Content Management (CMS)

Lecture 01: Introduction

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Agenda

- Introduction

- Content formats and standards

- Content Management Stages

- Corporate Content Management

- Content creation

- Summary

Introduction

- Topics.

- Passing classes (full-time only):
  - lecture colloquiums (2x),
  - presentation of a CMS (in groups),
  - reports and project implementation (in groups).

- Exam:
  - descriptive questions,
  - exemption from the exam from 4.5.

- Supplementary materials.

What is the „content"?

- No exact definition.
- These are all kinds of information regardless of their form or mode of transmission
  - Text,
  - Graphics,
  - Video,
  - Sound,
  - Files in various formats,
  - Some new types, not yet created/invented.

What is the „content"? (2)

- Created:
  - by (mainly/only?) people,
  - during the "editorial" process.
- It is often quite subjective, e.g. news based on the same events:
  - subject,
  - recipients,
  - from what point of view,
  - what volume,
  - optional additional materials and references.

What is the „content"? (3)

- Mainly created in an iterative way,
- Ultimately intended for other people and made available through publication (usually in a computer system).

Bob Boiko:

If you strip away all of the technology and terminology [...]: Information systems help you talk to people who are not in front of you.

What is the „content management"?

- Content management is the delivery of the right content, to the right person at the right time and at the right price.

  Gerry McGovern

- Content management is the name of a business or system that supports the creation and administration of digital information.
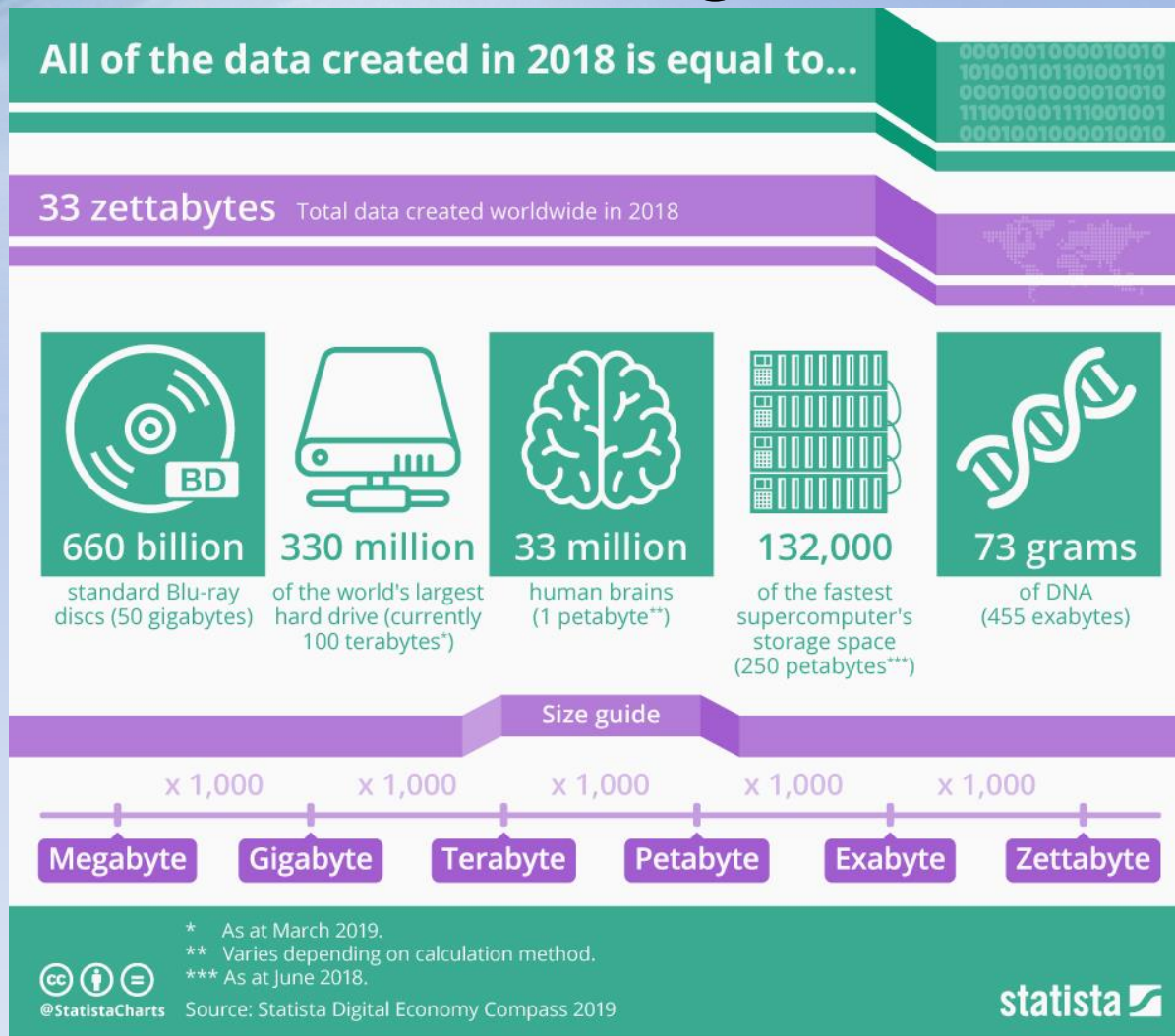
  Wikipedia

