# Client

# Website X - Authoring Tool

## Functional Requirements

## First Draft

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# 1 Project Overview

This project is to develop and build an authoring tool to be used to publish content to Website X.

The tool will be used to create, edit, approve, and publish two specific kinds of site content:

- Modules
- Multiple Choice Questions (MCQs)

  **Note:** On the site, a set of MCQs comprises the content of a self-assessment quiz

Other site content will continue to be published as it is currently.

**Note:** It is expected that in future, the functionality of this authoring tool may be expanded.

## 1.1 Notes About Content

### 1.1.1 Modules

Modules are one piece of core content on Website X. They are categorized in multiple different ways, but the primary grouping method is categories, which are grouped under competencies.

There are currently 492 modules on Website X.

Website X currently has modules in 3 competencies (within various categories within those competencies):

- Medical Knowledge
- Patient Care
- Systems Based Practice

The goal is to eventually have modules in the following SIX (6) competencies:

- Patient care and procedural skills
- Medical knowledge
- Professionalism
- Communication
- Practice-based learning
- Systems-based practice

Modules can be browsed on the site by:

- Category (sub under Competency – no overlap currently; each category is unique and belongs to only one competency; note that Competency is merely a grouper of categories; you can not filter by competency, and thus can not view all the modules for a single competency all at once.)
- Type (there are currently 4 types)
- Level (there are currently 7 levels)
- PGY Year (there are currently 5 PGY years)
- PGY Level (there are currently 2 PGY levels)

**Note:** For the full list of filters available on the site, see the Appendix.

#### *1.1.1.1 Structure of a Module*

A regular module's page on the site is comprised of the following sections:

1. Title and Level
2. Learning Objectives (one or more, including associated links)

   Learning Objective on *some* modules are subdivided into multiple lettered sections.
3. Open-ended Questions (one or more, each one including key discussion points)
4. "Related content" box (sidebar box) – displays editorially specified references related to the module; can include sections for Videos, Text Resources, etc.; may be linked or not linked
5. Related to this Chapter (sidebar box) – displays site content that is related (shares tags with) the module; divided into 2 sections (Textbooks and Modules); clicking a title takes you to that content's page
6. Tags (sidebar box) – displays tags that have been applied to the module; clicking a tag takes you to a search results page for that term
7. About This Module (sidebar box) – displays metadata about the module

A video module's page on the site is comprised of the following sections:

1. Title and Level
2. TBD – SLIGHTLY DIFFERENT THAN A REGULAR MODULE

Module pages also have a feature at the upper right called "Track your personal progress," allowing the user to indicate Not Started, In Progress, or Completed.

### 1.1.2 Multiple Choice Questions (MCQs) – Used to Create Self-Assessment Quizzes

Self-assessment quizzes are a second piece of core content on Website X. Any given quiz is made up of some number of Multiple Choice Questions (MCQs).

A user can generate a quiz and determine parameters, including selecting only questions from certain subjects, only questions he previously got wrong, or only questions he has never answered before.

There are currently 1729 MCQs available on Website X.

Every MCQ is currently associated with a single category. These are the same categories that are used to classify modules.

There are currently MCQs available in the following subjects (categories):

- Abdomen - Biliary
- Abdomen - General
- Abdomen - Hernia
- Abdomen - Liver
- Abdomen - Pancreas
- Alimentary Tract - Anorectal
- Alimentary Tract - Esophagus
- Alimentary Tract - Large Intestine
- Alimentary Tract - Small Intestine
- Alimentary Tract - Stomach
- Anesthesia
- Biostatistics and Medical Evaluation
- Breast
- Endocrine
- Fluids and Electrolytes and Acid - Base Balance
- Genitourinary
- Geriatric Surgery and End of Life Care
- Head and Neck
- Infection and Antimicrobial Therapy
- Miscellaneous

- Nervous System
- Nutrition and Metabolism
- Oncology and Tumor Biology
- Pediatric Surgery
- Pharmacology
- Plastic Surgery
- Preoperative Evaluation and Perioperative Care
- Skin and Soft Tissue
- Surgical Critical Care
- Thoracic Surgery
- Transfusion and Disorders of Coagulation
- Transplantation
- Trauma
- Vascular - Arterial Disease
- Vascular – Venous
- Wound Healing

## 1.2 User Needs Summary

The authoring tool will serve the user need of the client to publish core content to their site in a systematic and user-friendly way.

There will be several different types of users who will employ the site to perform parts of the content creation, revision, approval, and publishing process. These include:

- Site administrators
- Authors
- Editors
- Approvers

## 1.3 Overview of Enhancements

The software provider will build an authoring tool, which will be a stand-alone website, that the client can use to create, review, edit, and publish modules and MCQs.

