Technical Report

Project Exam 1

Annika Louise Engøy

Word count

Summary: 221 | Main text: 2857

Table of Contents

I have cleared the use of the countdown code with Connor. It is credited in my report and in the the code.

Link to microsite: http://annikaenjoy.no/spacex/index.html
Link to Git reposatory: https://github.com/Annikaenjoy/Annika-Eng-y_Project-Exam1

1. Summary

I used the recommended work progress and started this assignment by researching similar sites and creating pencil sketches of the layout I wanted on different devices. The Gantt Chart helped me plan my days better with a detailed schedule of tasks and milestones.

I used the contextual inquiry method to interview people within my target audience to get information about my users goals, usability needs and concerns before creating my personas and storyboards. I explored several different ideas to avoid falling into the local maximum trap, before setteling on my final design.

For this project I wanted to create a fun and entertaining website, with little text, but interesting information. The site should be easy to navigate, follow WCAG principles reguarding hierarchy, colors and readability. Keeping the target audience in mind, the site should wake curiosity and entertain the user, but link to more detailed information and facts for those who are interested. The colors are simple, and space related. Making the images the main focus. The modern Montserrat and Lato fonts pair well together and is easy to read. The navigation has good affordance and simple to use for everyone, with out without disabilities. The code is neatly indented and the CSS style sheet follow the DRY principles. The site loads quickly, is responsive over multiple platforms and different devices.

2. Body

2.1. Introduction

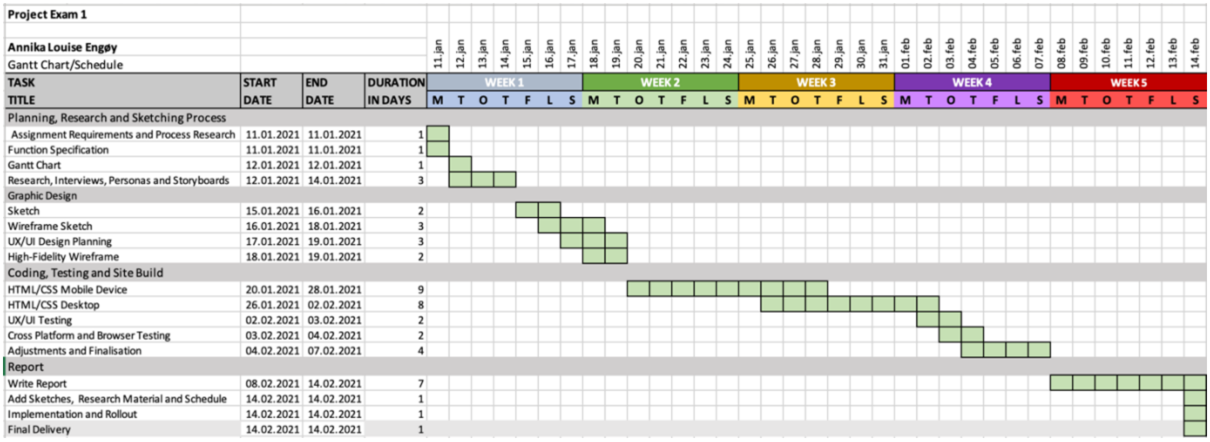
For the Project Exam our assignment was to build a microsite for SpaceX or NASA that focuses on space technology, to raise awareness about the space program activity around the world. The project should reflect my technical and creative knowledge and skills based on this years carriculum. The Gantt Chart provides a detailed schedule, complete with tasks and milestones to help me keep on track with the assignment. My challenge in this is to create a modern looking website, that appeals to the target audience, is accessable to everyone, showing knowledge about design principles, following the WCAG principles regarding hierarchy, navigation and color usage. The website must be responsive over multiple platforms and devices, downloads quickly and shows consideration to content strategy and SEO. The code needs to be neatly indented, with use of an external CSS style sheet following DRY principles and external JS files for API calls. Using contextual inquiry to create personas and storyboards helps in figuring out users goals, usability needs and conserns. This is important information. The different context and goals help you plan your design going forward. This ensure that the design is workable. By doing this you are predicting user behavior and preventing rework later on. Saving both time and money. The site must contain a HTML5 contact form with JavaScript validation, an API call, demonstration of DOM manipulation and links to more information, videos ect.

