Student–Teacher Booking Appointment System

1. Project Title

Student–Teacher Booking Appointment System

2. Domain

Education

3. Technologies Used

- HTML5
- CSS3
- JavaScript (ES6)
- Browser Local Storage (Firebase-ready structure)

4. Project Overview

The Student–Teacher Booking Appointment System is a web-based application designed to simplify the process of scheduling appointments between students and teachers. The system allows students to book appointments online, teachers to approve or cancel appointments, and admins to manage teacher records. This reduces manual effort, avoids scheduling conflicts, and improves communication efficiency.

5. Objectives

- To provide an easy-to-use appointment booking system
- To reduce waiting time and manual scheduling
- To improve transparency between students and teachers
- To demonstrate frontend development skills for internship evaluation

6. System Modules

6.1 Admin Module

- Add Teacher (Name, Department, Subject)
- Manage teacher data

6.2 Student Module

- View available teachers
- Book appointment with preferred teacher
- Specify appointment purpose and time

6.3 Teacher Module

- View all appointment requests
- Approve or cancel appointments
- Track appointment status

7. Functional Requirements

- System shall allow admin to add teachers
- System shall allow students to book appointments
- System shall allow teachers to approve or cancel appointments
- System shall store data persistently using local storage
- System shall log all actions performed

8. Non-Functional Requirements

- Safe and secure (no harmful operations)
- Easy to maintain and extend
- Portable across operating systems
- Testable at code level
- User-friendly interface

9. System Architecture

The application follows a simple client-side architecture: - UI Layer: HTML & CSS - Logic Layer: JavaScript - Data Layer: Browser Local Storage (can be replaced with Firebase)

10. Code Structure

- HTML: Structure and layout
- CSS: Styling and responsiveness
- JavaScript:
- Logging module
- Admin functions
- Student functions
- Teacher functions
- Data handling

11. Logging Mechanism

A logging function is implemented using JavaScript `console.log()` to record: - Teacher addition - Appointment booking - Appointment approval or cancellation

12. Data Storage

- Teachers and appointments are stored using browser Local Storage

- Data is retained even after page refresh
- Structure is Firebase-ready for future deployment

13. Test Cases

Test Case	Description	Expected Result
TC01	Add teacher	Teacher added successfully
TC02	Book appointment	Appointment stored with pending status
TC03	Approve appointment	Status changes to approved
TC04	Cancel appointment	Status changes to cancelled

14. Optimization Techniques

- Modular JavaScript functions
- Minimal DOM manipulation
- Reusable UI components
- Lightweight single-file deployment

15. Deployment

- Can be deployed locally or on cloud platforms
- Supports future Firebase integration
- GitHub public repository for version control

16. GitHub Guidelines

- Public repository
- Proper README file
- Clean and well-commented code
- Regular commits

17. Future Enhancements

- Firebase authentication
- Role-based login system
- Email notifications
- Mobile-friendly improvements

18. Conclusion

This project demonstrates a complete, safe, and maintainable appointment booking system using core web technologies. It fulfills internship requirements and showcases practical frontend development skills.

Developed by: Internship Candidate