- Content management is the software and activities connected with creating complex web pages.

  Bob Boiko: Content Management Bible
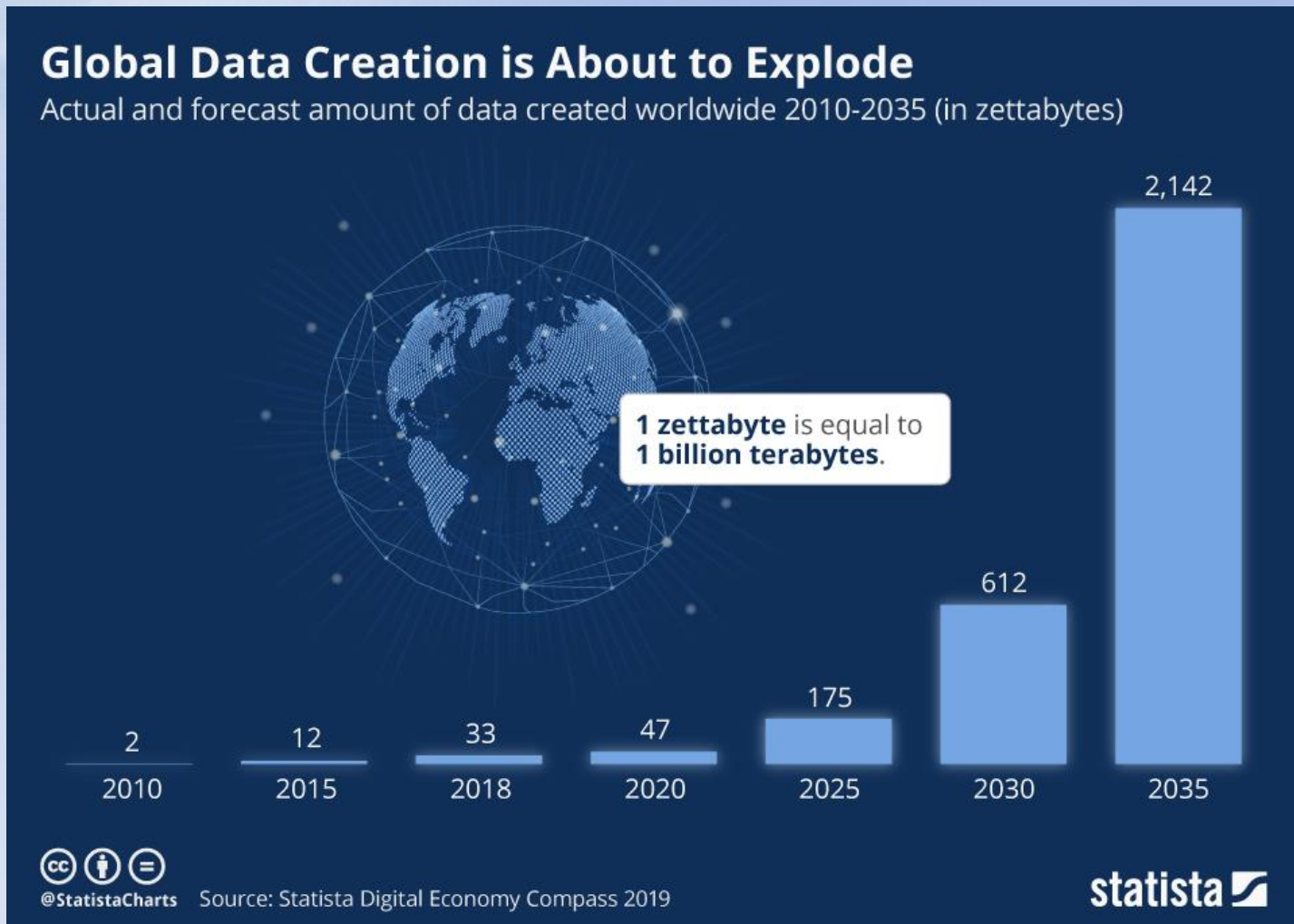
Content management – why?

