

Code Files Explanation

Project: School Activity Booking System

Simple Map of Our Files

Think of our project folder like a house.

Here is what is in every room:

1. The Main Room: `app.py`

This is the Brain.

- It contains almost everything.
- It decides what happens when you click buttons.
- It talks to the database.
- It sends emails.
- **Size:** 1,200+ lines of code!
- Sections of the Brain:**
 - **Lines 1-50:** Imports (Getting tools)
 - **Lines 50-170:** Database Models (Defining what a "User" is)
 - **Lines 170-200:** Security (The Bouncers)
 - **Lines 200-400:** Email & PDF Logic (The Messengers)
 - **Lines 400-1200:** Routes (The Pages - Login, Dashboard, Admin, etc.)

2. The Settings: `config.py`

This is the Control Panel.

- It holds the secrets.
- It tells the app: "Use this database", "Use this email".
- It keeps secrets safe (reads from `.env` file).

3. The Decoration: `static/` Folder

This is the Paint and Furniture.

- **css/style.css:** The Styling.
 - "Make buttons blue"
 - "Make cards see-through"
 - "Make text big"
- **uploads/:** The Storage.
 - Where user profile pictures are kept.

4. The Blueprints: `templates/` Folder

These are the HTML Skeletons.

- They are web pages with holes in them.
- Python fills the holes with real data.

Examples:

- `base.html`: The frame (Header, Footer, Menu). Every page uses this.
- `dashboard.html`: The parent's main screen.
- `login.html`: The login box.
- `invoice_template.html`: The design for the PDF.

5. The Memory: `booking_system_v2.db`

****This is the Filing Cabinet.****

- It is a SQLite database file.
- It stores:
 - Every user
 - Every booking
 - Every activity
- If you delete this, everyone is forgotten!

6. The Builder: `populate_db.py`

****This is the Setup Robot.****

- You run this once.
- It builds the database.
- It creates fake users (Demo data) so the site isn't empty.
- It creates: 1 Admin, 1 Parent, 6 Tutors, 8 Activities.

7. The Shopping List: `requirements.txt`

****This is the Ingredients List.****

- Tells the computer what to download.
- "I need Flask"
- "I need ReportLab"
- "I need SQLAlchemy"

8. The Instructions: `Procfile`

****This is the Note for the Server.****

- Tells the internet server (Render) how to start.
- Says: "Please run `unicorn app:app` to start the website."

9. Helper Scripts

****These are the Utility Tools.****

- `populate_db.py`: Creates sample data (1 admin, 1 parent, 6 tutors, 8 activities)
- `convert_to_pdf.py`: Converts markdown documentation to PDF format
- `view_attendance.py`: Quick script to view all attendance records in database
- `create_sanchit_parent.py`: Creates a specific parent account with child
- `update_sarah_email.py`: Updates tutor email in database
- `upload_to_notion.py`: Automates uploading project plan to Notion workspace

10. Templates

****Complete List of HTML Pages:****

****Base:****

- `base.html` - Main layout frame (header, footer, navigation)

****Parent Portal:****

- `index.html` - Homepage

- `login.html` - Parent login

- `register.html` - Parent registration

- `dashboard.html` - Parent dashboard

- `activities.html` - Browse activities

- `payment.html` - Payment page

- `invoice_template.html` - PDF invoice design

****Admin Portal:****

- `admin/login.html` - Admin login

- `admin/dashboard.html` - Admin overview with statistics

- `admin/activities.html` - Manage activities (CRUD)

- `admin/tutors.html` - Manage tutors (CRUD)

- `admin/bookings.html` - View all bookings

****Tutor Portal:****

- `tutor/login.html` - Tutor login

- `tutor/dashboard.html` - Tutor overview

- `tutor/attendance.html` - Mark attendance

- `tutor/attendance_history.html` - View past attendance records

****Shared:****

- `error.html` - Custom 404/500 error pages

- `admissions.html` - School admissions information

Summary

| File | Analogy | Purpose |

|-----|-----|-----|

| `app.py` | The Brain | Logic & Rules (31 routes) |

| `config.py` | Control Panel | Settings |

| `templates/` | Skeletons | Page Layouts (18 templates) |

| `static/` | Paint | Colors & Styles |

| `database.db` | Memory | Storing Data |

| `populate.py` | Robot | Creating Sample Data |

| `Helper Scripts` | Tools | Maintenance & Automation |

****Total Project Size:****

- ****1,300+ lines**** of Python code

- ****18 HTML templates****

- ****1 CSS file**** with 500+ lines

- ****7 Database models****

- ****31 Routes**** (endpoints)
