

# 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

