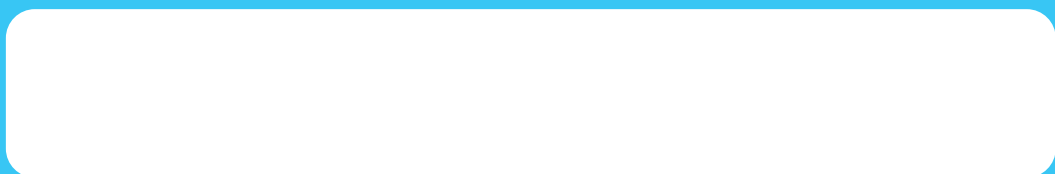




# Business Analysis Requirements



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## Overview

The Business Analysis Requirements Template is intended to provide business analyst students working on CPI initiatives with the structure and guidance to capture needs, scope, and detail focused requirements, specifications, and models. The Requirements Specification will serve as a repository for all Business Analysis artifacts produced during this process.

## Using the Requirements Template

The Requirements Template provides readers with a comprehensive understanding of the needs, scope and specifications leading to a solution. When using the Requirements Template:

- Uniquely identify each artifact documented
- Complete the Requirements Trace Matrix to ensure comprehensive requirements coverage

## Requirements Template Author(s)/Reviewer(s)

Name	Role (Author/Reviewer)	Start/Review Date
Nidhi Gupta	Author	24/02/2024
Tyler Krimmel	Reviewer	TBD

## Requirements Template Distribution List

Those who will receive a copy of the completed, signed off Requirements Template. Provide the full name, role and contact information.

Name	Role	E-Mail
Tyler Krimmel	Program Coordinator	tkrimmel@georgebrown.ca

## Requirements Template Approver(s) List

Those Business and/or Technology leads who will receive a copy of the completed Requirements Template, and who must accept what has been documented in the Requirements Template.

Name	Title	Date	Signature
Tyler Krimmel	Program Coordinator	TBD	

## Requirements Template Reference Artifacts(s)

This information in this section provides context for the project, based on the input information used to support the vision and needs of this initiative.

File/Artifact Name	Source/Location
<i>BABOK: A guide to the business analysis body of knowledge: V3.</i> (2015). International Institute of Business Analysis.	IIBA
<a href="https://www.d2l.com/solutions/higher-education/">https://www.d2l.com/solutions/higher-education/</a>	D2L

## 1 Introduction

As a part of BUS4053 course, we as Group 4 were assigned with the area of Managing Content within GBC's Learning Management System (LMS). As aspiring Business Analysts, our group explored the goals and objectives of the institution, formulated process maps, conducted elicitations, and gathered requirements to collectively improve the content management process.

### 1.1 Goal(s)

Qualifiable statements defining what the organization is seeking to establish and/or maintain.

Unique ID	Goal Statement
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GO001	The aim is to ensure the delivery of effective, accessible educational content, fostering an inclusive learning environment where all students can fully engage with the materials
GO002	The goal is to facilitate professors in managing educational content effectively and efficiently, ensuring timely updates and enhancements to improve the overall teaching and learning experience.

## 1.2 Objective(s)

Statements of the quantitative measures of success to be realized.

Unique ID	Objective Statement	Traced to:
OB001	Reduce the time taken to upload, organize, and update content on the upgraded Learning Management System (LMS) by 20% within six months of implementation.	GO002
OB002	The college aims to achieve a 50% reduction in the average approval time for course material uploads within six months by streamlining review procedures	GO002
OB003	Enhance user accessibility features within the LMS interface, such as screen reader compatibility and keyboard navigation, to ensure equitable access to educational content for all students, achieving a satisfaction rating of 90% or higher	GO001

