Phase 5: Process Automation

Overview

Phase 5 implements comprehensive automation to ensure data integrity, streamline business processes, and provide automated notifications throughout the answer sheet evaluation system.

Key Components

5.1 Validation Rules

Data Integrity Automation

- Roll Number Format Validation: Ensures roll numbers follow correct format (e.g., CS001, ME123)
- Required Fields Check: Validates all mandatory fields are completed before submission
- Answer Completion Rule: Requires minimum 70% of answers to be provided (at least 7 out of 10)
- Question Paper Validation: Ensures minimum 5 questions are defined
- Marking Criteria Check: Validates evaluation criteria are properly defined

5.2 Enhanced Flow Builder

Automated Business Processes

- Data Validation Flow: Automatically validates answer sheet data on creation
- Bulk Processing Flow: Handles mass evaluation of answer sheets by exam type and slot
- Notification Flow: Automated alerts for evaluation completion and status updates
- Approval Flow: Manages low-confidence evaluations requiring manual review

5.3 Workflow Rules

Automated Status Management

- Answer Sheet Status Updates: Automatically updates status when evaluation completes
- Activity Tracking: Updates last activity timestamp on record changes
- Email Notifications: Triggers evaluation complete emails to stakeholders
- Error Handling: Automatic error status updates for failed evaluations

5.4 Email Templates

Communication Automation

- Evaluation Complete Email: Notifies students when grading is finished
- Manual Review Required: Alerts evaluators for low-confidence scores
- Bulk Processing Complete: Informs administrators of batch processing results

- Improvement Suggestions: Provides feedback emails with performance insights

5.5 Process Builder

Complex Logic Automation

- Automated Evaluation Process: Triggers AI evaluation when answer sheets are submitted
- Confidence-Based Routing: Routes low-confidence evaluations for manual review
- Status Progression: Automatically advances records through evaluation stages
- Integration Triggers: Coordinates between different system components

5.6 Supporting Apex Classes

Backend Automation Logic

- DataValidationHelper: Validates data integrity and format compliance
- BulkProcessingService: Manages large-scale evaluation processing
- FlowActionHelper: Provides reusable actions for Flow Builder
- NotificationService: Handles automated email and notification delivery

Benefits

- Data Quality: Ensures consistent, accurate data entry
- Efficiency: Reduces manual intervention in routine processes
- Consistency: Standardizes evaluation and notification procedures
- Scalability: Handles bulk operations and large datasets
- User Experience: Provides timely updates and feedback to all stakeholders

Implementation Status

- ✅ Validation Rules: Implemented for all core objects
- ✅ Flow Builder: Enhanced with automated evaluation workflows
- ✅ Workflow Rules: Active for status management and notifications
- ✅ Email Templates: Configured for all stakeholder communications
- ✅ Process Builder: Deployed for complex business logic
- ✅ Apex Support: Classes created for validation and processing