2.2. Main section of report

I started the project with the planning phase and researched websites with the same topic and microsites. When researching other sites, I wrote down what I like and don't like about the design, functional specifications and start planning my own site with the different elements I picked out. Then I started sketching a rough draft to see what works together.

To get a full view of what has to be done, in the amount of time given, I created a Gantt Chart with tasks and milestones. The chart is devided into five weeks with start date, end date and duration in days. Each task is given a ligh green colored cell for the amount of days set for that task. I followed the recommended process and used my previous experience with the different topics to plan out how much time I needed on each assignment.

I used a full seven day week istead of a 5 day work week to give myself the extra time and the ability to be flexible in case I need it. The tasks are devided into categories that are marked with dark grey, with the final delivery in light grey.



Project Exam 1

Annika Louise Engøy

Gantt Chart/Schedule

TASK TITLE	START DATE	END DATE	DURATION IN DAYS
Planning, Research and Sketching Process			
Assignment Requirements and Process Research	11.01.2021	11.01.2021	1
Function Specification	11.01.2021	11.01.2021	1
Gantt Chart	12.01.2021	12.01.2021	1
Research, Interviews, Personas and Storyboards	12.01.2021	14.01.2021	3
Graphic Design			
Sketch	15.01.2021	16.01.2021	2
Wireframe Sketch	16.01.2021	18.01.2021	3
UX/UI Design Planning	17.01.2021	19.01.2021	3
High-Fidelity Wireframe	18.01.2021	19.01.2021	2
Coding, Testing and Site Build			
HTML/CSS Mobile Device	20.01.2021	28.01.2021	9
HTML/CSS Desktop	26.01.2021	02.02.2021	8
UX/UI Testing	02.02.2021	03.02.2021	2
Cross Platform and Browser Testing	03.02.2021	04.02.2021	2
Adjustments and Finalisation	04.02.2021	07.02.2021	4
Report			
Write Report	08.02.2021	14.02.2021	7
Add Sketches, Research Material and Schedule	14.02.2021	14.02.2021	1
Implementation and Rollout	14.02.2021	14.02.2021	1
Final Delivery	14.02.2021	14.02.2021	1

The biggest insipration for my microsite is the official SpaceX website, spacex.com. It's a simple and modern design with big, clear images and little text. The images has the main focus and describes the content on the site in a nice way.

My target audience is young adults in the age of 15 to 35, that is interested in some entertaining fun facts and space related images. The website is also great for a show and tell for a school class where they can see how many people there are in space right now, their names and what craft they are on. It's important that the website is responsive and work well on different platforms without difficult terms and expressions. Everyone knows what SpaceX and NASA do, to a certain point. They launch rockets, and that is all you need to know to visit this website. It's not about heavy documentation and articles, but fun entertainment and light information for people with little to average interest about space technology.

The countdown until next launch on the front page is interestig to follow for almost everyone, space nerd or not. The "view more" button takes you to Spaceflightnow, with a detailed launch schedule. The microsite is light and fun, but links to more detailed information for those who are

interested.

To figure out who my users are I interviewd some of the people I know, using the contextual inquiry method, developed by Beyer and Holtzblatt. Contextual inquiry places an emphasis on conduction observations within a specific context and environment. My main focus was to find my users: **goals**, **usability needs** and **concerns**. I watched them brows similar websites, such as SpaceX and NASA, and asked them to describe what they were thinking, what they like and dislike about the design, usability and information. Could anything be done better or differently, do they feel like something is missing?
This made it easier for me to figure out what was most important to focus on for my website to appeal to my target audience.The information I got from them I used to create personas.

Project exam 1

Mike (32)
store manager

About:
Status: Single
Kids: none.

Goals:
Entertaining Information about space & launches
To pass time.

Usability needs:
Interesting information, good looking site that loads quick.

Concerns:
Boring site with outdated information

Mike is a busy store manager with a lot of friends. ~~That~~ Due to covid-19 he is spending more time home alone and has picked up some new intrests. One of these is space programs and launches in particular He like to brows with his phone in the evenings for entertainment.

Quote

"How long is it until next launch?"

Jessica (28)

About:
Age: 28
Occupation: School teacher, 4th grade
Status: In a relationship
Kids: none.

