# CONTENT MANAGEMENT STRATEGY & GUIDELINES

22.

**Date:**
June 2022

GOVERNMENT OF JAMAICA

# Document

| Date of issue/update | Created: 18-May-2022<br>Last review/update: 20-July-2022 |
|---|---|
| Status | <Production> |
| Created By | Ricardo Thompson |
| Owner | The Office of the Cabinet - Government of Jamaica |
| Version | 1.4 |

# Revison History

This document should be reviewed at least once every three(3) years.

| Version | Editor | Revision Description | Date |
|---|---|---|---|
|  |  |  |  |

# Table of Contents

## Acronyms

| | |
|---|---|
| **Eg.** | Example |
| **CMS** | Content Management System |
| **GoJ** | Government of Jamaica |
| **MDA** | Ministries, Departments and Agencies |
| **MECE** | Mutually Exclusive, Collectively Exhaustive |
| **MIS** | Management Information Systems |
| **OCR** | Optical Character Recognition |
| **PPT** | People, Process and Technology |
| **ROT** | Redundant Outdated Trivial Content |
| **SEO** | Search Engine Optimisation |
| **UI** | User Interface |
| **URL** | Uniform Resource Locators |
| **UX** | User Experience |

# Definition of Terms

| | |
|---|---|
| **Content** | Physical or digital information being used internally or externally |
| **Content Governance** | A set of guidelines on how the organization's content is created, and published. |
| **Content Inventory** | A catalogue of all the content on the website. |
| **Content Management System (CMS)** | A website management software that allows users to create, manage and publish content to their website. |
| **Content Strategy** | The strategy that focuses on the planning, creation, delivery and governance of content. |
| **Content Type** | A reusable form of content. |
| **Digital Media** | Content that has been converted from physical to digital (e.g. website, portals, social media, intranet) |
| **Dynamic Content** | Any digitized form of content that can be change on demand. |
| **External** | Refers to GOJ specific entities outlined in the appendix. |
| **Government to Business (G2B)** | The transactional medium for delivering service from the government to businesses |
| **Government to Citizens (G2C)** | The transactional medium for delivering service from the government to citizens |
| **Government to Employee (G2E)** | The transactional medium for delivering service from the government to employees |

# Definition of Terms

| Government to Government (G2G) | The transactional medium for delivering service from the government to government |
|---|---|
| Internal | Refers to what happens within the organization |
| Lightweight Directory Access Protocol (LDAP) | Software protocol for managing and providing access to an information directory. |
| Link | Refers to URL |
| Metadata | Data describing data. |
| RACI | R = Responsible (also recommender) Those who do the work to complete the task.<br><br>A = Accountable (also approver or final approving authority)<br><br>The one ultimately answerable for the correct and thorough completion of the deliverable or task.<br><br>C = Consulted (sometimes consultant or counsel)<br><br>Those whose opinions are sought, typically the one who is an expert or who will be impacted by the change.<br><br>I = Informed (also informee)<br><br>Those who are kept up-to-date on progress, often only on completion of the task or deliverable. |

# Definition of Terms

| | |
|---|---|
| **Search Engine Optimisation (SEO)** | Process of optimizing a website to be better accessible to search engines |
| **Static Content** | Digital content on the website that is not easily and normally changed. |
| **Taxonomy** | Structure for classifying content. |
| **Website Audit** | An examination of website content, performance, design and SEO. |

# Background

The Government of Jamaica is focusing more than ever on the digital transformation of its entities and online delivery of services, specifically through the GOJ's websites. As a result, there is an even greater need to ensure a clear strategy for organizing and managing the structure, currency, relevance, and accuracy of the design and information available to citizens and stakeholders.

While we know where we need to go, we must first acknowledge the issues that have been identified with the majority of the GOJ websites. Unfortunately, there are numerous issues that plague the GOJ's websites, including but not limited to:

- Non-uniformity among government-owned websites - There is no uniform look and feel for government websites. A standard header and footer should be in place to identify government sites.
- Non-standardized information - Information displayed on each government website, is similar in context but structured completely differently on each site. An example of such information is the "About" for each entity; the about is present on some sites, absent on others, or inconsistent as it relates to information that should be available when describing what the entity does, who is the head of the entity and so on.
- Media such as images, videos, audio, and documents, are not represented in a standardized manner with enough accessibility options. Lack of accessibility features, such as no transcripts provided for audio files and no closed captions for videos; images used to display content that should be converted to dynamic content.
- Government files are also hosted and shared on public file servers such as Google Drive and Microsoft OneDrive.
- Duplicated or out-of-date content - Content that is duplicated on other pages of the website or content that has passed its lifespan still existing on the website.

- Website blocked by security protocols - Various government agencies have had issues accessing their own government websites from within the organization. This creates an issue for timely updates of website content.
- Broken URLs - Refers to website links that go nowhere or display a page that cannot be found error. Also important to note are links that have been updated on the website and are no longer being used, but are still being referenced by major GOJ stakeholders' sites and portals.
- Need for Mobile Responsiveness - Several sites are currently not mobile responsive, even though the majority of users now use their mobile devices to access government sites and services.
- Poor ranking on Search Engines - Users looking to consume or find information on government services are not able to find the appropriate government site, because the sites are not optimized for search engines to return the sites based on popular keywords.
- Lack of a mechanism to manage and communicate the changes that will keep the site up to date and inform the major GOJ stakeholders that reference the content.

An assessment of 40 government websites was conducted, assessing the following;

1. SEO - With the use of popular or direct keywords 65.8% of Google search results listed each site within the first three (3) results returned, the other 34.2% either ranked outside of the top 5 results or were not returned on the first page. Further analysis was done to see if each site has an Alexa ranking within Jamaica and only 71% of the sites were ranked by Alexa Rank Checker; the expected results should be 100% ranking of all GOJ websites.
2. Mobile Responsiveness - Only 42.1% of the websites were mobile responsive or mobile-friendly.
3. GOJ Branding - 18.4% of websites assessed contained no GOJ branding - no standard branding to communicate that the site was a government-owned website. The other 81.6% had some form of branding but was not standardized. Eg. Content placed above the coat of arms, some sites have "Government of Jamaica" with the flag to the left, while some have it on the right.
4. Broken Links - 89.5% of the websites assessed have links or URLs that resulted in errors. The links either went to a page not found, showed a server error, or resulted in going to other websites not associated with the link name or intended path.

There is now a definite need to develop a strategy for structuring and directing content management within each Ministry Department and Agency (MDA). In order to function in unison, an agreed protocol for communicating changes to individual MDA's websites to relevant stakeholders who consolidate and reference the GOJ services must be in place. The advantages of successfully implementing this strategy are immeasurable.

# Introduction

The Content Management Strategy and Guidelines is a living document, governed by the Content Management Policy and is to be used in tandem with the Digital Media Standards Manual. This document should be reviewed at least once every three years, or as outlined in the Content Management Policy. This document is written to provide strategies and guidelines to all website or portal contributors within the Government of Jamaica (GOJ's) Ministries, Departments, and Agencies (MDAs) on how to structure and manage content for the government's content-managed websites and portals. It is contextualized around GOJ-owned and managed websites, specifically websites and portals that have content management functionalities.

## Stakeholder Engagement

The approach to developing this strategy document was to ensure that as many entities were able to share opinions and insights on the way forward. From the over two hundred (200) MDAs, virtual meetings were held with 48 priority MDAs to discuss the Digital Media Standards Manual, and the GOJ Service Assessment Tool (SEAT) and to provide input for this Content Management Strategy and Guidelines. This process started in 2021 during the COVID-19 pandemic and continued over to 2022. The feedback and assessment from each MDA assisted in the development of all three components (Digital Media Standards Manual, Content Management Strategy & Guidelines, and GOJ SEAT). We were able to assess the current situation and assess over 40 GOJ websites to identify gaps in standards, brand communication, service delivery, and technical deficiencies. The Content Management Standards and Guidelines document was developed from the findings and numerous Drafts presented and circulated for comments of various MDAs with oversight from the Portal Technical Working Team (PTWT) and the relevant comments and changes were incorporated in the final document. Further details are provided in the **stakeholder engagement and sensitization** section within the appendix.

This content management strategy and guidelines document focuses on the planning, creation, delivery, and governance of content. Content not only includes the words on the page, but also the images and multimedia elements used. The goal of this content management strategy is to create a standardized look and feel, workflow, and a consistent framework for communicating changes to stakeholders. Achieving these goals will also help to ensure that the content is useful, usable, and well structured.

This is a guide towards assisting with keeping content secure, useful, and usable throughout the content's life cycle. It is intended to serve as the foundation for understanding how to get the vast amounts of information and services offered by the government to recipients who may not understand how to get them, or even know that they exist in the first place.

The document is divided into two (2) sections, Strategy, and Guidelines. It is further subdivided as follows:

**Strategy**
- Content Management Strategies
- Workflow Management Strategies
- Change Control Strategies

**Guidelines**
- Content Guidelines
- Page/Website Guidelines
- Change Guidelines

Each MDA and its employees bear overall responsibility for implementing this strategy and its guidelines. Special effort is required from the heads of entities and the website contributors to ensure that the mechanisms outlined in this document are executed, and retained over time.

# Strategy

# Strategy

The main mandate of the MDAs is to effectively provide services to citizens, residents, and non-residents of Jamaica. The GOJ is now moving towards a digital government and therefore the MDA's website and portal which is a medium to which information and the delivery of services are provided becomes critical. Therefore, it is important that the content and processes complement the transactional service as it relates to the steps and documents needed to complete the process. All government websites must have a standardized look and feel that will allow the users to feel safe when transacting business on a government website.

A solid content management strategy is built around your organization's goals and strategic objectives. It is critical that each MDA develops its own strategic objectives and Specific, Measurable, Achievable, Relevant, and Time-bound (SMART) goals as they seek to execute digital service delivery in alignment with the organization's mandate.

## Strategic Goals

The following strategic goals must be used when implementing this document:

**Strategic goals:**

- Ensure that your organization's website adheres to the standardized look & feel outlined in the Digital Media Standards Manual
- Establish a workflow for managing content as stated in the Content Management Strategy & Guidelines document
- Utilize the framework for handling & communicating change

# Strategic Objectives

The following strategic objectives should be considered but also expanded and tailored to your respective MDAs.

- Simplify instruction and processes for accessing services via the website
- Increase citizens/residents/non-resident/diaspora usage of website or portal
- Increase website or portal ranking on popular search engines
- Manage the entities brand message effectively
- Tailor content to specific customers
- Achieve proper knowledge management and searchability (including the consolidation of segmented information across multiple locations)
- Improve customer service delivery
- Increase internal collaboration with website contributors
- Communicate changes to major stakeholders in a timely manner

As the strategic goals tend towards the ideal, the streamlining of content creation and delivery should also be realized.

# Organization Readiness Assessment

## Overview

An organizational readiness assessment is a measurement of the preparedness of your organization to undergo a major change or take on a significant new project. This assessment must be focused on identifying whether your organization has: 1) a team to contribute and manage website changes, 2) to identify whether or not the organization has the tooling required to implement the changes, and 3) to decide if your organization has the financial or human resources to undertake and sustain the changes.

This assessment will be done for each MDA with the assistance of other parties to determine the awareness and capacity of your organization towards preparing and executing the strategies outlined. The organization readiness assessment will identify the needs and any critical gaps within your organization, and how they can be addressed for alignment.
Once the organization readiness assessment is complete, the next phase will begin, which will be the implementation of the strategies outlined in this document.

