DEFINE PROBLEM / PROBLEM UNDERSTANDING

Date 06 May 2023
Team ID NM2023TMID17415
Project Name Project on A Reliable Energy Consumption Analysis System for Energy-Efficient Appliances

BUSINESS REQUIREMENTS

1. **Energy Data Collection:** The system should be able to collect energy consumption data from various appliances, sensors, or smart meters, ensuring accurate and reliable data collection.
2. **Energy Analysis and Insights:** The system should utilize data science techniques to analyze the collected energy consumption data and provide valuable insights. This includes identifying energy usage patterns, calculating energy consumption metrics, and generating reports or visualizations for easy understanding.
3. **Energy Efficiency Recommendations:** Based on the data analysis, the system should provide personalized recommendations to users on how to optimize their energy usage. This can include suggesting specific actions or changes in appliance usage patterns to achieve energy savings.
4. **User-Friendly Interface:** The system should have a user-friendly interface that is intuitive and easy to navigate. It should present energy consumption data, analysis results, and recommendations in a clear and understandable manner to promote user engagement.
5. **Compatibility and Integration:** The system should be compatible with a wide range of appliances, sensors, and home automation systems. It should seamlessly integrate with existing infrastructure to gather additional data and enhance functionality.
6. **Scalability and Performance:** The system should be designed to handle large volumes of data and user loads effectively. It should scale as the user base grows and ensure smooth performance even during peak usage periods.
7. **Security and Privacy:** The system should prioritize the security and privacy of user data. It should implement robust security measures to protect sensitive information and comply with relevant privacy regulations.
8. **Support and Maintenance:** The system should provide ongoing support and maintenance services to ensure smooth operation. This includes regular updates, bug fixes, and user support to address any issues or inquiries.
9. **Cost-Effectiveness:** The system should offer a cost-effective solution for

consumers, providing value for their investment in energy-efficient appliances. It should help users reduce their electricity costs and achieve long-term energy savings.

10. **Accessibility:** The system should be accessible to users with varying levels of technical expertise. It should accommodate different devices and platforms, such as web and mobile applications, to ensure ease of access and usage.