**Walkthrough of the Transport System**

**From the Admin’s Perspective:**

The Admin has full control over managing the system. They can perform all actions, such as adding users (students, teachers, and staff), saving data to files, loading data from files, and viewing the details of users.

1. **Loading Existing Data**  
   **Action:** The Admin starts the program, and the system loads the data stored in files for students, teachers, and staff.  
   **Result:** The system displays the number of users loaded and shows their details (like name, ID, department, etc.). If a file is missing or corrupted, a warning will appear. The Admin can proceed without an issue if the files are correctly loaded.
2. **Add a Student**  
   **Action:** The Admin chooses to add a new student by selecting option 1.  
   **Result:** The system asks for the student's name, ID, and department. Once provided, the student is added to the system. If the Admin tries to add more than 10 users in total, an error is displayed ("Maximum user limit reached").
3. **Add a Teacher**  
   **Action:** The Admin selects option 2 to add a new teacher.  
   **Result:** The Admin enters the teacher’s name, ID, and subject. The teacher is then added to the system.
4. **Add a Staff Member**  
   **Action:** The Admin selects option 3 to add a new staff member.  
   **Result:** The system prompts the Admin for the staff member’s name, ID, and role. After providing the details, the staff member is added to the system.
5. **Save Data to Files**  
   **Action:** The Admin chooses option 4 to save all data to files (students.dat, teachers.dat, staff.dat).  
   **Result:** The system writes all the user data to their respective files. If there’s any issue (e.g., file access error), a warning appears, but if everything works fine, the data is saved.
6. **Load Data from Files**  
   **Action:** The Admin selects option 5 to load the data again from the files.  
   **Result:** The system reads the user data from the files and displays the details of all students, teachers, and staff currently saved. If the files are missing or corrupt, the system will notify the Admin of the issue.
7. **Exit the System**  
   **Action:** The Admin selects option 6 to exit.  
   **Result:** The program closes gracefully.

**From the Student’s Perspective:**

Students only interact with the system indirectly, as they are added by the Admin. They don’t have direct access to add or modify data but may be displayed in the system.

1. **Viewing the System**  
   **Action:** When the system loads, the Student can view their details (name, ID, department) if the Admin has added them.  
   **Result:** The system displays the Student’s information.
2. **No Further Actions**  
   **Action:** A student cannot add or modify any information on their own.  
   **Result:** The student only has read-only access to their details. They cannot interact with the system directly beyond what the Admin provides.

**From the Teacher’s Perspective:**

Like students, teachers are primarily managed by the Admin. They don’t have the ability to add or modify data but will see their own information when the system is loaded.

1. **Viewing the System**  
   **Action:** When the system is loaded, the Teacher’s details (name, ID, subject) will be displayed if they have been added by the Admin.  
   **Result:** The system shows the Teacher’s personal details.
2. **No Further Actions**  
   **Action:** Teachers, like students, do not have the ability to modify their information.  
   **Result:** They can only view their own details and those of others if displayed by the Admin.

**What Happens When Specific Actions are Taken:**

* **When an Admin adds a user:**  
  The system requests specific details (name, ID, department/subject/role) depending on the type of user (student, teacher, or staff). If a user limit is reached (more than 10 users), an error will be displayed, and no new users can be added.
* **When the Admin saves data:**  
  All the current user data is saved to the corresponding files for future use. The system will display a confirmation message.
* **When the Admin loads data:**  
  The system loads user data from the saved files and displays the details. If the files don’t exist or can’t be opened, the system will show a warning message.

**Error Handling:**

* **Invalid ID:** If the Admin enters an invalid ID (something that isn’t a positive number), an error will be displayed, and they’ll be prompted to try again.
* **File Access Errors:** If there are issues opening a file for reading or writing, the system will notify the Admin and will not proceed with that action.
* **Invalid Menu Option:** If the Admin chooses an option that is not valid (anything other than 1-6), the system will display an error and prompt for a correct option.