

Personal Reflection

Project 3 - Live Simulation

Team Members:

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Alberto

I learned a lot by doing this project. It helped me better understand how simulations work and their importance in real life applications. Simulations can give us a better insight of how things are probably going to occur in real life, helping us to make better decisions to avoid unnecessary risk and anticipate possible solutions that can improve efficiency in the industry.

The connection between a web page and the python simulation also was good learning and challenged us to decide how to use and interpret big amounts of data. Data is very useful but it's important to learn to explain this data and use different methods to show this, for example using different types of graphs to help people understand better what is going on.

Edgar

Going through this project truly enriched my understanding and experience with data. It made me realize just how important data management and representation truly are. Initially, I fell into the trap of seeing a lot of information as just clutter, but this project showed me the stories hidden within.

Learning about data visualization techniques in dashboards proved incredibly valuable. It transformed the data from something only experts could understand into something accessible to everyone. This experience opened my eyes to the power of these techniques in communicating complex information in a clear and engaging way.

The impact of good data management and representation goes far beyond this project. Imagine the potential in healthcare, where clear data visualization empowers patients to understand their medical records and make informed decisions. This is just one example, and I see myself using these skills in the future to present data in a way that's both informative and persuasive.

Overall my team did a really good job and I am happy with the results of our hard work. I look forward to working again with my peers.

Raschid

Creating a dashboard for a live simulation project has been a pretty cool experience. This project has not only made me more aware of real-time data visualization and all the ins and outs on how to create a story with a dashboard but also I got better at my skills in various technical and analytical areas such as creating and developing this type of simulation step by step. By integrating live data into our dashboards, I have learned to handle the complexities of data processing, dashboard creation, simulation of processes and displaying the data in a way anyone can understand it, thus providing accurate insights on our simulation.

The project has also improved my abilities in using dashboard development tools and technologies, such as ionic, streamlit and python overall and strengthened my ability to troubleshoot and solve problems quickly. Through continuous iteration and testing, I have developed a pretty good eye for detail and an appreciation for user-friendly design, ensuring that the final product is both functional and intuitive.

As well as working in teams, we got together and everyone did their part, we tried to achieve a really exciting and well done project that with a little bit of more time we could've done something even better. Even though the shortage of time we are happy with our final product and have learned a lot throughout the whole process.

Ivan

Something I liked about this project is that we worked significantly on our skills in using visualization tools and software.

Each tool has its strengths and weaknesses, and as a team we learned to select the most appropriate one according to the type of data and the purpose of the visualization.

As a team, I think this project was also enriching since we learned that it is not just about presenting data in an attractive way, but about facilitating the understanding and analysis of the information. We worked on how to structure the visualization to guide the viewer through the data, highlighting important patterns and allowing for meaningful comparisons.

This project not only provided us with technical skills in data visualization, but also taught us how valuable planning and effective communication is. These experiences have better prepared me for future challenges in the data and visualization space.

Ángel

This final project successfully explored the intersection of simulation, visualization, and web development. We implemented a simulation of a manufacturing facility using SimPy, a Python library for discrete-event simulation. The simulation itself was hosted on a webpage built with Flask, a Python microframework. This webpage acted as the core of the project, running the simulation logic and providing data for visualization.

The key innovation of this project was the two-way communication established between the Flask webpage and a separate web page built with Angular Ionic. This communication allowed users on the Angular Ionic webpage to interactively modify simulation parameters in real-time. This interactivity significantly enhanced the project's usability, allowing users to explore different scenarios and gain deeper insights into the behavior of the manufacturing facility.

Overall, this project provided valuable experience in integrating various technologies to create a dynamic and informative simulation environment. The modular design, with separate web pages for simulation logic and visualization, proved to be a flexible and scalable approach. Future iterations could explore more complex simulations and visualizations, pushing the boundaries of what can be achieved through web-based simulation tools.