Fontys

Project X document

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Learning outcome 1,2 ,3,4,5

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ICT & Media Design

Semester 2 Class 2

- ## Ideas (Learning outcome 4 & 5)

Project X was presented to be a project that can be created based on something that the student is very good at and likes, that will challenge him, or if the student is lacking in some learning outcomes the project can be used for raising the skills on that as well. I found myself in both positions, reason why I chose to create something that will cover all the learning outcomes.

My idea is to create a part of the AC/DC rock band website. For the learning outcome 1, 2 and 3 I created a project plan, some low-fidelity prototypes, and a high-fidelity prototype, covering research and iterative design. For learning outcome number 2 I developed the pages using both front-end, back-end and a database.

The website contains the ticket page where the user goes to buy tickets for a concert, before buying a ticket the user needs to create an account or log in due to security reasons. After that is directed to the ticket page again where the user can see it is logged in. It presses buy tickets and is redirected to the page where it can choose the tickets and quantity of them. After buying the user receives the ticket that can be accessed on the website or downloaded as PDF. The payment, delivery page do not exist and the download as PDF button does not have functionality due to time constrains.

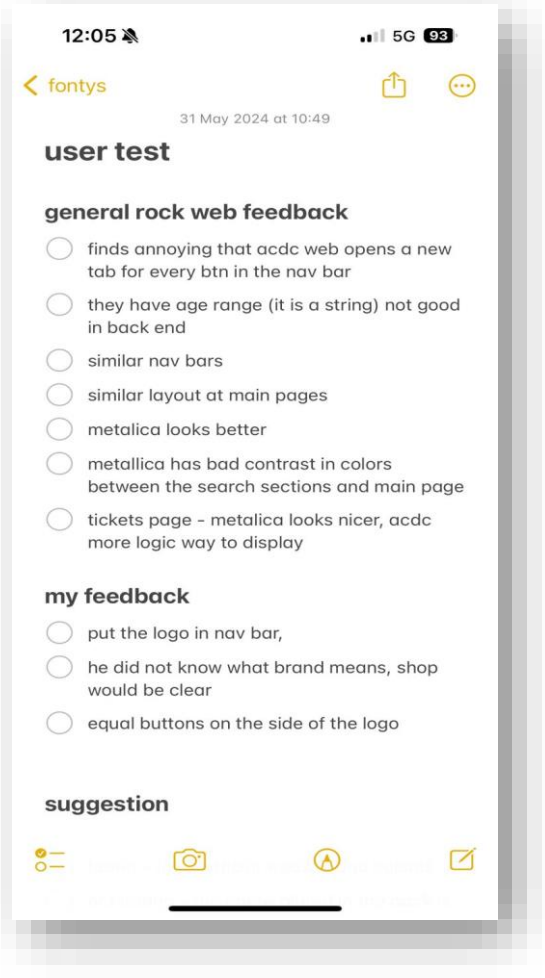
- ## Project plan and research (Learning outcome 4 & 5)