If the assessment determines that an entity is not ready, it also helps the organization to identify and plan required actions in order to proceed to higher readiness levels.

# Content Management Strategies

## Overview

Content Management focuses on the "Creation" process; which includes writing, categorization, findability, quality, security, and governance of the content. The focus of this strategy is to guide website contributors through the process of sourcing and managing the content for the website.

Over the last two decades and with the rise of web 2.0, Content Management Systems (CMS) have become very popular. The needs of the citizens are constantly changing, therefore in communicating the changes and bringing awareness of services offered by the GOJ, a content management system will provide the flexibility to dynamically change the content as necessary.

A Content Management System (CMS) is a web application that is designed into two components: a changeable user interface, and an administrative backend linked to a persistent database. The changeable user interface allows for the presentation of content to the user through an approval functionality, typically known as publishing. The administrative backend is linked to a persistent database, where an administrative user is able to create, organize and publish the content to the user interface. All the user interface and administrative changes are saved in a persistent database for easy retrieval by the CMS. The CMS is typically used as a website that allows the administrative/designated user to make updates and deletions, and publish content to their end-users with little to no code changes required.

As stated in the introduction, the strategy is based on the assumption that the GOJ websites are using CMS functionalities.

The following are 7 steps that should be taken in executing the content management strategy:

1. Determine the target audience
2. Determine the content requirements
3. Determine how the content will be presented
4. Establish the Content Management System (CMS) features needed
5. Categorize the content
6. Secure the content
7. Improve Search Engine Optimization (SEO)

## 1. Determine the Target audience

Each MDA must determine whom their target audience is, both main and secondary, upon extending this strategy to meet their own internal needs. However, regardless of the segments of niche target served by each MDA, each MDA should classify its main targets within one or more of the following target groups:

| Target Group | Service Delivery |
| --- | --- |
| Citizen/Resident/Non-Resident | Government to Citizens (G2C) |
| Business | Government to Business (G2B) |
| Employee | Government to Employee (G2E) |
| Government | Government to Government (G2G) |

Within each of the main target groups, MDAs can further define their niche targets or secondary targets.

Examples of such secondary targets are "Prospective Homeowners" or "Employed Individuals in Jamaica between the ages of 18 and 70 years old".

It is recommended that each MDA develop customer profiles or personas for their secondary target audience. A customer profile or persona has attributes that will better identify the ideal target and how to deliver content, communication, and services to them.

The following is a customer profile for the National Housing Trust, new homeowner service:

### Sample Customer Profile for the National Housing Trust



**Gender:** Female
**Age:** 25 - 45
**Marital Status:** Married/Single
**Work Status:** Employed
**Gross Monthly Income:**
J$100,000 - J$250,000
**Communication Engagement**
**Channels:** Facebook, Instagram and NHT website

# JANE DOE

Service Delivery: G2C
Primary Target: Citizen
Secondary Target: Prospective Homeowner

**Factors influencing decision:**
- NHT contribution compliance status
- Affordability with current expenses
- 100% financing of purchase if she is single
- Location of NHT housing or availability of property within desirable locations

**Messaging:**
- Use testimonial content to influence compliance or success stories of using the NHT service

Sites such as hubspot.com and hootsuite.com provide tools and guides for building out custom user personas to help you better understand your target audience and communicate the right messaging to them.

## 2. Determine the Content Requirements

To effectively understand the content needs of your entity, there needs to be a culture of communication within your organization. In the planning phase of the content creation process for your organization, establish channels to communicate and collaborate on the identification of content needs and how to retrieve and convert this content to a digital form that can be content-managed.

It is critical that the content that has been identified to be added to the site is not just in a static format, especially if it is content that will need to be updated over time. See the table below to be used as a guide to determining whether a piece of content should be dynamic or static:

| Criteria | Dynamic | Static |
|---|---|---|
| Has date or time that may change in the future | ✓ | ✗ |
| Services that may change | ✓ | ✗ |
| Notices that have a lifespan | ✓ | ✗ |
| Has specific relevance (e.g. to a project or particular message, etc.) | ✓ | ✗ |
| Standard Header & footer as outlined in the Digital Media Standards Manual | ✗ | ✓ |
| Media (Images, Videos, Audio, Documents) | ✗ | ✓ |

The flyer below is an example of content that can be converted to dynamic content, or scheduled to be removed after the last date of expiration. In the event that any content needs to be changed on this flyer, the entire flyer will have to be re-uploaded, versus changing the specific content that needs to be changed.

Flyer showing Government Electrical Regulator (GER) exam dates.



You can also identify content opportunities by conducting a content audit and gap analysis of your existing website or content catalogue. Your existing content can also tell where users find the most relevant content and the areas that need to be improved based on your website traffic analysis.

# 3. Determine how Content will be Presented

All GOJ websites and portals must have an intuitive, useable, and consistent look and feel across all GOJ websites; this is to ensure that citizens and businesses can interact and transact with business in a simple and straightforward manner. Any content that is placed on the website, whether knowledge-based or service-oriented must adhere to the standards for design and layout (See 2.7 Web Design - Digital Media Standards Manual).

Each entity will be required to have a team member within the website-contributors team that has experience with User Experience and/or User Interface Design. This skill set will be an asset in the planning of content onboarding and presentation on the CMS.

## *4. Establish the Content Management System (CMS) features needed*

There are numerous content management tools available, and each Content Management System (CMS) has its own unique user experience and feature set. Therefore, considering the right CMS that will work best for your team, and the type of content that will be presented using said CMS is essential. Along with the CMS, it is important to take note of the tools that are already available and being used internally and across other MDAs to create and produce content. This might assist you in structuring the user experience to promote ease and efficiency. For instance, embedding your CMS with frequently used applications or plugins with similar designs and functionalities makes it possible to guide content creation in real-time.

Often content contributors prefer to use common tools like Microsoft Word and WYSIWYG, so your new CMS should integrate as seamlessly as possible with these tools or components.

Because the CMS facilitates the creation, and management of content with little to no coding experience needed, it is important to identify the right CMS with the right features to enable an effective workflow:

- **Creating and Editing content** - A minimum requirement, the CMS should easily be able to create, edit and publish content.

- **Workflow management** - The more people are involved in the process of contributing to your website, the greater the need for functionalities to manage how content gets to your end-user.

- **User and Role-based administration** - Having control over who can access content and features will save you a significant amount of time and will be scalable as the team increases or decreases.

- **Theme customization** - Select a CMS that will allow you to change the theme or allow for theme customization. Being able to change how the homepage is laid out or change the color scheme is an important function as it relates to the visual appeal of the website.

- **Reporting and Analytics** - A good CMS will have some form of reporting or analytics. Being able to track the visitors to the website and the pages that are viewed the most is important as you tailor your content to your target audience.

- **Revisioning** - The revisioning functionality provides the ability to version content as it passes through the CMS. This becomes helpful when multiple contributors are contributing to one piece of content.

- **Flexibility and interoperable** - Ensure that the CMS has the capabilities to integrate with other systems whether through an Application Interface (API) or other means. Also, the CMS must have a library of compatible plugins to expand features that may not be available by default.

- **Search Engine Optimization (SEO)** - The CMS, by default, should be searchable by popular search engines and adhere to common SEO guidelines.

- **Secure** - The CMS must have a vendor or a community that will provide continuous security updates and patches. The CMS should also support encryption and hashing algorithms.

- **Recommended CMSs** - **See appendix - Recommended CMSs** for details on four (4) of the recommended CMSs for GOJ entities.

### 5. Categorize the Content

Categorization of content is an important step in the mapping of content and the scaling of the content management process. To properly categorize your organization's content, a website audit and inventory are required.

A content inventory is a list of all the content on your site. Your inventory will typically include text, images, audio, videos, documents, and applications. To gain insight from your inventory, you will need to assess each piece of content. Doing so will help you understand what is on the site if it is located properly and whether the content is up to date. A content inventory considers the content goals and objectives.

Once goals are determined, you will be able to note what information to include. Although inventories vary in what they capture, most include the following "raw" data for each piece of site content:

- Unique Content ID
- Title
- URL
- File Format (HTML, PDF, DOC, TXT...)
- Author or Provider
- Physical location (in the content management system, on the server, etc)
- Meta Description
- Meta Keywords
- Categories/Tags
- Dates (created, revised, accessed)

This content inventory can now be used to audit the website while considering content goals and objectives. A website audit using the content inventory can track:

- Whether content needs to be revised
- What content is needed
- What pages should be removed
- What pages/content are missing

A content inventory requires some critical components, such as Categories/Tags and Metadata. It is important to see the information architecture and how all pieces come together to feed the content inventory.

Information Architecture focuses on enabling content findability within content management operations. The architecture outlines the various segments that combine to increase content findability. The various segments include site design, content taxonomy, folksonomy, inventory, and metadata/indexing. Each segment plays a vital role in the tagging and categorization of content.
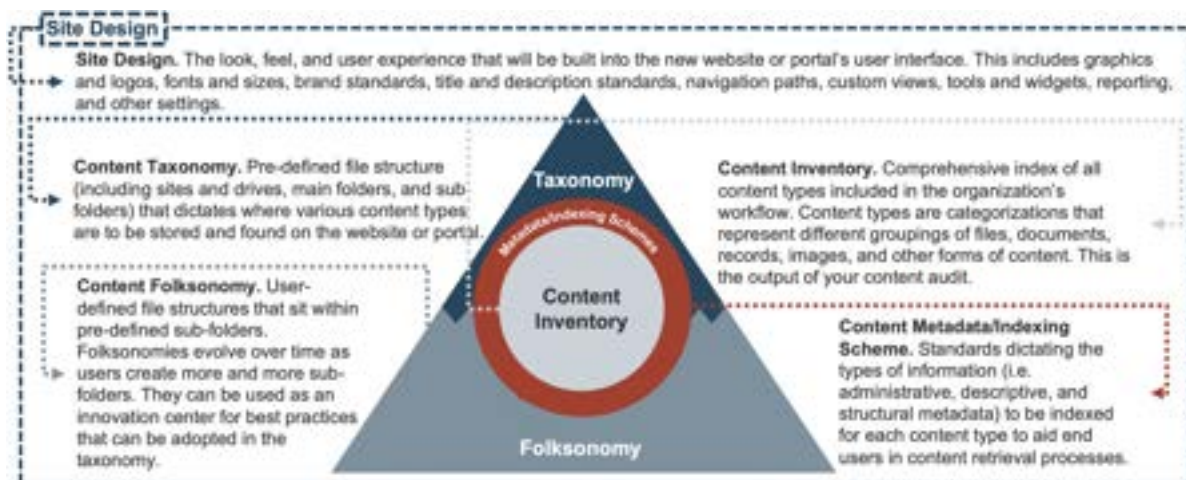
Figure 4: Diagram showing information architecture -diagram from (Jenkins & Smith - InfoTech.com, 2016)

Taxonomy is a structured, hierarchical way to sort information based on its shared characteristics. In content management and information architecture, taxonomy is used as a tool for organizing content. The development of an enterprise taxonomy requires the careful coordination and cooperation of departments within your organization. The taxonomy provides the tagging and categorization structure for your digital assets that enable the users to easily find the information that they need to make a decision. There are two basic components to a good taxonomy:

1. a well-defined and intuitive structure
2. a set of content types and associated attributes.

