

# BYU-I Content Management System Software Requirements Specification

## Introduction

This document details the requirements for a Content Management System to be deployed for Brigham Young University - Idaho (BYU-I). This Content Management System will be used by students, teachers, and **external users** to share and view content for school purposes under a variety of conditions.

## Purpose

This system will give the users of BYU-I a universal location to store and display content for the students. This will allow the teachers to share content with each other in a uniform pattern. The students will then receive the information from their classes in the same pattern across all courses.

Also, the system serves the purpose of being a secure content holster tool available to serve all faculty regardless of their department, level, or number of students. It shall replace all different content **hosting** tools being used across campus and online classes and thus it will be dynamic enough to incorporate the most essential functionalities to a diverse pool of faculties and students.

By being a uniform tool, it will facilitate the protection of The University's network by centralizing the incoming of requests and thus facilitating the web monitoring and traffic. It will also make the granting of credentials to content management easier and more secure.

## Scope

The Content Management Systems (CMS) will **host** content for users in one **central location** utilizing the following subsystems: Licensing, Features, Security, Syncing, **Role-Based Access Control**, and Interface. The Licensing system will store **metadata** such as who created content, when content was created, and how often content is viewed among other information. The Features will handle compatibility between other platforms, servers, and media types as well as user interactions such as creating, editing, and uploading content among other operations. The Features will also include content organization and content notifications. The Security **system** will protect and backup content and sensitive information in compliance with **Family Educational Rights and Privacy Act (FERPA)** and **Learning Tools Interoperability (LTI)** standards. The Syncing feature will allow for the simultaneous upload of content while preventing **race conditions**. **Role-Based Access control** will give **system administrators** the ability to provide different **role policies** for various user types.

The **CMS** depends on several technologies that are not within the scope of the system. These technologies are the **I-Learn Suite**, **web server**, **LTI**, **FERPA**, and Microsoft **Active Directory**. The **I-Learn Suite** includes **Canvas** and the Authentication system among other University systems. A **web server** needs to be configured according to the requirements. Regardless of **I-Learn**, the **CMS** will still need to follow **LTI** principles. **Microsoft Active Directory** will assign a role to the user based on the **role policies** stated by BYU-I if the user is not already **authenticated**.

## Definitions

Term	Definition
Access	The ability for <b>actors</b> to enter the CMS or view its content
Active Directory	A Microsoft product that BYU-I uses for <b>Single Sign On</b>
Actor	An <b>authenticated</b> digital entity that has <b>access</b> to the <b>CMS</b>
Archive	To put <b>content</b> into the <b>Primary Recycle Bin</b>
Audio File	A <b>file</b> that contains digital audio <b>data</b> (see <b>Supported Audio File Formats</b> )
Authenticate	The process of matching the username and password given by a <b>user</b> to an existing username and password for an <b>actor</b> through the <b>SSO</b>
Backup	A copy of <b>data</b> to protect against accidental loss or corruption
Canvas	A <b>web-based learning management system</b> , or <b>LMS</b>
Central Authentication Service (CAS)	BYU-I's <b>Single Sign On</b>
Cloud Storage	A remote server accessed over the internet for storing <b>data</b> in place of a local storage system; It also makes <b>backup</b> copies of the <b>data</b> to facilitate its recovery
Collection	Organization of <b>files</b> stored in the <b>CMS</b>
Compressed File	Compressed <b>file</b> or <b>files</b> where <b>data</b> has been reduced in size to increase disk space (see <b>Supported Compressed File Formats</b> )
Content	One or more <b>files hosted</b> by the <b>CMS</b>
Content Creator	An <b>actor</b> that creates or <b>uploads content</b> , as indicated in the <b>metadata</b>