## 1.3 Problem/Opportunity Statement(s)

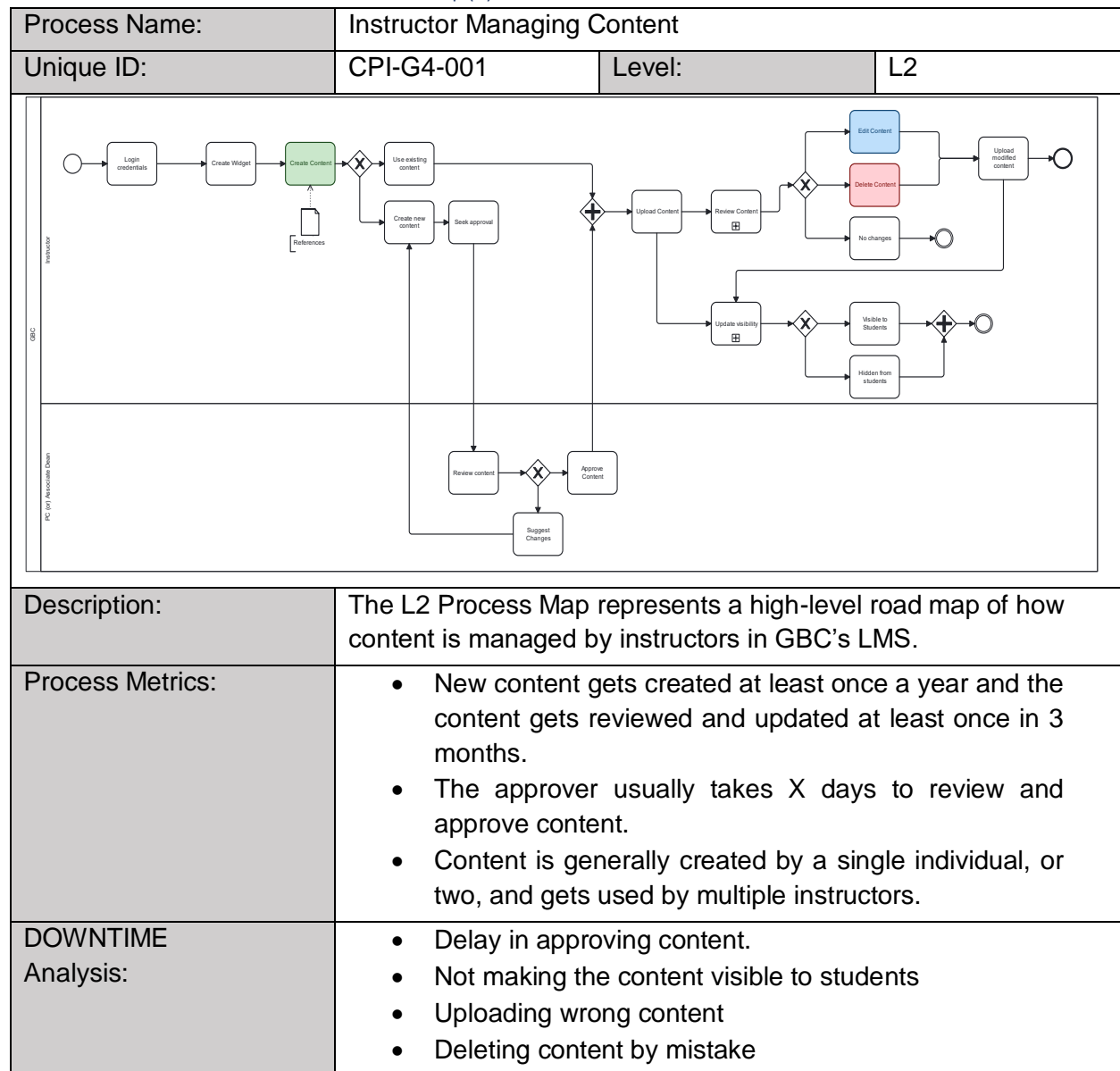
The Problem/Opportunity Statements (POs) provide factual, quantifiable, and concise descriptions of a problem or opportunity. The statement(s) does not recommend or provide a solution. Identify who the impacted actor/organization is, what the issue is, and where and when the issue is occurring.

Unique ID	Objective Statement	Traced to:
OB001	Reduce the time taken to upload, organize, and update content on the upgraded Learning Management System (LMS) by 20% within six months of implementation.	GO002
OB002	The college aims to achieve a 50% reduction in the average approval time for course material uploads within six months by streamlining review procedures	GO002
OB003	Enhance user accessibility features within the LMS interface, such as screen reader compatibility and keyboard navigation, to ensure equitable access to educational content for all students, achieving a satisfaction rating of 90% or higher	GO001

