



Noroff

School of technology
and digital media

Technical Report

Exam

Christian Skilbred Larsen



School of technology and digital media

Git-Repository: <https://github.com/Christian-Skilar/Noroff-Exam-1>

Introduction of the assignment:

This exam1 is to build a microsite for SpaceX or NASA. This should focus on space technology. Should focus on raising awareness about space program activity around the world. The site should appeal to a specific target audience and provide links to more information, live feeds of launches, and so forth. This should include a minimum of 4 pages, be responsive and function well on a variety of platforms. The site should employ JavaScript/JSON API. And needs a form with validation.

Week 1:

This first week should go to reading and understanding the exam project. Planning for the first delivery, which is 26.04.2020. this delivery will include the project planning, functional spec and a Gantt-chart. So that is what I will do first. That means that I have to get a good look at the task and understand it. I will also have to go back to some lessons to refresh my memory on what goes in a functional spec doc. I will write the report as much as possible during the 5 weeks, so that I can have a good and detailed report as possible.

I have worked more then I was supposed to this week, this I have done because I want to stay ahead of the schedule. So I have also made a git repository, which I update every time I am done with something. So the first week I have done:

- Project planning document
- Functional specification
- Gantt-chart
- Made a git repository, link: <https://github.com/Christian-Skilar/Noroff-Exam-1>
- And started writing the report



Week 2:

Delivery for this week is our target audience, personas, storyboard and a wireframe or prototype. So it is best to start with finding my target audience. This is hard, because I want to have candidates that are astronauts, in school that focus on space related stuff or people that just are interested in space, and want to know/learn more. I don't know anyone that are astronauts or that goes to school for that. So I have to use myself or my "alias" for one, I have a friend that I can use, and 1 I have to imagine. For what I have learned, this is probably not the right way to do it, but I don't know how else to solve this task, hope it is ok. I know, or think the best way would be to have a big group of people, that are within the group that I am searching for, and have them perform a card sort.

After I have found, or found up my audience, I want to make some personas. I used a template that I did find online, (link is under resources) then it was just to fill out with the right information, especially with goals and pain point.

The storyboards I made I used a tool I found online, this was very useful! Helped me out a lot with getting the right scenario and expression. I would never have made it look that good with my own drawing. (link to this site is under resources) the 3 scenarios are made out of the 3 different goals/pain points from my personas.

The prototype is almost how I imagine the site will look like. I will be adding more "animations" to buttons, nav and maybe also to some image or content. Also try to use some gradient with rgba color, if it looks good. For tablet view it will look the same as the desktop view when it comes to the body, but for navigation it will have a drop down, hamburger menu. And the footer will look the same as on mobile. So, you can get a good view



on how it will look on tablet. In the prototype I have made for desktop and phone. (the view mobile and desktop button will not be on the finish product, it's just for navigation in XD)

Week 3:

Week 3 I'm starting with html. Starting with my home page, first with a header, navbar and footer. So, when this is done I can just copy paste to my other pages. My navigation is clean and easy to understand, it has a font that is clear. It easily shows which page you are currently on by having an underline and a blue color on the text. On a computer it also has a nice hover effect. I have my prototype that I use as a guide, but I have made some changes, not so much to the navigation, just that I have used a more transparent color for the background. The same goes for my footer, looks like my prototype just with a transparent background color, also with gradient, and a box shadow on the top for a smoother transition. Last thing that I have added that is the same for all pages is a "to top img" here I have used a space rocket that scale and translate on hover, this I think gives an indication that the rocket moves up, also have a little text that says "take the rocket back up" also I have set the scroll-behavior to smooth, which I think gives a better experience for the user.

Also started with adding structure and content to the page, adding some icons and text. Started with some JavaScript API calls for people in space and the ISS location, with live updates (for the ISS) don't know if it's the right way to do that, but I used the setInterval on the function. I have a sign up for newsletter in the footer, so I made a form validation I JavaScript for that. So, then I also made the contact page with the contact form including name, email and a message box. All with form validation.



Week 4:

This week has gone to HTML, CSS and JavaScript, I almost finish with all the pages I have, just minor changes and tweaks until its done. I have learned to use transition and transform, these properties are really nice, and helps me to get a page that is more "fun" and alive. Some things this week that I am happy about is the button for next launches on the main page and the one for submitting the form. There I have made an effect that comes in from the left and goes out on the right (on hover).

