

SE495 Software and Systems Integration

Open-Source Systems Integration for University

Accreditation Automation

Objective: The goal of this project is to design and implement an end-to-end system integration solution that automates the quality assurance and accreditation processes within a university setting, using open-source systems.

Overview: Students will work in teams to research, design, and implement a solution that integrates various open-source systems to achieve the desired business objective. The project will be divided into several iterations, focusing on one component at a time while engaging stakeholders throughout the process. Proper training and documentation will be provided for each stage.

Iterations and Deliverables

Iteration 1: Establish Goals and Requirements

- Analyze the university's current accreditation process and identify specific needs and goals.
- Develop a comprehensive list of requirements for the integrated solution, such as streamlining curriculum management, assessing learning outcomes, document management, and report generation.
- Deliverable 1: Project Plan, Scope, and Requirements.

Iteration 2: Identify Open-Source Systems

- Research and select open-source systems that align with the identified goals and requirements. Examples include:
 1. Curriculum Management System
 2. Learning Outcomes Assessment Tool
 3. Document Management System
 4. Report Generation Tool
- Deliverable 2: Selected open-source systems with justification and mapping

Iteration 3: Develop an Incremental Implementation Plan

- Create a detailed implementation plan that outlines the steps for integrating the chosen open-source systems.
- Include a pilot project, training, and support for faculty and staff, and a timeline for gradual expansion across the university.
- Deliverable 3: Implementation plan, Integration patterns, methods, and techniques, and progress report

Iteration 4: Implement and Train

- Execute the implementation plan, starting with the pilot project.
- Customize the chosen systems according to the university's requirements.
- Train faculty and staff in the pilot department and provide support throughout the initial implementation phase.
- Deliverable 4: Customization and integration report, training plan, and progress report

Iteration 5: Gather Feedback and Iterate

- Collect feedback from the pilot project and make necessary adjustments to the systems and processes.
- Apply the updated systems and processes to the rest of the university, department by department, with continuous monitoring and updates.
- Deliverable 5: Progress Report

Iteration 6: Evaluate and Improve

- Regularly review the effectiveness of the integrated solution and identify areas for improvement.
- Gather feedback from faculty, staff, and students to ensure user satisfaction and compliance with accreditation standards.
- Continuously update the systems and processes based on feedback and changes in accreditation standards.

Final Deliverable

The final report should include the following:

- Project report detailing the goals, requirements, chosen open-source systems, implementation plan, and evaluation strategy.
- Customized open-source systems, tailored to the university's specific needs and requirements.
- Training materials and documentation for faculty and staff.
- A plan for continuous improvement and updating of the integrated solution to ensure ongoing effectiveness and compliance with accreditation standards.

Upon completion of the project, students will have gained hands-on experience in developing and implementing end-to-end system integration solutions using cutting-edge technologies and platforms. Additionally, they will have demonstrated their ability to engage stakeholders, address concerns, and ensure buy-in throughout the process.