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UX DESIGN IN A DATA ANALYSIS TOOL

THE RE-DESIGN OF A DATA ANALYSIS TOOL FOR PROCESS OPTIMISATION

Batenburg Bellt is a company that focuses on the implementation of industrial automation. The company operates in various industries including, but not limited to, chemical production, food and beverages manufacture as well as pharmaceutical production.

The aim of the design project was to redesign Batenburg Bellt's data analysis application for process engineers for the purpose of process optimisation. The application is intended to be a central collection point of data, eliminating the challenge of data integration from multiple sources.

The focus of the redesign task was to improve the user experience and usability of the design whilst considering the user's expectations of a data analysis application. The intention was to increase independence of process engineers from data analysts in tasks involving data analysts when trying to improve production processes.

Theoretical and practical research was conducted. Theoretical research was used to identify the required features of the product, the use case, the strengths and weaknesses of the current design and other software solutions on the market. Literature studies, interviews with stakeholders and market analysis were conducted during the project. Literature study focused on the steps involved in data analysis as well as the current challenges. Interviews with stakeholders such as process engineers, data analysts and project managers were conducted to identify the needs of the target user and their expectations from the product.

After the theoretical research, the results were used to create a thematic analysis, PACT analysis and experience map. The thematic analysis was a tool used to summarise interview results, focusing on the experiences of the target users with data analysis. The PACT analysis was used to define the context in which the product will be used. Lastly, the experience mapping focused on investigating the weaknesses and strengths of both Batenburg Bellt's current design solution and other solutions on the market.

The results from the theoretical research were used to derive design requirements that guided the creation of design solutions. Due to limited time and the nature of the prototyping tool, a final list of requirements was created based on the nature of the requirement and the needs of the target user. The requirements were divided into functional, aesthetic, user experience and general requirements.

Requirements derived from the theoretical research were used during the ideation process. The ideation process resulted in low-, mid-, and high- fidelity prototypes that were assessed in collaboration with stakeholders.

Prototyping sessions, workshops and surveys were used to execute the practical research. The practical research was done to evaluate how well the designed application adhered to the identified requirements from the theoretical research. Prototyping sessions were performed to conduct usability tests, evaluating the satisfaction, learnability, effectiveness, and efficiency of the application.

Prototyping results helped identify usability issues which were addressed during the re-design. This thesis documents the iteration of three prototypes, from a low- fidelity prototype to a high-fidelity prototype. Selection of desired features and design directions was done through collaboration with participants during workshops.

The result of the assignment was an interactive Figma prototype that shows the features and interactions of the application. Lastly, the design assignment included an evaluation of the final design concentrating on the usability of the design and overall user experience for process engineers who want to conduct data analysis for process optimisation.