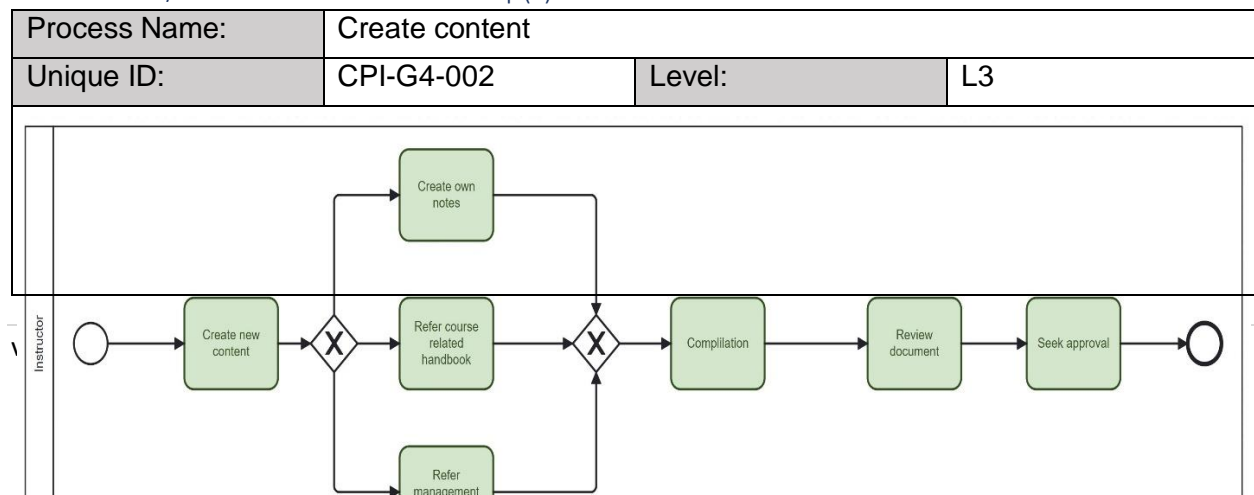
## 1.4 As-Is/Current State Process Map(s)

Maps representing the current process states, under different levels.

### 1.4.1 As-Is/Current State Process Map(s) – Level 2



### 1.4.2 As-Is/Current State Process Map(s) – Level 3



Description:	This Process Map represents high-level road map of how content is created by instructors in GBC's LMS.
Process Step Details:	<ul style="list-style-type: none"> <li>• New content is created on own or by referring handbooks and management provided slides.</li> <li>• Once created it is compiled and sent for approval.</li> </ul>
DOWNTIME Analysis:	<ul style="list-style-type: none"> <li>• Technical Issues</li> <li>• Tool and Platform Performance.</li> <li>• Collaboration Challenges</li> </ul>

Process Name:	Edit content		
Unique ID:	CPI-G4-003	Level:	L3
<pre> graph LR     subgraph Instructor         Start(( )) --&gt; Login[Login credential] --&gt; Access[Access login] --&gt; Select[Select content] --&gt; Edit[Edit content] --&gt; Save[Save content] --&gt; Publish[Publish content] --&gt; End(( ))     end     subgraph CourseCoordinator[Course Coordinator]         Review[Review content] --&gt; X{X} --&gt; Approved[Approved content]     end     Edit -.-&gt; Review     Approved -.-&gt; Save           </pre>			
	<ul style="list-style-type: none"> <li>• Once content is reviewed and approved it is saved in LMS.</li> <li>• Then the saved content is published.</li> </ul>		
DOWNTIME Analysis:	<ul style="list-style-type: none"> <li>• Version Control</li> <li>• Review and Approval Process</li> </ul>		

- Backup and Recovery Procedures

Process Name:	Delete content		
Unique ID:	CPI-G4-004	Level:	L3
<pre> graph LR     Start(( )) --&gt; Review[Review content]     Review --&gt; X{X}     X --&gt; Edit[Edit content]     X --&gt; DeleteContent[Delete content]     X --&gt; NoChanges[No changes]     Edit --&gt; DeleteModule[Delete module]     DeleteContent --&gt; DeleteModule     NoChanges --&gt; DeleteCourse[Delete course]     DeleteModule --&gt; Save[Save changes]     DeleteCourse --&gt; Save     Save --&gt; End((( )))   </pre>			
Description:	This Process Map represents high-level road map of how content is deleted by instructors in GBC's LMS.		
Process Step Details:	<ul style="list-style-type: none"> <li>• Content is reviewed.</li> <li>• If any content, module, or course must be eliminated it is completed and saved.</li> </ul>		
DOWNTIME Analysis:	<ul style="list-style-type: none"> <li>• Technical Issues</li> <li>• Bulk Deletion Processes</li> <li>• Dependencies and Linked Content</li> </ul>		



## 2 Requirements Scope

Scope/Stakeholder Requirements address the business need(s). These statements and models form the boundary of the 'Requirements Scope', which is a subset of the overall project scope. This section will include High-Level Requirements Statements, Out-of-Scope, and scope models (e.g. Business Context Diagram).

