

1. Web App Description

1.1 - Purpose

The purpose of the web app for this project is to provide an accessible and user-friendly platform for energy optimization and reporting. It serves as a centralized hub that allows authorized users to:

- **Access Energy Reports:** Users can access up-to-date reports related to energy optimization. These reports provide valuable insights into energy consumption, efficiency, and cost savings.
- **Customize Input Parameters:** Users with specific rights and permissions can adjust input parameters within the app. These parameters play a crucial role in fine-tuning energy optimization strategies.
- **Interact with Data:** The web app allows users to interact with data and reports, enabling them to make informed decisions and implement energy-saving measures based on the insights provided.
- **Ensure Data Accuracy:** By integrating with various data sources, including Google BigQuery, FTP servers, databases, and Google Sheets, the web app ensures that data used for optimization is accurate and up-to-date.
- **Manage User Access:** The app includes user management features that allow administrators to control access and assign specific rights and permissions to different user roles, ensuring data security and integrity.
- **Streamline Data Processing:** Through integration with Dataiku, the web app streamlines the data processing and analysis steps, making it easier for users to work with complex data sets.

In essence, the web app serves as a powerful tool for organizations or individuals looking to optimize their energy consumption, reduce costs, and make data-driven decisions in the field of energy management. It simplifies the process of gathering, analyzing, and presenting energy-related data, ultimately helping users achieve their energy optimization goals.

1.2 - Target Audience

The potential target audience for the energy optimization web app includes:

- **Energy Managers:** Professionals responsible for optimizing energy usage within organizations.
- **Facility Managers:** Individuals overseeing the energy efficiency of buildings and facilities.
- **Data Analysts:** Those who require access to energy data for analysis and reporting.
- **Administrators:** Responsible for managing user access and permissions within the app.

1.3 - Features

Key features of the web app include:

- **Energy Reports:** Access to real-time energy optimization reports and insights.
- **Customizable Parameters:** Ability to adjust input parameters to fine-tune energy optimization strategies.
- **User Access Management:** Administrative control over user roles and permissions.
- **Data Integration:** Integration with various data sources, including Google BigQuery, FTP servers, databases, and Google Sheets.
- **Data Processing:** Streamlining data processing and analysis through integration with Dataiku.
- **Interactive Data:** Interaction with data and reports for data-driven decision-making.
- **Security:** Strong authentication, authorization, and data encryption for secure data handling.
- **Scalability:** Scalable architecture to accommodate growing data and user needs.
- **Future Expansion:** A roadmap for adding new features and improvements.

1.4 - Technology Stack

The technology stack for the energy optimization web app may include:

- **Frontend and Backend Technologies:** Managed by Vanenburg.
- **Database Management:** Google BigQuery for data storage and retrieval.
- **ETL (Extract, Transform, Load) Tool:** Talend for data extraction and transformation.
- **Data Analysis:** Dataiku for data processing and analysis.
- **Data Visualization:** Tableau for generating interactive reports.
- **Hosting and Deployment:** Google cloud platform for scalability and reliability.
- **Security Measures:** Authentication and authorization mechanisms, encryption protocols, and cybersecurity tools.
- **Monitoring Tools:** Tools for real-time monitoring and performance optimization.

This technology stack enables the web app to efficiently gather, process, and present energy-related data while ensuring security and scalability to meet the needs of its diverse user base.

1.5 - User Interface (UI)

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The full user interface is presented in the PowerPoint presentation below: