Vision and Scope Document

**1. Business Requirements**

# 1.1 Background

At our university, instructors and students currently face several challenges in managing and participating in courses:

1. Course Material Distribution: Instructors spend an average of 5 hours per week preparing and distributing course materials. This often involves printing handouts, uploading files to various platforms, or emailing materials to students.
2. Assignment Submission and Grading: Students typically submit assignments via email or in person, which can lead to lost submissions and delayed feedback. Instructors spend approximately 10 hours per week managing assignment submissions and providing feedback.
3. Course Communication: Important announcements are usually sent via email, which students may overlook. This results in an average of 20 student inquiries per course per week about information that has already been communicated.
4. Attendance and Participation Tracking: Instructors spend about 2 hours per week manually tracking student attendance and participation, which is often inaccurate and time-consuming.
5. Resource Accessibility: Students report spending an average of 3 hours per week searching for course-related information across various platforms and email threads.
6. Performance Tracking: Both students and instructors lack a centralized system to track academic progress, leading to last-minute cramming and unexpected poor performance.
7. Administrative Oversight: The administration spends approximately 20 hours per week collecting and compiling course data for evaluation and accreditation purposes.

# 1.2 Business Opportunity

Many stakeholders, including instructors, students, and administrators, have expressed a need for a comprehensive Online Course Management System (OCMS) that would address the current challenges. Such a system would offer the following benefits:

1. **Centralized Course Management**: A single platform for creating, distributing, and managing course materials would save instructors significant time and ensure consistent access for students.
2. **Streamlined Assignment Process**: Online submission and grading tools would reduce the risk of lost assignments, speed up the feedback process, and provide a clear record of student work.
3. **Effective Communication**: An integrated announcement system would ensure that all course-related communications are easily accessible and trackable.
4. **Automated Tracking**: The system could automatically track student engagement, attendance, and participation, saving instructor time and providing more accurate data.
5. **Improved Resource Accessibility**: A centralized repository for all course materials would significantly reduce the time students spend searching for information.
6. **Real-time Performance Monitoring**: Both students and instructors could benefit from up-to-date performance tracking, allowing for timely interventions and support.
7. **Enhanced Administrative Oversight**: Automated reporting tools would streamline the process of collecting and analyzing course data for administrative purposes.
8. **Potential for Advanced Features**: Future development could include integration with plagiarism detection software, virtual classroom tools, and learning analytics systems to further enhance the educational experience.

# 1.3 Business Objectives

BO-1: Reduce administrative time spent on course management tasks by 30% within 6 months following initial release.

* Scale: Average time spent by instructors and administrators on course management tasks per week
* Meter: Time tracking logs from the OCMS and user surveys
* Past: 10 hours per week (2023, initial study)
* Goal: Less than 7 hours per week
* Stretch: Less than 6 hours per week

BO-2: Increase student course completion rates by 10% within 12 months following initial release.

* Scale: Percentage of enrolled students who complete their courses
* Meter: OCMS course completion reports
* Past: 75% (2023, baseline)
* Goal: At least 82.5%
* Stretch: At least 85%

BO-3: Improve overall student satisfaction with the learning experience by 20% within 9 months following initial release.

* Scale: Average student satisfaction score (on a scale of 1-10)
* Meter: End-of-course surveys conducted through the OCMS
* Past: 7.0 (2023, baseline)
* Goal: At least 8.4
* Stretch: At least 8.8

BO-4: Reduce the time instructors spend on course material preparation and distribution by 25% within 6 months following initial release.

* Scale: Average time spent by instructors on course preparation per course
* Meter: Instructor time logs and surveys
* Past: 40 hours per course (2023, initial study)
* Goal: Less than 30 hours per course
* Stretch: Less than 28 hours per course

BO-5: Achieve a return on investment (ROI) for the OCMS implementation within 24 months of initial release.

* Scale: Financial return compared to total cost of ownership
* Meter: Financial analysis based on cost savings and revenue increases
* Goal: Positive ROI within 24 months
* Stretch: Positive ROI within 18 months

# 1.4 Success Metrics

SM-1: 80% of instructors who managed courses manually during the 2023 academic year use the OCMS for at least 50% of their course management tasks within 6 months following initial release.