### 2.5 High-Level Requirement(s)/In Scope

Statements of the needs of a particular stakeholder or class of stakeholders that enable the Business Requirements. The initiative must meet these needs.

Unique ID:	High-Level Requirement Statement(s)	Priority	Traced to:
HLR001	Implement a notification system in the Learning Management System (LMS) to remind users of updates and new quizzes, increasing user productivity and information availability.	High	PO001
HLR002	Develop an autocorrect and auto grammar check for creating and editing content within the LMS to ensure the integrity of course materials and quiz questions.	Medium	PO002
HLR003	Integrating a trash memory feature into the existing system to capture and store deleted content temporarily.	Medium	PO003

### 2.6 Out-of-Scope

This Section is meant to document results of the discussions and decisions that were made to exclude requirement(s) from the scope of the initiative.

Unique ID:	Out-of-Scope Statement(s)	Rationale
OS001	Inclusion of AI in improving the content management	Reliability and content security concerns
OS002	Plagiarism checking feature while adding new content	References will be properly cited and verified before approval
OS003	Sending notifications via text or other means	Only registered College mail id should be used for communications
OS004	Cannot Integrate third-party chatbot solution in the LMS platform.	Chatbot functionality is not supported.
OS005	Cannot create new content material itself.	Facilitates only delivery and management of educational content.

## 2.7 Scope Model(s)

Technique(s) that provides a view of the business needs, external of the solution.

Scope Model:	Business context diagram		
Unique ID:	BCD001	Traced to:	CPI-G4-001 L2
<pre> graph TD     STUDENT[STUDENT] -- "Assignment and Quizzes" --&gt; LMS((LMS (Manage Content)))     LMS -- "Grades + Feedback" --&gt; STUDENT     COORDINATOR[COORDINATOR] -- "Approve content" --&gt; LMS     LMS -- "Approved content" --&gt; COORDINATOR     INSTRUCTOR[INSTRUCTOR] -- "Request Approval" --&gt; LMS     INSTRUCTOR -- "Create + Edit + Upload Content" --&gt; LMS     LMS -- "Approved Content Notification" --&gt; INSTRUCTOR     LMS -- "Error Message" --&gt; INSTRUCTOR     LMS -- "Confirmation" --&gt; INSTRUCTOR </pre> <p>The diagram illustrates the business context of the LMS. It features four main entities: STUDENT, COORDINATOR, INSTRUCTOR, and the LMS (Manage Content) system. The LMS is represented by a central circle, while the other three are rectangular boxes. Interactions are shown as directed arrows with labels: STUDENT sends 'Assignment and Quizzes' to LMS and receives 'Grades + Feedback' from LMS; COORDINATOR sends 'Approve content' to LMS and receives 'Approved content' from LMS; INSTRUCTOR sends 'Request Approval' and 'Create + Edit + Upload Content' to LMS, and receives 'Approved Content Notification', 'Error Message', and 'Confirmation' from LMS.</p>			
Entity Descriptions:	<ul style="list-style-type: none"> <li>• Instructor – Creates content and interacts with LMS for seeking approval and uploading, editing, or deleting the created content.</li> <li>• Student – Utilizes the Uploaded content in LMS by viewing or downloading it to gain knowledge.</li> <li>• Coordinator – Interacts with LMS to review and approve the content created by instructors.</li> </ul>		
Information Descriptions:	The figure explains the inputs provided by entities and the outputs returned by the software.		

