Features for Attendance Analysis Software

1. Core Features

- **File Upload and Parsing:**
    - Support for uploading a college timetable file (e.g., CSV, Excel).
    - Parsing the file to extract relevant data (subject names, timings, dates).

- **Date Range Selection:**
    - Interactive date picker for selecting the date range for analysis.

- **Basic Attendance Analysis:**
    - Calculate how many days the user will attend class based on the timetable and date range.
    - Identify and list classes the user is likely to skip.
    - Generate a bar graph showing attended vs. missed classes.

- **Downloadable Reports:**
    - **PDF Report:** Generate and download a comprehensive PDF report including analysis, graphs, and statistics.
    - **CSV Export:** Provide an option to download the analysis data in CSV format.

2. Customization Features

- **Subject Interest Customization:**
    - Allow users to mark subjects they are interested in and prioritize attendance for these subjects.

- **Subject Disinterest Customization:**
    - Enable users to mark subjects they are not interested in and deprioritize attendance for these subjects.

- **Day Preferences:**
    - Let users specify days to skip (e.g., weekends or specific weekdays).

- **Exclude Days:**
    - Allow users to input holidays or personal days off, which will be excluded from the analysis.

3. Advanced Analysis

- **Subject-wise Breakdown:**
    - Show a detailed breakdown of attendance by subject, including total classes, attended classes, and missed classes.

- **Daily Summary:**

  - Provide a daily summary indicating which classes will be attended or skipped.

- **Customizable Graphs:**

  - Allow users to customize the type of graphs (bar, pie, line) for better visualization.

- **Trend Analysis:**

  - Display trends in attendance over time to identify patterns or issues.

4. Visual and Interactive Elements

- **High-Quality Graphs:**

  - Ensure that downloadable reports and on-screen graphs are of high quality and clearly presented.

- **Pie Charts:**

  - Include pie charts for visual representation of attended vs. missed classes.

- **Heat Maps:**

  - Provide heat maps showing attendance density over a calendar view.

5. User Interface and Experience

- **Interactive Timetable Upload:**

  - Implement a drag-and-drop interface for uploading timetables.

- **Dynamic Date Picker:**

  - Use an intuitive date range selector for defining the analysis period.

- **Instant Feedback:**

  - Provide real-time visual feedback after uploading the timetable and setting preferences.

6. Privacy and Data Handling

- **Client-Side Processing:**

  - Perform all data processing and calculations on the client-side to ensure no data is stored or transmitted to the server.

- **No Data Retention:**

  - Ensure that no user data is stored on the server, and all analysis is done during the user's session.

- **IP Address Logging:**

  - Log IP addresses to track website traffic without storing any other personal information.

7. Additional Functionalities

- **Report Customization:**

  - Allow users to customize report content and include user-defined text or branding.

- **Recommendations:**

  - Offer suggestions on how to improve attendance based on current trends and goals.

- **Integration and Export:**

  - **Calendar Sync:** Integrate with calendar apps to automatically add classes and track attendance.

  - **Export Options:** Allow exporting data in various formats for further use.

- **Feedback System:**

  - Implement a simple feedback mechanism for users to report issues or suggest improvements.

By implementing these features, you will provide a comprehensive and user-friendly attendance analysis tool while maintaining privacy and data security