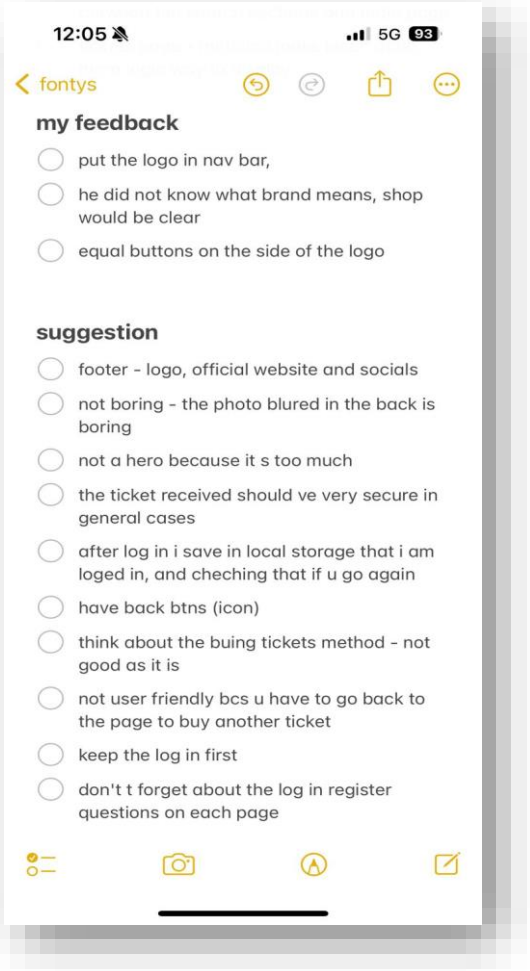
I started creating the Project plan project X with a project definition and a problem statement where I presented the idea of the project and answered the question "Why do I do this". I put the team members which are me, as a student and one pf my teachers as a coach for this project. I chose Guido Segers as coach for this project because he knows my improvement and struggles within the semester very well, he is one of my assessors and the main reason, because he has skills for the learning outcomes where I am lacking, and I considered he is the best to guide and teach me the process. After that I wrote about the methodologies that I used for my research regarding the design trends and technology that I am going to use. This was complicated and challenging for me because I realized at the beginning, I did not know how to do proper research. After a lot of feedback an improvement I learned that is important to follow a certain plan, that research does not mean just googling stuff and that it is required to use a certain method to prove the research. I created a planning using Trello tool, that helped me organize my tasks and deliver everything in time. I also wrote about the deliverables and non-deliverables and created a Moscow plan, based on the research with what is it a must have and what it is not. Also, I created a risk assessment.

- Prototypes & user test (Learning outcome 1 & 3)

Based on the information found in my research I started creating a low-fidelity prototype. The first version that I created was the safe choice, a basic, simple, and standard design.

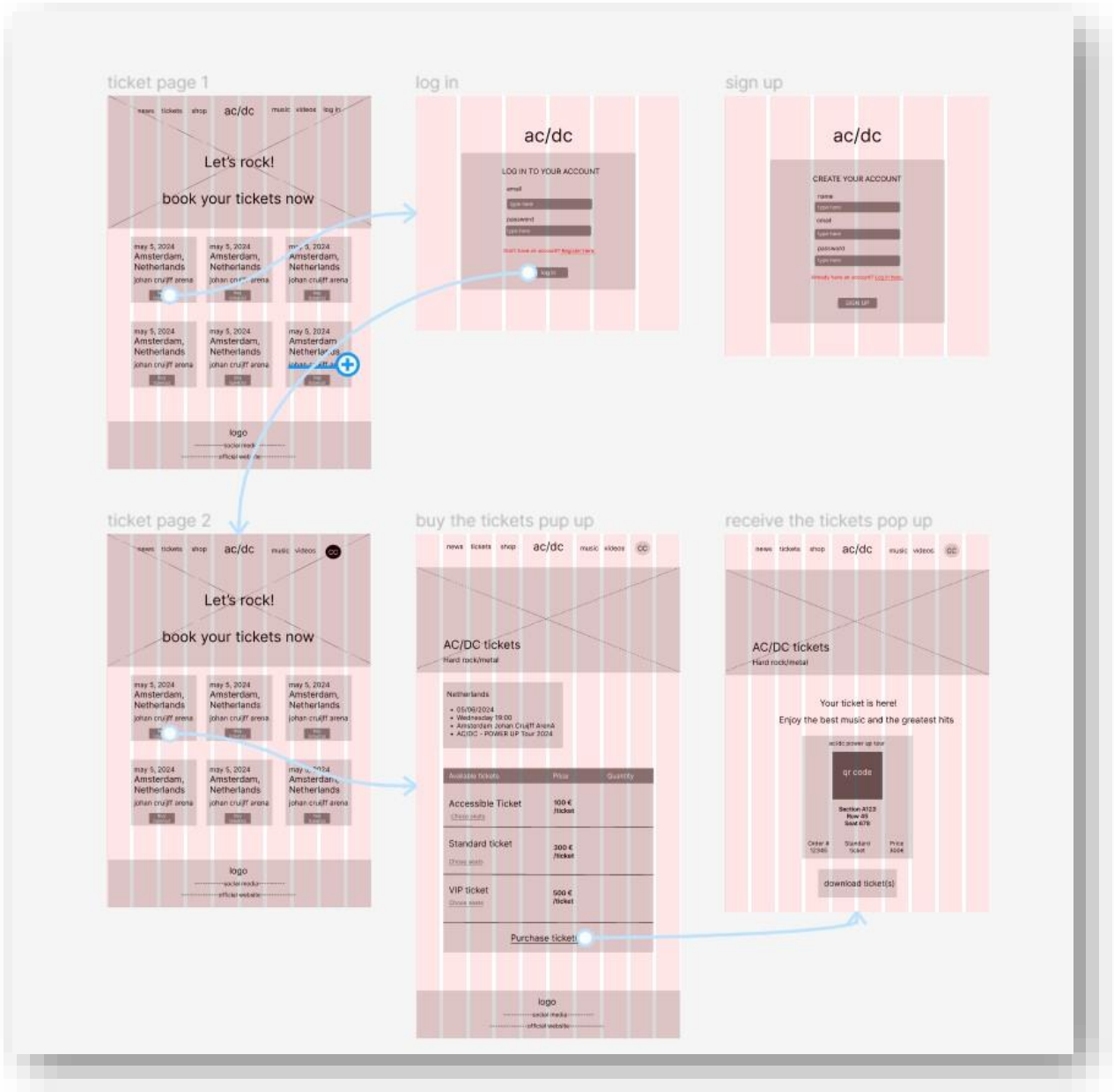
After creating the first low-fidelity prototype I did a user test. First thing, I let the user navigate through the ticketing systems of 3 bands. I let the user expres opinions, likes and dislikes about the showned websites, and took notes. After this I let the user navigate through my low-fidelity prototype to verify its usability. I listened to the user's remarks, observed navigational behavior, and queried the process. I documented all the information to improve my next low-fidelity prototype that will be also tested.





From this user test I got a lot of good information to improve my design. I agree that opening a new tab to every page is annoying for the user, I discovered that the navigation bars look like each other in band websites. I received feedback that improved the navigation bar looks and discovered a mistake in my website. In my prototype after logging in the user would have to return manually to the ticket page, and I did not think through the buying process. This user test was very useful to improve my prototype in a more user-friendly way.

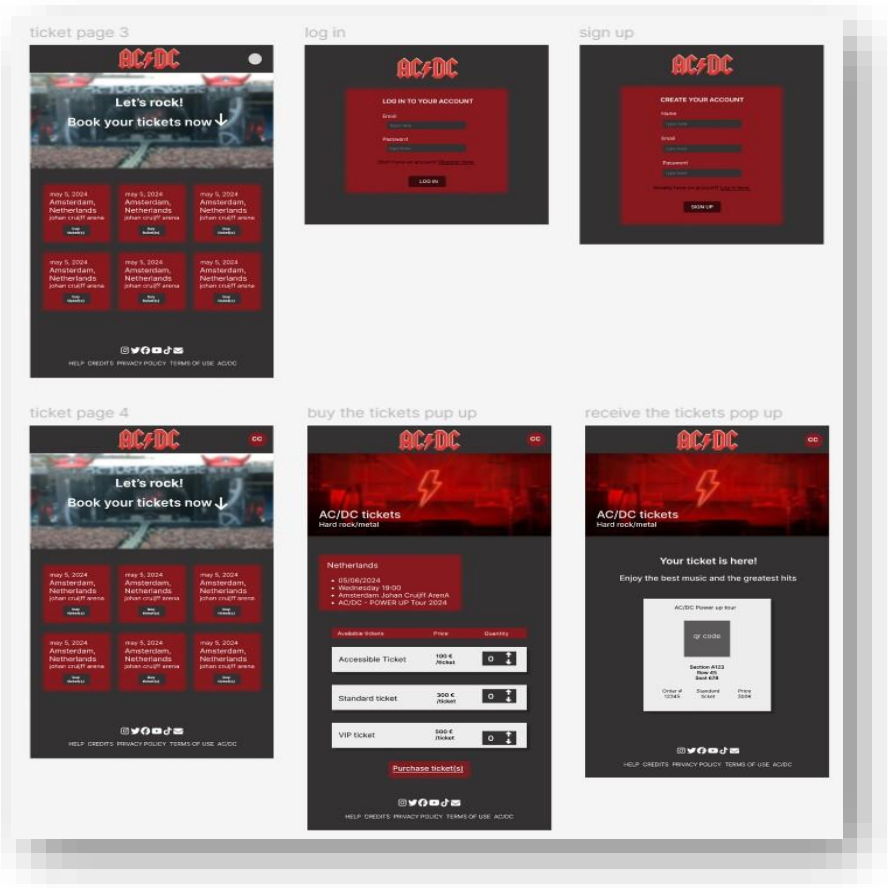
This is the second low-fidelity prototype that I created based on the user test and feedback that I received. I created a simple and clear navigation bar that also contains the logo of the band. On the top of the ticket page, it will be a picture with the band, and down, the tickets from the tour. When the users wants to buy a ticket is asked to create an account or log in and then is automatically directed to the ticket page, with no extra clicks where the user can see is logged in. After choosing a location for the concert the user can choose the amount and type of ticket and after buying it receives the ticket. The design is inspired from the best UX trends that rock band websites and ticket websites already use. This is documented in the project plan.