Content Management System (CMS)	The system that handles how and where <b>content</b> is stored, <b>viewed</b> , <b>uploaded</b> , and <b>edited</b>
Content Update Notification	A notification via email or within the <b>CMS</b> to members of the <b>notification list</b> that is triggered by an <b>event</b> . The notification provides context to the <b>event</b> as well as a link to the new <b>content</b>
Data	Digital information that can be processed or <b>transmitted</b>
Delete	To remove <b>content data</b> from the <b>CMS</b>
Document File	A <b>file</b> the contains text or binary <b>data</b> (see <b>Supported Document File Formats</b> )
Download	The process to <b>transmit data</b> into the <b>CMS</b>
Edit	To alter <b>content data</b>
Event	When a <b>file</b> is modified
External User	A <b>user</b> who is not <b>authenticated</b>
Family Educational Rights and Privacy Act (FERPA)	A federal law that governs the access to education information (Data 2.10)
File	<b>Content</b> that is a collection of related <b>data</b> . organized in file types ( <b>Image File</b> , <b>Video File</b> , <b>Audio File</b> , <b>Document File</b> , <b>Compressed File</b> , and <b>Unknown File Types</b> )
Filter Feature	A service that refines a <b>search result list</b> based on a criteria
Formatting Tools	Commands that give the user the ability to change the style and formatting of selected text
Host	A web service that allows individuals and organizations to make <b>data</b> accessible via the internet
Image File	A <b>file</b> that contains graphic <b>data</b> (see <b>Supported Image File Formats</b> )

I-Learn Suite	A collection of technologies that includes <b>Canvas</b> , Authentication System, Registration System, Workday, and among other technologies
IMS Global Learning Consortium	A non-profit collaborative whose goal is to advance interoperability, innovation, and learning impact in educational technologies
Interval of Time	Daily, Weekly, Monthly, Yearly
Justify	Distributing text evenly within the margins of a document
Learning Management System (LMS)	<b>Software</b> specifically designed to create, distribute, and manage the delivery of educational <b>content</b>
Learning Tools Interoperability (LTI)	An education technology specification developed by the <b>IMS Global Learning Consortium</b> . It specifies a method for a learning system to invoke and to communicate with external systems
Local File Management	A system that allows <b>users</b> to store and retrieve data
Metadata	<b>Data</b> that describes <b>content</b> . The information to be included shall be uniform across all <b>content</b>
Metadata Editing Feature	A part of the <b>CMS</b> that enables editing of <b>Metadata</b>
Microsoft Tools	Applications such as Word, PowerPoint, and Excel
Minimal Errors	The <b>CMS</b> will be down for less than 8 hours a year
Notification List	A list of <b>users</b> to be notified by the <b>Content Update Notification</b> system
OneDrive	A <b>cloud storage</b> service offered by Microsoft
Owner	The <b>actor</b> primarily associated with a <b>file</b>
Paragraphing Tools	Formatting commands that control the spacing and alignment of individual paragraphs
Permission	The granted ability to perform actions on <b>content</b> (See Appendix A: Table 1: Role Policies)

Personal Identifiable Information	Any representation of information that permits the identity of an individual to whom the information applies to be reasonably inferred by either direct or indirect means
Primary Recycle Bin	A storage container for <b>content</b> that a <b>content creator</b> can choose to restore <b>content</b> or permanently <b>delete</b> the <b>content</b>
Private Content	<b>Content accessible</b> only to <b>actors</b>
Public Content	<b>Content accessible</b> to any <b>users</b>
Race Condition	When multiple <b>users access</b> and <b>edit content</b> at the same time, causing some <b>users edits</b> to be overwritten
Relative URL Directory	A directory containing the location of a <b>file</b> within the same site and is part of the same root URL
Role	A set of one or more <b>role policies</b> created by a <b>System Administrator</b> that are applied to <b>actors</b>
Role-Based Access Control (RBAC)	Enables the <b>System Administrator</b> to allow and restrict <b>access</b> by creating <b>roles</b>
Role Policy	A single <b>permission</b> that can be applied to <b>roles</b>
Search Feature	A service that locates <b>content</b> based on matching <b>search terms</b> and outputs a <b>search result list</b>
Search Result List	A list of <b>content</b> that matches <b>search terms</b>
Search Terms	Keywords entered by a <b>user</b> into the <b>Search Feature</b> to search the <b>CMS</b>
Secondary Recycle Bin	A storage container for <b>content</b> that is to be deleted but is only accessible by a <b>System Administrator</b>
Single Sign-on (SSO)	A technology that <b>authenticates users</b> on multiple related, yet independent sites with a single login username and password
Software	Instructions that tell a computer what to do; it comprises the entire set of programs, procedures, and routines associated with the operation of a computer system

