

## **User Flow: Python Data Visualization UI with Office 365 Authentication**

### **1. User Landing and Introduction:**

- User accesses the web application's URL.
- User is greeted with a landing page that introduces the purpose of the application and its capabilities.
- Clear call-to-action buttons guide the user to "Login" or "Explore Data."

### **2. User Authentication:**

- User clicks "Login."
- User is redirected to the Office 365 authentication page.
- User enters their Office 365 credentials (email and password).
- System verifies the credentials and grants access.

### **3. Data Import:**

- Upon successful login, user is directed to the data import page.
- User uploads a dataset (CSV, JSON, etc.) using a file upload widget.
- System validates and processes the dataset.

### **4. Data Preview and Selection:**

- User is presented with a preview of the imported data.
- User selects columns/variables for visualization using checkboxes or drag-and-drop functionality.
- Selected columns are highlighted or displayed in a separate section.

### **5. Visualization Selection:**

- User proceeds to the visualization section.
- User is presented with a range of visualization options (e.g., bar chart, line plot, scatter plot) in a sidebar or dropdown menu.

### **6. Interactive Visualization:**

- User selects a visualization type from the options.
- The main visualization area displays the selected plot with default settings.
- User interacts with optional settings, such as axis labels, titles, and color schemes.
- Interactive elements like sliders or dropdowns allow users to dynamically adjust visualization parameters (e.g., time period, filtering criteria).

### **7. Customization:**

- User accesses a customization panel through a button or sidebar link.
- User can customize the visualization appearance, including color palette, fonts, and labels.
- Changes are instantly reflected in the visualization.

#### **8. Export and Sharing:**

- User is provided with an option to export the current visualization as an image (PNG, JPEG) or download the underlying data (CSV).
- User can share the visualization on social media or generate a shareable link.

#### **9. Responsive Design:**

- UI adapts to different screen sizes and devices, ensuring optimal user experience on desktops, tablets, and mobile phones.

#### **10. User Feedback and Help:**

- User can access a help section or tutorial for guidance on using the UI and interpreting visualizations.
- User has the option to provide feedback or report issues.

#### **11. Logout and Exit:**

- User can choose to logout and exit the application.