Functional Requirements

1. Read Excel Files: The application shall allow users to load two Excel files containing data through a file dialog.

2. Validate Excel File Formats: The application shall validate that the selected files are in Excel format (.xls or .xlsx) before reading the content.

3. Combine Data: The application shall combine data from both Excel files based on Mother_First_Name, Mother_Last_Name, and Child_Date_of_Birth.

4. Display Combined Data: The application shall display combined data, showing Mother IDs, Child Names, and Date of Birth in a list for the user.

5. Check Minimum Files Requirement: The application shall not allow data to be combined unless both Excel files are successfully loaded.

6. Normalize Name Fields: The application shall normalize the Mother_First_Name and Mother_Last_Name fields by removing spaces, converting them to lowercase, and stripping non-alphanumeric characters before performing the merge.

7. Error Handling: The application shall display error messages if an Excel file cannot be read or combined, providing feedback to the user through message boxes.

8. Child Profile Display: The application shall display detailed child profiles, including all relevant information, in a new window when a child's name is double-clicked in the list.

9. Save Combined Data: The application shall allow saving the combined data to a new Excel file (combined_matched_data.xlsx) after the merge process is complete.

10. Display Unmatched Entries: The application shall print unmatched entries (by Mother ID) in the console to allow further investigation into missing records.

Non-Functional Requirements

1. Usability: The application shall be simple to use with buttons that do the function as they are titles within 3 seconds.

2. Performance: The application shall complete the data reading and merging process within 5 seconds for typical Excel files containing up to 1,000 rows of data each.

3. Error Tolerance: The application shall handle common errors, such as missing files or incorrect data formats, without crashing and shall display appropriate error messages.

4. Portability: The application shall run on any operating system that supports Python and Tkinter (e.g., Windows, macOS, Linux), ensuring wide usability.

5. Maintainability: The application will separate logic using the command pattern to allow for visually cleaner code encapsulated in classes and methods.