5-PHASE EXAM LIFECYCLE WORKFLOW

T0: Exam Created T1: Before Start Time

PHASE 1: EXAM CREATION (Teacher) PHASE 2: PRE-EXAM PREPARATION (Student) 1. Teacher Login (JWT) 1. Receive Notification (Socket.IO) Exam Created Notification Sent 2. Select: MCQ or CQ 2. Student Login (JWT) 庚 3. Create Questions/Upload Files 3. View Available Exams 4. Set: Dept, Batch, Section, Time 4. Prepare Dual Cameras (QR Pairing) Start Time T2: During Exam Reached PHASE 3: EXAM TAKING & REAL-TIME MONITORING STUDENT ACTIVITIES AI MONITORING (PARALLEL) YOLOv8n Detection (6-7 FPS) Read Questions MediaPipe Face Analysis *↑↓ PARALLEL* Select Answers (MCQ) **EXECUTION** Window Switch Detection Write Solutions (CQ) Violation Logging Submit Exam or End Time T4: Results Published T3: After Submission **PHASE 5: RESULTS VIEWING PHASE 4: SUBMISSION & GRADING** 1. Student Views Results 1. Student Submits Answers Results Published 2. Display: Grade (A+ to F) 2. MCQ Auto-Grading (Instant) 3. Display: Percentage 3. Calculate %age & Assign Grade 4. Display: Violation Count 4. CQ Manual Grading (Teacher) **TEACHER: LIVE MONITORING DASHBOARD** • 16-Stream Grid View **MYSQL DATABASE** • Real-Time Violation Alerts (Socket.IO < 150ms) exam, exam_questions Student Status Tracking • student_answers Exam Analytics exam_results proctoring_logs notifications **LEGEND** Teacher Role Student Role Al Processing Grading & Results Violations & Alerts Student View