## *Taxonomy Design*[1]

### Defining Content Types

Be mutually exclusive, collectively exhaustive (MECE) – when defining content types.
For example:

- Finance and HR both produce monthly reports, however, they communicate different things and are thus defined as two separate content types.
- Employees of different departments fill out the same expense report and is thus categorized as one content type.

### Defining Metadata Fields

Take a holistic approach; consider how the three different metadata types apply to your content assets:

- Administrative – describes content technical characteristics and access rights.
- Descriptive – which aids in discovery and identification of content.
- Structural – which describes the way the content relates to business processes.

### Classifying Content for Transformation

Think critically about your content backlog and reduce your work:

- Purge any content that fits the redundant content, outdated content, and trivial content (ROT) model.
- Archive any content that holds sentimental, strategic, or historic value outside of mandated retention periods.
- Migrate any content within retention periods or which otherwise holds strategic organizational value.

### Designing Taxonomies

- Keep sites, drives, folders, and sub-folders MECE (mutually-exclusive, collectively-exhaustive). Each area of the taxonomy should be distinct from the others to allow for logical browsing and identification of storage locations.
- Keep the number of top-level sites and drives to within +/-2 of the number of unique stakeholder groups (departments, divisions, etc.)
- Keep top-down imposed taxonomy designs shallow. Do not try to impose any more than three levels of taxonomy.
- Let the "folksonomy" work for you. Allow users to have their own creative freedom beyond level three. Periodically review users' storage patterns in the folksonomy to identify best practices that can be worked into the formal taxonomy design.

---

[1] Reference to (Jenkins & Smith - InfoTech.com, 2016)

**Metadata/Indexing**

Metadata and indexing standards dictate the types of information (i.e. administrative, descriptive, and structural metadata) to be indexed for each content type to aid end users in the content retrieval processes. Examples include meta-description and meta-keywords.

By properly categorizing your content through the use of tags, taxonomies, and intelligent meta descriptions, the findability of your content will be improved once published to the CMS or portal.

## *6. Secure the content*

Securing content that has been added to the CMS or portal is of extreme importance, and no effort should be spared. Content Management System security has three (3) main areas of focus:

1. User Access, Roles, and Permissions
2. Infrastructure file security
3. Database Security

**User Access, Roles, and Permissions**

As it relates to access control, there are two ways that would be recommended to government agencies for internal access control: Lightweight Directory Access Protocol (LDAP) and CMS-provided username and password login with hashing functionalities.

LDAP is a mature, flexible, and well-supported standards-based mechanism for interacting with directory servers. Typically, modern CMSs natively support the integration of LDAP or via plugins. There are several benefits to using LDAP, such as managing users and access rights from a centralized system or mechanism and managing users with already established IT policies.

The other recommended option is to use the built-in registration and username and password functionalities provided by the CMS or portal. Typically, using the native access point provides password hashing, strong password creation, and email verification functionalities. These access point capabilities are thoroughly tested and improved on but require users to register and user management will now have to be managed from an external tool (the CMS).

Managing the roles and permissions for all content created, published, and managed on the CMS or portal is extremely important. This is essential because not everyone should have the ability to make content or user roles and permission changes. Managing roles and permissions are typically done from within the CMS, regardless of the access control mechanism used.

**Infrastructure file security**

Once files and content have been stored in the CMS, it is critical that there is strong infrastructure security in place. The second most exploited security vulnerabilities are at the infrastructure level. The following are some steps for securing the file system:

1. Securing the CMS configuration files, which are typically plain text files, is crucial. The CMS configuration files tend to contain the information needed to access the database, and also locations for files uploaded to the CMS.
2. Securing the public or uploads folder is equally important. Files that are typically uploaded to a CMS can be harvested outside of the CMS if not given the appropriate permissions from the infrastructure level. Ensure that the uploads directory is only accessible by the CMS and administrator accounts.

**Database Security**

A CMS stores the majority of content for the website in the database, and the content that is not stored has meta-data referencing the physical location where the content is actually stored. Therefore, securing this component should be of the utmost importance. Typically, the user information is hashed and stored within the database, but the majority of the content is stored as plain text.

Government sites that store Personally Identifiable Information (PII) such as addresses, contact details, Tax Registration Numbers (TRNs), National Insurance Scheme (NIS) numbers, and other identifiable information need to spend more time and effort to secure this information.

A good practice for securing this information is to encrypt the data tables that hold this information. For performance reasons, not all tables would be recommended to be encrypted but if performance is a factor, choose the tables that contain PII as priority tables.

Another good practice in your architecture design for your CMS website is to consider hosting your database on a separate server from the CMS application. This helps in the event of a Denial of Service (DOS) attack on the application server that holds the CMS.

## *7. Improve Search Engine Optimization (SEO)*

Search Engine Optimization is the process of improving your content-managed website visibility on search engines. Search engine optimization is complex and ever-changing, but the right tagging, meta-keywords, and human-friendly URLs can make a significant improvement in the searching and ranking of your content management website on search engines. Reference the Digital Media Standards Manual section 2.16 for more information. The following are some of the steps to have a successful SEO:

1. Create and setup robot.txt to enable search engine indexing
2. Create compelling content that answers the searcher's query
3. Ensure keyword optimization to attract searchers & engines
4. Create an intuitive user experience and fast load speed
5. Ensure content is linked to other websites or platforms. Eg. Linked on gov.jm
6. Use human-readable page titles, URLs, & descriptions
7. Setup and properly structure a sitemap for the CMS

The preceding eight (8) steps are effective strategies for identifying content needs, acquiring content, presenting content, managing content and securing content. These strategies are aimed at speeding up the content creation and delivery process.

# Governance Strategies

Content Governance constitutes the process of planning and effectively managing content. A content governance structure focuses on the set of rules and processes put in place for content success. Therefore, having a strong governance structure to manage how content will be created, prioritized, approved, and published is essential.

Content governance is a combination of People, Processes, and Policies that guide the management of content through its lifecycle. This governance strategy is segmented into three (3) sections:

- Workflow Management
- Team & Roles
- Approval & Process Flow

The adherence to the processes and the recommendation for roles and responsibilities within this strategy is crucial to its overall success. Ensure to reference the Content Management Policy and any other relevant policies that support content governance.

## Workflow Management

Workflow management focuses on the "Approval/Publication" process; that is, the establishment of a workflow that works for adding, approving, and publishing the content.

Workflow management will also enable an organization to structure the processes and human resources needed to manage processes and roles within the organization.

The following are Content Governance Models that your MDA should be aware of for setting up a team within your internal workflow.

## A. Centralized Model

The Centralized model uses a user-focused approach combining quality and strategy. In this model, one team manages all the content and one set of processes and standards are used. The approval of content is centralized to that one team.

Figure 1: All content is sent to a central team and the team applies the strategic content measures and quality checks
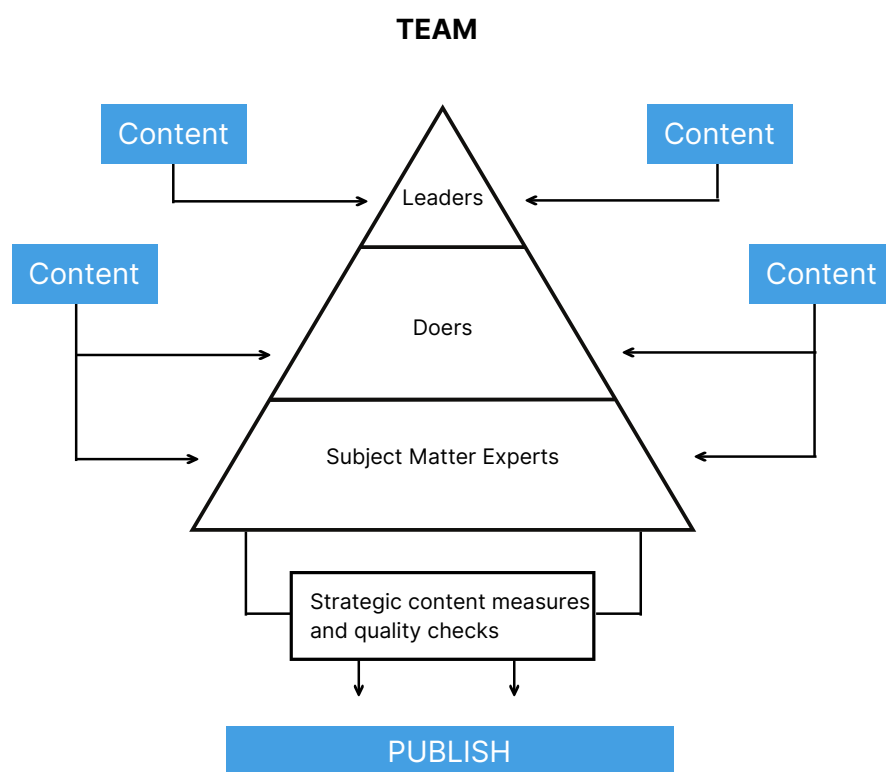


**Pros:**
- This is a good model to be used to strengthen team capacity.
- This also helps to identify content gaps.
- Quality checks and strategic alignment of content are already built into the process.

**Cons:**
- There can be delays in agreeing on content decisions.
- Can be a challenge in engaging all the team members to make a decision in a timely manner.

## B. Decentralized Model

In the decentralized model website, contributors have the autonomy to create and publish their own content. It is typically impossible to manage the quality standards such as editorial consistency and the look and feel of the content.

Figure 2: All contributors are able to publish content without any revision or approvals.

**TEAM**
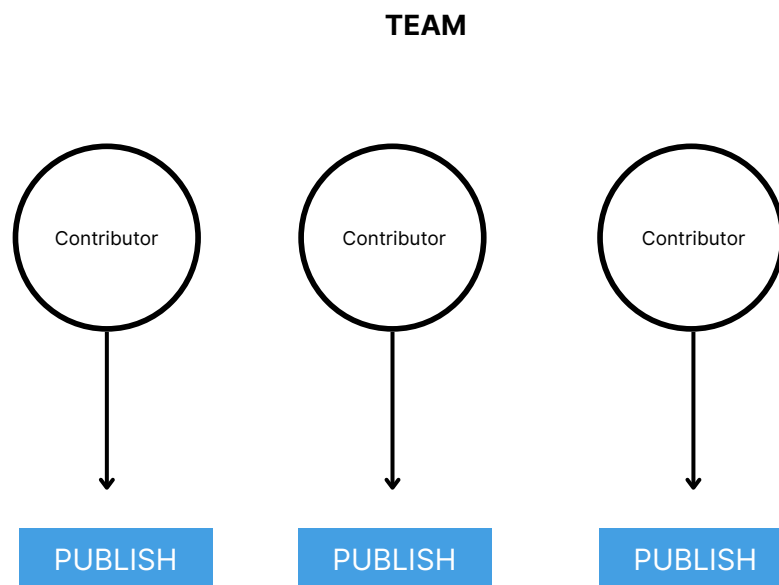


**Pros:**
- Little to no approval required and content can be quickly published.
- Changes to the website can be done at a faster rate.

**Cons:**
- It is impossible to manage quality and content strategic alignment.
- Prone to errors and inconsistency on the website.
- Increased risk for succession planning and reduced accountability.

### C. Hybrid model (The Recommended Model)

The hybrid model is a combination of centralized and decentralized models. Content is prioritized by the central team and autonomy is given to contributors to publish content with a low site impact, such as posting a new career post or new Request for Proposal (RFP). Content that has a higher site impact, such as creating a new page or adding content to the home page of the website, goes through a quality check and approval process and is published by the centralized team.