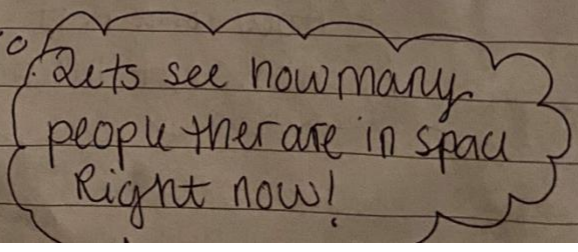
Usability needs:
Easy navigation, clear view and good, big photos.

Goals:
To present a cool and informal website to her students to get them interested in space.

Concerns:
Not interesting material to spark the childrens intrest.
Difficult to navigate.

Jessica teaches 4th grade and lives with her boyfriend Jason in an appartment downtown. She's always wanted to be a teacher and make learning fun for her students.

Quote:



After I finished my personas I spent some time on ideation. Ideation explores multiple possibilities and ways you can ta your design. You explore several different ideas to avoid falling into the local maximum trap.

What is local maximum?
"You don't know what the tallest hill is, until you have explored several different alternatives."

"The first solution is rarely the best"

This can help you find solutions for your design you might never have uncovered otherwise.

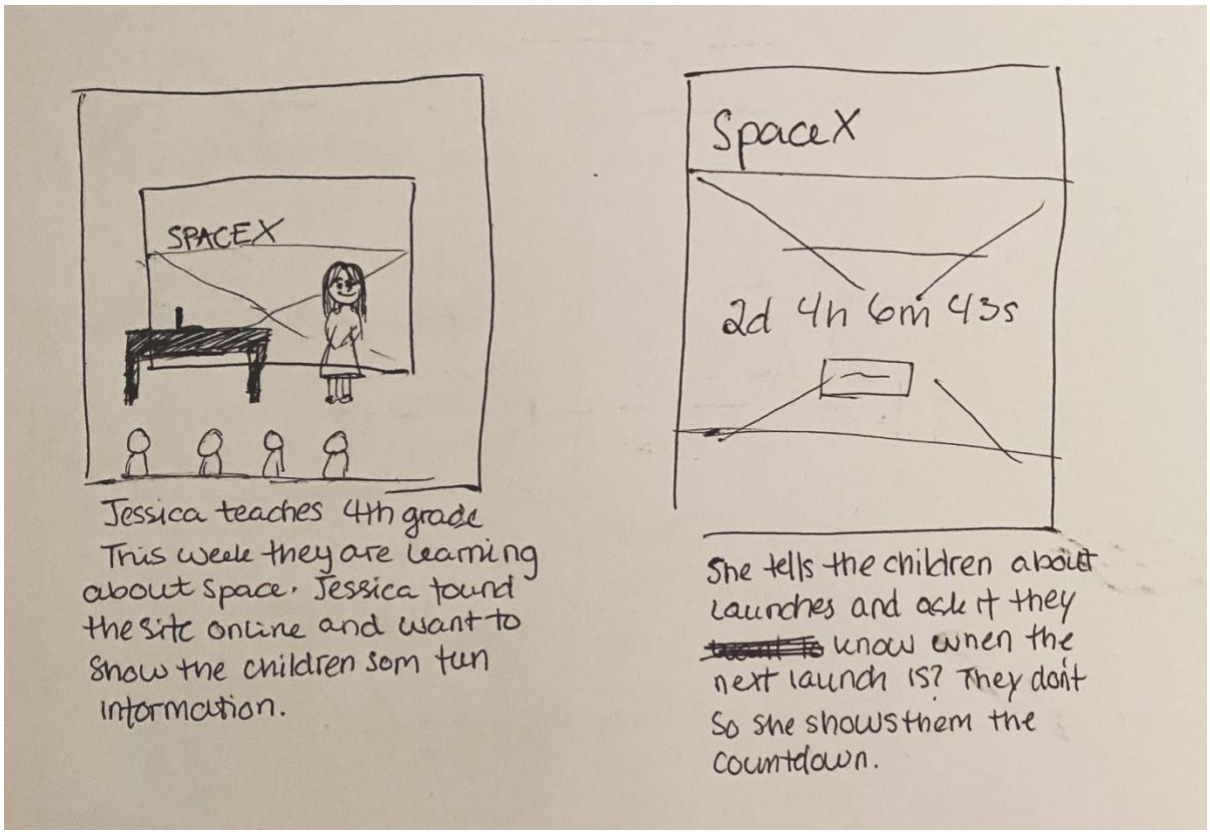
For the storyboards I created two different ones, one for Jessica and one for Mike. Using storyboards is a great way to depict emotion and action. The different context and goals reveal user needs and concerns that helps you plan your design going forward. You ensure that the design is workable. By doing this you are predicting user behavior and preventing rework later on. Saving both time and money.