All of the data created in 2018 is equal to...

33 zettabytes Total data created worldwide in 2018

660 billion	**330 million**	**33 million**	**132,000**	**73 grams**
standard Blu-ray discs (50 gigabytes)	of the world's largest hard drive (currently 100 terabytes*)	human brains (1 petabyte**)	of the fastest supercomputer's storage space (250 petabytes***)	of DNA (455 exabytes)

Size guide

x 1,000   x 1,000   x 1,000   x 1,000   x 1,000

Megabyte   Gigabyte   Terabyte   Petabyte   Exabyte   Zettabyte

*   As at March 2019.
**   Varies depending on calculation method.
*** As at June 2018.

@StatistaCharts   Source: Statista Digital Economy Compass 2019

statista

Huge amount of information

Source: https://www.statista.com/chart/17723/

Content management – why? (2)


Source: https://www.statista.com/chart/17727/

Content management – why? (3)

Huge amount of information

- Lowering costs

- Control over "information chaos"

- The primary purpose of content management is to achieve as much content compatibility as possible according to the users expectations.

Content management - issues

Creating Web Portals

Web Content Management

(*Web Content Management*)

Corporate Content Management

(*Enterprise content management*)
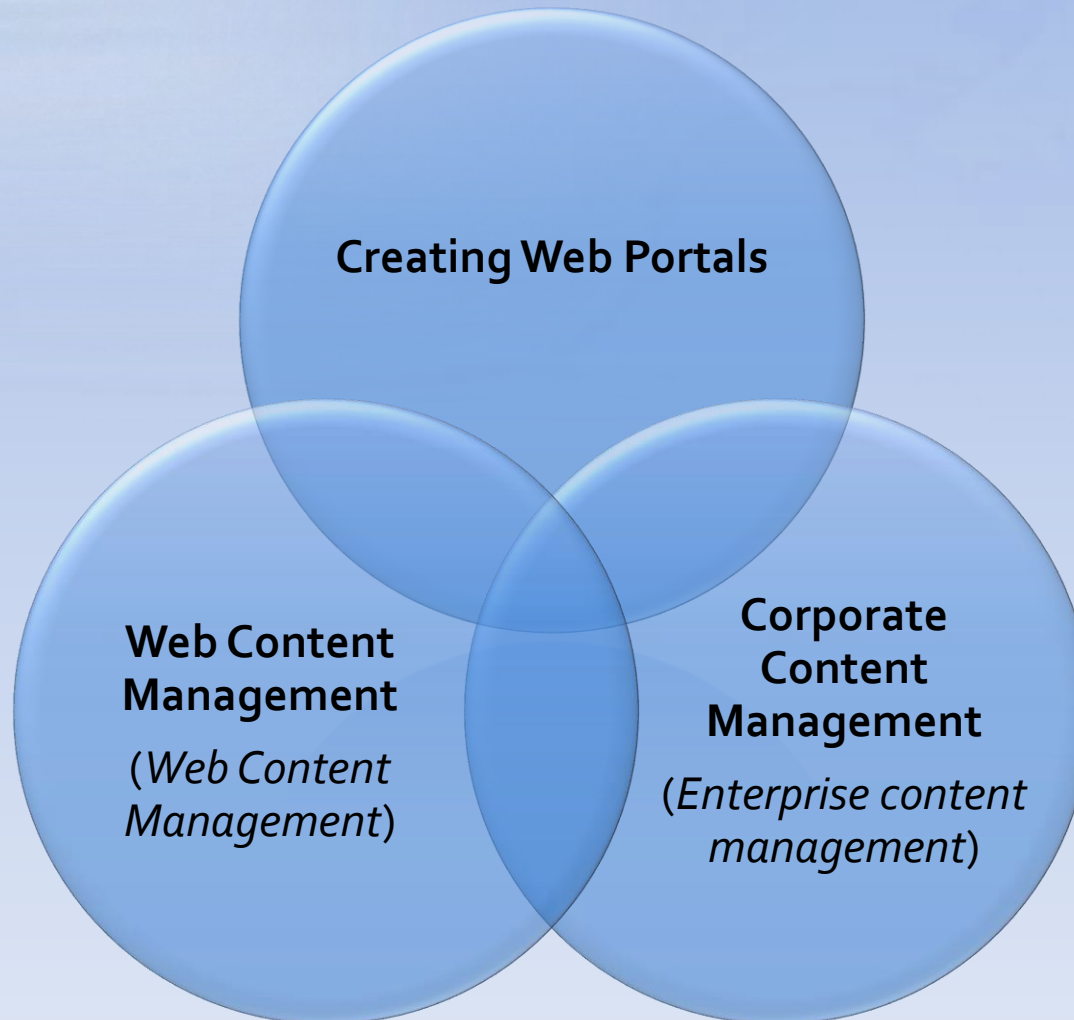
Content vs data, information and knowledge