The recommended model for this strategy is the Hybrid Content Governance model because it facilitates scalable collaboration while maintaining a strong governance framework.

Figure 3: Contributors send content to central team for quality check, the team the content and allow contributor to publish low site impact content. Content considered to be high site impact is published by the central team.
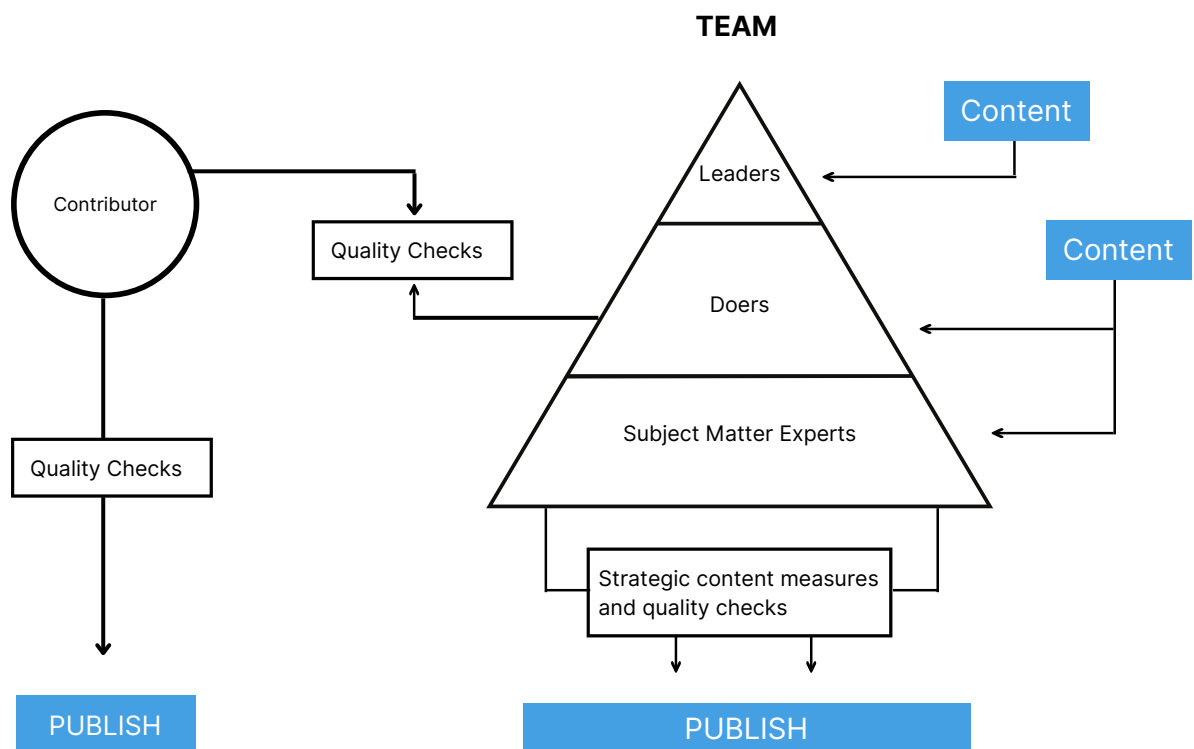
**Pros:**

- Accountability and ownership are extended to organization members outside of the core team.
- Low-site impact content can easily be added to the website while the core team focuses on high-site impact content.
- Content types can be defined to make decisions on low profile content and high profile content easier.
- This is a good model to be used to strengthen team capacity.
- This also helps to identify content gaps.
- Quality checks and strategic alignment of content are already built into the process.

**Cons:**

- There needs to be strong governance and commitment from leaders.
- Without roles and responsibilities, tasks can be unclear and resources can become stretched.
- This model is considered to be high maintenance and requires constant communication and coordination to be successful.
- There can be delays in agreeing on content decisions.
- Can be a challenge in engaging all the team members to make a decision in a timely manner.

The hybrid content governance model is the recommended model to be used within the MDAs. This model provides the most robust and structured workflow to facilitate collaboration within your organization. Further details are outlined below on the roles and responsibilities that are needed to support this model.

# Roles & Responsibilities

In some entities, website contributors are mainly the Communication Unit and the MIS Unit that develop and manage content for the CMS. However, this model is designed to facilitate even greater collaboration between other subject matter experts within the organization.

The roles and responsibilities should be used to construct a cross-discipline team in order to strengthen the governance structure of the core team. The team should be made up of Leaders, Doers, and Subject Matter Experts.

The following outlines some of the roles and their corresponding responsibilities. However, this list is by no means an exhaustive one. It can be advantageous to set up a team and attach key roles with responsibilities to individuals who are already within your organization. Feel free to add more roles and responsibilities as deemed necessary. Multiple roles can be attached to a single individual, once there is no conflict in the principle of the roles. For example, a Content Author should not be the Content Approver of his or her own content. However, a Content Approver and Process Owner Role can be assigned to the same individual.

The following table outlines the roles, responsibilities, and RACI for the workflow when publishing content as a team.

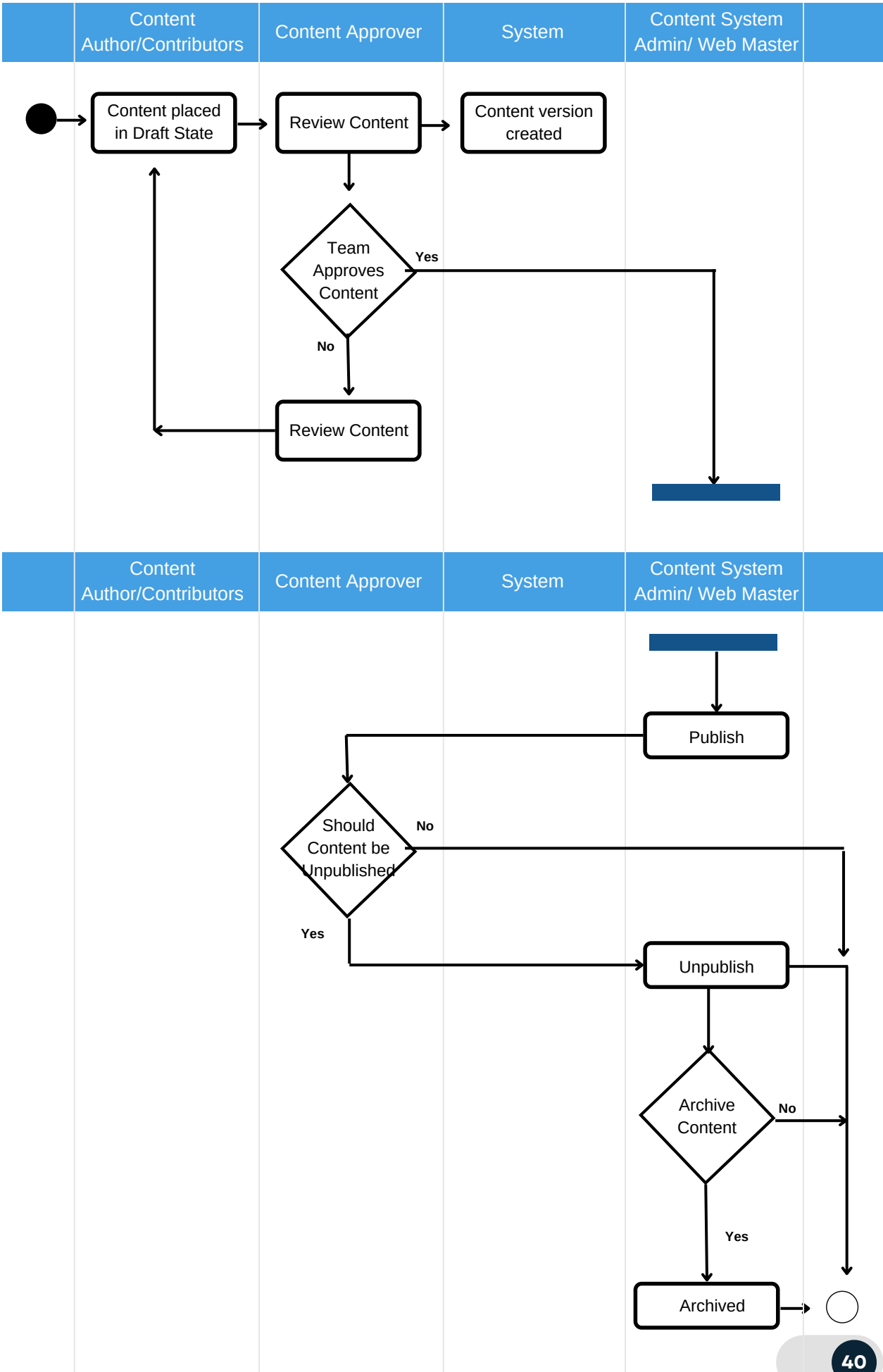| Roles | Responsibilities | Responsible, Accountable, Consulted and Informed (R,A,C,I) |
|---|---|---|
| Content Author/Contributors | Those who create, edit, and update content assets. | R |
| Content Owner | Those who are directly responsible for the narrative of the content. | R,A,C |
| Content Approver/Manager | Those who guide and approve content development. | A,I |
| Content System Admins/Web Masters | Those who configure, manage, and support the Content Management System. | R,A |
| Process Owners/Managers | Those who are responsible for workflow process execution and/or those who are accountable and oversee continuous improvement of the workflow. | R,A,I |
| Compliance Officers | Those who define content/information governance policies in-line with external and internal regulations. Also inform external parties of changes to the site and their impact on external sites. Establish content retention rules and timelines. | C,I |

# Approval & Process Flow

The establishing of an optimized and clear workflow, specifically in the stages of content handling, is essential to the quality management process. This workflow can also be automated in a variety of Content Management Systems/tools.

The table below is an outline of the typical statuses and lifecycle for content.

| Status | Status Description |
|---|---|
| Draft | New or existing content that is awaiting review. This can be content that was previously published but edits have been made and need to be reviewed, or new content awaiting review. |
| Review/Reviewed/Approved | At this stage, a Content Approver reviews the content to be published. Reviewed/Approved status indicates that the content meets the requirements to be published. |
| Changes Required | A Content Approver flags the content as "Changes Required" and content remains in Draft state. |
| Content Version Control | A system automatic versioning/revision of content. |
| Published | Published content is content that has been reviewed and approved to be published. |
| Unpublished | Content that has been removed from the published state and is no longer publicly visible. |
| Archived | Archived status refers to content that has been unpublished and stored for long term retention. |
| Destroy | The destruction or deletion of content can be described as the removal of Redundant, Outdated and Trivial (ROT) content permanently. |

The diagram below outlines the recommended workflow for managing content at a variety of stages with a team and using the Content Management System (CMS).

| Content Author/Contributors | Content Approver | System | Content System Admin/ Web Master | |
|---|---|---|---|---|



| Content Author/Contributors | Content Approver | System | Content System Admin/ Web Master | |
|---|---|---|---|---|

Additional layers of approvals and roles can be considered based on the internal requirements of your organization. The above workflow can easily be added to your Content Management System to automatically move content and notify the relevant team members to execute the next step.