Supported Audio File Formats	MPEG layer 3 audio (.mp3) MPEG-4 (.m4a, .mp4) WAV (.wav) Free Lossless Audio Codec (.flac)
Supported Compressed File Formats	RAR (.rar, .rev, .r00, .r01) ZIP (.zip, .zipx) 7ZIP (.7z) TAR (.tar)
Supported Document File Formats	Microsoft Word (.doc, .docx) Portable Document Format (.pdf) PowerPoint (.ppt, .pptx) Hypertext Markup Language (.html, .htm) Excel Spreadsheet (.xls, .xlsx) Comma Separated Values (.csv) eBook (.epub) Text (.txt)
Supported Image File Formats	TIFF (.tif, .tiff) Bitmap (.bmp) JPEG (.jpg, .jpeg) GIF (.gif) PNG (.png) EPS (.eps) RAW Image Files (.raw, .cr2, .nef, .orf, .sr2) Scalable Vector Graphics (.svg)
Supported Media Platforms	<b>Canvas</b> Microsoft OneDrive Google Drive YouTube
Supported Video File Formats	MPEG-4 part 14 (.mp4) QuickTime (.mov) Windows Media Video (.wmv) Flash Video (.flv) AVI (.avi) Matroska (.mkv)
Supported Web Browsers	Mozilla Firefox Google Chrome Apple Safari Microsoft Edge

	(Data 2.8)
System (general)	An organized collection of parts (or subsystems) that are highly integrated to accomplish an overall goal
System Administrator	An <b>actor</b> that has all <b>permissions</b>
Table	An arrangement of data in rows and columns
Transmit	To pass <b>data</b> from one digital source to a digital destination
Unknown File Types	Any <b>file</b> format that is not previously defined
Upload	The process to <b>transmit data</b> into the <b>CMS</b>
User	A person who interacts with the <b>CMS</b> .
Version	Identifies previous forms of the document's history
Version Control System (VCS)	A technology that tracks the changes made to <b>content</b> within the <b>CMS</b> ; it also allows a <b>user</b> to reset the <b>content</b> to a previous <b>version</b>
View	The ability or act of seeing <b>content</b>
Video File	A <b>file</b> that contains digital video <b>data</b> (see <b>Supported Video File Formats</b> )
Web-based	<b>Software</b> that is <b>hosted</b> on a <b>Web Server</b>
Web Server	A computer <b>software</b> and its associated hardware that distributes web pages per request

WYSIWYG editor	<p>“What You See Is What You Get”. An editor built into the <b>CMS</b> that can create web pages. It shall have the following tools:</p> <ul style="list-style-type: none"> <li>● <b>Formatting Tools</b></li> <li>● <b>Paragraphing Tools</b></li> <li>● Numbered Lists</li> <li>● Bulleted Lists</li> <li>● Indentation</li> <li>● <b>Tables</b></li> </ul>
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## Requirements

### 1. Functional Requirements

#### 1.1 Licensing

- 1.1.1 The **CMS** shall store the **actor**, date, time of **access**, and **role** of **actor**, as **content metadata** when a actor is **accessing content**. (Data 1.1.4, 1.1.8)
- 1.1.2 The **CMS** should report the number of times a student **views content** within an **interval of time**. (Data 1.1.4, 1.1.8)
- 1.1.3 The **CMS** should store Content Events triggered by **actors** in the **content’s metadata**. (Data 1.1.4)

