

A One-Pager Software Requirements Specification (SRS) Format

Project Name: Exploratory Data Analysis for 5G

Project Overview:

- **Purpose:** The purpose of the software is to help people understand different aspects of 5G including the difference in network performance across different areas including city, state, or perhaps country wise, and also understanding user behavior with regard to 5G from a usage point of view including app usage.
- **Target Audience:** This software is intended for developers to implement given the different specifications for the software itself.
- **Scope:**
 - In our ETL approach, the extraction pertains to the collections of packet data that are used that contain information about different 5G use metrics that's primarily focused on network performance metrics and usage information.
 - Data Transformation involves converting the raw data that's received from our packet and cleaning that data into data that's normalized and more conducive for accurate data analysis.
 - The transformed data is then utilized to visualize certain analytics for the metrics being observed through the use of statistical summaries as well as further analysis as well such as the forecasting of certain metrics through the use of predictive analysis.

Functional Requirements:

- The integration of the fastHTML library for our python source code in order to generate the necessary HTML content for the analysis.
- The software must rely on ipywidgets library for data visualization purposes depending on the received packet data.
- The tensorflow library must be properly integrated in order to provide deeper insights into our data as well as forecasting concerning different data metrics(Network performance, app usage, etc).
- The pandas library must be used to best fulfill the extraction and transform our data in our ETL approach in order to facilitate further analysis.

Non-Functional Requirements:

- **Performance:** Hyper performance on this application is not critical because there are no real time requirements for data analysis. However, the performance must be within reason so that there is no backlog of data building up.
- **Security:** The software should rely on token authentication with regard to python integration with the extraction of packet data to ensure encryption and consistency.
- **Usability:** The user interface needs to comply with website accessibility standards(WCAG) in order to ensure proper navigation, documentation, and visualization compatibility.
- **Reliability:** The software must also ensure proper integrity of data especially in the context of packet data extraction as well as the minimization of data corruption and/or loss.

- **Maintainability:** In order to best ensure the standards for the code quality, code readability must be judged according to current PEP 8 guidelines regarding the style guide for python code. Additionally, proper documentation must be in place concerning the implementation of data visualization techniques and processes.

Assumptions and Dependencies:

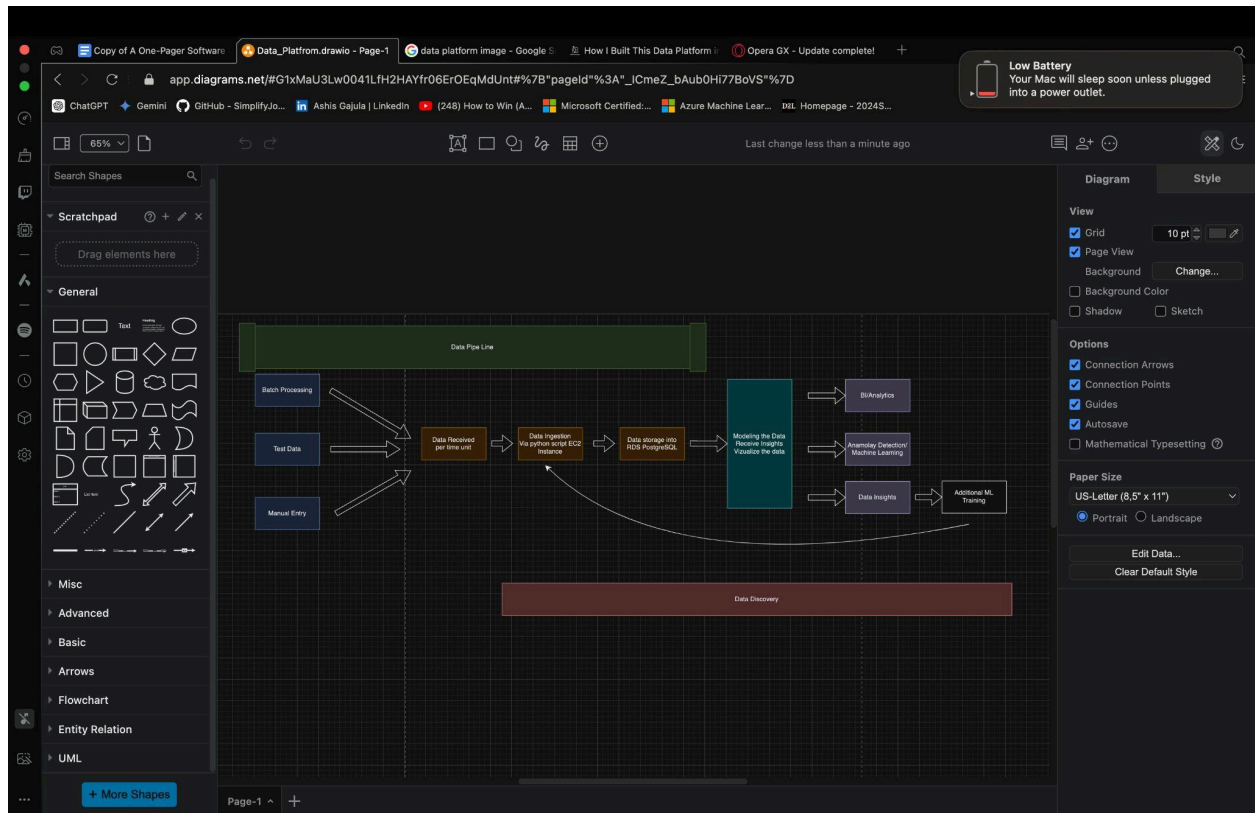
- Requires FastHTML to have an exclusive python source code.
- Requires ipywidgets library to include data visualizing features of received packet data
- Requires tensorflow library for machine learning anomaly detection and enhanced data insights
- Requires Pandas library for cutting edge data manipulation and analysis software and functionality

Acceptance Criteria:

- The acceptance criteria is dependent on whether the software application satisfies the assumptions and dependencies as well as the function & non-functional requirements related to the ETL approach concerning data extraction, transformation, and visualization/analysis deployment.

Additional Considerations:

- Relying on fully python source code to generate content means that the software application shouldn't rely on other language dependencies.



-This picture displays the model of our data platform that's used to represent our specific use case.