Team Collated Documentation

Project: School Activity Booking System
Team: Sanchit, Chichebendu, Shiva, Sharjeel

The Big Picture - What We Built

We built a complete **School Activity Booking Website**.
Imagine Amazon, but for School Clubs:
- Parents can shop for clubs (Swimming, Math, Art)
- They add to cart and pay
- They get receipts and calendar invites
- Teachers get class lists
- Admins manage everything

Who Did What? (The Dream Team)

We divided the work so everyone had a special technical job.

1. Sanchit Kaushal (The Leader & Guard)

Role: Security & Admin
- **Analogy**: He built the building, the locks on the doors, and the manager's office.
- **Key Jobs**:
- Login system (Who are you?)
- Security (Keep hackers out)
- Admin Panel (Control room)
- Putting it on the internet

2. Chichebendu Blessed Umeh (The Messenger)

Role: Emails & Integration
- **Analogy**: He is the postman and the secretary.
- **Key Jobs**:
- Sending confirmation emails
- Creating PDF invoices
- Making calendar invites
- Teacher's portal

3. Shiva Kasula (The Brain)

Role: Database & Logic
- **Analogy**: He is the filing clerk and the bouncer.
- **Key Jobs**:
- Database (Storing info)
- Rules (No double bookings!)
- Waitlist (The queue)
- Payments (The cash register)

4. Mohd Sharjeel (The Architect)

Role: Frontend Engineer
- **Analogy**: He built the displays, the controls, and the structure.
- **Key Jobs**:
- **Template Logic**: Writing code to display data (Jinja2)

- **Responsive Algorithms**: Making math work for mobile screens
- **CSS Architecture**: Building a scalable code system
- **Accessibility**: Coding for WCAG compliance

How It All Works Together

Follow the Journey of a Booking:
Step 1: The Interface (Sharjeel's Code)
- Parent visits website.
- Sharjeel's **responsive logic** detects a mobile phone.
- Sharjeel's **Jinja2 code** loops through activities and renders them.
- It shows "Swimming" with a Green "Available" badge (Logic-based).
Step 2: The Login (Sanchit's Work)
- Parent clicks "Login".
- Types password.
- Sanchit's security checks the password hash.
- Access Granted!
Step 3: The Booking (Shiva's Work)
- Parent clicks "Book Swimming".
- Shiva's logic checks: "Is it full?", "Did they pay?"
- Everything OK? -> Save to Database.
Step 4: The Confirmation (Chichebendu's Work)
- Immediately, an email is sent.
- "Ding!" Phone buzzes.
- PDF Invoice attached.
- Calendar event added to phone.
Step 5: The Class (Everyone)
- Teacher logs in (Sanchit)
- Checks list (Shiva)
- Marks attendance (Chichebendu)
- On a structured interface (Sharjeel)

Technologies We Used (The Tools)

Tool	What It Is	Why We Used It
Python	Programming Language	Easy to write, powerful
Flask	Web Framework	Builds websites fast
SQLite	Database	Stores our data simply
Jinja2	Template Engine	Logic for HTML (Loops/Ifs)
CSS3	Styling Language	Layout and Design Architecture
Git	Version Control	Lets us work together without overwriting
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Challenges We Solved

Problem 1: Double Booking
- *Scenario*: Two parents try to book the LAST spot at the exact same second.
- *Solution (Shiva)*: "Database Transactions". The computer freezes for 0.01 seconds, lets one in, and tells the other "Sorry, full!".
Problem 2: Emails going to Spam
- *Scenario*: Emails looked fake, so Gmail blocked them.
- *Solution (Chichebendu)*: Used professional SMTP settings and proper HTML templates. Now they hit the Inbox every time.

Problem 3: Hackers
- *Scenario*: Bad people trying to fake forms.
- *Solution (Sanchit)*: CSRF Tokens. Secret codes on every form that hackers can't guess.
Problem 4: Code Maintainability
- *Scenario*: Changing the theme color required editing 50 files.
- *Solution (Sharjeel)*: "CSS Variables Architecture". Defined colors in one place, used everywhere. Changed 50 files to 1 line of code.

Conclusion

We built a professional, secure, and beautiful system. It solves a real problem for schools (messy paper forms) and makes life easier for parents, teachers, and admins.
Project Status: ■ Complete & Ready for Use!