



CS-424: Client-side Web Design

Final Project

Perfect Group of Companies Website

Team M2NS

Spring 2017

Table of Contents

List of Project Participants...	1
Abstract of the Project...	2
Project Narrative...	2
Design Considerations...	3
Design and Specification...	5
Testing and Iterative Design...	9
Restrictions, limitations, and constraints...	10
Conclusion...	10

List of Project Participants

We all worked as a group for the general aspects of this project's development, by participating in weekly meetings in which we discussed design considerations like how the UI interaction patterns, design consistency, possible datasets, as well as designing the first project mockups and discussing how to respond to peer review suggestions. During the last week's of the project development these weekly meetings were particularly useful to agree on the project's architecture and navigational paths, since finding a common ground on these aspects was essential to the development of each member's contribution.

Sundas Alkhofi

- Redesign the Products, Partners, Specific page and some UI changes for the Whole project (Styling issues).
- Set up the node (app.js) environment and connected it with MongoDB to be able to fetch data about the products and the companies.
- Implemented the dynamic Products page with 3 categories by fetching the data from MongoDB and use directing routes.
- Implement the dynamic tab of featured products in the home page by fetching the new (last 4) products in each category from MongoDB, and use directing routes.
- Implemented the dynamic Partners and specific partner pages from MongoDB.
- Implemented "Become a partner" form that adds companies to MongoDB.
- Complete the other Routes for the whole app.js , and link all pages with Routes together.
- Made the final Presentation "Prezi", and contribute in the assignments.

Neha Goel:

- Designed the UI design of the Home Page.
- Designed the Vertical Tabs UI on Home, Products and Partners Pages
- Implemented the Four types (Local, Facebook, Google, Twitter) login/signup authentication in the mongodb server using Passport.
- Worked on Trello board assignments, Initial Mockups & Authentication part in Report

Maria Palacio:

- Implemented some UI design changes to the Product specification page: Reviews accordion, Shopping cart modal styling.
- Implemented the Shopping cart functionality: Add to cart, View cart, Clear cart and Save cart in the server and added to cart alert message.
- Gathered and organized the data for the website.
- Worked on the Trello board assignments and the Final Report.

Mayukh Suri:

- Implemented Fixer.io for Forex API in the Homepage and the Specific products page.
- Implemented data visualization to show the current exchange rate using forex API.
- Implemented the automated horizontal carousel in the Homepage.
- Implemented Shopping cart on the product specification, defined the logic in JS for add to cart, implemented pop-up module to display the Shopping Cart.

Abstract of the Project

The Perfect Group of companies website was specially designed for a tool manufacturer (the Perfect Group of companies) to be a platform through which they could showcase and sell their products, but also bring other partners on board to cut the marketing cost while bringing all the forging products under one roof. The main reason why we chose to develop this website is because we wanted to have the experience of working with a real client and try to fulfill their specific technological and design needs. Through the development of this project we not only learned how to develop a website from the Client-Side, but also other project development skills like talking to clients and finding a common ground between what they envision with the website and what can actually be done in a limited time frame.

Project Narrative

The final goal of this project was to develop a web application that for the Perfect group of companies that would allow to things: a. Allow the users to browse through the Perfect group's products, learn about the product's specifications and order them, b. Allow other forging companies to become partners and easily submit their products to be showcased and sold on the website. To achieve this goal we developed a website with four main pages: a homepage, that would immediately inform the users about the purpose of the website, a Products page, through which users could easily browse through the catalogue of tools offered on the website, a Companies page that will allow users to learn more about the companies that sell their products through this website, but also allow companies to become partners and submit their products, and a Specific product's page, in which users could find more information about a specific product, order it, view their orders and read reviews about the product. Since the Perfect group is a company based in India, we also added the Forex api to allow users understand the exchange rate between any coin and the Indian rupee, so users could understand the prices of the products they want to purchase.

Design considerations

Many other forging companies have their own websites through which they showcase and sell their products. This was good for us because we were able to study how other companies designed their websites and find navigational patterns and design considerations that were useful for the development of our web application. Our clients suggested us to look for inspiration in websites like turbogroup.in and sktools.com. Those sites were useful to understand how our clients envisioned the project, but we decided to look over other tool manufacturers websites to find other useful navigational patterns. The searsto.com and the homedepot.com websites were particularly useful to us since they allowed us to understand that having a side menu with the categories of the products was a standard for these kind of websites. The stanleytools.com and the dewalt.com websites allowed us to find a standard on how the data about specific products is organized and displayed in these kind of applications. Finally, we inspired on the amazon.com website to develop the homepage carousel.

