

# **Smart CCA Management System with Online Skill Simulation**

## **1. Introduction**

The Smart CCA Management System with Online Skill Simulation is a web-based platform designed to manage school co-curricular activities and provide online skill practice through simulations.

## **2. Objectives**

- Digitize CCA management
- Enable online skill simulation
- Track performance
- Improve student engagement

## **3. User Roles**

Admin: Manages CCAs and users

Teacher: Handles activities and evaluates students

Student: Enrolls and practices skills

Parent: Monitors progress

## **4. System Modules**

CCA Management, Skill Simulation, Attendance Tracking, Gamification, Reporting

## **5. Online Skill Simulation**

Robotics virtual lab, Chess practice board, Music instruments, Dance/Karate video practice, Maths puzzles

## **6. UI Design**

Student dashboard, Teacher dashboard, Admin dashboard, Simulation screens

## **7. System Architecture**

Frontend: React

Backend: Django

Database: PostgreSQL/SQLite

## **8. Database Design**

Users, CCA Activities, Enrollments, Attendance, Skill Progress

## **9. API Design**

Authentication APIs, CCA APIs, Enrollment APIs, Attendance APIs

## **10. Advantages**

Unique CCA-focused system with online skill simulation

## **11. Conclusion**

This project provides a future-ready solution for managing and learning CCAs digitally.

## ER Diagram

