**Project Proposal & Requirements**

*23 September 2023 (v1 by Giovanni)*

As more ideas will come or changes in plan will happen, we can iteratively modify it. Please notice that I included some points in the list arbitrarly just to give an example. It is up to the specialised team members to refine pertinent list's parts.

The definition of this list is a fundamental step as 1) it reduces ambiguity and provides a road for developers, 2) It serves as a basis for developing test cases and performing quality assurance to ensure that the software meets the intended requirements, 3) it aligns the expectations of stakeholders, including developers, project managers, and clients, ensuring everyone is on the same page regarding the project’s goals, 4) it helps in estimating resources, time, and tools to be used, and in prioritising development, 4) Well-defined requirements lead to better-designed software, making it easier to maintain and update, 5) It helps in identifying potential risks and challenges early in the development process, and more.

**Functional Requirements:**

Functional requirements define the interactions between the system and its environment independent from the implementation details.

1. User Authentication:
   * The app should allow users to log in securely using a username and password.
   * The app should support role-based access control to restrict access to sensitive data and functionalities.
2. Data Import and Integration:
   * The app should support importing KPI data from various sources like CSV files, Excel spreadsheets, and databases.
   * The app should integrate with external systems and platforms to fetch real-time KPI data.
3. KPI Visualization:
   * The app should provide various visualization options like charts, graphs, and tables to represent KPI data.
   * Users should be able to customize and interact with the visualizations, such as filtering and drilling down into details.
4. KPI Analysis:
   * The app should offer analytical tools to analyze KPI data, including trend analysis, comparative analysis, and predictive analytics.
   * The app should allow users to set benchmarks and thresholds for KPIs and monitor their performance against them.
5. Alerts and Notifications:
   * The app should send alerts and notifications to users when KPIs cross predefined thresholds.
   * Users should be able to customize alert preferences and notification channels.
6. Reporting:
   * The app should allow users to create, customize, and share KPI reports.
   * The app should support exporting reports in various formats like PDF and Excel.
7. User Management:
   * Admin users should be able to add, modify, and deactivate user accounts.
   * Admin users should be able to assign roles and permissions to user accounts.

**Non-Functional Requirements:**

Non-functional requirements define the quality attributes, constraints, and properties of the system.

1. Performance:

* The app should load visualizations and analyses within acceptable time frames.
* The app should handle large volumes of KPI data without degradation in performance.

1. Usability:

* The app should have an intuitive and user-friendly interface.
* The app should provide help documentation and tooltips to assist users.

1. Reliability:

* The app should have high availability and minimal downtime.
* The app should have backup and recovery mechanisms in place to prevent data loss.

1. Security:

* The app should store and transmit data securely using encryption.
* The app should have audit logging to track user activities and changes made in the system.

1. Scalability:

* The app should be able to scale to accommodate growing numbers of users and data.
* The app should have the capability to add new features and integrations as needed.

1. Compatibility:

* The app should be compatible with various browsers, operating systems, and devices.
* The app should be responsive to adapt to different screen sizes and resolutions.

1. Maintainability:

* The app should be modular and well-documented to facilitate maintenance and updates.
* The app should allow for easy bug fixes and enhancements.

1. Data Integrity:

* The app should ensure the accuracy and consistency of KPI data.
* The app should validate imported data and handle errors gracefully.