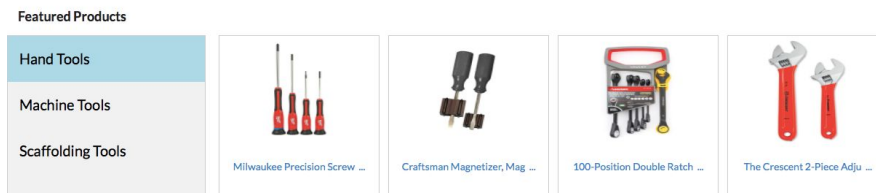
The primary goal of the Homepage for this website is to inform users right away about the “big green button” or main functionality of the website, which is to showcase and sell forging products like hand tools, machine tools and scaffolding. For this purpose, we divided the main part of the Homepage in three sections: a horizontal carousel informing users about the different kinds of tools and products sold in the website, a horizontal menu through which users can explore the Featured products of each category (hand tools, machine tools and scaffolding), and a series of icons showing the other functionalities of the website (ie. forex rates, certified products and partner companies).

The design of the Homepage served as a pattern for the other pages within the website. We chose a white, gray and bright blue as the color scheme for the entire website for two main reasons: 1. branding: it correlates with the colors of the Perfect Group of Companies logo and colors. 2. UI theory: the selection of these colors allowed us to create contrasts between the places and interaction features within the website, to allow users to clearly differentiate the buttons and menus from the content. The main menu is placed on head section and it always uses a dark gray color. On the other hand, all horizontal menus have a light gray color. This allows the user to differentiate the two types of menus and to understand the hierarchy of those menus. Finally, all the buttons are white and have a bright blue border: clearly differentiates them from the menus and makes them stand out so users can clearly identify that they can perform a task by clicking the buttons.

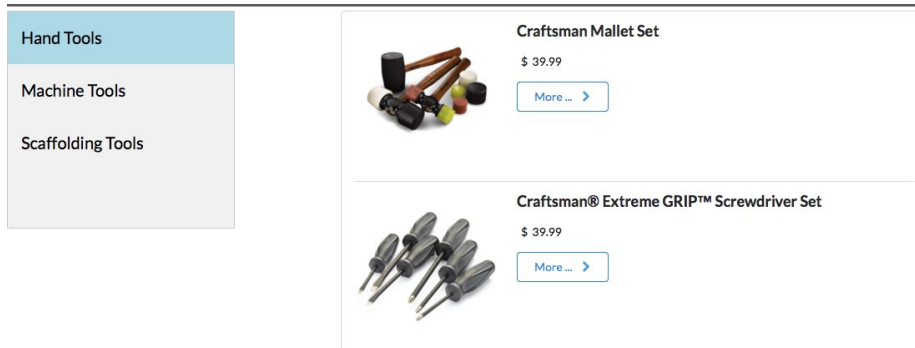
One interaction pattern that creates consistency throughout the website is the usage of horizontal menus on the Homepage, the Products page, and the Companies page. These horizontal menus work as horizontal tabs that update dynamically under user's request and without the user having to leave the page. This allowed us to have different types of content on the same page and place and to avoid the users suffering

from cognitive overload. In the case of the Homepage, the horizontal menu allows sorting the Featured Products by category. In the Products page, the same pattern is used to sort all the products in the database by category. Finally, in the Companies page, the horizontal menu is used to allow users to choose between viewing the different partner companies or accessing the form to become a partner and submit a product.

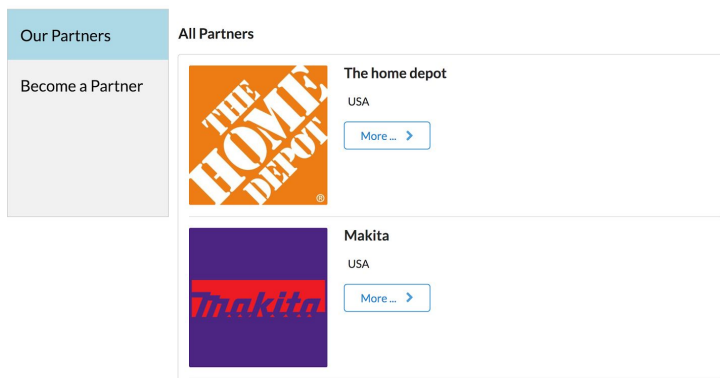
Horizontal menu in the Homepage



Horizontal menu in the Products page



Horizontal menu in the Companies page



Other interaction pattern that is used multiple times across the website are the galleries in the Products and the Companies pages. They are used to display the content of each page in an organized and consistent manner. They show the name of the Product or Company, a picture of the Product or the logo of the Company and a “learn more” button that allows the user to go to another page and learn more about the item they have selected. If users click the “more” button they are taken to the

Specific products or the Specific company pages (depending if they are in the Products or the Companies page). These pages are organized in the same manner as well: Name, picture, and description. However, the Specific Products pages introduce more interaction features: buttons to add a product to the cart, view the cart and read reviews about the product, as well as accessing the Forex calculator.

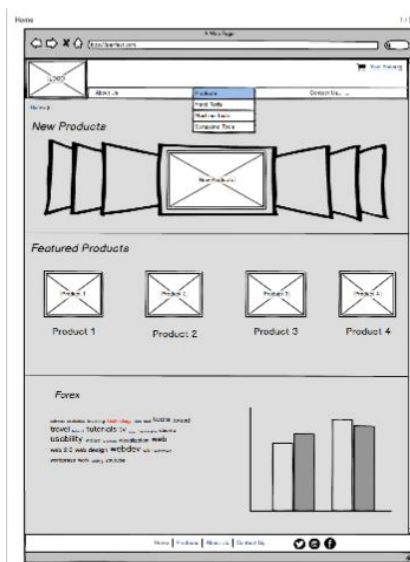
Many of the changes we made to the final application respond to feedback and peer reviews. These changes are more detailed in the next segment. However, in general, we responded to these suggestions by making the head and the footer consistent throughout the website, getting rid of the carousels in the Products page because they made the site look too cluttered, improving the carousel in the Homepage and adding consistent interaction patterns like the horizontal menus.

Design and specification

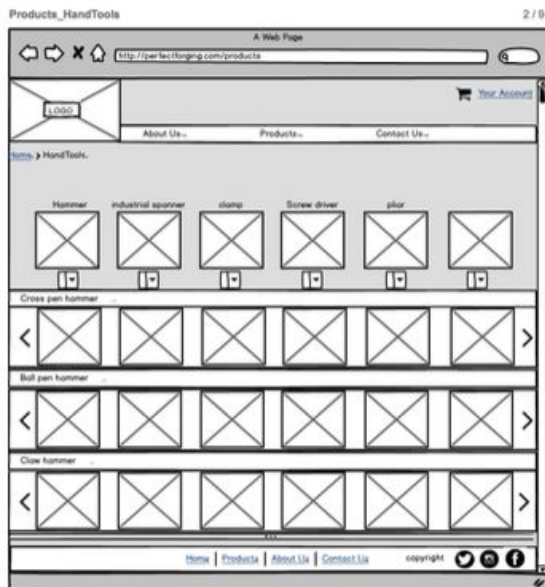
a. Mockups

The design of our project changed through the semester both to respond to the design specifications given by our client, and to the reviews of our peers after Dev Week.

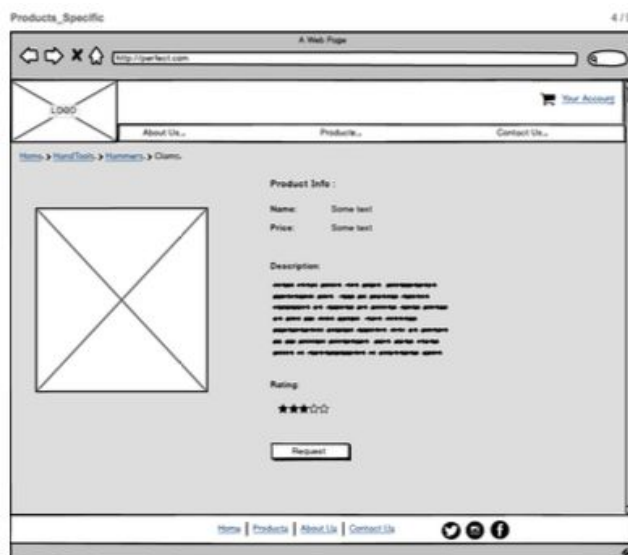
We first designed a mockup for the project. The first concept for our project was to design a six-page website: a Homepage, a Products page, a Specific product page, an About us page, a Contact Us page and a Your Account page. The initial concept for the Homepage was to display the company's newest and most important process to allow users to know right away the main purpose of the website. This Homepage design had five main elements: 1. an upper section with a menu bar and an icon to access the User's account, 2. a New products carousel displaying pictures of the company's newest products, 3. a Featured products gallery, displaying pictures of eight featured products, 4. a section displaying the Forex API, and 5. a Footer with links to the website's main pages and the company's social media accounts.