After creating this prototype, I tested it with four different users. I let the users navigate through the interactive prototype and recorder the screen of my laptop keeping the sound, with the users accord. I decided to do this user test to make sure that my website will be user-friendly and will have a very good UX-UI experience. The risks of not doing this test would have consist in complicated and bad UX-UI experience, and even if I consider myself one of the users, since I am directly implicated in the creation of this website, I can easily overlook usability issues. The users were two students from Software profile, one student from Media Design profile and one student from Smart Mobile specialization. The user test took place in a meeting room in the R10 building. After recording I watched the videos and documented my findings to improve my prototype.

All the users wanted to click the buttons in the navigation bar. Since I decided that those buttons will not have functionality at the beginning of this project, after I saw the user behavior, I decided to remove them to not create confusion. I asked the users if it is clear that they have to scroll down, after it took a while to do so, and the answers were that it would be nice to have an arrow or other element that would make it clearer. I was suggested to add the icon where I can see I am logged in in all the pages, not just one. In the “Buy ticket” page the users clicked on the “chose seats” buttons and the quantity buttons. I kept the quantity buttons since they will have functionality, but I removed the “chose seats” option since I decided that I cannot implement that due to time constrains. On the page with the received ticket the users clicked on the “Download ticket" button, which is not going to be a functional button, and for this reason I removed this option. The users also had good feedback to give, they liked the extra information about the concert on the page where the users buys the ticket. Because they do not have to come back to the previous page to check if they clicked on the right city tour. The users like the layout and did not have any problems with the navigation.

I documented the information that I received from the user test and created a design for my layout. I chose that my dominant colors will be black, and different shades of dark red, since these are the band colors. I used the logo that they already had, and I chose to put some pictures on top of the pages for attention grabbing of the user. I applied all the suggestions that were given to me in the user test, and I inspired myself from the other rock band ticket websites that I have found in my research and based on the latest user trends.



- Development (Learning outcome 2)

This is the second biggest challenge that I encountered in my Fontys experience. (The first one was the Greenhouse challenge in orienting with Flask).

The first thing that I did was to code the HTML static pages based on the prototype.

I started with research about how I can build a log in system, browsing this question. I found out that the first step is to create my database. I went on the MongoDB platform and created an account that way creating the database cloud. I changed the Ip address in the platform settings to be able to access the database from anywhere. I followed the commands on the site to create an URL that I will need for my code. The URL is mandatory to exist in my code to connect the backend with the database. I searched where I have to put the URL in my code and follow the instructions that I found.