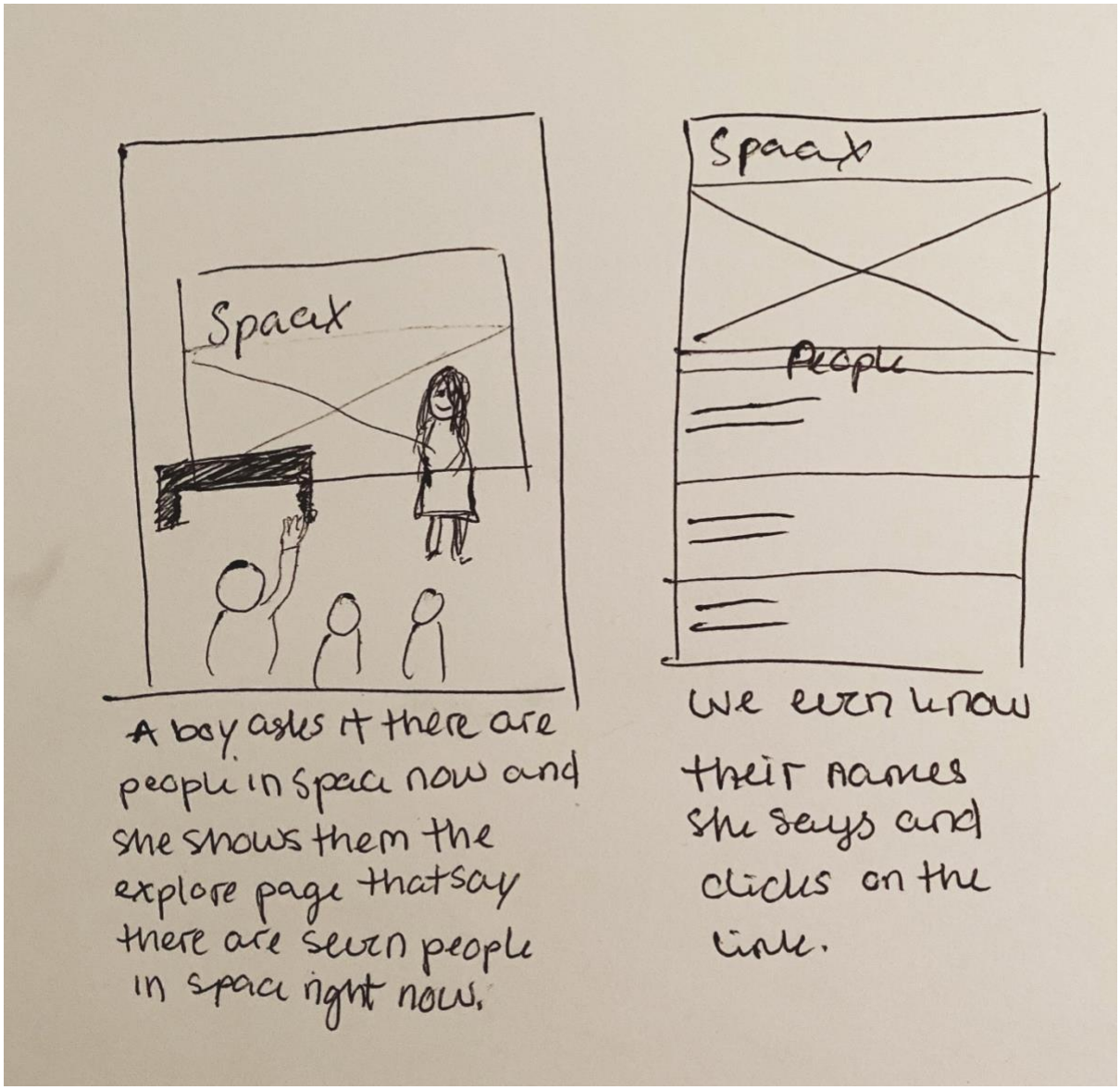
"The interface should be determined by the interaction, rather than the interaction being determined by the interface."
– Chris Nodder, UX Design: 5 Creating Scenarios and Story Boards:

(I am sorry for my horrible drawing skills, this is the notes from the storyboard…>)

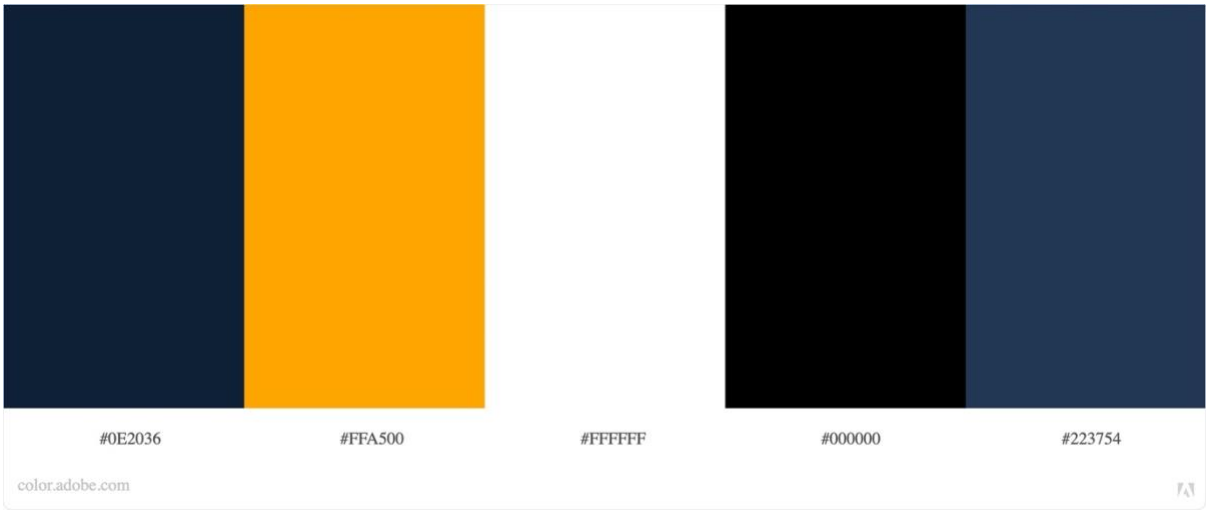
"Mike is spending a lot of time at home lately, because of Covid-19. He has picked up some new hobbies, one of them is space technology. He's not into the heavy articles, but fun entertaining facts and information. He is looking for the next

upcoming launches and videos of previous ones. He notices the countdown on the front page, and click the view more button to get more information about the upcoming launch. He then comes back to the site and clicks the hamburger menu, where he finds launches. The launch site contains interesting information and he click the top one. Taking him to a video of that specific launch."