## Content Retention Plan

Over time, your organization would have compiled a large amount of content. Some content would have reached its end of life and would have been unpublished from the site. As the amount of unpublished content grows, you may want to delete permanently, or archive the content and move it to external storage to make more storage available.

Your content retention plan should comply proactively with Policies (Records and Information Management Policy - RIM 2018), Legislative, and Regulatory Frameworks that dictate the minimum period of time content should be retained, and what type of content should be permanently deleted.

In your retention plan, there are two common actions or decisions that you will need to make:

| Action | Purpose |
|---|---|
| Retain Content | Prevent permanent deletion and remain available |
| Delete Content | Permanently remove content from your organization |

Based on the two aforementioned retention actions, you should classify your content into the following groups or categories:

**Retain-only:** Retain content forever or for a specified period of time.

**Delete-only:** Permanently delete content after a specified period of time.

**Retain and then delete:** Retain the content for a specified period of time and then permanently delete it.

The destruction or deletion of content can be described as the removal of Redundant, Outdated, and Trivial (ROT) content permanently.
The following are the criteria for reviewing ROT content. MDAs are encouraged to develop their own criteria for reviewing ROT content, based on their own needs and resources.

**Redundant**
- Content is duplicated elsewhere.

**Outdated**
- Orphan web pages – there is no way to navigate to the page;
- Outdated content – content that is no longer relevant;
- Discontinued programs or past events;
- Content is written in the wrong tense ("will be" for a date in the past); and
- Not Web-friendly (e.g., a list of bullets or links without any context)

**Trivial**
- The webpage is not relevant or informative for the audience;
- Web analytics show low to no page views or visits;
- The title of the webpage doesn't match the content.

# Change Control Strategies

Change control focuses on "Website/Portal Content Maintenance"; communicating with relevant stakeholders and determining targets for success measures. A variety of changes can be requested for your existing websites or portals; some of these changes are outlined in the table showing the types of changes to be communicated to stakeholders. These requests should be collected in a standardized manner and documented using a change request form. This strategy focuses on the management and communication of internal and external change requests.

## Handling Internal Support or Change Requests

An internal change request is any request that comes from within the organization requesting changes to the content management system (CMS) website.

The collection of support or change requests can be done via an already established ticketing system or an internal process for documenting such requests. In the event of an absence of a ticketing system, all requests should be documented in a support form or a change request form. All changes should also be subsequently logged in a request log file or system and communicated to the centralized Team (outlined in the Governance Strategy) in charge of the website.

Each request form should have the following fields:
- Change/Request ID
- Task Name
- Description of Change/Request
- Requester
- Completion Status
- Feedback/Comments

Changes made to the CMS or portal may impact other stakeholders. Consequently, changes need to be logged in a centralized changed registry outlining the change and its impact.

## Handling and Communicating Changes to External Stakeholders

An external stakeholder is defined as one or more GOJ entities as stated in the appendix under Online Resources and Stakeholders.

The following is a set of steps to follow to manage changes that impact external stakeholders:

1. Establish or Utilize the Change Register
2. Log Change to Change Register
3. Communicate the Change to Stakeholders
4. Implement the change
5. Monitor the change

Once the change has been planned and logged to the change register, the change and the impact of the change must be communicated to all stakeholders. **See the appendix for the list of Online Resources and Stakeholders** to be informed of any major changes to your websites or publicly accessible content. This activity should be one that is assigned to the webmaster role and established in the entity's Standard Operating Procedures (SOP).

**LOG**
Plan & Log Change to Change Register

**IMPLEMENT**
Implement the change

01

03

05

**PLAN**
Established a Change Register

**COMMUNICATE**
Communicate the Change to Stakeholders
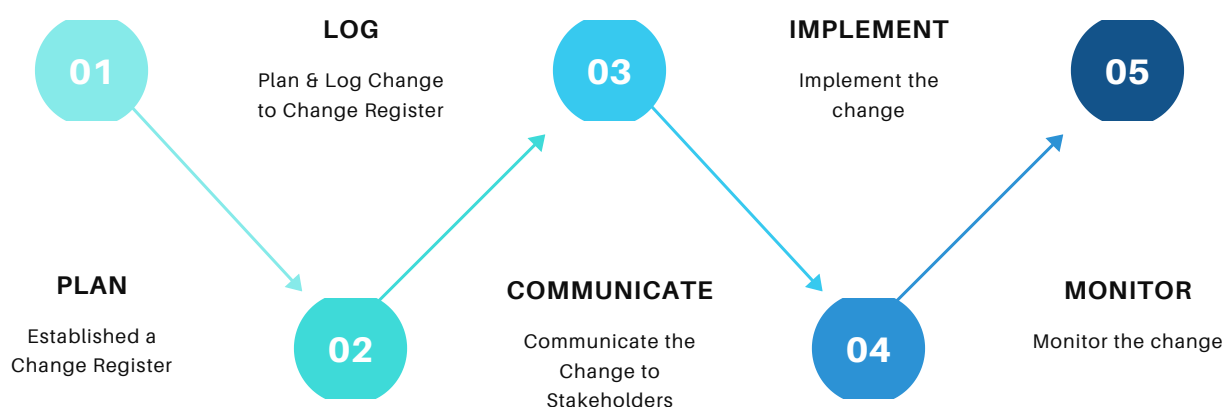
**MONITOR**
Monitor the change

02

04

Figure 5: Diagram showing steps involved in managing and communicating change

The following is a guide toward identifying the different types of changes and the escalation points. The Responsible, Accountable, Consulted, Informed (RACI) model is used at each escalation point:

Table showing types of change to be communicated to stakeholders

| Type of Change | Type of Change | Description | Internal | External (GOJ entities listed in appendix) |
|---|---|---|---|---|
| 1 | Changes to website Links/URLs | Any change to the link/URL names e.g. URL change from /service-x to /service-yx. | R,A | I |
| 2 | Adding or Discontinuing a Service, Report or Major Content Type | Adding or discontinuing a service, report or content type that is referenced by any of the listed stakeholders. | R,A,C | I |
| 3 | Planned Maintenance of Website/Application | Scheduled website/application maintenance which will result in down-time. | R,A | C,I |

Make reference to the major stakeholder list in the appendix to identify the stakeholders who will be impacted by the changes.

# Guidelines

# Content Guidelines

## Guideline 1.0  - Content Categorization

***Creating a Content Inventory:***

A content inventory is a list of all the content on your site, this inventory will be used to track all the content published or unpublished on your CMS website. Create the content inventory using a spreadsheet or word document table.

Use the following as column headings to create your content inventory:
- Unique Content ID
- Title
- URL
- File Format (HTML, PDF, DOC, TXT...)
- Author or Provider
- Physical location (in the content management system, on the server, etc)
- Meta Description
- Meta Keywords
- Categories/ Tags
- Dates (created, revised, accessed, deleted, unpublished, archived)

A content inventory requires some critical components, such as Categories/Tags and Metadata. Use the taxonomy guidelines to create categories and tags.

### *Creating Taxonomies:*[2]

Taxonomies support improved findability of content within a CMS and search engines. Create your taxonomies by using any of the following structures:

**Hierarchical:**
Content in a parent-child-like structural relationship when defining the categories and subcategories. Eg. the Services category can further have subcategories of Passport Renewal, New Passport Application etc.

Figure 6: Hierarchical Taxonomy representation



---
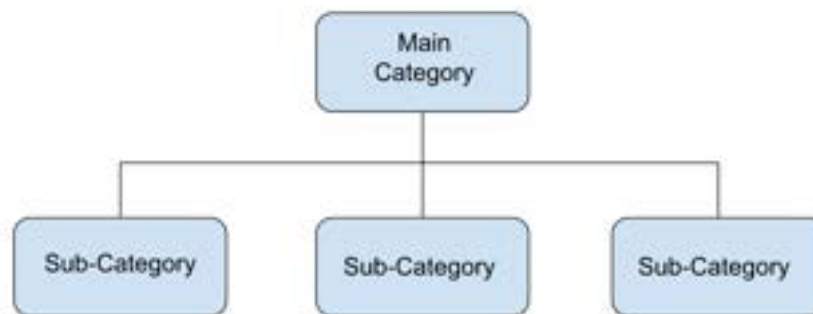
[2] Reference to (Utrecht University, 2021)

**Thesauri:**

Organizes content using relationships, concepts and similar associations.

Figure 7: Thesauri Taxonomy structure, showing relationships and similarities associations.
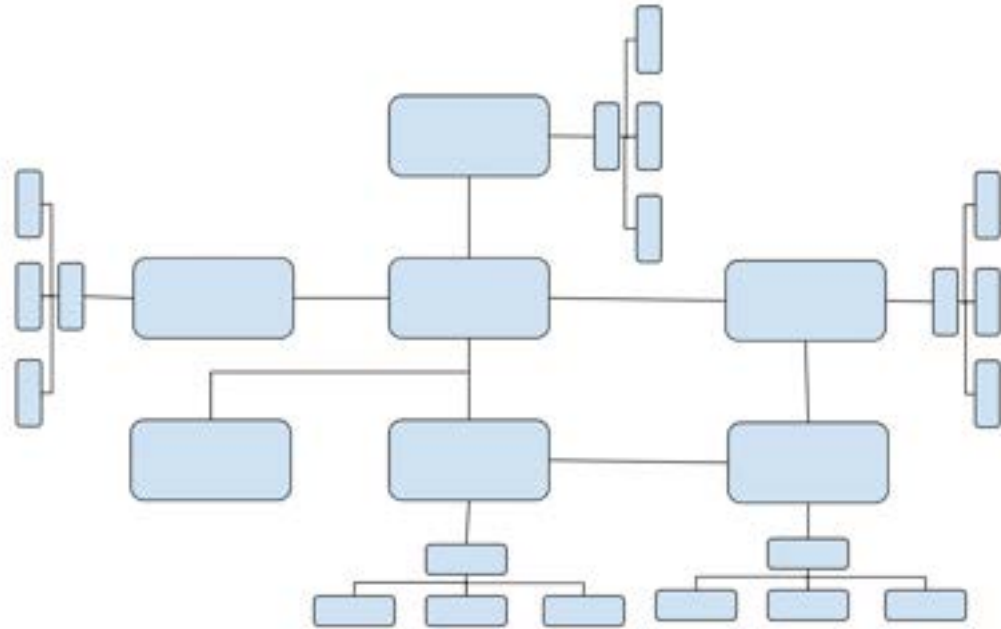


**Flat:**

A simple set of categories that are equal in importance to each other. Eg. The main category can be "Countries" and the sub-categories "Jamaica", "Barbados", "Bahamas" etc..

Figure 8: Flat taxonomy structure showing a main category and subcategories all having equal weighting.
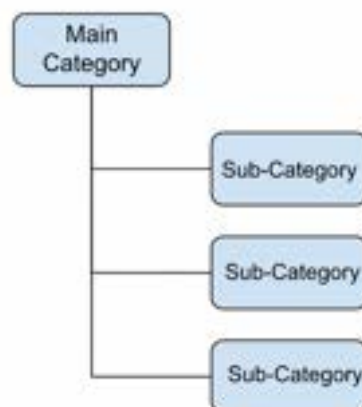
**Faceted:**

Similar to flat structure, a faceted structure starts with a list of categories and within each category describes a number of facets (attributes). Eg. the Main category would be "Services", subcategories would be "Passport Renewal", "New Passport Application", etc., and the attributes for "Passport Renewal" would be 1) Have an existing passport, 2) Passport lost or expired, etc.