#### 1.2 Features

- 1.2.1 The **CMS** shall be capable of displaying all supported **files** in a **web browser**. (Data 1.1.6)
- 1.2.2 The **CMS** shall be capable of storing all **file** formats. (Data 1.1.6, 1.3.2)
- 1.2.3 An **Owner** shall have **edit** and **delete permissions** for their **content**. (Data 1.3.2)
- 1.2.4 **Owners** should be able to assign another **user** to be the **owner** of a **file** they own. (Data 1.4.22)
- 1.2.5 All **content** within the **CMS** shall have **metadata** associated with it. (Data 1.1.1, 1.1.2, 1.1.3, 1.1.5, 1.1.6, 1.1.7, 1.4.3)
- 1.2.6 The **CMS** shall have a **search feature** that shall generate a **search result list** consisting of all **content** whose **metadata** matches the **search terms**. (Data 1.1.1, 1.1.2, 1.1.3, 1.1.6, 1.1.7, 1.1.8, 1.1.9)
- 1.2.7 The **CMS** should have a **filter feature** that acts as an extension of the **search feature**, generating a **search result list** consisting of all **content** whose **metadata** or **content** matches the indicated **search terms**. (Data 1.1.1, 1.1.2, 1.1.3, 1.1.6, 1.1.7, 1.1.8, 1.1.9, 1.1.13)
- 1.2.8 The **CMS** should be compatible with **Supported Media Platforms**. (Data 1.4.38)
- 1.2.9 The **metadata** shall be updated by the **system administrators** or **users** who have the necessary **role policy** with the **metadata editing feature**. (Data 1.1.1, 1.1.3, 1.1.7, 1.1.9)
- 1.2.10 The **CMS** should use **relative URL directories**. (Data 1.1.8)
- 1.2.11 The **CMS** shall use a **VCS**. (Data 1.1.12, 1.4.25)



- 1.2.12 The **VCS** shall allow **users** to track and undo changes to **content** that they have **edit permissions** for. (Data 1.1.12, 1.4.25)
- 1.2.13 The **CMS** shall allow **content owners** to organize **content** into **collections**. (Data 1.4.10, 1.4.43)
- 1.2.14 The **CMS** shall have a **Content Update Notification** feature. (Data 1.1.4, 1.1.8)
- 1.2.15 When an **event** occurs, a notification will be sent to the **notification list**. (Data 1.1.4, 1.1.8)
- 1.2.16 The type of notification alert should be determined by the **Content Creator**. Notifications can be received via email, within the **CMS**, or text message. (Data 1.1.4, 1.1.8)
- 1.2.17 The notification will describe what change(s) were made, the **user** who made those changes, when the changes were made, and provide a link to the updated **content**. (Data 1.1.4, 1.1.8)
- 1.2.18 The **CMS** shall be compatible with **Supported Web Browsers**. (Data 1.1.4, 1.1.8)
- 1.2.19 The **CMS** should have a built-in **WYSIWYG editor** for creating web pages. (Data 1.1.6)