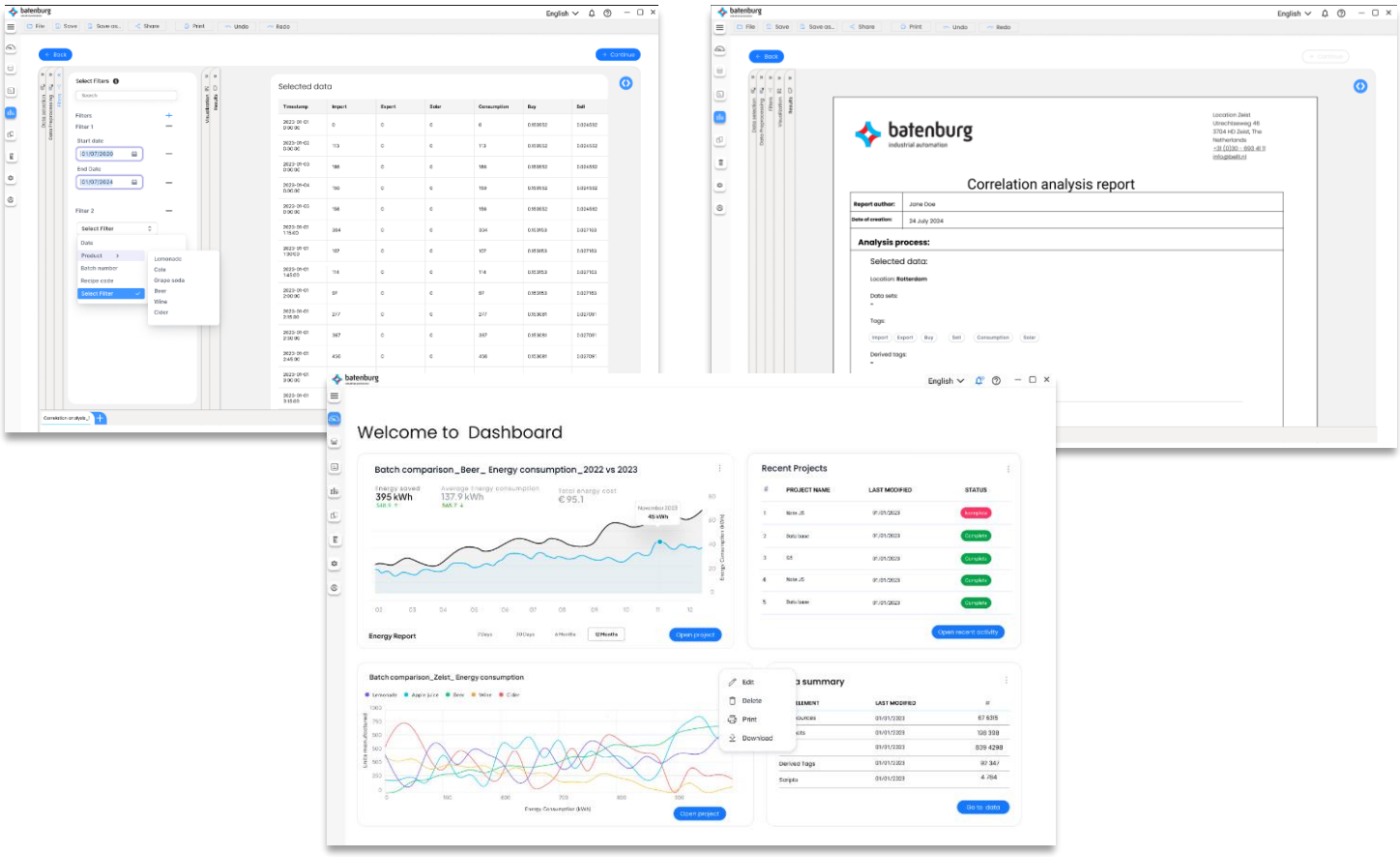

Figure 1: Data analysis high-fidelity interface design

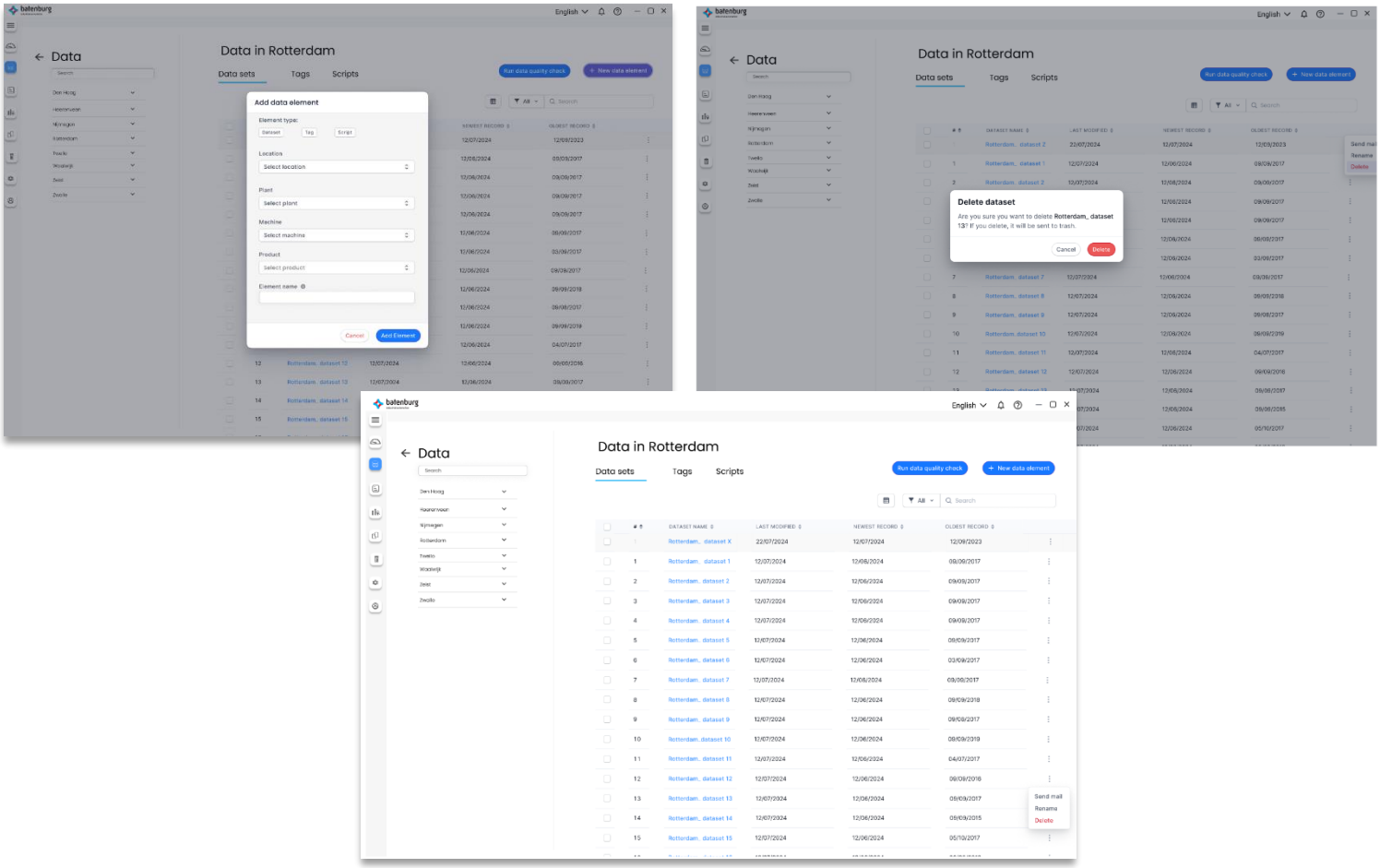

Figure 2: High- fidelity Data integration