SM-2: The average student satisfaction rating increases by 0.8 on a scale of 1 to 10 from the 2023 baseline rating within 3 months following initial release, and by 1.5 within 12 months.

SM-3: Course completion rates increase by 5% from the 2023 baseline within 6 months following initial release, and by 10% within 12 months.

SM-4: The average time spent by instructors on course preparation and material distribution decreases by 15% from the 2023 baseline within 3 months following initial release, and by 25% within 9 months.

SM-5: 70% of students enrolled in courses during the first semester of OCMS implementation access the system at least three times per week by the end of the semester.

SM-6: The number of administrative support tickets related to course management decreases by 30% from the 2023 baseline within 6 months following initial release, and by 50% within 12 months.

SM-7: The system achieves 99.9% uptime (excluding scheduled maintenance) within the first 3 months following initial release and maintains this level for the subsequent 9 months.

# 1.5 Vision Statement

***For*** *university students, instructors, and administrators* ***who*** *need a streamlined and centralized solution for managing courses, student progress, and administrative oversight,* ***the*** *Online Course Management System (OCMS)* ***is*** *a comprehensive course management platform* ***that*** *provides tools for course creation, student enrollment, assignment submission, grading, and real-time progress tracking.* ***Unlike*** *manual processes and disparate systems currently used,* ***our product*** *unifies these tasks in a single, easy-to-use system, reducing administrative overhead, improving communication, and enhancing the overall educational experience by offering centralized access to course materials and performance data.*

# 1.6 Business Risks

1. **RI-1**: **Data Security and Privacy Breaches**: The system will store sensitive student and instructor data, such as grades, enrollment details, and personal information. Any breach could lead to legal consequences, reputational damage, and loss of trust.  
   *Probability*: 0.4; *Impact*: 9
2. **RI-2**: **Low User Adoption**: If students, instructors, or administrators find the system difficult to use or unnecessary, low adoption rates could reduce the return on investment and limit the system's overall benefits.  
   *Probability*: 0.5; *Impact*: 7
3. **RI-3**: **System Downtime During Critical Periods**: Downtime during peak usage times, such as course enrollment or exam submission periods, could severely disrupt academic and administrative operations, leading to dissatisfaction and potential revenue loss.  
   *Probability*: 0.3; *Impact*: 8
4. **RI-4**: **Failure to Integrate with Existing University Systems**: If OCMS cannot effectively integrate with legacy systems like Learning Management Systems (LMS) or Student Information Systems (SIS), data inconsistencies or technical issues may arise, complicating workflows.  
   *Probability*: 0.4; *Impact*: 6
5. **RI-5**: **Budget Overruns**: Developing and maintaining the OCMS may exceed the allocated budget, affecting other university projects and reducing the system’s financial viability.  
   *Probability*: 0.3; *Impact*: 7
6. **RI-6**: **Marketplace Competition**: Competing solutions may offer similar or superior features, resulting in lower adoption of the OCMS and diminishing its perceived value.  
   *Probability*: 0.5; *Impact*: 5

*Low (0.1 to 0.3): Unlikely to occur.*

*Medium (0.4 to 0.6): Possible but not frequent.*

*High (0.7 to 0.9): Likely to occur.*

*1-3: Minor impact (small financial loss, minor inconvenience).*

*4-6: Moderate impact (medium financial loss, temporary disruption).*

*7-9: Major impact (high financial loss, significant disruption, reputation damage).*

# 1.7 Business Assumptions and Dependencies

**AS-1**: Instructors and students will have the necessary devices and internet access to regularly use the Online Course Management System (OCMS) for course materials, assignments, and communication

**AS-2**: The university’s internal IT team will be able to provide the necessary support and maintenance for the system once it is implemented.

**DE-1**: The OCMS must integrate seamlessly with the **FAP system** to ensure that students can only access courses for which they are enrolled and have paid the semester fee.

**2. Scope and Limitations**

# 2.1 Major Features

* **FE-1**: Create, view, modify, and manage online courses.
* **FE-2**: Enroll students in courses based on their payment status and permission from the FAP system.
* **FE-3**: Submit and grade assignments through a unified grading interface.
* **FE-4**: Facilitate communication between instructors and students via discussion forums.
* **FE-5**: Send automated notifications for course updates, deadlines, and feedback.
* **FE-6**: Generate reports on student performance and course engagement for administrative oversight.