### 1.3 Security

- 1.3.1 The **CMS** should have a **Primary Recycle Bin** for each content creator. (Data 1.1.9)
- 1.3.2 Each **Content Creator** should be able to empty their personal **Primary Recycle Bin**. (Data 1.1.9)
- 1.3.3 Each **Content Creator** should be able to put **content** into their **Primary Recycle Bin**. (Data 1.1.9)
- 1.3.4 Each **Content Creator** should be able to remove **content** from their **Primary Recycle Bin** before it is empty and place the **content** elsewhere in the **CMS**. (Data 1.1.9)
- 1.3.5 When a **Primary Recycle Bin** is emptied, the bin's contents should be put into the **Secondary Recycle Bin**. (Data 1.1.9)
- 1.3.6 The **CMS** should have a **Secondary Recycle Bin** that can only be **accessed** by a **System Administrator**. (Data 1.1.9)
- 1.3.7 Emptying the **Secondary Recycle Bin** should **delete** stored **content** from the **CMS**. (Data 1.1.9)
- 1.3.8 A **System Administrator** should be able to restore **content** from the **Secondary Recycle Bin** to a **content creator**, whether the **content creator** placed the **content** into the **Secondary Recycle Bin** or not. (Data 1.1.9)
- 1.3.9 **Content** deemed as **Personal Identifiable Information** by the **content creator** shall be stored in accordance with **FERPA** data storage best practices. (Data 1.2.1, 2.10)
- 1.3.10 The **CMS** shall be compliant with the **IMS Global Learning Consortium's Learning Tools Interoperability** standards. (Data 1.1.3)
- 1.3.11 The **CMS** shall be able to create a **backup** of all **content** to a specified storage device. (Data 1.4.21, 2.5, 1.4.44, 1.4.36)

## 1.4 Syncing

- 1.4.1 The **CMS** shall be able to **upload** and download multiple items simultaneously for **users** to update their **content**. (Data 1.4.50)
- 1.4.2 The **CMS** shall prevent **Race conditions**. (Data 1.4.12, 1.4.25)
- 1.4.3 The **CMS** should allow more than one **user** to **edit** a **file**. (Data 1.4.12, 1.4.25)
- 1.4.4 The **CMS** should be able to record **content** changes at the time when they were made and have them **viewable** in a recorded **version** history of the **content** item. (Data 1.4.12, 1.4.25)
- 1.4.5 The **CMS** should integrate with **Microsoft Tools**. (Data 1.4.12, 1.4.25, 1.4.38)
- 1.4.6 The **CMS** should provide a way to store all **data** in one location. (Data 2.6)
- 1.4.7 The **CMS** may provide **local file management**. (Data 1.4.10, 2.5)
- 1.4.8 The **CMS** may notify instructors the success or failure when syncing or uploading. (Data 1.3.3)
- 1.4.9 The **CMS** should periodically **backup content** while editors are editing the **content**. (Data 1.4.21 2.5, 1.4.44, 1.4.36)

## 1.5 Role Based Access Control

- 1.5.1 The **CMS** shall have **Role Based Access Control**. (Data 1.1.4, 1.1.8, 1.1.9, 1.4.11, 1.1.22)
- 1.5.2 When a **user** attempts to **access private content**, and the **user** has not been **authenticated**, the **CMS** shall **authenticate** the **user's** identity with Microsoft **Active Directory**. (Data 1.1.12, 1.2.7)
- 1.5.3 If Microsoft **Active Directory** is not able to be integrated with the **CMS**, it shall use **CAS** for **authentication**. (Data 1.1.6, 1.1.12)
- 1.5.4 When a **user** attempts to **access private content** and the **user** has been verified, the **CMS** shall verify that the **user's** assigned **roles** before allowing them **access**. (Data 1.1.12, 1.2.7)
- 1.5.5 The **CMS** shall store each **user's** assigned **roles** in Microsoft **Active Directory**. (Data 1.1.12)
- 1.5.6 **System Administrators** shall be able to create, edit, delete and assign **roles**. (Data 1.1.12)
- 1.5.7 **System Administrators** shall have all **role policies assigned to them**. (Data 1.1.12)
- 1.5.8 **System Administrators** shall be able to set **data** storage limits on **users**. (Data 1.4.1, 1.4.2, 1.4.11, 1.4.12, 1.4.20)
- 1.5.9 **Role policies** shall allow **users** with the correct **role** to perform actions (as defined in the table under the "**Role Policies**" definition) within the **CMS**. (Data 1.1.12)
- 1.5.10 **Role policies** shall be implicitly denied for all **roles**, unless otherwise assigned by a **System Administrator**. (Data 1.1.12)
- 1.5.11 **Metadata** associated with **content** shall be **archived**, created, or **deleted** when its associated **content** is **archived**, created, or **deleted**. (Data 1.1.12)
- 1.5.12 **Content** should have an option to be set as **public content**. (Data 1.1.12)
- 1.5.13 By default, **content** shall only be **accessible** by **actors**. (Data 1.1.12)

