Digital Asset Management

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I. Introduction

I. 导论
Outline
Outline

• Content management
Outline

• Content management
• Industrial Analysis
Outline

- Content management
- Industrial Analysis
- Case Study
1.1. Content management
Content?
Content

Information

Data

Content
Content Management

- Information
  - creation, representation and exchanging

- Information media (信息载体，石刻，竹简，羊皮纸，雕塑，建筑 ...)
  - collection, organization and storage

- 古老的行业
Content Management

- Examples:
  - Ancient years: Literature in Libraries and Archives (档案馆)
  - From 19th century: Continuous Media (连续媒体), movie, audio ...
  - After 1980's: Digital Media (数字媒体), digitalized ~
Content Management
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• Key: non-linear creation
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  fusion between traditional company (news paper, broad casting, entertainment) and modern company (google, sina, apple, facebook)
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• Non-Media industry:
  data and documents in big companies, education units, research units, museums
信息的银行?

- 保险柜？
- 交易平台？
- 。。。。？
Typical CMS

- Website of a research unit
- Personal blog
- Wiki
Digital Asset Management

Content Management

Digital Asset Management
What is Digital Asset Management?

• Tools for organizing, storing and retrieving content in digital format
  • downloading, renaming, backing up, rating, grouping, archiving, optimizing, maintaining, thinning, and exporting ...

• Includes:
  • text, video, images, movies, sound, and 3D content
Content Management and DAM

• “It’s just another binary file type” is a superficial response
  • But so is, “It’s just managing brand assets”

• Digital Asset Management involves
  - Much higher storage volumes
  - More complex ownership and usage rights
  - More complex content (layers)

• However, an organization needs a unified content management/digital asset management strategy to avoid unnecessary costs in hardware, licensing, software development and support
Examples of Digital Media (Asset)

Illustrations

Photographs
More Digital Media (Asset)

Sound

Animation

Movies
More Digital Media (Asset)

Sound

Animation

Movies
Nutrient Media

Nutrient media for plant tissue cultures are designed to enable explants to grow in a totally artificial environment. It requires that plant tissues grow in vitro, although how well and at what rate depends on the composition of nutrient media they contain organic compounds such as vitamins, plant growth regulators, and a carbon source.

Mineral elements

One of the most successful media is derived from Murashige and Skoog (1962) and with a few modifications, for micropropagation of many herbaceous plants and then adapting these media in mass cultivation, as seen in these successful procedures. Not only did they find that the media themselves were important, but the form in which the ions were supplied were critical as well.

Macronutrients

Macronutrients consist of N, P, K, Ca, Mg, and S. Nitrogen (N) - Nitrogen is required for general growth and is essential to plant life. In most tissue cultures, nitrogen is provided as amino acids and then to promote. The two most widely used forms of inorganic nitrogen used in plant tissue cultures are the nitrate ion (NO₃⁻) reduced and the ammonium ion (NH₄⁺) reduced which are added or as organic salts. Nitrogen is usually added at concentrations between 0 and 0.1M and ammonium between 0.1 and 0.5M. In poorly buffered media, nitrate can be converted to ammonium, which can be toxic to the plant. The ammonium ion can also be released from the tissue itself and can be toxic. Ammonium nitrogen usually ranges from 0.05 to 0.1M in nutrient media. Nitrogen can also be added as an organic form such as amino acids, carbohydrates, and proteins.

The organic forms of nitrogen such as amino acids are often used when added to media that do not contain ammonium. The advantage of using organic nitrogen is that it is readily reduced, the forms in which most nitrogen exists in the plant, and thus may be taken up more readily than nitrate nitrogen. The nitrogen in protein is slowly released as a slow release of amino acids and in the form of organic form is slowly released as a protein that is slowly released as a slow release of amino acids.

