**Component Specification**.

**Data Preprocessing Module:**

Input: raw data in xml form.

Output: organized data set in pandas dataframe format.

What it does: This function primarily verifies the integrity of the data and the data type. If the data is not complete/damaged or in format that unaccepted, this function will print an error message to the user before lead to software crash.

**Data Management Module:**

Input: corresponding dataset in pandas data frame and user input.

Output: Data section/Data subset queried by user in pandas dataframe. The output is a python list with all data frames generated.

What it does: This function asks user for query conditions and takes the entire data frame. It slices and convert original data frame into small data subframes per user requests. Each data subframe contains two columns of non-nan value entry. If multiple conditions required, the function will return multiple data frames to meet each token of user query. All data subframe is passed in the form of a python list.

**Data Visualization Module:**

Input: data subframes in python list, user choice of visualization methods.

Output: The function has no returns but display plots and graphs.

What it does: Plot data as user wish by using matplotlib and folium.