I searched how to connect my database with the back end and found some GIT repositories that had a similar projects with what I needed. From there I learned how to connect them. First, I installed some packages in the terminal. In this file I would put all the routs that I would use. This part of the code “app.use('/auth', authController);” sets up a route for handling authentication-related requests. Any request to a path starting with “/auth” will be handled by the “authController”.

I then connected the database with the backend, using Mongoose. “connectDB.url” is the MongoDB connection string.

- .then(): If the connection is successful, it logs "Connected to MongoDB".
- .catch(): If the connection fails, it logs an error message.

I put a port 5000 and created a function that my server Express starts on the 5000 ports.

I then created the “User.js” file in “Modules” where I define my user schema. The schema defines the structure of the documents within the collection, specifying the fields and their types.

- “email”: This field is a type “String”, is required (required: true), and must be unique (unique: true). This ensures that two users cannot have the same email address.
- “password”: This field is a type “String” and is required (required: true). This will store the user's password.
- “username”: This field is a type “String”, is required (required: true), and must be unique (unique: true). This ensures that two users cannot have the same username.
- “module.exports = ...”: This exports the model so it can be imported and used in other parts of my application.

I learned to do this by looking at the GIT repositories that I found, and I used the AI to explain to me what I did not understand.

Last step was to create the “authController.js” file where I set up a series of Express routes for user registration, login, fetching all users, and deleting all users.

This code had a similar logic with what I learned this semester, so it was not that complicated to understand how to create one for my project. I created the register and log in methods and ensuring that the user has to use the right credentials to register and log in.

I wanted to move to the front-end part the next day, and talking to my boyfriend that is on software profile, he asked me if I tested it. He thought me how to test my application in Postman without the need to have a front-end and explain to me how to use it. I was surprised to see that it is very easy to use and that my code worked.

I searched online how to connect the front-end with the back end and added a script to my HTML files. I created some simple functions to enchant my website, when the users picks a ticket the information changes-based on the location he chose, and in the ticket the information is displayed too.

- Feedback and user test (Learning outcome 1 & 3)

After the application had functionality, I got feedback from two teachers for it, my coach project, and a design teacher. The feedback that I got was to do a user test on the application to validate my choices, to investigate how I can make the log in system more user-friendly and explain what I am going to do about the order and payment methods. Some other suggestions were to investigate the design and maybe put a video instead of the pictures in the pages to make the website more visual appealing. Also, I got very good feedback on the development part, teachers saying that it is really nice what I accomplished.

I tested my website with four users, two people from Software profile and two people from Media design profile. The user test took place in a meeting room from the building R10. I recorded the user test and documented my findings. I did this user test to validate both my design and functionality choices for the website.

Users suggested to remove the unnecessary alerts that announce that the person registered or logged in, and the ones that are necessary to have to make them look good and not keep the browser standard style. The software users suggested to put length condition on the password field for security reasons. The form, being design dark would make the credentials hard to read them being color black. I asked the users if the pictures are attention grabbing and all of them said that they are, especially in combination with the font and text, that I used. I also asked if a video with the band would be more interesting than the picture and three users answered no and said it would be too much and crowded. All users agreed that the website is easy to navigate through and the log in system is logic. Three of the users clicked on the "Forget password" button, but the feature was not implemented. I asked about what payment method they would prefer in a website like this. Three people would prefer to use Ideal and just one said that would pay with a debit card.

Users said it is nice that the email does not work without "@" and that it is not possible to register with the same account or log in with credentials that do not exists.

Based on this feedback and user test I did some changes to my website. I removed the alerts that would confirm registration because they were an extra click, and the alerts that I do need I enchanted using "sweetalert2" library. I created a condition that the password must be minimum 8 characters to be used. I did not change the pictures from the ticket pages since from the user test I got the information that they are attention grabbing and videos are already outdated. I removed the option "Forgot password?" because it will not have functionality.

As a payment method, I would use multiple paying options, which would appear in a pup up. The paying options would be debit or credit card and Ideal payment method. I will not implement this, as I already documented in the project plan due to time constrains.

The final product can be found in my video page in my portfolio.