



Final reflection project

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Challenges and Proposed Solutions

Throughout the development of this project, several challenges arose, each requiring careful consideration and innovative solutions:

1. **Initial Structuring and Design:** Designing the basic structure of the website was a significant challenge. Translating ideas into a logical, functional, and aesthetically pleasing layout proved more complex than expected. The solution was to focus on iterative design, refining the structure step by step while ensuring functionality and coherence. Patience and persistence were key to overcoming this challenge.
2. **Migration to Node.js and Express:** Transitioning the backend from a basic setup to Node.js and Express posed difficulties, particularly with routing adjustments and integrating MongoDB. Another obstacle was updating the Bootstrap framework, as older components became incompatible. Consulting documentation and online tutorials provided clarity, and these resources were instrumental in resolving compatibility issues and ensuring a smooth migration.
3. **Handling Large Data Sets:** Implementing pagination for a table with 12,000 records was a daunting task. Initially, the process was hindered by technical limitations and lack of experience. By exploring online resources and experimenting with solutions, the team was able to implement an efficient pagination system that enhanced the user experience.
4. **Migration to React:** Restructuring the project from EJS to React was perhaps the most challenging aspect. This required a complete overhaul of the codebase and a shift in mindset to embrace React's component-based architecture. Ensuring a clean separation of concerns between backend and frontend added complexity. The solution involved rigorous planning, thorough testing, and the implementation of a validation feature to ensure data integrity and seamless functionality.

Final Reflection

The completion of this project represents not only a technical achievement but also a testament to the importance of collaboration and adaptability. Each challenge encountered served as an opportunity for growth:

- The structural design phase emphasized the importance of a solid foundation, where patience and attention to detail ensured the project's success.
- Backend migration and pagination tasks highlighted the necessity of leveraging resources and embracing problem-solving as a team effort.
- The move to React demonstrated the value of adaptability and the significance of understanding modern frameworks in achieving a scalable and maintainable application.

In real life, this solution has tangible applications. The approach used in this project—modular design, efficient data handling, and clear separation of concerns—can be applied to a variety of web development scenarios, from e-commerce platforms to educational tools. Furthermore, the collaboration and problem-solving techniques adopted during this project underscore the importance of teamwork and leveraging individual strengths in achieving shared goals.

Ultimately, this project has not only delivered a functional and robust application but also provided valuable lessons that will guide future endeavors in both professional and academic contexts.

Martín García Torres

Challenges

1. Learning New Technologies

- Many challenges arose, starting from learning some languages or platforms from scratch.

2. Backend and Frontend Management

- Another challenge was handling both the backend and frontend effectively.

3. Database Creation and Implementation

- A specific challenge was creating the database and implementing it in the graphs and tables since we didn't have an API to facilitate our work.

Solutions Implemented

1. Creating Our Own API

- The solution to the database challenge was essentially to create our own API.

2. Design and CSS Issues

- Another challenge involved the design and CSS, as Bootstrap sometimes did not allow changes in the CSS.
- However, by slightly altering the order or using `!important`, we managed to make the CSS work.

Final Reflection

In conclusion, I believe that the final project we delivered turned out to be much better than I initially imagined, and it was very fun and challenging to do it step by step, making changes to deliver the best possible version of the website.

Andrés González Gómez

Challenges and Solutions

1. Migration to EJS
 - Challenge: Switching from static HTML to EJS caused issues with the design. Many frontend elements had to be replaced to avoid conflicts with the backend.
 - Solution: We focused on making the backend functional first and then adjusted the design step by step, ensuring everything worked together.

2. Bootstrap Compatibility
 - Challenge: Using Bootstrap created compatibility problems with custom CSS. Some styles were overridden, and making changes to specific components was difficult.
 - Solution: We solved this by using !important for critical styles and reorganizing the CSS to make it work alongside Bootstrap.

3. React Integration
 - Challenge: Learning React and restructuring the frontend was a big challenge, especially connecting it to the backend and managing state effectively.
 - Solution: We divided the work into smaller parts, focused on building basic components first, and used tutorials and documentation to guide us.

Final Reflection

This project was a great learning experience. Adapting to EJS and React taught me how to solve design and compatibility issues while balancing functionality. The challenges with Bootstrap and CSS emphasized the importance of attention to detail in frontend development. Overall, the project helped me improve my skills and work better as part of a team.