## 2. Non-functional requirements

### 2.1 Interface

- 2.1.1 **Uploading content** to the **CMS** should be completed by **Content Creators** of any experience level in a minute or less. (Data 1.2.1)

### 2.2 Reliability

- 2.2.1 The **CMS** shall **upload content** with **minimal errors**. (Data 1.1.15, 1.4.1, 1.4.48)
- 2.2.2 If **content** does not **upload** successfully the **user** shall be notified via a **content update notification**. (Data 1.4.1, 1.4.48)
- 2.2.3 The **CMS** shall be **accessible** in each of the populated continents with a stable connection. (Data 1.4.51, 2.11.1.4, 2.11.2.2, 2.11.3.1, 2.11.4.3)

## References

### 1. Interviews

#### 1.1 Academic Content Management Team

- 1.1.1 [Jilane Richardson](#): Campus Curriculum Development
- 1.1.2 [Arlen Wilcock](#): Academic Technology Manager
- 1.1.3 [Ben Wilson](#): Online Technologies Researcher
- 1.1.4 [Mike Wegner](#): Online Portfolio Manager
- 1.1.5 [Tony Dericott](#): Application Systems Engineer
- 1.1.6 [Mathew Miles](#): Systems Librarian
- 1.1.7 [Dane Bohman](#): Application Systems Engineer
- 1.1.8 [David Ashby](#): Director of Learning Innovation & Technology
- 1.1.9 [Amber Gneiting](#): Application Systems Engineer
- 1.1.10 [Will Davidson](#): Media Systems Engineer
- 1.1.11 [Andrew Burger](#): Department of Sociology and Social Work
- 1.1.12 [Mathew Miles](#): Systems Librarian
- 1.1.13 [Mathew Miles](#): Systems Librarian

#### 1.2 Content Design Team

- 1.2.1 [Patty Hendricks](#): Curriculum Designer
- 1.2.2 [Rachel Huber](#): Curriculum Designer
- 1.2.3 [Cindy Goodwill](#): Curriculum Designer
- 1.2.4 [Chad McLane](#): Online Instructor Manager
- 1.2.5 [Jim Croasmun](#): Curriculum Design Leader
- 1.2.6 [Eric Karl](#): Associate Online Vice President
- 1.2.7 [Joel Galbraith](#): Online Instruction Director

#### 1.3 Online Instructors

- 1.3.1 [Kimberly Theuson](#): Online Training Coordinator
- 1.3.2 [Justin Miller](#): Automotive Technology Faculty
- 1.3.3 [Jodi Robison](#): Online Instructor

#### 1.4 Faculty

- 1.4.1 [David Faires](#): Department of Music
- 1.4.2 [Bryce Mecham](#): Department of Music
- 1.4.3 [Alan Duston](#): Department of Mechanical Engineering
- 1.4.4 [Richard Hatt](#): Department of Physics