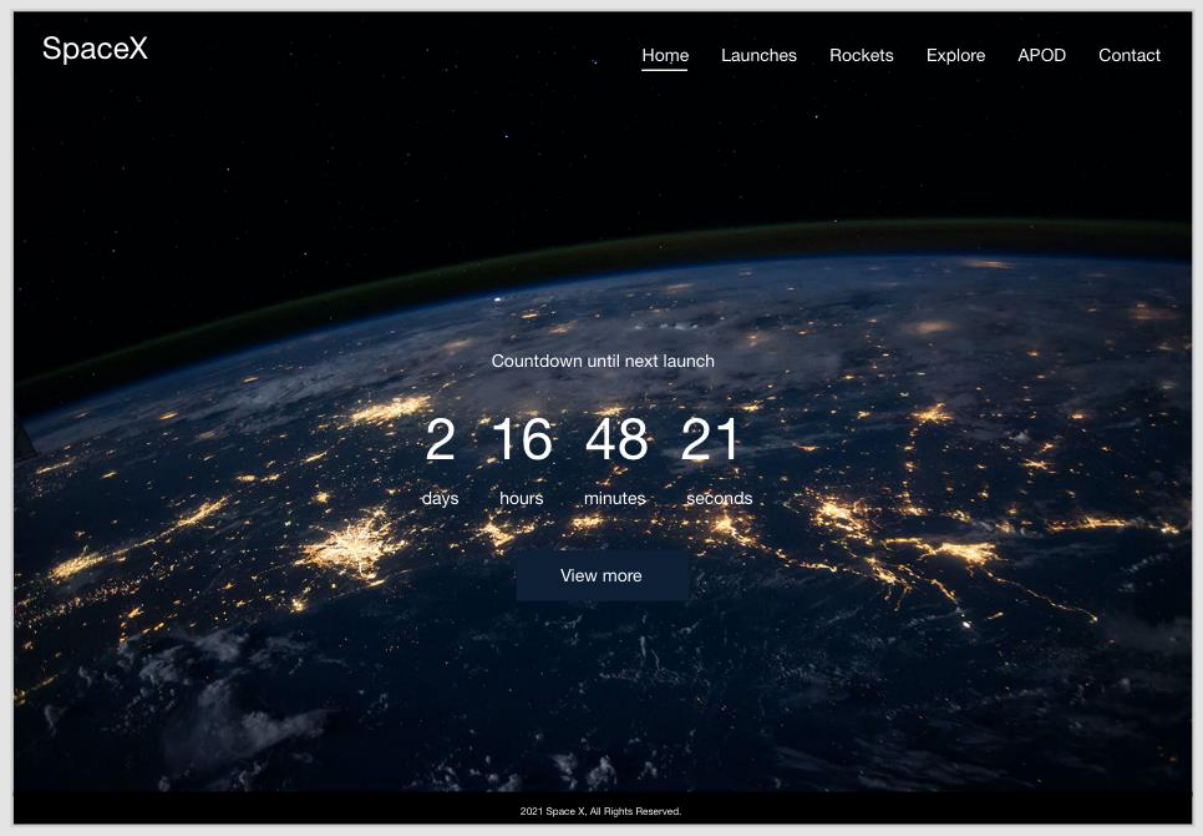




The color palette is dark blue, orange, black and white. I chose these colors from the front page image. I used Adobe Color and Extract Theme. I did this so that the colors would represent space in the best way possible. The orange color I made a little brighter to make it pop. This made it perfect a perfect contrast color for " call to action" links, buttons on hover and some headings. To ensure my content is accessible to people with disabilities, and follow the WCAG standards, I used the [WebAIM Contrast Checker.]



Then it was time for the high defenition wireframe. I chose to do this in Adobe XD. The prototype shows the setup for each page, in e detailed way, and helped me stay on track when styling the site. I tested the prototype on one of the people that I interview, to get som feedback and watch how he interacted with the website. At first I had a countdown with numbers and days, hours, minutes and second text underneat, but he made a suggestion that I change that to the way it is now, for better readability.



https://xd.adobe.com/view/f3799f3d-020a-42af-b33a-342a592ffe5e-a62a/

I started with the mobile version. The navigation bar contains a hamburger-menu from 899px and below, with a drop down menu. This is an effective and established pattern metaphor for communicating that it's a menu. For 900px and above a horizontal menu takes its place. For this I used media queries. When a user visits a specific page the active class creates a line under the active page in the navigation bar. The navigation bar links also get this line when you hover over with the mouse. This is helpful UX to show them where they are and where they can go by clicking on the site. Navigatoin helps visitors move around the site and understand where they are. Using names you normally would use, keeps the user from having to stop and think as they immediately understand what it is. This is a better user

experience.

To get my website responsive I used Flexbox and grid. Launches, Rockets and People in Space are all based on the same layout. I did this to create coherence. Almost every API call has the same base code, with a resultsContainer and result CSS. This helped me write as little code as possible, and don't repeat myself, as I had to make few specific adjustments.

The landing page contains a countdown until next launch. The counter is created in JS with an API call and converted into days, hours, minutes and seconds from the original unix timestamp. I did this with the help of this link: https://www.educative.io/edpresso/how-to-create-a-countdown-timer-using-javascript
The countdown text is big and covers most of the page, as Sean Adams said in his video: Using scale to create drama; When dealing with scale, think big.