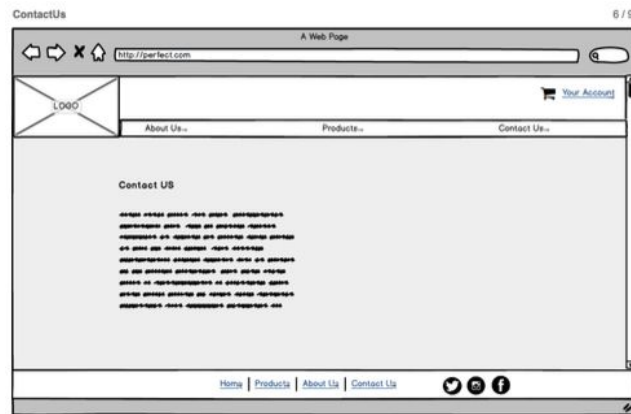
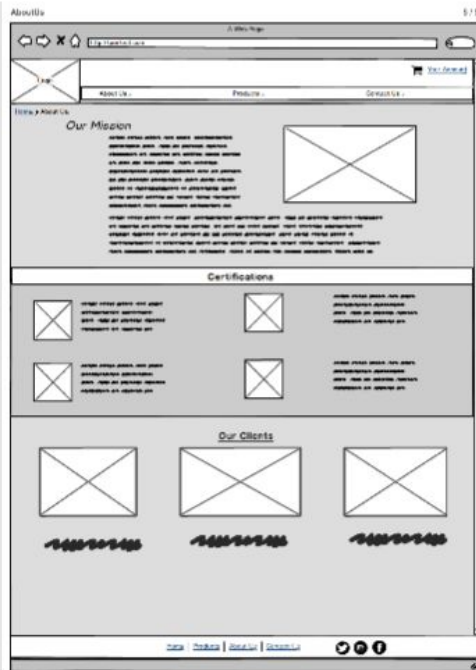
The initial concept for the Products page had four main sections: 1. an upper section identical to the homepage's upper section, 2. a Type of products section displaying the images of the types of products sold in the website (i.e hand tools, machine tools and scaffolding), 3. a Products section, displaying carrousels with the different products of a same category (i.e hammers, screwdrivers, etc), and 4. a Footer identical to the one in the Homepage.



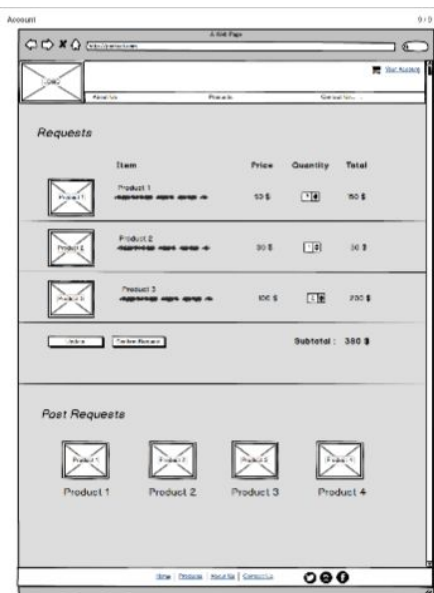
The Specific product page was divided into three places: 1. an upper section, 2 a Main section giving detailed information about a specific product: picture, name, price, description, and a request button to order the product, and 3. a footer.



The About Us and the Contact Us pages were intended to hold information about the mission of the company and how to contact its representatives, however, after the mockup design we decided not to develop these pages because the information they held could easily be placed in other pages or sections like the footer.



