

An Investigation into Digital Asset Management in a Publishing Company

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Agenda

- **Introduction**
- **Research Background**
- **Key Issues & Technologies**
- **Problem Analysis**
- **Reasons of Implementing DAM**
- **Solution Development**
- **Evaluation**
- **Conclusion**

Introduction

- **Digital asset management (DAM)**
 - Keep an overview of digital assets
 - Key component of enterprises intellectual asset management
 - Critical role in information management
 - Commonly implemented by media & publishing industry
 - Put digital assets in central repository
 - Create indexing
 - Provides searching capabilities
 - Make better access & retrieval of information resources
 - Work become more effective & efficient

Research Background

□ Target

□ C & K Education Limited

- International publisher
- Electronic publishing Department (EPD)
- Dedicate to publishing multimedia educational materials
- Cater for the rising demand of IT supported education in Hong Kong
- Produce digital assets to support the production of multimedia educational materials

Research Background

- **Research Methods**
 - **In-depth Field Observation**
 - **Semi-formal Interview**
 - **Solution Development**
 - **Evaluation**

Research Background

- **Objective of Study**
 - ▣ **Improve productivity & capabilities on DAM**
 - ▣ **Propose technological solutions**
 - **Workflow**
 - **Metadata**
 - **System Development**
 - **System Architecture**

Key Issues & Technologies

□ **Two key issues**

□ **Archiving Process**

- **Digitizing, logging, storing, managing, tracking & distributing rich media asset**
- **Easily searchable through the associated metadata**
- **Assist in seeking & retrieving specific assets to reuse, repurpose & maintain all multimedia information**

□ **Analysis of Business Process**

- **Understand the current working situation**
- **Identify the types of digital assets**
- **Reasons of implementing DAM**
- **Ways of implementing DAM into the existing workflow**

Key Issues & Technologies

□ Technologies

□ Workflow

- Structure the movement of multimedia information across an organization
- Perform activities in a collaborative process
 - Cataloging, Development, Evaluation, Sign-off & Archiving

□ Metadata

- Highly valuable part of DAM system
- Identify a digital file within a DAM system
- Improve the organization to retrieve information

Problem Analysis

□ **Collect**

- **Lack of formal procedure to manage all digital assets**
- **Lack of specific collection to collect digital assets in systematic way**
- **Lack of specific team or persons to manage digital assets**

□ **Organize**

- **Lack of metadata for representing all digital assets**
- **Minimizes the ability to locate the assets**
- **Cannot be retrieved & determined which digital assets what the staff needs and fitness to use**

Problem Analysis

□ **Store**

- **Not store in centralization**
- **Lack of guideline for storing to indicate how many versions of digital asset should be stored**
- **Simple backup strategy**

□ **Access**

- **Rely on memory to find out the digital assets**
- **Lack of access rights for digital assets**