To show knowledge of persuasive UX I changed the text over the countdown from the prototype to: Don't miss out on our next launch, hoping to harness illogical reactions and fear of missing out, as people feel loss more powerful than gain. This was the only place it felt natural to show some kind of loss aversion / scarcity in my design.
So I continued my focus on good design with a strong visual hierarchy and attractive images. The visual hierarchy of the headings makes the information rank higher than other information on the page. This way it's easier for the customer to find what they are looking for without going through all the material.

“According to neuroscience, the best way to capture attention is to use overlarge, attractive photographs. Larger than life background photos on landing pages are fantastic at doing this.”
- https://econsultancy.com/five-persuasive-web-design-techniques-to-increase-conversions/

The launch site contains information about the previous launches such as rocket name, flight number, launch year and date, rocket type and if the launch was a success or not. The boolean value true or false, for the launch success, I chose to give an icon from Font Awesome, as I felt this was more fun than a simple yes or no. Each launch also has its own patch. If you click the “view more” button it links to a video from that specific launch.

The rocket site design is similar to the launch site and contains information about the different rockets. First flight, cost per launch, height, diameter and mass. If you click the “view more” button you go to that specific rockets wikipedia site where you can get more information.

To create coherence and good flow, the design with a dark blue (#0e2036) container, orange (#ffa500) headings and white (#ffffff) text is the same on the pages that retrives information in the same way, such as launches, rockets and people in space. The other sites use the same colors and the design is recognizeable, but not the same. When blue buttons are on a dark blue background I used a (#223754) blue, to make it stand out a little, but not to much, as the whole container is clickable. The button has white text so people with disabilities can see the link, even with the low

contrasting button around.

What is good flow?

«being completely involved in an activity for its own sake. The ego falls away. Time flies. Every action, movement, and thought follows inevitably from the previous one, like playing jazz. Your whole being is involved, and you're using your skills to the utmost...

A Web site that promotes flow is like a gourmet meal. You start off with the appetizers, move on to the salads and entrées, and build toward dessert. Unfortunately, most sites are built like a cafeteria. You pick whatever you want. That sounds good at first, but soon it doesn't matter what you choose to do. Everything is bland and the same.

Web site designers assume that the visitor already knows what to choose. That's not true. People enter Web sites hoping to be led somewhere, hoping for a payoff."
- Mihaly Csikszentmihalyi ('Go With the Flow')

The Explore page has two api calls, The International Space Stations current location and how many people there are in space right now. The ISS (International Space Station) api contains a timestamp, latitude and longitude. The timestamp was originally given in unix so I had to convert it to get a readable date and time. The "view more" button links to NASA's website about the station that contains updates, live earth view from the station ect.

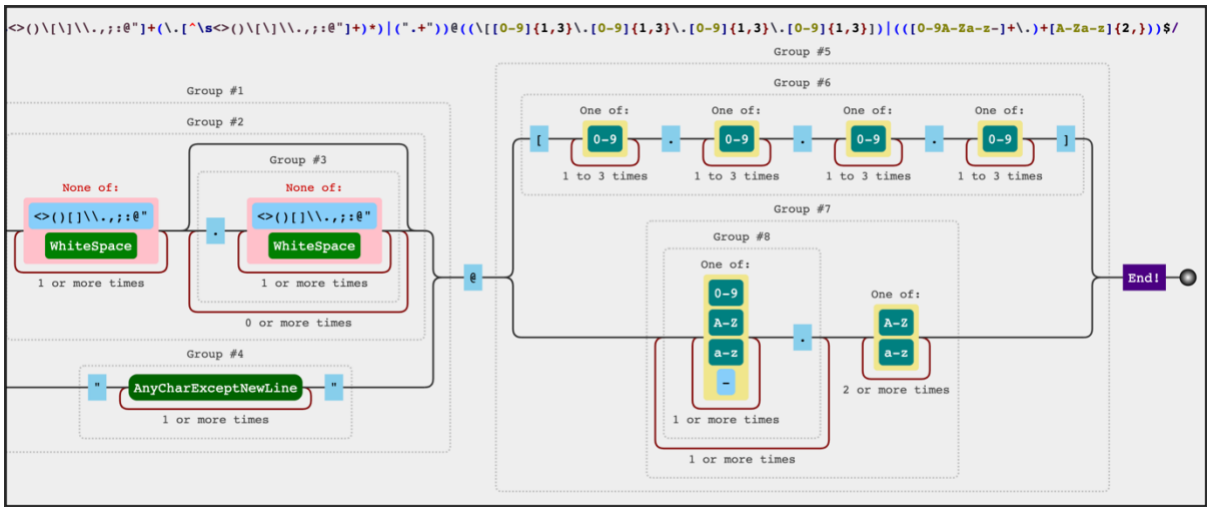
We all know that there are and have been people in space, but when you can put a name to that person and what craft they are on, it all becomes more real. To know that astronaut "Kate Rubins" is in space right now, on The International Space Station. That's pretty cool. That is what you get to see when you click the link is the secons api call on the Explore page. The link turns orange when the mouse hovers, so this might considered a hidden affordance, especially on mobile device where there is no hover. Hidden affordance becomes apparent when a certain condition has been met, such as changing color on hover. You should never use hidden affordance on vital actions, this I know, but the link text communicates clicking, and if the user doesn't click, this action isn't vital. I chose to keep it this way for the project, to show my knowledge on affordance.