Key features:

- The site will allow users to sign in with a user name and password.
- Access to features of the tool will be determined based on user role.
- Only users with the “Administrator” role (and the software provider’s admin role) will have the ability to create, edit, and delete users, and to assign roles to users.
- The authoring tool will be designed to fit with the client’s existing users and workflow.
- The predominant content of modules and MCQs is text, but the authoring tool will also be able to support images.

### 1.4 Ownership of Work

The client will:

- Clearly explain needed workflows and publishing needs
- Provide all content for databases
- Populate content records (if needed) with any new data
- Verify accuracy of existing content in new authoring tool (and on site)

The software provider will:

- Build the authoring tool according to the client’s needs and the provider’s designs
- Create and populate all databases with content provided by the client
- Import existing content into new authoring tool

# 2 Requirements

### 2.1.1 Authoring Tool Requirements

These are all the features/functions that should be available in the authoring tool (note that not all users will have access to all features).

#### *2.1.1.1 Create/edit/delete AT users and assign roles (Administrators only)*

#### *2.1.1.2 Create and edit authors*

#### *2.1.1.3 Create and Save a New Module Record, including:*

- Title – text (Character Limit?)
- Client ID – number (?)
- Category(ies) – select from list; multi-select
- Subcategory(ies) – select from list; multi-select
- Type
- Level
- Author(s)
    a. Learning Objective Author(s)
        i. Learning Objective author 1
        ii. Learning Objective author 2
        iii. Learning Objective author 3
    b. Open-ended Questions Author(s)
        i. Open-ended Questions author 1
        ii. Open-ended Questions author 2
        iii. Open-ended Questions author 3
- PGY Year
- PGY Level
- Content of Module

a. Learning Objectives

b. Open-ended Questions

c. Source – text (with formatting options? Character Limit?)

d. References – text (with formatting options? Character Limit?)

e. Videos

f. Text References

g. Related to This Chapter

   i. Textbooks

   ii. Modules

h. Tags

#### *2.1.1.4 Review a Module Record*

#### *2.1.1.5 Enter Revisions on a Module Record*

#### *2.1.1.6 Edit a Module Record*

#### *2.1.1.7 Tag a Module Record (? – Yes? Are Modules tagged? Will tagging be done in the AT?)*

#### *2.1.1.8 Preview a Module Record (?)*

#### *2.1.1.9 Publish an Individual Module Record to the Site*

#### *2.1.1.10 Publish Multiple Modules to the Site*

#### *2.1.1.11 Create a New Multiple-Choice Question (MCQ) Record*

#### *2.1.1.12 Create and Save a New MCQ Record, Including:*

- Title – text
- Client ID – number (?)
- Question Text – text (with formatting options? Character Limit?)
- 5 Answer options – text (with formatting options? Character Limit?)
- References – text (with formatting options? Character Limit?)
- Category(ies) – select from list; multi-select

- Subcategory(ies) – select from list; multi-select

#### *2.1.1.13 Review a MCQ Record*

#### *2.1.1.14 Enter Revisions on a MCQ Record*

#### *2.1.1.15 Edit a MCQ Record*

#### *2.1.1.16 Tag a Module Record (? – Yes? Are questions tagged? Will tagging be done in the AT?)*

#### *2.1.1.17 Preview a MCQ Record (?)*

#### *2.1.1.18 Publish a MCQ Record to the Site*

### 2.1.2 New Site Functionality

#### *2.1.2.1 Display image(s) in module*

#### *2.1.2.2 Display image(s) in MCQ*

Support for images in content needs further discussion, and would definitely involve changes to the site as well as the new authoring tool. Some questions:

- How many images, potentially?
- Would there be a thumbnail version and a larger version?
- How would the UI work? How should images be handled in printing?
- Would there be metadata associated with each image, and if so, what would it be (e.g. title, legend/caption, source, etc.)?
- Would that display with both the thumbnail and the larger image?
- Would you want print/share options for the larger image?

#### *2.1.2.3 Display related module(s) (in MCQ) – Based on subcategory.*

On each question? What would exact site behavior be here?

#### *2.1.2.4 Display related MCQ(s) (in Module) – Based on subcategory*

All of them, no matter how many?

Or would this be potentially truncated and if so, would there be a "View all" option?

# 3 Work Involved

## 3.1 Analysis/Design

Analyze content – determine parameters of module structure (how many different templates needed?)

Determine front-end requirements for images in modules

Determine front-end requirements for images in MCQs

Determine front-end requirements for MCQ link to related module(s)

Determine front-end requirements for Module link to related MCQ(s)

## 3.2 Dev/SQA

Create database(s) and configure as needed

Create roles and access (DB?)

Build Author Management Page (if separate from user management)

Build user management page and functionality

Build sign in functionality

Build Modules dashboard

Build MCQ dashboard

Build “All Modules” Page

Build “All MCQs” Page

Import existing modules into authoring tool

Import existing MCQs into authoring tool

## 4 Schedule (Project Dates and Milestones)

The following table outlines the milestones of the project; specific dates will be filled in as requirements and specifications, and proposed schedule, are clarified.