Microelements

The source of nitrogen in the plant is often critical depending on the kind of culture. There is a difference in the oxidized and reduced forms. The two main forms of nitrogen are nitrate (NO₃⁻) and ammonia (NH₄⁺). The form of nitrogen affects the pH. When both forms of N are used, there is a rapid uptake of ammonia (the more readily available form since it is released which results in a decrease in pH to about 6.0. At lower pH, the uptake of nitrate is preferred and thus the pH increase. Nitrate is used in addition to ammonium because the ammonium ion is excess usually toxic. This pH would be much more difficult to control with just ammonium.

Plant Biology 310 Plant Tissue Culture

Page 25
3D content

3D printer / scanner ...
Kinect...
Content

- *Essence (素材) + Metadata （元数据）*
- *Intellectual Property Rights (IPR, 知识产权)*
- *Digital Right Management (DRM, 数字版权保护)*
Why Do We Need DAM?

Digital assets are not simple bits.
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Why Do We Need DAM?

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- Fails to find it 35% of the time
- DAM reduces failure to 5%

Digital assets are not simple bits.
What Can DAM Do for You?
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- Catalog large numbers of formats
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- Create a visual category using thumbnails
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- All fields can be searched
- Select images for an electronic gallery - specific lecture topics
- Share over the internet
DAM Example: Picasa

Photo Management: Client Software + Web Service
Rules of sound DAM

- Systematize
- Don’t rely on your memory
- Be comprehensive
- Build for the future
- Do it once...
- But don’t overdo it
Browsers v.s. cataloging

- DAM faster
- allows user to have virtual sets.
- knows where stuff is supposed to be.
- allows faster backup of important sorting work.
- allows you to work with offline images.
Browsers v.s. cataloging

- Browsers:
  - Photoshop Bridge

- Cataloging software
  - Google Picasa
  - ACDSee
Solutions

From most extensive and expensive to least financially damaging
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- Desktop level
Solutions

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- **Middle tier - interdepartmental**
  - $3,000 - $5,000 +

- **Desktop level**
  - $100-500 + (depending on server requirements)
Desktop Solutions

iView Media Pro
Experience the Pro difference. iView MediaPro is essential for creative professionals who need to organize, view, annotate, print, backup and repurpose media, as well as automate their workflow.

- Download & Try
  - Ver. 1.5.7
- Buy Now
  - $90 (US)
- Take a Tour
  - Features
- Mac OS X, OS 9, 8.6
- Register for release alert

alienbrain STUDIO

Extenis Portfolio 6
We Create Order, You Create Art.

Cumulus 5.5 Workshop Edition
Desktop Solutions

- Avid Technology - Alienbrain
- Extensis - Portfolio
- Canto - Cumulus

Each of these programs is easy to use. Demonstration copies are available on the web at
www.alienbrain.com (Alienbrain)
www.extensis.com (Portfolio)
www.canto.com (Canto)
1.2. Industrial Analysis
DAM: Past and Present

- Digital Asset Management initially established **Niche Markets**, including
  - Publishing, Media and Entertainment
  - Broadcasting – Media Asset Management
  - etc.
DAM: Past and Present

- Now on the Verge of Going Mainstream
- Integration into
  - Enterprise Content Management and
  - Document Management Strategies
- Cross Industry
  - Financial Services, Pharmaceuticals, Consumer Packaged Goods, etc.
- Mainstream Vendors
DAM: Past and Present

• 淘宝电子书 http://ebook.taobao.com/
DAM: Past and Present

DAM system is moving to Cloud Computing
Digital Asset Management – Case Study
Case Study #1: Music Publishing

- Apple (iTunes)
- Leading music publishing firm
  - own millions song copyrights and supports 100 countries and territories
- Client needed a means to further maximize and manage the value of the song copyrights that it owns through promotion, licensing and royalty processing
- Client decided to turn all their internal processes and data outward, making them available to business partners and associates everywhere, at all time
Case Study #1: Music Publishing

- Key technical aspect was integration of numerous IT systems including several territorial:
  - databases, search, application server/portal
  - not just simply a packaged DAM system deployment

- Outcome was the world’s largest digital rights management (DRM) system
Case Study #1: Music Publishing