And am happy with the astronaut part of the home page, there I have some text and an image/icon and when the user have the mouse over the text it will disappear and new text under the icon will show the number of people in space, there is also text that is a little delayed that shows after. This sounds messy, but when you see it on the page, I think it works. Also, on hover the icon scales up a little and have a "glowing" effect, here I have used a box shadow. Same effect I have also used on the ISS icon down on the home page.

Also the image for the tesla roadster I am happy with, there is just the plain photo at first, but when the user hover over the image, text comes up from the bottom, also with a link to more information, that goes to the about page, with an id, so that the user gets to the right part of the page, and don't have to scroll and search for it. Also, the background fades a little, so that the text is more visible.

For the ISS I have live feed on the page, for the longitude and latitude. For this I have used information from the API call, and I have a setInterval for 2000. I'm guessing this is not the right, or best way of getting a "live feed" but at this point I don't know how to do it in another way.

Week 5:



Started this week by adding a loader to my page. The rest of the week was just for double checking all det different HTML, CSS and JS. Been using time using the inspect tool to make sure it looks good on all different screen sizes.

Planning, functional spec, Gantt chart:

The planning was pretty much done within the first 2-3 days in week 1. Not everything from fonts, images, etc... but to get my head around the project and start planning it in a Gantt-chart. This way it is easier for me det rest of the project, then if a have done a god job, I can always see the Gantt-chart, and see if am ahead of the schedule or falling behind.

The functional specification document I was not 100% sure on how to write, but I hope that is was good enough. I was a little unsure if I was specific enough, and if I everything that I put in the document was relevant. Please give me feedback on this, if a misunderstood on what goes in this type of document.

The Gant-chart that I used is the same that a used last time, just to make it easier for me, and to use something I am familiar with. And also, I liked the way it looks. I just fill in whit new values and information. The way I made it was that I first tried to write down all that I need to do for this project, then I organized it after what needs to be done first. When this is done, and I feel like I have all the keywords/tasks that I need for this project, then I start implementing it in my Gantt-chart. I have tried to make my chart as normal as possible, when it comes to workdays. That means trying to have the weekends off. And other holidays also, as f.eks 17.may which is Norway's national day. But of course, I will most likely be working more, since this is an important delivery! just want to implement the chart as close to an Gant-chart that can be used in a project. To show you that I think about it.



Target audience/research:

I struggled a little with this, because I want to have candidates that are astronauts, in school that focus on space related stuff or people that just are interested in space and want to know/learn more. I don't know anyone that are astronauts or that goes to school for that. So, I have to use myself or my "alias" for one, I have a friend that I can use, and 1 I have to imagine. For what I have learned, this is probably not the right way to do it, but I don't know how else to solve this task, hope it is ok. I know or think the best way would be to have a big group of people, that are within the group that I am searching for and have them preform a card sort.

Graphic design, design principles, typography, color:

When it comes to graphic design, I have not done much myself, I l'm not so god in photoshop or illustrator, so my icons are from flaticon (link is in my references) my logo is just a font with different font-weight and color. I have resized the images that I use, but not so much more than that.

I am trying to think about design principles, f.eks I have the same font size for h2, p and so forth. Things should look the same on different pages, when it comes to font family, size etc.. also we have learned that the user, usually looks at a page from top left to bottom right. So that less important information should be in the top right and bottom left corners.

The fonts that I have used are Future PT, Bilo and Stencil std. this is the first time I used a stylesheet for importing my fonts, but I think this should be ok. I have used adobe fonts, there I can make a web project, I get a stylesheet link, and there I can just add the fonts that a want. The thing that I have learned with this is that If I would have made something for a client, and the subscription is mine, and when I don't have the subscription anymore, the fonts will not come through. But for this exam it will be fine. I used adobe font because the fonts that I wanted google fonts did not have. For the colors,



other than black and white I have used #25ce6e, 11a0d9 and some transparency. Also have ff1a1a for the error messages.

