=design](https://www.figma.com/proto/mP2GjSvIkWo9zSyonXKEJD/ChelseaPelobello_Project11-v2?page-id=0%3A1&type=design&node-id=1-2&viewport=169%2C-79%2C0.22&t=CoaE9DxNZPPh1b5m-1&scaling=scale-down&starting-point-node-id=1%3A2&mode=design)

# Reflection

Completing this project was a **pleasant learning experience**. I didn't know a lot about UX Design when I started this project. As I watched the **informative video lessons** and did the **practical work** – that focused on each of the steps in the UX Design process – I gained a better understanding.

I developed a **new way of thinking** as I had to **prioritise the user**, and **design according to their behaviour** on airline websites.

**Pain-points** regarding CTAs, not knowing where to go or what to do next, and the confusing layout in the Flight Search section kept presenting itself from the online survey to the usability tests. I **prioritised** to fix these when I got to the design phase of this project. Along with that, I believe I built a **good foundation** with Figma and Miro.

Looking back at this project for improvements, I would like to pay more attention to the **format of my prototype** as I realised the size of the screens change as you go through the prototype. I want to be more aware of the **terms** I use in the case of ambiguity. Lastly, I would like to implement **user testing** more often – if I had to redo this project, I would get a user to test the screen (e.g. Homepage) first before I move onto designing the next screen, to see what works best for the user and not myself.

The **feedback** I received along the way added so much value to my learning experience. The **Student Success Team** gave me **advice** that wasn't in the video lessons, but could only be attained after trying out the practical work. I'm happy to say that this work has helped instil **confidence in my UX ability**, and I thank **UX Design Institute** for this opportunity.

# Thank you for your time!

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