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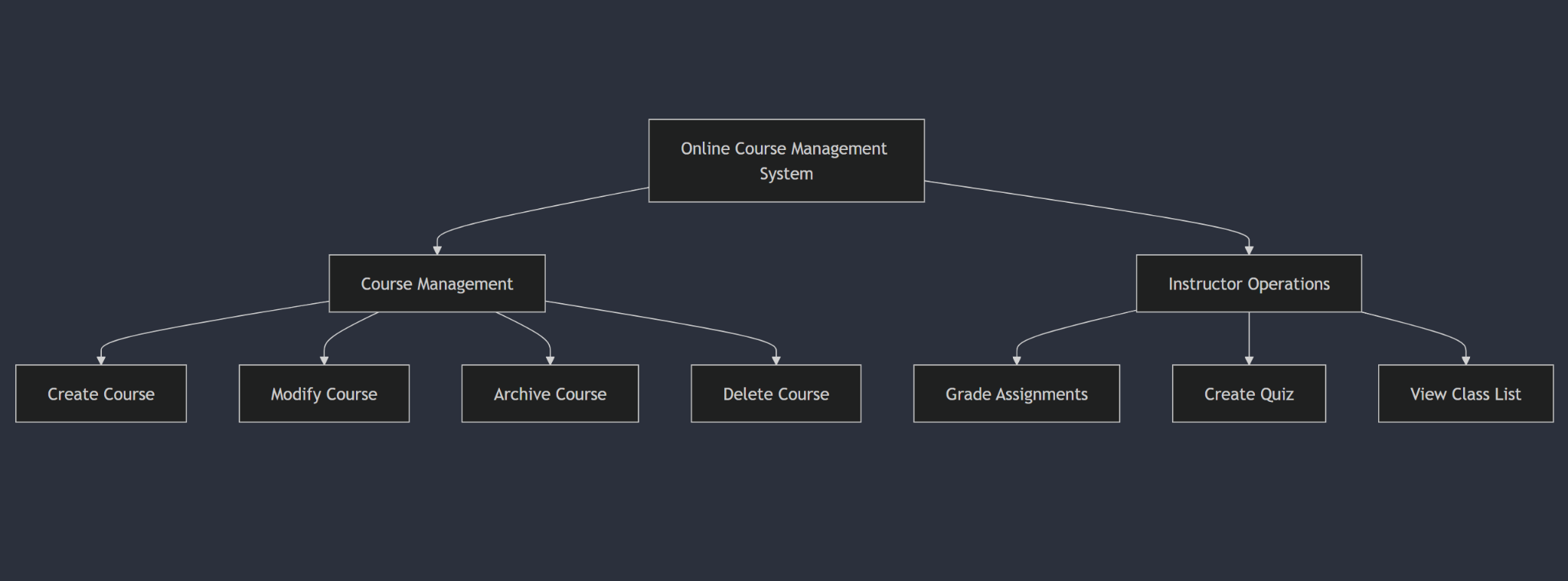
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# 2.2 Scope of Initial and Subsequent Releases

| **Feature** | **Release 1** | **Release 2** | **Release 3** |
| --- | --- | --- | --- |
| **FE-1: Access to Courses** | Students can access their timetable and course materials after payment confirmation. | Additional features for course registration. | Full integration with all departments. |
| **FE-2: Notification System** | Not implemented | Basic notifications for course updates. | Enhanced notifications with user preferences. |
| **FE-3: User Management** | Create and view student profiles. | Modify and delete student profiles. | Full administrative control for staff. |
| **FE-4: Reports Generation** | Basic support through FAQs. | Interactive support via chat feature. | Comprehensive support with tutorials. |
| **FE-5: User Support** | Basic support through FAQs. | Interactive support via chat feature. | Comprehensive support with tutorials. |
| **FE-6: System Access** | Intranet access for students and faculty. | Access via the outside Internet for authorized users. | Mobile application for access on the go. |

# 2.3 Limitations and Exclusions

* **LI-1**: The OCMS will not include mobile application support in the initial release; access will be through web browsers only.
* **LI-2**: The system will only be applicable to courses within the specified university and will not support cross-institutional course management in the initial release.
* **LI-3**: Offline access to course materials will not be available; users must have an internet connection to access the system.
* **LI-4**: The initial release will not support third-party integrations, such as external learning tools or services.