Figure 9: Faceted taxonomy structure showing main category and subcategories with associated attributes.
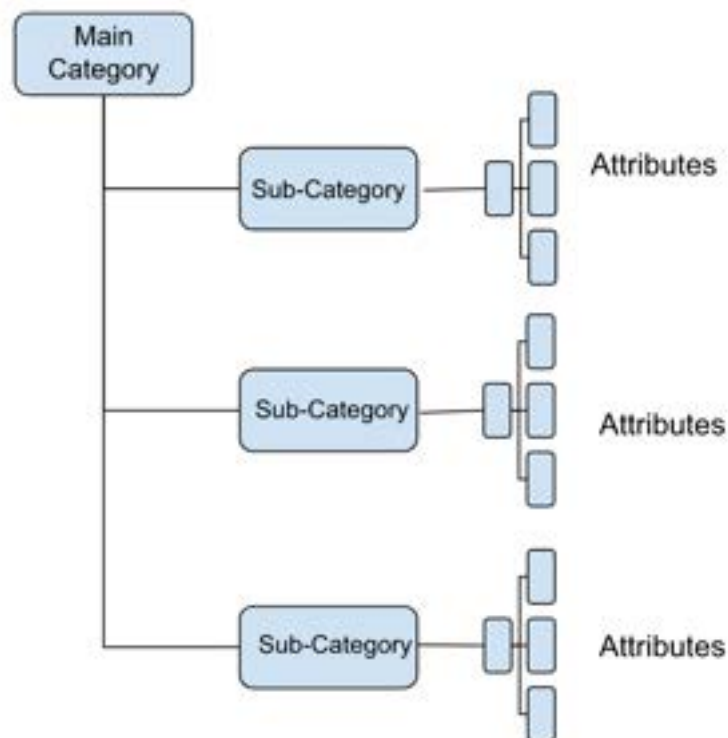
In order to create a taxonomy that works for your website, the following guidelines ought to be observed:

- **Create taxonomy** - Create the taxonomy with the needs of the target audience in mind.

- **Standardize the taxonomy** - Try not to have taxonomies with the same names and different use cases or taxonomies that are named differently, but used in the same way as another taxonomy. Eg. Services as a taxonomy and Service Offerings as another taxonomy but used in the same way. Choose one and standardize it.

- **Do not overcomplicate** - Taxonomies that have three or more sub-categories are considered to be complicated.

- **Ensure that it is functional** - Taxonomies should be useable, create taxonomies for content that exist or will exist on your site.

- **Make it scalable, to grow with the organization as is necessary** - A taxonomy should be reusable. Eg. A taxonomy of a specific date (June 20, 2021) is functional but not typically scalable. Compared to a taxonomy called Services, all future services can be added to the Services taxonomy.

**Metadata:**

The use of descriptions that describe the categories or topics is called metadata. Metadata or 'information about information' further improves findability for your users and search engines.

There are three types of metadata you can apply to categories and topics:

- **Administrative:** Usually machine-generated - includes date created, version, author, and date last modified.

- **Descriptive:** Assigned during content creation or modification, this includes attributes such as category, audience, tags/keywords.

- **Structural:** This metadata defines what a piece of content is made of and typically includes attributes such as title, file type, subject, related documents, author, etc.

7

# Guideline 1.1  - Website Media Guidelines

### *Using multimedia (Videos/Audio)*

When adding multimedia to your website it should be visually appealing and geared towards increasing user engagement. Also, multimedia content should be accessible, user-friendly, secure, and contextual.

When adding video content do the following:
- Enable Closed Captioning
- For Audio only, a transcript should be provided
- The video should sync with audio
- Avoid brightly flashing or rapidly flashing colours in videos. When flashes are faster than three times per second, they can trigger seizures for people living with visual epilepsy.
- Text within the video should be readable. The text should be a colour that does not blend into the video or add borders or shadows to the text to remain readable.
- Label video with appropriate description, especially for screen-readers. Adding appropriate labels Eg. the 2022 Fiscal Budget Report, would also be good for SEO.
- When using streaming services such as YouTube and Vimeo, ensure that the recommended videos at the end of the video are related to the organization. Typically, the streaming service will recommend content that is not related to the entity, if not predefined. Also, when using streaming services such as YouTube, be careful not to include content that may cause copyright infringements, or ensure that content is properly licensed prior to use.

When adding audio content to the website you should consider the following:
- A transcript should be provided.
- Audio should be clear and consistent. The audio should be balanced and at an audible volume.
- Label audio with appropriate description, especially for screen-readers and for SEO purposes.

### Disable Autoplay on video and audio content

Autoplay is where a video or audio file is set to start playing as soon as the web page loads. This should be avoided.
This functionality can be disruptive and prevents your users from being able to focus on anything else on the page or listen to screen readers, for those who are visually impaired.

### Hosting of Video and Audio Files

It is recommended that video and audio content are hosted on a dedicated media server that belongs to the GOJ. However, in absence of such service, be selective of content that is hosted by third-party services, such as YouTube or Vimeo. For seamless streaming of content, it is recommended that a server dedicated to streaming HTTP(S) Live Streaming (HLS) is used.

### Using Video Thumbnails

The thumbnail for the video should be aligned with the video being streamed. The font is large enough and all text should be a minimum of 12 pixels and readable.

### Hosting of Files and Images

The hosting of files and images for your entity's CMSs or portals should be stored on a GOJ-owned server or file service. The highest level of security should be observed for content hosted on these servers. Files that are shared with the public for download should be securely stored and the appropriate permissions added to the file itself and also at the directory level.

Files, media, and databases that contain Personally Identifiable Information (PII), patents, and/or copyrights must be encrypted and not stored on third-party servers. Content that is hosted on third-party servers, whether GoDaddy, Amazon, or Google, is subjected to the legislation of the country in which the server is located.

*Improving load times and content optimisation*

Load times are extremely important. Most users will opt not to use your website or portal if the wait time is significantly longer than usual. Most CMSs provide an opportunity to optimise the website, by caching Cascading Style Sheets (CSS) and JavaScript files. In the event that you need additional means to reduce load times, use plugins and external software to manage and optimise page load speeds so that pages load within the acceptable time frame. These tools can also be used to resize images and minify CSS and JavaScript files to reduce load times.

# Guideline 1.2 - Content Type Guidelines

### Static content vs Dynamic content

Static content refers to that content that does not change, including flyers and other static images. If you have to remove, modify and re-upload the content to make a change it is considered to be static content. On the other hand, dynamic content refers to the sort of content that is easily modifiable on the website.

### Creating Content Types

Content type leverages the power of dynamic content by allowing you to create reusable dynamic content. A content type can be as simple as a news post. The components of that news post would be "Title", "Description" and an "Image". The news post template can be reused every time a news post needs to be added to the website. Always think of content that will be reusable as content types.

### Handling Data Sets for Analytics

Files containing datasets such as spreadsheets with data points and data records should be added to the website or portal in a format that is downloadable or editable via the CMS and is easily accessible to the users. Data sets for analytics or reuse by users should **not** be added as PDF documents or other formats that reduce useability.

## Guideline 1.3 - Editorial Guidelines

- Content must meet editorial guidelines in order to be published on the website.

- The content must be relevant and appropriate for your target audience, it should be in alignment with government legislation and policies, and the content should be current and consistent with the mandate of the organization.

- Content must meet the consistent look and feel stated in the Digital Media Standards Manual.

- Content must meet all quality standards:
  - Written in English or the appropriate language to communicate to the target audience
  - Content must be well-formatted and organized
  - Perfect grammar and spelling
  - Proper citing of credible sources and statistics

- The content and overall site must be in accordance with the user terms, and privacy policy/notice and adhere to the Data Protection Act of Jamaica.

- Establish additional guidelines and standards for specific content types such as blogs, news, and other long-form content.

# Guideline 1.4 - CMS Security Guidelines

### *User Management*

User management can be done in one of two ways: Lightweight Directory Access Protocol (LDAP) and CMS-provided username and password login with hashing functionalities. However, LDAP would be the recommended tool for user management, because it tends to be very robust and more secure. Typically, modern CMSs support the integration of LDAP via plugins or natively. There are several benefits to using LDAP, such as managing users and access rights from a centralized system or mechanism and managing users with already established IT policies. Most government entities would already have LDAP setup within their organization. By using it to also manage your website, you would have been able to centralize your user management.

### *Creating Roles*

Create role-based permissions, rather than individual user-based, for things like creating, editing, modifying, and deleting content. This can be achieved by:
- Creating roles to which specific permissions are assigned
- Adding users to those roles appropriately

### *Creating Permissions*

Permissions are specific restrictions assigned to a role. Permissions can also be created surrounding specific web pages, content types, and elements of content types.

### *Setting up server infrastructure security*

Ensure to provide the appropriate server permissions to the application directory, configuration file, uploads folder directory, and plugins directory. Reference 2.15 - Security Standards in the Digital Media Standards Manual and additional **security tips in the appendix** for additional details on some infrastructure security that can be added.

# Website/ Web Page Structure Guidelines

## Guideline 2.0 - Website Page Structure Guidelines

### *Website Navigation for Ministries/Departments/Agencies*

The following are navigation structures for Ministries and their entities. All entities' websites must have the following pages/sections as part of the minimum requirements for their websites:

| |
|---|
| **Homepage** |
| **About Page** (**Head of Entity**, **Entity Description** (entity's mandate, mission & vision statements, or functional roles)) |
| **Services** (where applicable)<br>   ○ Who uses the service<br>   ○ Who benefits from the service<br>   ○ What is the process to access said service |
| **News information** |
| **Contact Page** (opening hours, contact form etc.) |

**Mandatory Pages for Ministries:**

| About the Ministry |
| --- |
| • Minister <br> • Permanent Secretary |
| **List of Agencies & Departments** |

**Additional Pages or Content:**

| Social Media Links |
| --- |
| **External Links** <br>     ○ **Gov.jm** <br>     ○ **JIS/JIS news feed** <br>     ○ **National Business Portal** <br>     ○ **Jamaica Trade information Portal (JTIP)** <br>     ○ **In the case of a department or agency, a link to the parent ministry** |

GOJ websites should adhere to the general format as defined in the GOJ Digital Media Standards Manual under Visual Identity Standards, section 2.1.

These four major elements can be seen in the outline image pictured below:



Sample Full-width layout

### Standard Header & Footer

**Header:**

The standard header, as defined in the GOJ Digital Media Standards Manual on pages 9-11 under section 2.1.2, must be used on all GOJ websites and websites therewith associated. The logo of the site should link back to the home page.

Details are also provided here for entities with and without a logo, as illustrated in the images below:

**Breadcrumb Navigation:**

All pages except the home page should contain breadcrumb navigation. Breadcrumb navigation is a secondary navigation to the primary horizontal navigation bar that helps users to easily identify the current page and the route back to the home page. Eg. Home > Services > **Passport Renewal**.