"Could a user happily use this interface without ever knowing about this action? If so, hidden affordance is suitable." – Natasha Postolovski

The Astronomy Picture of the Day page is my favorite. Each day it gets updated with a new picture, date and description of that picture. I originally had it under Explore, but I felt it didn't do it justice and the page got really long, so I put it in the navigation bar. This is something a visitor cannot miss! The beautiful images and interesting description is reason enough in it self to visit.

The contact page contains a simple form where users can ask any questions by sending a message. The form uses a JS

form validation as we learned is JS1 to validate the inputs. I also chose to use the updated regEx as Connor and Anders told us about on Discord.



For this project I have chosen a modern, yet traditional typeface. Montserrat is a well rounded serif font, with a large x-height. Created by Julia Ulanovsky, inspiered by old posters and signs in the Montserrat neighborhood of Buenos Aires.

As a pairing to Montserrat I chose Lato for the headings. Lato is a humanist sans-serif typeface created by Lukasz Dziedzic, a Polish designer. Humanist fonts have roots in calligraphy and first appeared in the 20th century. Lato is polish for "summer" and is one of the most served fonts on Google Fonts. Both Montserrat and Lato is from Google Fonts, implemented in my CSS with @import.

I started my coding with the HTML. When I had the basic up on the page, I started adding JavaScript and CSS. For SEO I used meta tags relevant for each page. When doing the interviews and personas I wrote down keywords that people might search for. Each page has its own unique description

and h1. The images have an alt and title text for extra information about the element. This enhances good SEO. It's also very helpful for people using screen readers and are unable to see images.

The simple design of the website makes it easy to use, and the fun facts and images keeps it from being boring. You can click through the site and get interesting up to date information, with almost no text at all.

For testing that my website was responsive and working well across platforms, I frequently uploaded it to my domain via FTP. I also used the DOM to inspect elements.

2.3. Conclusion

The website shows consideration to WCAG principles reguarding hierarchy, colors and readability. And people with screen readers can easily navigate the site and get information about images through alt text.

I wanted the pictures to dominate the website, but also highlight some features. I feel like it came together in a nice way, and I am happy with my design. I ultimately feel like I learned a lot from the process. The hardest thing for me this time is writing the report, as I find it difficult to remember and describe everything I was thinking, why I did things a certain way and documenting it. Even with my notes. I hope what we have learned this semester shows in my coding and design.

3. References

Natasha Postolovski: https://www.smashingmagazine.com/2014/06/affordance-most-underrated-word-in-web-design/

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Font Awesome: https://fontawesome.com/

Persuasive UX: https://econsultancy.com/five-persuasive-web-design-techniques-to-increase-conversions/

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Steve Krug, "Don't Make Me Think Revisited", USA, New Riders, 2014, p33-p36.

4. Acknowledgements

Convert a unix timestamp to time in JS: https://stackoverflow.com/questions/847185/convert-a-unix-timestamp-to-time-in-javascript

Updated regEx: https://jex.im/regulex/....

All of the images used is from Unsplashed.com

5. Appendices