Summary of Our Dental Clinic Management System

We have implemented a system to make managing everything a dental clinic needs much easier and more organized. The main idea is to help the staff handle suppliers, materials, and treatments smoothly, through a simple console interface that guides you step by step. With this system, we wanted to make day-to-day work easier, avoiding mistakes and simplifying tasks that used to be done manually or with lots of paperwork. That way, everything stays well recorded, controlled, and easy to check or change at any time. Also, we designed the system in a modular way, with separate parts for each area (suppliers, materials, treatments) so it's easy to maintain and add new features later.

What We Have Implemented: Main Features

1. Supplier, Clinician and Patient Management

We have added features to:
- Add new with basic info (name, phone, email, and supplied materials).
- Modify details, including changing email and password, with checks to avoid duplicates or errors.
- Delete by email safely.
- View the full list of registered suppliers.
- Keep track of the "current" logged-in for personalized operations.

2. Material Management
- We allow viewing all available dental materials.
- Materials can be linked to specific suppliers, so we know who supplies what.
- When creating or modifying treatments, users can select materials by ID to ensure only existing materials are used.

3. Appointment Management
- We allow creating appointments by entering date, comments, patient, treatment and clinician
- Appointments can be modified later
- Appointments can be deleted
- A list could be displayed for each patient / clinician to see they appointments
- A clinician cannot have two appointments at the same time, therefore we have a method which checks the availability of the clinician when the date is chosen.

4. Treatment Management
- We enable creating new treatments by entering name, description, price, and associated materials.
- Treatments can be modified later, including updating their materials.
- Treatments can also be deleted easily.
- There's a list display to consult all treatments.
- Before adding a treatment, the system checks if materials exist to prevent incomplete entries.

5. User Management and Access Control
- We implemented checks to avoid duplicate emails among suppliers.
- Emails and passwords can be updated smoothly and kept in sync.

- Although focused on suppliers now, the system is ready to add other user roles in the future.

6. User Interface and Experience
- We built clear console menus that guide users through every step.
- Invalid inputs and errors are handled with helpful messages so users can correct mistakes without confusion.
- Every important action confirms success or informs about any issues.
- The system offers flexibility. For example, when creating treatments, materials can be left empty if needed.

Why We Did It and What Benefits It Brings

We developed this system because we know dental clinics handle a lot of info, and doing it manually can be a headache. With our app, everything is more organized, less error-prone, and easy to check or change whenever needed.

This way, the team can focus on what really matters: taking care of patients. Plus, since the system is modular, we can keep improving it with new features in the future, like scheduling, billing, or reports.