- 1.4.5 [Jason Rose](#): Department of Mathematics
- 1.4.6 [John Sinkovic](#): Department of Mathematics
- 1.4.7 [David Faires](#): Department of Music
- 1.4.8 [Brother Mecham](#): Department of Music
- 1.4.9 [Josh Allen](#): Department of English
- 1.4.10 [Brian Felt](#): Department of Languages & International Studies
- 1.4.11 [Matt Miles](#): Department of History, Geography, & Political Science
- 1.4.12 [Michael Paul](#): Department of Languages & International Studies
- 1.4.13 [Larry Sha](#): Department of Health Services
- 1.4.14 [John Zenger](#): Department of Biology
- 1.4.15 [Jason Flora](#): Department of Humanities and Philosophy
- 1.4.16 [Jillisa Cranme](#): Department of ECSE/SPED
- 1.4.17 [Steve Willis](#): Department of Management
- 1.4.18 [Ron Nate](#): Department of Economics
- 1.4.19 [Mark Howell](#): Department of Accounting
- 1.4.20 [Rex Barzee](#): Department of Computer Information Technology
- 1.4.21 [Danae Romrell](#): Department of Interdisciplinary Studies
- 1.4.22 [Layne Packer](#): Department of Design and Construction Management
- 1.4.23 [Andrea Radke-Moss](#): Department of History, Geography, & Political Science
- 1.4.24 [Melanie Kennely](#): Online Quality Assurance Director
- 1.4.25 [Nate Wise](#): Librarian
- 1.4.26 [Philip Allred](#): Department of Religious Education
- 1.4.27 [Jeremy Slade](#): Department of Economics
- 1.4.28 [Benjamin Cook](#): Department of Nursing
- 1.4.29 [Jamie Austed](#): Department of Accounting
- 1.4.30 [Shannon Killian](#): Department of Nursing
- 1.4.31 [James Rognon](#): Department of Communication
- 1.4.32 [Paul Roberts](#): Associate Dean of Sociology and Social Work
- 1.4.33 [Jonathan Skalski](#): Department of Psychology
- 1.4.34 [Blake Willi](#): Department of Applied Plant Science
- 1.4.35 [Greg Mahr](#): Department of Health Science
- 1.4.36 [Jared Eberhard](#): Department of Finance
- 1.4.37 [Kerry Powell](#): Department of Animal and Food Science
- 1.4.38 [Luke Alley](#): Department of Marketing
- 1.4.39 [Michael Hales](#): Department of Management
- 1.4.40 [Matt Maroon](#): Department of Marketing
- 1.4.41 [Reese Nelson](#): Department of Applied Plant Science
- 1.4.42 [Rob Tietjan](#): Department of Business
- 1.4.43 [Steven Rigby](#): Department of Finance
- 1.4.44 [Michael Bolingbroke](#): Department of Religious Education
- 1.4.45 [Matthew Whoolery](#): Department of Psychology
- 1.4.46 [Brian Schaat](#): Department of Human Performance and Recreation
- 1.4.47 [Todd Kelson](#): Department of Biology
- 1.4.48 [David Miller](#): Department of Computer Information Technology
- 1.4.49 [Jedd Walker](#): Department of Design and Construction Management
- 1.4.50 [Greg Roselle](#): Department of Geology

1.4.51 [William Clements](#): Department of Computer Science and Electrical Engineering

## 2 Domain Analysis

- 2.1 [Math 335 Instructions for Curriculum Design](#)
- 2.2 [Math 335 Design Workbook](#)
- 2.3 [Online Handbook](#)
- 2.4 [BYU-I Copyright](#)
- 2.5 [Google docs/ Google drive](#)
- 2.6 [Equella](#)
- 2.7 [OneNote](#)
- 2.8 [BYUI Remote Learning Tools](#)
- 2.9 [Canvas](#)
- 2.10 [FERPA Data storage best practices](#)
- 2.11 [Web Services](#)

## Appendix

Table 1: Role Policies

Role Policies	Content	Collection	System Administrator	Actor	Metadata	Version
Archive	x	x	x	x		x
Copy	x	x				x
Create	x	x	x	x		x
Delete	x	x	x	x		x
Edit	x	x	x	x	x	
Download	x	x				x
Move	x	x	x	x		
View	x	x	x	x	x	x

Note: Rows can be thought of as verbs and Columns can be thought of as nouns. An “x” indicates a **permission** that can be given to a **role**. For example, an x at archive and content indicates the archive content **permission**.