HTML/CSS: Semantics, structure:

For the html this time it will not be so much code because I will mostly use information and content that I get from the different API calls. But the css will be long, so for me to have best structure and control over the code I have made one main.css this is for everything that is the same for all of the pages, that is header, navigation and the footer. It also includes media queries. Then I have different css file for all of the pages. So index.html have index.css and so on. So, then I don't have 1000+ lines of CSS. For even more control I use `/*Comments*/` for the different sections. Also try to have the code in the order that they appear on the page. So, if this is the structure on the page: section 1, img, <p>, section 2, section 3. Then the css should also be in that order. In my CSS for the first time I have used the transform and transition properties, this gives much more "life" to the page.

SEO/Content Strategy/WCAG:

SEO/Content Strategy: For this I try to use good meta tags, a well selected title. I will also try to use google analytics and google search console. To find the best keyword. I will use google to see the most used, and most suitable keywords for my page. And use a well written description.

WCAG: I have tried to decide on good colors for colorblindness, I know blue is a very good color for that, and for this project, that is about space, blue is perfect. Also trying to have good contrast between different colors. I took some screenshots of my prototype and took those pictures to see how it looked on the different types of colorblindness. And it looked good, this I also did under the construction of the page,



because the page looks little different from the prototype, but it still works well.

Interface Design, Personas/Scenario, Affordances, Navigation, Wireframing and Prototyping:

When it comes Interface design, I try implementing what I have learned. Example I have my logo in the right corner, since this is the first part of the page the costumer will see. Will also be careful with bright colors and moving animations.

Personas/scenario: I found a template that I used for my personas (link in references) don't have so much experience with personas, and the personas I made for the interaction design course was not so god. This time I think I have learned a bit more, and the template was also good help, so all in all I am happy with the outcome this time.

Affordances: for my icons that the user can click, I have hover effects, and the mouse changes to a pointer. Most people will recognize this, but just to be on the safe side, I have also added text to those parts of the page, that says f.eks click the icon for more info. All the buttons have the same shape and are recognized by the "button" appearance. They also have hover effects to them. The navigation shows the user easily what page they are on, by having a different color, are bold and have an underline.

Navigation: My navigation in my opinion is clean an easy to understand, it has a font that is clear. It easily shows which page you are currently on by having an underline and a blue color on the text. On a computer it also has a nice hover effect.



Wireframing/Prototyping: I started with some wireframing, but I understand that we could do wireframing or prototyping, so then I dropped the wireframe and just did the prototype instead. In my project plan document, I have pictures of the wireframe that I made. I like doing prototype, it makes it easier for myself when I start making the codes for the page. And it does not take very long time to do. And I rather deciding the structure, layout of the page in XD then straight in my HTML.

JavaScript:

For my JavaScript I have used 5 different API calls. I have used if else statement for my contact form, and for my submit to newsletter that is in the footer. So that the user has to input something for the form to be submitted, and to verify that it is a valid email. I have also used JavaScript for my loader.

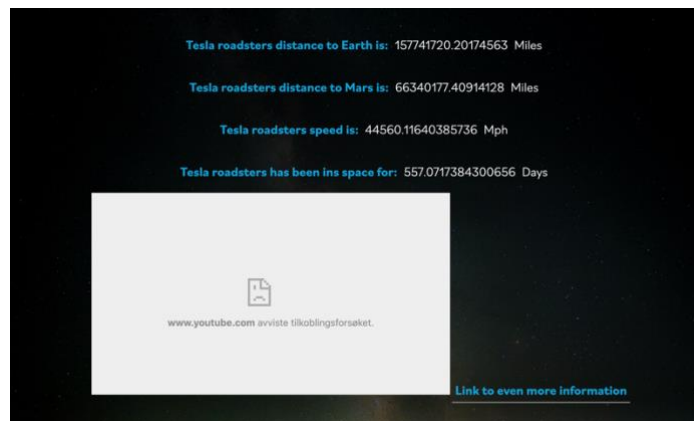
I have used the setInterval for the ISS location, so that it is a "live" feed. (have written more about this under **Week 4**).