- It is quite difficult to give specific definitions that differentiate these terms.
  - They are often used as synonyms.
  - Sometimes they reflect the emotional attitude to the subject, e.g. according to some people "knowledge" is the better match for "intelligence".
  - Sometimes they reflect the specificity of the purpose of processing and some of its new quality: for example, "extracting knowledge" rather than "extracting data"; "knowledge base" rather than "database".
- Content is understood as information, data or knowledge.
- Sometimes the only difference is the marketing envelope.

Content formats and standards

- There are many different format contents
- The most popular ones are:
  - Text,
  - Graphics,
  - Music,
  - Video,
  - Animations,
  - Programs (in some situations).

Formats and content standards (2)

- MIME types (Multipurpose Internet Mail Extensions, Internet media type, Content-Type)
  - o Initially defined for SMTP (e-mail)
  - o Currently also HTTP or SIP (used in Voice over IP)
  - o Contains several hundred items (complete list: :

  http://www.iana.org/assignments/media-types/)

Formats and content standards (3)

- MIME popular types– continued
  - application/javascript,
  - application/xhtml+xml,
  - application/x-shockwave-flash,
  - application/json,
  - application/pdf,
  - audio/mpeg (e.g. MP3),
  - audio/x-ms-wma (Windows Media Audio),
  - audio/x-wav,
  - image/gif,

Formats and content standards (4)

- MIME popular types – continued
    - image/jpeg,
    - image/png,
    - image/tiff,
    - image/vnd.microsoft.icon (icon files) ,
    - text/css,
    - text/html,
    - text/plain (also UTF-8),
    - text/xml,

Formats and content standards (5)

- MIME popular types – *continued*
  - video/mpeg,
  - video/mp4,
  - video/quicktime,
  - video/x-ms-wmv.

Content Management Stages

- McKeever (2003):
  - *Collection,*
  - *Delivery.*
- Bob Boiko's Content Management Bible (2004):
  - *Collection,*
  - *Management,*
  - *Delivery.*

Content Management Stages (2)

- Joann Hackos (*Content Management for Dynamic Web Delivery*; 2002):
  - o *Authoring,*
  - o *Repository,*
  - o Assembly,
  - o Publication.

Content Management Stages(3)

- Nakano (*Web content management: a collaborative approach; 2002*):
  - *Develop*,
  - Quality control,
  - Publication,
  - Withdrawal,
  - Archiving.

Content Management Stages (4)

- CM Pros (*CM Lifecycle Poster*; 2010):
  - o Planning,
  - o Formation,
  - o Management,
  - o Implementation,
  - o Maintenance,
  - o Rating.

Content Management Stages(5)

- Bob Doyle (*Seven Stages of the CM Lifecycle*; 2005):
  - Organizing,
  - Creating,
  - Storage,
  - Processing,
  - Versioning,
  - Publication,
  - Archiving.

Content Management Stages (6)

- Kristina Halvorson (*Content Strategy for the Web*; 2009):
    - Audit,
    - Analysis,
    - Strategy,
    - Categorization,
    - Structuring,
    - Creating,
    - Correcting,
    - Acceptance,
    - Tagging,
    - Formatting,
    - Publication,
    - Upgrading,
    - Archiving.

Content management processes

- Designing,

- Creating,

- Acquisition,

- Reviewing,

- Approval,

- Converting,

- Storage,

- Testing.

Content Management processes (2)

- We must include:
  - maintance,
  - monitoring,
  - updating,
  - withdrawal
  - archiving.
- Enables reporting and analytics components to consciously improve and extend content management processes.

Content Management processes (3)

- They may, but do not have to be computer assisted.

  o For small applications, support is often unnecessary.

  o For large applications, support is usually needed.

  o Nowadays, most of them are computerized using web technologies.

Activities common to most of the forms and content management scenarios

- **Design**. It does not fundamentally differ from database design methods, such as through entity-relation diagrams or UML diagrams.

- **Creation**. The role is made by the authors of text, photographers, graphic artists, video producers, sound producers, advertising and marketing specialists, lawyers, or anyone else who produces original material intended for the WWW user.

- **Acquiring or adopting** content from existing sources.

- **Classification, indexing.** Content must have formal attributes (e.g., creation date, author, etc.) and features of the subject classification (e.g. subject category or keywords). The function is often referred to as content binding and metadata.