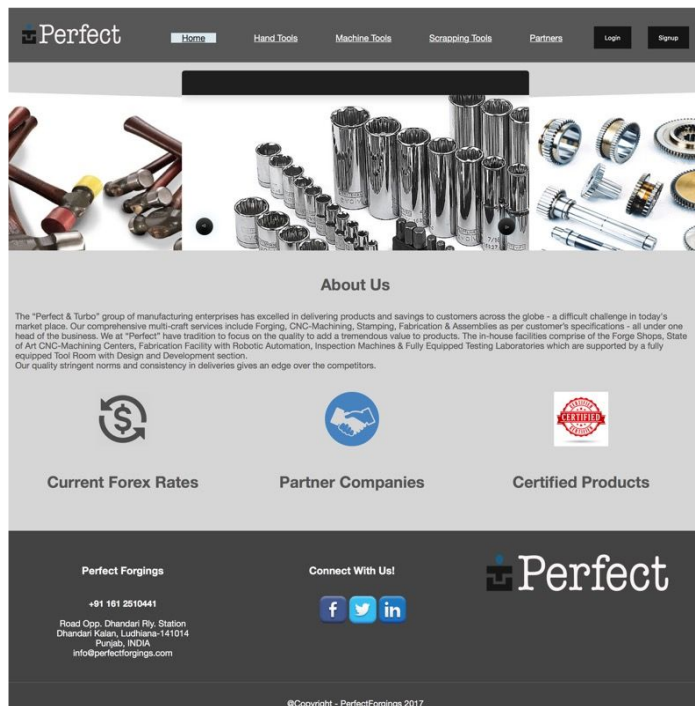
Finally, the your account page was intended to hold the shopping cart. This page was later changed for a pop-up model that holds the shopping cart and serves the same functionalities without making the user go to a different page.



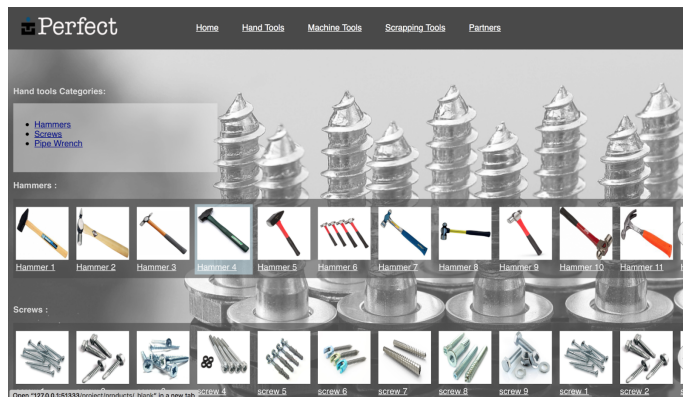
b. Dev week

Based on these mockups we developed an initial “draft” for the website for the Dev Week. These are some images of the Dev Week application:

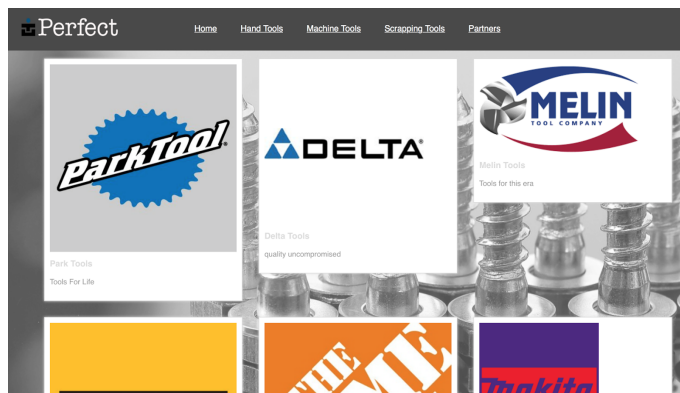
Homepage



Products page



Companies page



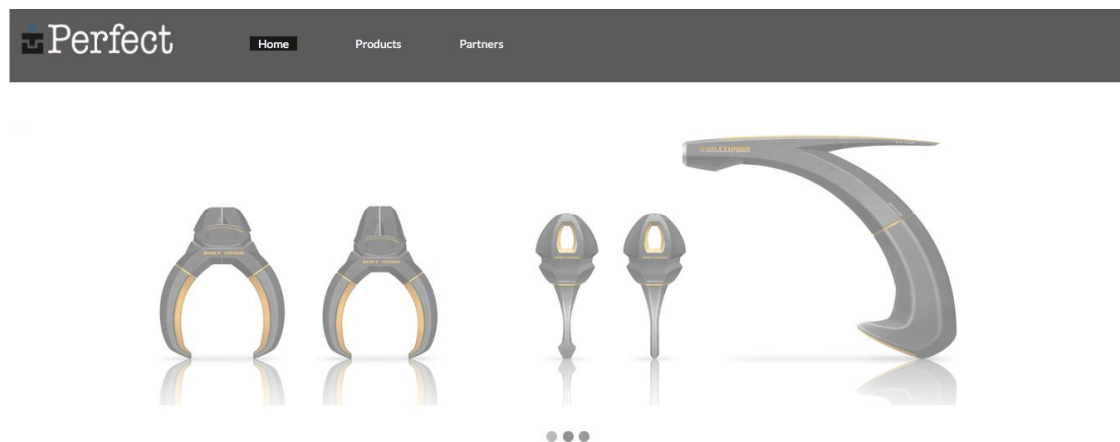
We eliminated some elements from the mockup design for the Homepage because we realized it had too many elements and it looked cluttered. We also

eliminated some elements from the Products page: instead of having a carousel with images of the different categories of products we decided to have a page for each of the categories, to avoid the users to get confused with the carousel.

c. Final design

However, many of the peer reviews from the Dev Week suggested getting rid of the carousels in the products page because it made it look too cluttered. They also suggested us to change our color scheme and the fonts because they made the website look outdated. Our peers also pointed out that we had to work more on the consistency of the website because some persistent elements did not look the same throughout the applications and they could not find many useful navigational patterns. We addressed these issues and redesigned the application. These are some images of the finished application.

Home page



Footer



Testing and iterative design

After Dev Week we received feedback from our classmates. They raised important issues about the design and usability of the first design for our app. We then attended a series of meetings to address those issues, most of them related to consistency problems throughout the application and redesigned the whole app, using a better color scheme, more interaction patterns and making sure all the menus and buttons looked the same.

Since the whole purpose of this app is to serve as a platform for the Perfect Group of Companies, their feedback is essential to know if some changes need to be made. For this reason, on May 2, 2017, we have a meeting with our clients in which we will show them the current design for the application and receive their suggestions.

Restrictions, limitations, and constraints

- Authentication

In our Application we build our application that had

- **Local account logins** and signups (using passport-local)
- **Facebook logins** and registration (using passport-facebook)
- **Twitter logins** and registration (using passport-twitter)
- **Google+ logins** and registration (using oAuth with passport-google-oauth)
- Required login for certain routes/sections of your application
- Created a password hash for local accounts (using bcrypt-nodejs)
- Displayed error messages (using flash with connect-flash)
- Linked all social accounts under one user account
- Allowed a user to unlink a specific social account

Few Restrictions, Limitations, and Constraints for Authentication:

- As we build our whole project on the Free Cloud 9 IDE we were not able to have a proper callback url for the social media.

- Shopping cart

For this web application we implemented a Shopping Cart functionality through which users can:

- Add a product to the cart
- Be alerted once the product has been added to the cart
- View the shopping cart
- Clear the Shopping cart
- Revisit the Shopping cart from different pages within the website

Few Restrictions, Limitations and Constraints for Authentication:

- Users cannot add more than one item of the same product without clicking the Add to cart button various times.
- Moreover when users perform this task, the shopping cart shows each item as a different product. We tried to fix this problem but the function is not currently working (see the removeProduct() function).

Conclusion

The current application design is far more consistent and “user friendly” than application we built for the Dev Week. Peer reviews and feedback were essential to address the issues of our initial design. Now, the primary functionality of the website

can be clearly identified by the users right when they enter the website. The Homepage informs users about the “big green button” and the Product page now has an UI design that allows users browse through the products catalog without having to think too much. We developed interaction patterns that allow users create mental models and navigational maps. We also addressed our client’s main expectations with the website: to showcase and sell their products, and to allow other companies to become partners and sell forging products under one roof. We are looking forward to our customer's feedback. Certainly, this web application can improve and have other functionalities, like a paying system. However, we do think we achieved the main goals for this application and set a solid foundation for the future development of this project.