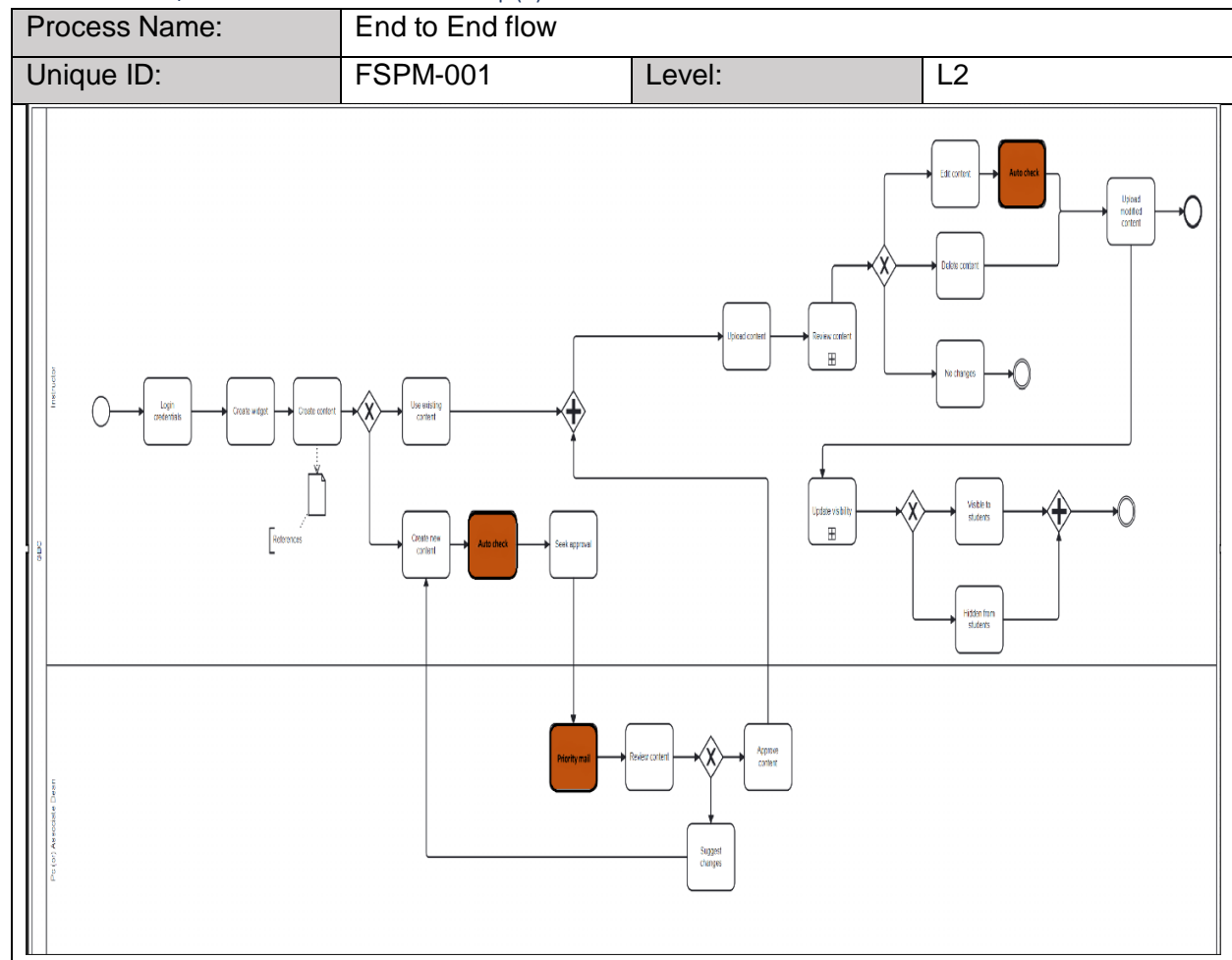
### 3 Solution Requirements

This section describes the capabilities and qualities of a solution that meets the stakeholder requirements. They provide appropriate level of detail to allow for development and implementation of the solution. This section will include: Future State/To-be Process Maps (L2/L3), Process Specifications (Use Cases), Business Rules & Calculations, Data Requirements, UI/Screen Specifications & Notifications, Reporting Requirements, and Non-Functional Requirements.

#### 3.8 To-be/Future State Process Map(s)

Document the future state processes following the process taxonomy defined (L2/L3). For each process mapped, provide a summary description. For L2 Future State Maps, be sure to summarize each key activity/function defined. Replicate these tables as needed for each map.