Features common to most of the forms and content management scenarios (2)

- Reviews and overviews. They are required for all types of shared content.

- Approval. Formal approval of the published content is an essential part of the legal responsibility for content.

- Conversion. Text, graphics, sound and other forms of content must be tailored to the format most convenient or applicable to your CMS, such as HTML, MarkDown or XML.

Features common to most of the forms and content management scenarios (3)

- **Storage.** Content is usually stored in a database and / or files.

- For more advanced solutions, content must be subject to Software Configuration Management (SCM), including:

  o tracking and controlling the changes.

Features common to most of the forms and content management scenarios(4)

- **Testing.** It may concern different aspects:
  - erroneous or outdated links,
  - slow-loading sites,
  - Errors in scripts or ~~applets~~, such as loops,
  - Errors in communication between the client and the server.

- **Development.** A type of testing that involves verifying the completeness and consistency of a larger set of content, such as information about the different aspects of a new service.

Features common to most of the forms and content management scenarios(5)

- **Implementation.** Includes all physical aspects of sharing content for its users, including content replication on different servers.

- Maintenance, updates, changes. Observing shared content and responding to all signals and needs for change.

Features common to most of the forms and content management scenarios(6)

- **Withdrawal and archiving.** Withdrawal can occur for a variety of reasons, such as loss of news, loss of content rights, content being added to the existing one, low attendance, etc. It is assumed that any withdrawn content is being archived.

- **Reports and analyses.** Includes various forms of reports and analysis to improve user experience, enhance portal visibility, business effectiveness and more.

- **Re-use.** Extraction and generating certain content elements, metadata, processes, functions, form templates, etc. as documented re-use assets within a repository; Describing and promoting reuse assets among staff.

Content management – roles in the process

- Creator
- Editor
- Publisher
- Administrator
- Recipient

Types of content management

- Web Content Management (WCM)
    - Mainly intended for a mass audience,
    - Separation of content from presentation,
    - Various delivery channels.
- Enterprise content management (ECM)
    - Business (corporate) content
    - In the past it was called *document management*,
    - Focuses on cooperation, access rights.

Types of content management (2)

- Digital asset management (DAM)
  - Management and processing of resources such as pictures, video, sound,
  - Mainly used by other content,
  - The big role of metadata.
- Records management (RM)
  - Information about transactions, e.g. sales,
  - Safety and durability are especially important.

Enterprise content management - ECM

- Organizing and storing documents and other content related to processes taking place in your organization. It may concern:
  - o Strategies,
  - o Methods,
  - o Tools.
- Based on the specifics of large corporations, we can talk about specific ECM requirements.

ECM - Definition

- *The Association for Information and Image Management (AIIM) has developed several different definitions since 2005.*

- *The latest one: ECM are strategies, methods, tools for acquiring, managing, storing, preserving and delivering content and documents related to organizational processes. ECM covers the management of information throughout the organization regardless of the form of its content.*

ECM – Definition (2)

- ECM is a very broad concept. It may include:
  - Document Management,
  - Web Content Management,
  - Team collaboration,
  - Workflows,
  - Digital Asset Management,
  - Acquiring content by scanning and / or OCR.

ECM – Definition (3)

- Today, the vast majority of CM / ECM is based on web technologies, and therefore includes Web Content Management.
- More information in the lecture.

Creating the content

- The less the better. Be aware not to overload the content.

Creating the content (2)

- Determine what and from where you have it already. Audits:
  - Qualitative audit
    - Content,
    - Adequacy,
    - Utility,
    - Use by recipients,
    - Friendliness.
  - Quantitative audit
    - What?
    - Where?

Creating the content (3)

- Learn to listen:

    o Very often content creation is distributed throughout the organization.

    o Who knows best what content the organization's customers need?

    o Remember that you do not have to include everything.

    o How to decide what is important?

Creating the content (4)

- Someone has to be responsible for the content
  - All = No one.
  - Designate a specific person / organizational unit responsible for the entire content.
  - Experiences from "traditional" content-driven media, such as newspapers, have editors.
  - A designated person does not need to personally create content.

Creating the content(5)

- Start asking questions: Why? What for?
  - The creation of specific types of content should be subordinate to a defined, global strategy.
  - Nowadays everyone can easily create different types of content.
  - It does not always mean that everyone should do it. There is not many things more annoying than the content on the corporation website with an „empty" content and ill-considered effects of marketing work.

Summary

- Content management is an indispensable component of the activity of most modern organizations.
- It can contain many different stages.
- It is mostly computerized using web technologies.
- It covers different forms and types of content including text, video and music.