**3. Business Context**

# 3.1 Stakeholder Profiles

| Stakeholder | Major value | Attitudes | Major interests | Constraints |
| --- | --- | --- | --- | --- |
| Students | Access to educational content, easy enrollment, and academic progress tracking | Eager to use the system, especially if it simplifies their academic tasks | Ease of use, quick access to materials, reliable grade tracking | Must be accessible on mobile devices, data privacy |
| Instructors | Efficient course management and student assessments | Generally receptive, but may require training in creating and managing online courses | Time-saving tools for grading and course management | May require support for online teaching techniques |
| Administrators | Streamlined management of course catalogs, user accounts, and system settings | Supportive of the system, as it centralizes course and student management tasks | Control over system settings, reporting, and enrollment tracking | Ensuring all features meet institutional regulations |
| Technical Support Staff | Ensuring the system runs smoothly with minimal issues | Neutral, focused on resolving technical issues quickly | Reducing system downtime, handling user inquiries efficiently | Limited staff to manage system issues |
| University Management | Improved efficiency in course offerings, better student and instructor experiences | Highly supportive if it leads to improved operational outcomes | Ensuring data security, integration with other systems, scalability | Budget constraints and return on investment |

# 3.2 Project Priorities

| | Dimension | | --- |      |  | | --- | | Constraint | Driver | Degree of freedom |
| --- | --- | --- | --- | --- | --- |
| Features | All core features (student enrollment, course management, grading) must be operational in release 1.0 | User satisfaction and system adoption | Minimal flexibility on core functionality in release 1.0 |
| Quality | 95% of user acceptance tests and all security tests must pass | Ensuring high data security and smooth functionality | No tolerance for security flaws, minor UI improvements allowed |
| Schedule | Initial release must be available by the start of the academic year | Minimize disruptions to academic operations | Minor schedule overrun acceptable (up to 2 weeks) |
| Cost | Must stay within the allocated budget | Maintaining university cost efficiency | Budget overrun up to 10% acceptable without additional approval |
| Staff | Limited resources, with the technical team working part-time | Maximizing efficiency with the available workforce | Limited ability to expand staff without additional budget |

# 3.3 Deployment Considerations

| Factor | Consideration | Details |
| --- | --- | --- |
| User Access | |  | | --- |      | Platform accessibility | | --- | | The system must be accessible via web browsers on both desktop and mobile devices. Mobile compatibility is essential for students and instructors. |
| Hosting | Cloud vs. On-premises | The system will likely be hosted on a cloud-based platform to ensure scalability and ease of maintenance, with backup and recovery processes in place. |
| Scalability | Handling increased user load | The system must be able to scale during peak times, such as enrollment periods and exam seasons, to support a high number of simultaneous users. |
| Data Security | Compliance with data protection regulations | The system must adhere to data privacy laws (e.g., GDPR) and ensure student and instructor data are protected with encryption, regular security audits, and access control mechanisms. |
| Integration | Integration with existing university systems | The system should integrate with the university’s existing student information systems, learning management systems (LMS), and payment systems (if applicable). |
| System Updates | Regular maintenance and updates | There must be a plan for rolling out system updates (bug fixes, new features) without disrupting users, preferably during off-peak hours. |
| Technical Support | Availability of technical support during deployment and usage | A dedicated technical support team must be available to handle deployment issues, user onboarding, and ongoing support for system users, including instructors, admins, and students. |
| Backup and Recovery | Ensuring data persistence and availability | The system must have a robust backup system, ensuring that data can be recovered in case of system failure or cyberattacks. Automatic daily backups are recommended. |
| Training | Training for instructors, students, and admins | Training materials and sessions should be provided to help users familiarize themselves with the system, particularly for instructors creating courses and grading students. |
| Performance Monitoring | Ongoing system performance tracking | The system should have monitoring tools in place to track performance metrics, detect issues early, and maintain a smooth user experience. |