Figure showing header format for entities without a logo.
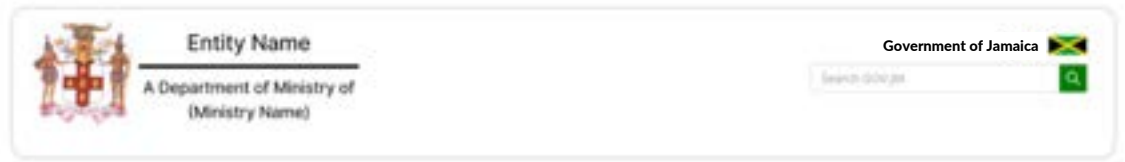


Figure showing header format for entities with a logo
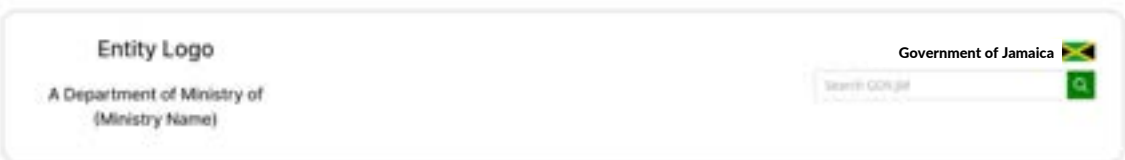


Figure showing header format for Ministry that uses the Coat of Arms as logo



**Footer:**

The standard footer, as defined in the GOJ Digital Media Standards Manual on pages 13-20 under section 2.2, must be used on all GOJ websites and websites therewith associated.

It should include links to the Privacy Policy, Terms of Use, and Contact Page, the GOV.JM Link with the flag, and copyright information, as illustrated below:

Figure showing header format for entities without a logo.

# Guideline 2.1 - Page Structure Guidelines

### *Home Page*

The home link in the navigation bar should return the user to the main page of the website. This main page, known as the homepage, ought to contain the following as applicable:

1. For ministry websites, the home page should have a list of Entities, i.e. departments and agencies therewith associated.
2. A list or some visual way of showing the government Services available to customers.
3. The main content area should be used to display content types such as news and other media relevant to the website.

**Home Page URL guide:**
The home page url should be the root ("**/**") url for the website. Eg. mlss.gov.jm**/**

### *About Page*

This should contain information regarding the entity's purpose and its leadership as follows:

**Head of Entity**
In the case that the entity is a ministry, this should introduce the minister. In the case of any other government entity, this should cover the Managing Director, Directors or Managers or chairperson as the case may be. It should also state parent ministry and minister (and a link provided).

**Entity Description**
Here, the institutional mandate of the ministry, department, or agency should be thoroughly described. The organization's mission, vision, and mandate/functional roles should be clearly stated here.

**About Page URL guide:**
The about page url should use the structure of ("/**about**/") url for the website. Eg. mlss.gov.jm/**about**/<About the Entity Sub-Categories>

## Service Page

The service page should be designed as a directory of services with the following guidelines:

1. Create a service page that lists and describes the service(s) offered by the entity.
2. The services directory and the specific service page should be accessible without being required to log in.
3. Each service should be created on a separate web page and listed on the services directory page.
4. Each service should adhere to the following guidelines:
   a. Indicate the target audience, and whom the service caters to. Eg. This service is accessible to **Senior Citizens over the age of 50 years old**.
   b. Describe the process by which the service is carried out or facilitated. Eg. The application form must be submitted **in person**. You are required to return to the office **within six (6) weeks**... **etc.**
   c. Itemize the documentation needed, if any, to ensure the service is carried out seamlessly.  Eg. You may need to provide the following with your request:
      i. A copy of your taxpayer registration card
      ii. Proof of age (certified copy of your birth certificate)
   d. Each service page should have a **Frequently Asked Questions (FAQs)** section or page that is searchable for specific questions about the service(s).
   e. Provide information on how the user can get in touch with the entity for queries. Eg. You may call the Pensions Administration Unit at 876-932-5046 etc.
5. The services' directory and service page should always be up to date. Services that are frequently updated should have a last updated date stamp.
6. Services that require the user to log in to start the transaction should provide buttons or links that can easily navigate them to the portal for the relevant service.

**Services Page URL guide:**

The Services page should be a directory page with the URL structure of ("/services/") URL for the website.
Eg. mlss.gov.jm/**services**


If multiple services are listed, each service should have a page of its own where applicable and the URL should be simple and easy to remember. Eg. https://pica.gov.jm/**services/passport-renewal**

# Guideline 2.2 - Portal Guidelines

GOJ Portals should contain information pages that let visitors know what services the portal can be used to access. There should be an information page on the login page of the portal or a separate information page before accessing the portal.

Portals should also contain a page/section to detail Help Tips and/or Getting Started Information.

Further, GOJ Portals should adhere to the following guidelines:

- The list of services accessible through the portal should be displayed clearly.

- Provide information on how to access the service, and what data is needed (**See Guideline 2.1 - Service Page**).

- Services should be easily discoverable, i.e. within two(2) to three(3) clicks from the main page.

- The service information should be placed on the portal landing page or a specific service page that is accessible without being required to log in.

- Portals that require a user to sign in to transact the service must have a separate page that does not require the user to login to view all the necessary information about the service.

- Any prerequisites for users to complete/access service (i.e. documentation, payment methods, etc) should be clearly visible as well, prior to login.

- Portals should have an information page or information about the service offered that is linkable to the gov.jm portal or other GOJ consolidated services websites.

# Content Change Guidelines

## Guideline 3.0 - Search Engine Optimization (SEO) Guidelines
### *Creating and setting up robot.txt*

A major step towards ensuring that your website is indexable by a search engine is the creation of a robot.txt file. This file provides the requisite protocol to search engine bots to crawl and index your website. Most modern content management systems (CMS) will provide this functionality by default. However, you can configure it to your organization's needs.

The robot.txt file uses the following guidelines:

- **Sitemap** - This attribute should be added to the file to tell the bot where the sitemap.xml is located. Eg. sitemap:https//pica.gov.jm/sitemap.xml

- **User-agent** - This attribute should be used to tell which search engines should be able to index your site. A wild card can be used to allow all. E.g user-agent:* or user-agent:Googlebot

- **Allow or Disallow** - The disallow attribute should be used to specify which URLs on the site the bot is not allowed to index. Whereas the allow should be used to add paths that the bot is allowed to index.

- **Robot.txt permission** - The owner of the file should be able to write, read and edit and everyone else should only have read access. Permission code 0644 should be used to achieve this.

### HTML Title tags

Ensure that all pages have a website title. A CMS by default will use the title of the page as the HTML title tag. The page title will be used to list the pages on the search engine, it is also used as keywords whenever a search is done on a search engine.

Use the structure for HTML title tags

**Page Name** │ **Name of Entity**

Eg. **Services** │ **PICA**

### META tags

To improve the findability of the website or portal, ensure that the meta tags are filled out for each page or at minimum the home page of your entity's website. These tags are typically located under the header tag of the website. The two critical tags to improve SEO are description and keywords. Below is an example of some descriptions and keywords.

<meta name="**description**" content="**The Passport, Immigration and Citizenship Agency (PICA)...**">

<meta name="**keywords**" content="**Passport, Immigration, Citizenship**">

CMSs also provide plugins to easily configure these attributes without code changes.

### Favicon

Favicon is the small website icon that is displayed in the URL bar or browser tab left of the page title. All Ministries should use the Coat of Arms as their favicon and entities with a logo use their logo or a representation of their logo as their favicon.

### *Creating Human Readable URLs*

The following guidelines are intended to make for better readability and usage of URLs:

- Use URL names that are associated with the webpage - For example, on the About Page, ensure the URL reads "www.entityname.gov.jm/about" or something similar. For URLs that are automatically generated, such as news, blogs, or any posts, ensure that a URL pattern is defined. A URL should have the name of the post as a 'slug'. Eg. The post title is "The Importance of Proper URLs" and the URL address would be "www.entityname.gov.jm/news/the-importance-of-proper-urls".

- Do not use URLs that are excessively long

- Use hyphens instead of spaces or underscores to separate words

- Use lowercase letters

- Redirect old URLs to the corresponding new address

### *Creating anchors in URLs*

The use of Single Page Applications and Tabs have become popular over the years. Therefore, anchor tags have been used to navigate through sections on the page or within the tabs. Ensure that URLs contain the anchor tag or ID of the section that is being linked. Eg. the Anchor linking to the "About" section of the page should have a URL that is "www.entityname.gov.jm/#about".

### *URL Aliasing*

Use URL aliasing when migrating a website and/or moving content that will result in broken links. Always keep in mind that there are other entities that may be referencing links on your entity's website.

### *Creating a Site Map*

It is mandatory that all GOJ websites and affiliated web applications have a properly formatted sitemap. Further detail on sitemaps and the rationale behind their inclusion can be found in the GOJ Digital Media Standards Manual, page 87, Section 2.16.1.

### *SEO tools*

Search engine optimization can only be effectively improved through the use of tools that identify gaps within your website's ranking. The following are tools to be used for optimization:

- Alexa ranking - This tool will identify your website's popularity within your country and provide a ranking based on comparing the visits of your site with other sites within the country. Alexa ranking was recently discontinued but you are able to still utilize the service at this URL: https://smallseotools.com/alexa-rank-checker/

- Broken links - The more websites that link to your website increases your SEO ranking. However, broken links can significantly impact your rankings as well. Links that return 404 or 500 error codes are picked up by search engines and can affect your rankings. Use the link below to check your site for broken links: https://www.brokenlinkcheck.com/

- Reduce bounce rate - The longer a user stays or is engaged on your website, the lower your bounce rate will be. Develop engaging content by understanding your users. To track your bounce rate, Google Analytics would be an ideal tool to use: https://analytics.google.com/

# Guideline 3.1 - Content Lifecycle Guidelines

### *Content Creation*

Content creation and ownership belong to each website contributor. Facilitation of editing and updating of the content should be made available to the individual or team via the CMS tool. The MIS unit should not be required to make content changes every time content is required to be created or updated. The relevant training and access should be provided to the individuals and team owning the content.

### *Updating Content Regularly*

1. Use a last updated date stamp on pages with informational content to show the currency of information
2. Content should be relevant and up to date
3. Perform regular content audits on the website's content in order to ensure that the content is going through the necessary stages of the content lifecycle at the appropriate time.
4. Keep content inventory up to date.

### *Archiving and retaining content*

- Past or historical content, such as previous laws, studies, or reports, should be available to website visitors once it can be found to be relevant or helpful. Ensure that archives are still available where applicable. Content that is not restricted by law can be archived every 5 years.

- Automate archiving, so that older content is not immediately displayed ahead of recent content.

- Any sensitive data that is not deemed necessary for future use ought to be deleted in accordance with governing policies and laws.

### *Destroy*

Content that has been marked for deletion should be destroyed in accordance with the relevant Records and Information Management Policy (RIM, 2018) policies or industry laws or regulations.

## Guideline 3.2 - Quality Assurance/Control Guidelines

The following are some general guidelines for managing content and website quality:

- Check to ensure that content adequately serves the target audience.

- Ensure content is grammatically correct and that there are no spelling errors.

- Ensure that your organization's contact information is kept up to date on the website.

- Ensure that external sources of information, such as databases, are secure

- Scan all files for viruses prior to uploading them to your website

- Ensure that the content/site is reviewed at least once per month depending on the frequency of which content is changed.

- Check for linkbacks and broken URLs.

# Guideline 3.3 - Communicating Change Guidelines

There are other portals and sites that might be affected by changes made to your website or portal. Stakeholders in charge of systems such as the GOJ Portal, the National Business Portal (NBP), and the Jamaica Trade Information Portal (JTIP) all reference and catalog government information and services. Therefore the following guidelines must be adhered to, in order to facilitate consistency:

- Changes such as website URLs, changes to services, reports, other content types, and/or any planned maintenance should be communicated to the major stakeholders within **2-3 hours** of the change.