- Tesla Roadster:
- SpaceX History:
- Upcoming Launches:
- People in Space:
- International Space Station (ISS):

Tesla Roadster: from this API call I have the information from details, distance to earth, image, distance to Mars, name, period days, speed. I



have also tried to get the video that is in the API. But when I do, I get this:



And in the console it says: **refuse to display, because it set x-frame-options to sameorigin.** I asked MJ Phillip about this, and basically, I need to switch watch?v= with embed/ if I would have hardcoded the URL it is not hard, but to get the information from the API and switching out just that part is. At least for me, I tried, but was not able to solve the issue. I tried a little also with the slice() method, but with no luck. I have commented out the code for this, so that you can see. and I have hard coded the URL so that the video comes through. Now you can see the video, but when you press play, it will not show, so I am stuck there. Don't know if its god or bad to still have the video up on the page, but I decided to leave it on the page, mostly for a visual, on how it will look, even though it doesn't work.

SpaceX History: here I have gathered information like the title, the date of the event, and the description of the event. At this I have also made a show/hide button.

Upcoming Launches: Used the same method here as with the history API, have the button that shows more information and hides it. Here I have gathered the mission name, the launch site, and the launch date in local time.

People in Space: here I have the information on the total number of people in space, their names, and the craft that they are on.



International Space Station (ISS): here I only have the longitude and the latitude of the ISS, (there was no more info to get from that API) but here I have used the setInterval to update every 2sec.

Implementation/rollout:

So taking an idea, concept and bringing it to reality/finished product, this time I wanted to do the prework as good as I possible could, before starting with any code. With that I mean, good planning of the whole project, get my head around everything, making all of the personas, scenarios, storyboard, functional spec, and then the XD prototype, spending some time on this, deciding on fonts, colors, layout and all that. Not having any "effects" in the XD prototype, but started to think about, different hover effects and so on for icons, links, etc...

Conclusion:

Okay, so to wrap up this Exam, it has been over all a good task and a good experience, I have learned more, and I have become more confident with coding. I found it very exciting to work with transition and transform, and I am happy with the result on the button, icons and image with this effect on hover. Also happy with the navigation. Also, I am mostly happy with the API calls, I have got all the information that I wanted from the calls. I have styled it with CSS. The only thing is that I would have liked to have more of a card sort for launches and history. I tried to do this, but after days of struggling with this I had to just let it go and move on. Would also like to have pictures for each launch, with an image that fits the description, but there were no pictures in that API, and if I hardcoded an image it would have been weird, so decided to go



with no image. And the fact that I was able to make the show/hide button also was a big + for the look of the site.

The video from the about page is hardcoded. I tried to get the video from the API, but that was a struggle. I have written more about this under **JavaScript – Tesla Roadster**.

Same with all the work before I started to code. Because now I have done everything 1 time before, I have got feedback on that work. So that has made it easier to do it better this time, I think everything I did is at least 1 step up, everything from the personas, storyboard, Gantt-chart, prototype and the documents.

References:

- Images for my personas: <https://www.pexels.com/search/person/>
- Personas template:
https://milanote.com/?utm_source=google&utm_medium=cpc&utm_content=Brand&utm_term=milanote&gclid=CjwKCAjw1v_0BRAkEiwALEkj5th6iLqZ4MMcYmVa5F506e4thjL7WGkOlxcFBkxfAu-DYXeFo9fqxoCmEMQAvD_BwE
- Storyboards: <https://www.storyboardthat.com/storyboard-creator>
- Icons from: <https://www.flaticon.com/> (for using icons from this page I have to attribute the author, that's why I have that link in my footer)
- My hamburger menu I used a YouTube video:
https://www.youtube.com/watch?v=sjrp1FEHnyA&list=PLTFvyhpUcyk4yt_wia1BoRqEWXg7YBYuv&index=18&t=0s
- My loader is from: <https://loading.io/>
- Loader:
https://www.youtube.com/watch?v=xuA83OYTE7I&list=PLTFvyhpUcyk4yt_wia1BoRqEWXg7YBYuv&index=25&t=0s
- Show/Hide button: https://www.youtube.com/watch?v=A_7sRo-mgz4&list=PLTFvyhpUcyk4yt_wia1BoRqEWXg7YBYuv&index=23&t=0s



- Tesla image effect:
https://www.youtube.com/watch?v=_BFn4yUxBpM&list=PLTFvyhpUcyk4yt_wia1BoRqFWXg7YBYuv&index=20&t=0s
- The page I used for checking WCAG: <https://www.color-blindness.com/coblis-color-blindness-simulator/>