##### 3.8.1 To-be/Future State Process Map(s) – Level 2



Description:	The L2 Process Map represents a high-level future state road map of how content will be managed by instructors with the additional changes in GBC's LMS.		
	Traced to:	Delivering content	

### 3.8.2 To-be/Future State Process Map(s) – Level 3

Process Name:	Create content		
Unique ID:	CSPM-001.S1	Level:	L3
<pre> graph LR     Start(( )) --&gt; CreateNewContent[Create new Content]     CreateNewContent --&gt; XOR1{X}     XOR1 --&gt; CreateOwnNotes[Create Own Notes]     XOR1 --&gt; ReferBABOK[Refer BABOK]     XOR1 --&gt; ReferManagement[Refer management provided slides]     CreateOwnNotes --&gt; XOR2{X}     ReferBABOK --&gt; XOR2     ReferManagement --&gt; XOR2     XOR2 --&gt; Compilation[Compilation]     Compilation --&gt; AutoCheck[Auto check]     AutoCheck --&gt; ReviewDocument[Review Document]     ReviewDocument --&gt; SeekApproval[Seek approval]     SeekApproval --&gt; End((( )))   </pre>			
Description:	In future while creating any new content there will be an automatic grammar and quality/originality check will be taking place once the content is compiled and then sent for review.		
	Traced to:	Upload content	

### 3.9 Use Case(s)

The Use Case Specification provides elaborated details of a L3 Business Process Map. Within the context of a Process Map, it demonstrates the expected interaction with the system(s). In the context of an RPA initiative, the Robot will be identified as an actor, so that interaction, scenario flows, logic, and information used by the Robot are clearly defined

### 3.9.1 Actor Summary

Define the actors (people, systems) in scope of the use case specifications provided. A Use Case Diagram can be used to visually represent actors.

Unique ID:	Actor Description	Role (Primary/ Secondary)	Traced to L3:
ACT001	Instructor	Primary	Create content, Auto check, Review document, seek approval
ACT002	Schedule	Secondary	Approval

### 3.9.2 Use Case Specification(s)

The Use Case Specification provides details on steps, data, rules, interface, and reporting for each Use Case identified in the Use Case Diagram.

Unique ID:	Use Case Specification Name & Description	UC Specification File (attachment)	Traced to L3:
UC001	Manage Content: This use case describes a process where instructors can create, update, modify, and delete educational content on the Learning Management System	Attached	Content is successfully uploaded/ saved/ deleted, and notification are sent to selected recipients.  System ensured error handling and confirmed exit to prevent data loss.

## 4 Non-Functional Requirements

Non-Functional Requirements describe a system operation, or quality. These qualities may include describing a systems performance, capacity, security, availability, redundancy and recovery, and continuity.

Unique ID:	NFR Category	NFR Requirement	Traced to:
NFR001	Hours of Usage	The LMS should be available 100% of the time for the instructors to	UC01

		manage content whenever they want.	
NFR002	Compatibility	LMS should be compatible with Windows OS, Mac OS, as well as mobile OS like iOS and Android.	UC01
NFR003	Response Time	LMS should be able to respond to user clicks within 3 seconds, 90% of the time, on a stable network connection	UC01
NFR004	# of system users	LMS should be able to withstand 1000 users simultaneously, at least 80% of the time	UC01
NFR005	Security	LMS should have 2 Factor Authentication for users having Instructor access	UC01
NFR006	Usability	90% of the users should be able to view/add/edit content in the LMS within 3 hours of usage	OB001

## 5 Additional Details & Notes

Nil

## 6 Requirements Trace Matrix

Use this table to summarize the traceability between the requirements artifacts captured throughout this document.

Goals	Objectives	Problems/Opportunities	HLRs	BCD	FSPM L2	FSPM L3	Actors	Use Case(s)	Reports	Other
Manage educational content	Enable instructors to create, update, modify, delete content	Improve content management efficiency	Content management features in LMS	Yes	Content management interface	Content management interface with editing capabilities	Instructors, Course Coordinators	UC01: Manage Content	Content management activity log	N/A
Enable instructors to create educational content	Facilitate content creation and upload process	Streamline content creation and uploading	Content creation and uploading functionality in LMS	Yes	Content creation interface	Content creation interface with auto check and validation	Instructors, Course Coordinators	UC01: Manage Content (Step 1)	Content creation log	N/A
Enhance content management	Allow instructors to modify existing educational content	Improve content editing process	Content editing features in LMS	Yes	Content editing interface	Content editing interface with auto check and priority mail facility	Instructors, Course Coordinators	UC01: Manage Content (AF02)	Content modification log	N/A