- Apple’s iTunes (data 2011)
  - > 8,500,000,000 music sale
  - > 84,000,000 iPad
  - > 13,000,000 iPhone
  - > 350,000,000 iPod
  - > 400,000,000 iOS devices
  - > 435,000,000 iTunes users
Case Study #2: Cable Television

- Leading cable television network: multiple premium channels/multiple multiplex channels
- Client needed more effective means to provide affiliates access to digital assets: marketing materials, programming information, ads, etc.
- Client also needed ability to request print materials and to order services (e-commerce transactional back-end integration)
- Client required a single 3rd party system integrator that could:
  - Span technologies: Digital Asset Management, Content Management, Application Server, Portal
  - Span core competencies: Creative Design, Back-end Integration, etc.
  - Take over where a previous 3rd party systems integrator left off
Case Study #2: Cable Television

- Google TV: Android based
- Apple TV? IOS based ...
Case Study #3: A Digital Asset Management System at University of Michigan

• Create a robust infrastructure to ingest, manage, store and publish digital rich-media (富媒体) assets and their associated metadata.

• Streamline the “workflow” required to create new works with digital rich-media assets.

• Build an environment where assets are easily searched, shared, edited and repurposed in the academic model.

• Provide a campus-wide platform for future application of rights declaration techniques (or other IP tools) to existing assets.
Orientation of DAMS at the UM

- Infrastructure level
- Tuned for rich media (time-based)
  - video
  - audio
  - 3D VR modeling and animation
- Capability for non time-based data (text, numerical data, still images)
- Metadata collection and management: automated or semi-automated
- Campus-wide availability
- Not primarily a content management tool nor production tool
- Coordinate with planned campus storage management practice
- Distributed management (authorization, roles, access lists)
- Integrated with centralized campus data services
- Plan for digital rights-declaration/management services
What is the place of DAMS in the campus infrastructure?

- Publishing: Teaching, Collaboration, Production, Distribution, Broadcast
- Institutional and Individual Assets
- Applications, Course Management Systems, Production Systems
- DAMS
- Storage
- Network
DAMS Component Services

Ingest
- Encode
- Transcode
- Metatag
- Proxies
- Store
- Encrypt

Manage
- View
- Metadata
- Access
- Workflow
- Version
- Check in/out
- DRM

Publish
- Traffic
- File Serve
- Streaming
- Broadcast
- Web Pub.
- Printing
- CD/DVD

Store
- Unit
- Unit
- Unit
- Unit
- Unit
- Unit

Campus Users
Remote Users
Media Appliances
Studios
Authoring Stations
Course Mgmt
Campus Services
Secure Web
Campus Broadcast
Print Publishing
Public Web
Enterprise Data

Near-line
Offline
Near-line
Offline
Near-line
Offline
Near-line
Local source:
- Tape Deck
- Live Media Stream
- Scanner
- Existing Digital File

Remote Source:
- Telestream ClipMail Pro
- FTP upload of existing digital file

Asset Processing

Virage
- Encoding & Logging
- Metadata Extraction
- Speech-to-text
- Voice, face recognition

Telestream Flipfactory
- Transcoding
- Metadata Extraction
- Proxy Creation

Streaming Servers
- IBM VideoCharger
- Apple QuickTime
- 1 TB storage

Remote
- iSCSI Storage
- 1TB

Library Server

Resource Manager

Accept Media Server
- Metadata creation
- Version control
- Check-in/out
- Workflow
- XML
- Websphere

IBM Content Manager
- Metadata Mngmnt.
- Resource Management
- Security
- Cosign single sign-on

DB2
- SMART
- Self-Management And Resource Tuning

Tivoli
- Storage Management

DAMS Living Lab Configuration
Extreme case ...

- Iron Mountain (铁山)：世界上最安全的数据中心
- http://digi.tech.qq.com/a/20100819/000388.htm
数字媒体资源管理系统

管理者

使用者

设计者
Homework today

• Send an e-mail containing to TA

  • 504392235@qq.com

  • include your name, ID, e-mail address

  • wechat number (not necessary, but recommended),

  • even a brief greeting to TA

• It's A0