ASCEND: an AI-powered Student Management System on Salesforce CRM

1. Problem Understanding & Industry Analysis

Problem Statement

Educational institutions face growing challenges in effectively managing the entire student lifecycle, from course enrollment to fee collection, progress tracking, and retention. Traditional manual processes are inefficient and prone to errors, while existing solutions often lack AI-powered insights that can drive better decision-making.

Key Challenges:

- Fragmented systems for student data, course enrollment, and fee payments.
- No predictive mechanism to identify at-risk students.
- Lack of personalized course recommendations.
- Limited automation in fee reminders and progress alerts.
- Poor visibility for management into real-time enrollment, payments, and outcomes.

The AI-Powered Student Success Platform aims to solve these problems by leveraging Salesforce CRM, Einstein AI, automation flows, and dashboards to create a unified, intelligent, and student-centric system.

Industry Analysis – Education Technology (EdTech)

- The global EdTech market is projected to surpass $400 billion by 2030.
- Institutions are rapidly shifting to AI-powered solutions for better student

engagement and outcomes.

- Salesforce Education Cloud is already leveraged by leading universities, but smaller institutions often need more lightweight, customizable solutions.

- Trends in the industry include:

- AI-driven course recommendations.
- Predictive analytics for student success.
- Automated lifecycle management.

2. Requirement Gathering

Functional Requirements

1. Student Lifecycle Management – Centralized student profiles with demographics, contact, academic, and enrollment data.
2. Course & Enrollment – Many-to-many relationship between students and courses with detailed enrollment history.
3. Fee Tracking & Prediction – Manage payments, overdue fees, and Einstein predictions for fee default risks.
4. Progress Tracking – Attendance, assignments, grades, and certifications tracked for each enrollment.
5. AI Recommendations – Recommend suitable courses using Einstein Analytics.
6. Risk Analysis – Early detection of dropout risks based on attendance and performance data.
7. Automation – Automated reminders, notifications, and validation rules.
8. Reports & Dashboards – Enrollment trends, student progress, financial health, and predictive insights.
9. Chatbot Integration – Einstein Bot for answering student queries

Non-Functional Requirements

- Scalability: Support thousands of student and course records.

- Security: Role-based access for Admin, Faculty, Finance, and Students.

- Reliability: Automated processes reduce human errors.

- Performance: Real-time updates and AI-driven insights.

- Usability: Lightning App with an intuitive interface for different stakeholders.

3. Stakeholder Analysis

- **Students**

  o Enroll in courses, track progress, manage fees.

  o Expect easy-to-use interface, notifications, and guidance.

- **Faculty**

  o Monitor student performance, update attendance and grades.

  o Need dashboards and automated reminders for efficiency.

- **Finance Team**

  o Track fee payments, manage scholarships, reduce defaults.

  o Benefit from real-time financial insights and automation.

- **Administrators**

  o Configure system, assign roles, maintain data integrity.

  o Require centralized control and simplified user management.

- **Management**

  o Analyze enrollment, performance, and financial metrics.

  o Need dashboards for strategic decision-making and planning.

4. Business Process Mapping

Current Process (As-Is)

- Students fill physical forms for enrollment
- Admin manually enters course allocations.
- Finance team uses Excel sheets for fee tracking.
- No automation for reminders or reports.
- Management receives outdated or incomplete information.

Proposed Process (To-Be with Salesforce)

1. Student Registration – Student profile created in Salesforce.

2. Course Creation – Admin defines courses.

3. Enrollment – Students linked with courses (via Enrollment object).

4. Fee Management – Payments tracked; Einstein predicts risk of default.

5. Progress Tracking – Faculty updates attendance, grades, and assignments.

6. AI-Powered Insights – Einstein recommends courses and detects dropout risks.

7. Automation – Fee reminders, notifications, and dashboards auto-updated.

8. Chatbot – Students query their enrollments, progress, or fee status in real-time.

9. Dashboards – Management accesses predictive insights for planning.

5. Industry-specific Use Case Analysis

1. Universities – Lifecycle management, predictive risk detection, success planning.

2. Coaching Institutes – AI-driven course recommendations and student progress tracking.

3. Online Learning Platforms – Automating enrollment workflows with personalization.

4. Vocational Training Centers – Attendance, performance, and certification tracking.

5. Corporate Training – Employee upskilling and predictive learning path recommendations.

6. AppExchange Exploration

Relevant Apps Studied:

1. Salesforce Education Cloud – Comprehensive enterprise-level student lifecycle platform.

2. Blackthorn Events – Class/event scheduling and management.

3. Accounting Seed – Financial workflows for fee management.

4. FormAssembly – Online application and enrollment forms.

5. Einstein Analytics & Discovery – For predictions and insights.

Findings:

- Most AppExchange solutions are expensive and targeted at large universities.
- Our project aims to be lightweight, AI-driven, and accessible for smaller to medium institutions, while showcasing Salesforce + Einstein AI capabilities.