- Ensure the necessary and accurate changes are communicated to all relevant personnel via the **change log** that will be hosted by the Information Communication Technology (ICT) Authority.

- In the absence of the centralized change log, a Memorandum of Understanding (MOU) may be utilized between all necessary stakeholders to identify and assign a responsible person from each MDA to communicate these changes to the person identified in the MOU either by email or other means stated in the MOU.

- Detection of dead links (i.e. links that are no longer in use) should be automated, and old links should automatically redirect to updated links.

- Plan website maintenance periods ahead of time and communicate the time frame during which the website will be unavailable for all who may be impacted.

**See the appendix for the list of Online Resources and Stakeholders**

# Appendix & Reference

# Additional Infrastructure Security Tips

**Setup and Enable SSL and TLS v1.3**

Using a valid SSL certificate protects the website from an easy interception/hijacking of sensitive information being sent via the internet.

Web security protocols such as SSLv2, SSLv3, TLSv1.0, and TLSv1.1 have all been deprecated and will result in security vulnerabilities.

Check security protocols at **https://www.cdn77.com/tls-test/**

**Enable the following Security Headers**

- Content-Security-Policy - an effective measure to protect your site from Cross-site scripting (XSS) attacks.
- X-Frame-Options - Recommended value "X-Frame-Options: SAMEORIGIN".
- X-Content-Type-Options -The only valid value for this header is "X-Content-Type-Options: nosniff".
- Referrer-Policy - is a new header that allows a site to control how much information the browser includes with navigations away from a document and should be set by all sites.
- Permissions-Policy - tells which APIs can be used to connect to the website.

Check security headers at **https://securityheaders.com/**

**Folder permissions**

- Folder permissions should be tailored to your organization's security needs, however, for minimum access, the CMS folders and files should belong to the "www-data" group. Files should have permissions of "664" and directories should have permissions of "775".

Eg.

# Set the owner of the "files" directory.

chown -R www-data:www-data files

# Set the permissions for files and directories.

find . -type f -exec chmod 664 '{}' \;

find . -type d -exec chmod 775 '{}' \;

# Recommended CMSs

The following recommendations are based on the minimum CMS features list and skills required for GOJ entities **(See Content Management Strategies pg. 24-25).** The four (4) recommendations are Liferay, WordPress, Drupal, and Joomla, these 4 CMSs should be suitable to support your organization's needs. Liferay supports a Digital Experience Platform (DXP) that can be used to create various customer experiences based on different customer journeys. Eg. Portal, CMS, or Commerce, this tool will also be used on an enterprise level through the GOJ. See comparisons below:

| Feature | Wordpress | Drupal | Joomla | Liferay |
|---|---|---|---|---|
| Licensing | Open source | Open source | Open source | Open Source with Community & Enterprise Edition |
| Costing | No software upfront cost | No software upfront cost | No software upfront cost | Cost associated with Enterprise Edition and Support |
| Hosting | Saas (Can be hosted on-premise) | Saas (Can be hosted on-premise) | Saas (Can be hosted on-premise) | Saas (Can be hosted on-premise) |
| Technology | PHP | PHP | PHP | Java Enterprise (J2EE) |
| Vulnerability | Entry point from 3rd party plug-ins. Most prone to attack since it's the most popular CMS | Most secure (used by White House and all US government sites) | Components in System configuration are prone to attack | Secure, consistent security updates for Community and Enterprise Editions. |
| Team Skill level requirement | Low learning curve, Knowledge of PHP required for further customization | Medium learning Curve (Knowledge of PHP required for further customization) | Low learning curve (Knowledge of PHP required for further customization) | Medium learning curve (Knowledge of Enterprise Java, HTML & CSS needed for further customization) |
| Search Engines | Robust SEO with URL rewrite to include Keywords | Robust | Less SEO friendly | SEO Friendly |
| Mobile Responsive | Yes | Yes | Yes | Yes |
| Payment gateway integrations | Available | Available | Available | May required customization |

Research by eGovJa, January 2021

# Online Resources and Stakeholders

|  | URL | Description |
|---|---|---|
| **GOV.JM** | https://www.gov.jm/ | GoJ Portal which is a Gateway (Website) gov.jm which is now the single point of entry to government information and services. It is a website that provides a framework for the basic structure of a GoJ portal and that includes simple click-through links to most (not all) GoJ online services. However, to provide the full level of online services that internal and external customers expect, increased efficiencies in online service delivery cannot be fully realized with the current configuration of web technology deployed by the Government. **This portal is operated by the Office of the Cabinet and hosted by eGov Jamaica Limited.** |
| **National Business Portal** | https://dobusiness.gov.jm/ | The National Business Portal is a one-stop place for investment information, applications and much more. **The National Business portal is operated by JAMPRO.** |
| **Jamaica Trade information Portal (JTIP)** | https://jamaicatradeportal.gov.jm/ | The JTIP is the one-stop point for all information relating to import and export to and from Jamaica. **JTIP is hosted by the Trade Board Limited** on behalf of all the Government and semi-government agencies involved in the import/export process. In this portal, traders will be able to get information about all the regulatory requirements they need to fulfill in order to carry out their transactions. The portal will assist you with finding out what is required by each agency in relation to your specific businesses. |

# Stakeholder engagement for the Content Management Strategy and Guidelines Document

Meetings and sensitization sessions were held with Stakeholders as shown below.of body text

| Meeting Held | Stakeholder Group |
|---|---|
| Thursday May 18th, 2021 | Support Team 2, PM, CM |
| Wednesday May 19th, 2021 | Support Team 1, PM, CM |
| Tuesday November 30th 2021 | MIS Forum /PM (sensitization session) |
| Thursday December 2nd, 2021 | PS Board Retreat/PM- (sensitization session) |
| Tuesday January 18th, 2022 | PTWT, CM |
| Tuesday March 8th, 2022 | PTWT, eGovJa, CM |
| Tuesday April 12th, 2022 | PTWT, Support Team 3, CM |
| Thursday May 19th, 2022 | PTWT, CM |
| Tuesday June 14th, 2022 | PTWT, Support Team 3, CM |
| Monday June 20th, 2022 | PM, Erica Harris, CM |
| Tuesday July 5th, 2022 | PTWT, ST3 & 4, CM |

PM- Project Manager
PTWT- Portal Technical Working Team
CM – Content Manager
ST-Support Teams

# Stakeholder Groups
# GOJ Portal Technical Working Team (PTWT)

| Name | Position | Entity |
|---|---|---|
| Wayne Thompson | Principal Director - PPMU | Cabinet Office |
| Trina Richards | Project Management - ICT | Cabinet Office |
| Anika Shuttleworth | Acting CEO | eGovJa |
| Trevor Forest | CEO-876 Solutions | Private Sector |
| Joe Manley | Enterprise Analysis Consultant | CIO Office |
| Gary Campbell | Director MIS | Ministry Of Science, Energy And Technology (MSET) |
| Nadine Rush-Williams | Director Information Systems Unit | Ministry Of Finance and The Public Service (MOFP) |
| Damion Newsome | Manager, Web Content | Tax Administration Jamaica (TAJ) |

# GOJ Portal MDA Support Team 1

| | | |
|---|---|---|
| Ashleigh Britto | MIS Coordinator, | Real Estate Board (REB) |
| Douglas Williamson | Director, Information Technology | Jamaica Civil Aviation Authority (JCAA) |
| Dwayne Walters | Systems Development Manager | Ministry Of Labour and Social Security (MLSS) |

# GOJ Portal MDA Support Team 2

| | | |
|---|---|---|
| Bertland Hope | MIS Administrator | Jamaica Intellectual Property Office (JIPO) |
| Damian Clarke | IT Director | Cannabis Licensing Authority (CLA) |
| Roderick Bell | MIS Manager | Students' Loan Bureau (SLB) |
| Tendi Henry | Manager, Information Technology, | Institute of Jamaica |
| Marjorie Bowen | Business Analyst | eGovJa |

# GOJ Portal MDA Support Team 3

| | | |
|---|---|---|
| Ashleigh Britto | MIS Coordinator, | Real Estate Board (REB) |
| Nicholas Samuels | ICT Manager | E-Learning |
| Damian Clarke | IT Director | Cannabis Licensing Authority (CLA) |
| Douglas Williamson | Director, Information Technology | Jamaica Civil Aviation Authority (JCAA) |
| Tendi Henry | Manager, Information Technology, | Institute of Jamaica |
| Erica P. Harris | Director, Information Technology Strategy Unit | Ministry of Finance and Public Service |
| Marjorie Bowen | Business Analyst | eGovJa |

# GOJ Portal MDA Support Team 4

| | | |
|---|---|---|
| Ordinor Tucker | Director, Information Technology | FID |
| Jason Mills | Webmaster/System Administrator | Trade Board (Jamaica Trade Information Portal-JTIP) |
| Ian Keith-Goldson | Director -ICT | National Land Agency |
| Andre Allen | Computer Services Manager | Jamaica Information Services |
| Shullette Cox /Kelli Dawn/Janene Chin | National Business Portal (NBP) | JAMPRO- National Business Portal (NBP) |
| Samantha Allen | Content Manager | eGovJa |

# References

ademero. (n.d.). ECM: Capturing Content. Retrieved from
        Ademero.com:     https://learn.ademero.com/ecm-capturing-content/

Brush, K. (2020, January). What is enterprise content management? Guide to
        ECM.   Retrieved from Techtarget.com:
        https://www.techtarget.com/searchcontentmanagement/definition/enterprise
        content-management-ECM

Carter, T. J. (2020, February 17). Enterprise Content Management (ECM): How to
        Organize Your Content Like a Pro. Retrieved from
        Process.st:  https://www.process.st/enterprise-content-management/

Forrest, T. (2016, March 8). Alfresco Enterprise Document Management.

Hollander, A. (2018, December 5). 5 Key Roles and What They Can Achieve with the
        Right Enterprise Content Management. Retrieved from m-files website:
        https://resources.m-files.com/blog/5-key-roles-and-what-they-can-achieve
        -with-the-right-enterprise-content-management-3

Herbst, A. (2014, November). Critical Success Factors in Enterprise Content
        Management: Toward a Framework for Readiness Assessment. Retrieved from
        ResearchGate.net:
        https://www.researchgate.net/publication/259218599_Critical_Success_
        Factors_in_Enterprise_Content_Management_Toward_a_
        Framework_for_Readiness_Assessment

Impact. (2021, June 23). Why Enterprise Content Management Is Essential for Your
        Business. Retrieved from Impact: https://www.impactmybiz.com/blog/blog-
        enterprise-content-management-business/

Information, Ministry of Education Youth & Information. (2018, July). Records &
        Information Management Policy.

# References

Jenkins, J., & Smith, R. (2016, May). Develop an Enterprise Content Management Strategy and Roadmap. Retrieved from InfoTech.com: https://www.infotech.com/research/ss/develop-an-enterprise-content-management-strategy-and-roadmap

McCorpin, J. (2017, May 2). 3 Ways to Relieve Business Stress with Enterprise Content Management (ECM) . Retrieved from LBMC Website: https://www.lbmc.com/blog/document-workflow-management-ecm/

The National Archives - UK . (2011). Web Archiving Guidance. United Kingdom.

Utrecht University. (2021). Storing and preserving data. Retrieved from Utrecht University: https://www.uu.nl/en/research/research-data-management/guides/storing-and-preserving-data#Preserve