Rows shaded in grey indicate milestones that have passed.

**Note:** This is only a preliminary plan and subject to change. For example, how many drafts of requirements and specs/designs are needed will depend on how conversations proceed, whether new requirements arise during discovery, etc.

| Owner | Milestone/Deliverable | Date |
|---|---|---|
| **Pre-Build Phase** | **Requirements Gathering** | |
| Provider/Client | Kickoff call to discuss requirements and questions | 10/24/13 |
| Provider | Present basic requirements to build team, discuss scope and LOE | 10/31/13 |
| Provider | Internal meeting – more details on content, data structures, breakdown of project pieces, etc. | 11/1/13 |
| Provider | Generate ballpark LOE (team) | |
| Provider | Requirements first draft, including site map, delivered to Client | |
| Provider | SOW and ballpark cost estimate and proposed schedule delivered to Client (based on requirements) | |
| Provider/ Client | Call to discuss requirements, schedule, and cost estimate; feedback from Client | |
| Provider | Requirements second draft delivered to Client (if needed) | |
| Client | Signoff on requirements delivered to Provider/SOW signed | |
| | | |
| **Spec/Design, LOE, and Planning Phase** | | |
| Provider | Specification first draft delivered to Client (including initial designs) | |
| Provider/Client | Call to discuss questions/feedback on the Specification (First Draft) | |
| Client | Collected feedback delivered to Provider (as comments on draft spec) | |
| Provider | Second draft of Specification with designs delivered to Client | |
| Provider/Client | Call to walk through second draft of Specification | |
| Provider | Third draft of Specification, with full revised designs, delivered to Client | |
| Provider | Revised cost estimate/schedule delivered to Client based on final specification | |

| | | |
|---|---|---|
| Client | Signoff on Specification (Final), final designs | |
| | | |
| **Build/Demo/Launch** | | |
| Provider/Client | Build and test (authoring tool and site changes); demos during build; changes as needed | TBD |
| Provider | Import existing content into new authoring tool | TBD |
| Client | If needed, edit existing content within new authoring tool | TBD |
| Client | If needed, add new content within authoring tool | TBD |
| Client/Provider | Publish content to site and test for completeness/accuracy | TBD |
| Provider | Post to QA (site and authoring tool) | TBD |
| Provider | Post to Staging (site and authoring tool) | TBD |
| Provider | Post to Live (site and authoring tool) | TBD |

# 5 Appendix: Structural Organization of Client Content

## 5.1 How Modules Are Organized on Website X

**Competency and Category**

Medical Knowledge

- Anesthesia (6)
- Biostatistics and Evaluation of Evidence (1)
- Fluids and Electrolytes and Acid - Base Balance (6)
- Geriatric Surgery and End of Life Care (8)
- Immunology (4)
- Infection and Antimicrobial Therapy (8)
- Minimally Invasive Surgery - Principles (5)
- Nutrition and Metabolism (7)
- Oncology and Tumor Biology (9)
- Pharmacology (2)
- Preoperative Evaluation and Perioperative Care (8)
- Transfusion and Disorders of Coagulation (4)
- Wound Healing (4)

Patient Care

- Abdomen - Biliary (23)
- Abdomen - General (8)
- Abdomen - Hernia (9)
- Abdomen - Liver (11)
- Abdomen - Pancreas (10)
- Abdomen - Spleen (7)
- Alimentary Tract - Anorectal (12)
- Alimentary Tract - Esophagus (16)
- Alimentary Tract - Large Intestine (24)
- Alimentary Tract - Small Intestine (21)
- Alimentary Tract - Stomach (19)
- Breast (31)
- Endocrine (17)
- Endoscopy (6)
- Genitourinary (6)
- Gynecology (5)
- Head and Neck (4)
- Nervous System (2)
- Pediatric Surgery (13)
- Plastic Surgery (1)
- Skin and Soft Tissue (25)
- Surgical Critical Care (20)
- Thoracic Surgery (9)
- Transplantation (2)

- Trauma (58)
- Vascular - Access (4)
- Vascular - Arterial Disease (20)
- Vascular - Venous (7)

Systems Based Practice

- Economics and Cost Accounting (7)
- Financial Stewardship (6)
- Legal and Institutional Safeguards (5)
- Operations Management (4)
- Physician Organization and Leadership (7)

**Type**

- Operation/Procedure (142)
- Disease/Condition (248)
- Medical Knowledge (72)
- Systems-Based Practice (29)

**Level**

- Broad (212)
- Complex (16)
- Essential - common (70)
- Essential - uncommon (56)
- Focused (37)
- Medical Knowledge (72)
- Systems-Based Practice (29)

**PGY Year**

- Year PGY-1 (162)
- Year PGY-2 (114)
- Year PGY-3 (67)
- Year PGY-4 (62)
- Year PGY-5 (87)

**PGY Level**

- Junior (289)
- Senior (202)