□ **Use**

- **Lack of monitor to the usage of digital assets**

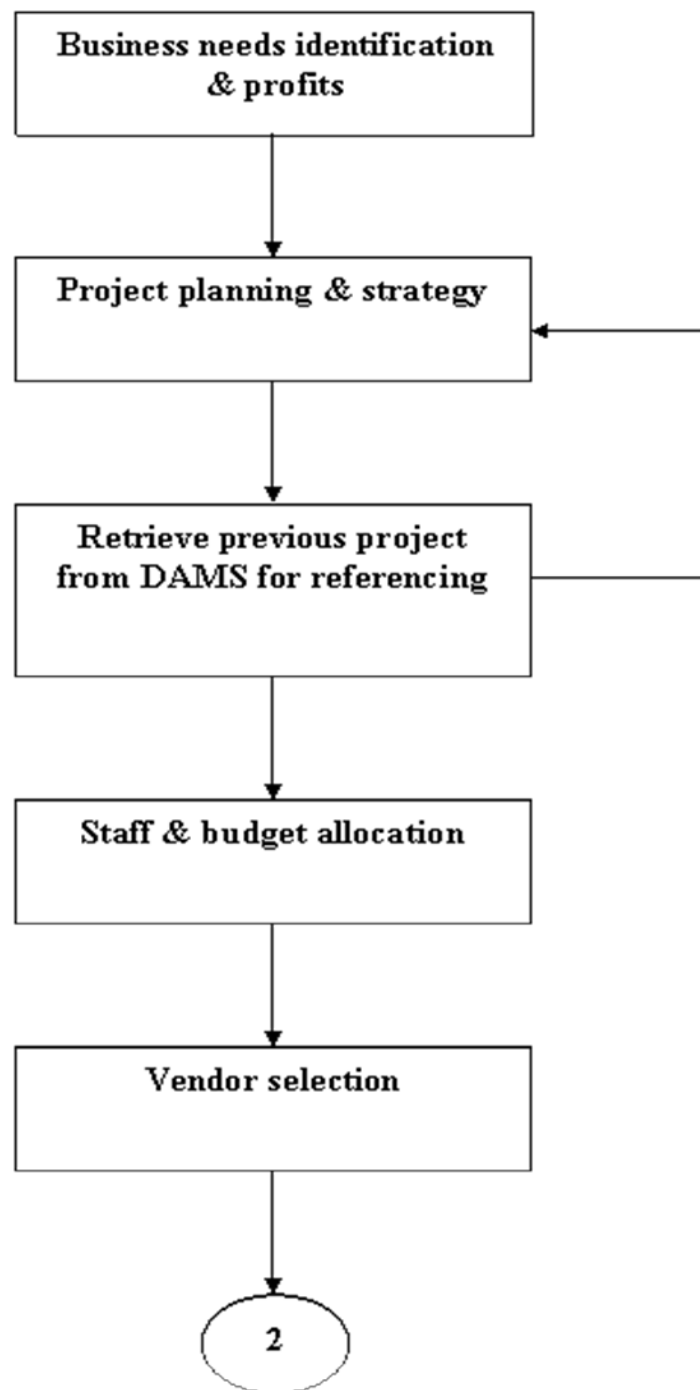
Reasons of implementing DAM

- ❑ **Easy retrieval**
- ❑ **Easy deliver**
- ❑ **Quick rollback**
- ❑ **Track project status easily**
- ❑ **Work faster**
- ❑ **Reduce resources for storage**
- ❑ **Reduce cost**
- ❑ **Protect department's property**
- ❑ **Prolong life of digital files**
- ❑ **Easy take over**
- ❑ **Better security**
- ❑ **Enhance productivity**

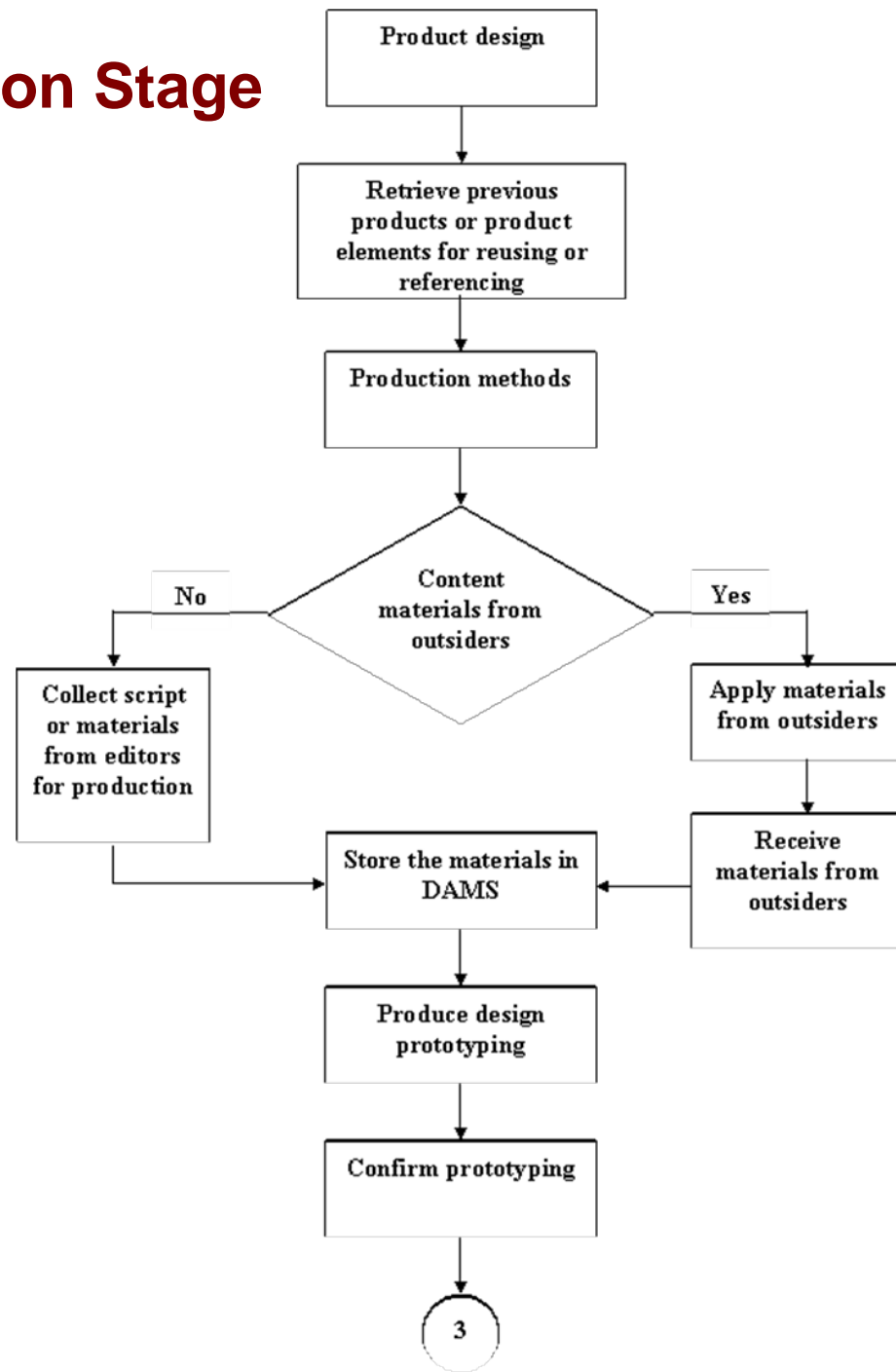
Solution Development

- **New Electronic Publishing Workflow**
 - **Integrate DAM system into the existing workflow**
 - **Divided into four stages:**
 - **Planning Stage**
 - **Pre-Production Stage**
 - **Production Stage**
 - **Preview Checking & Revision Stage**

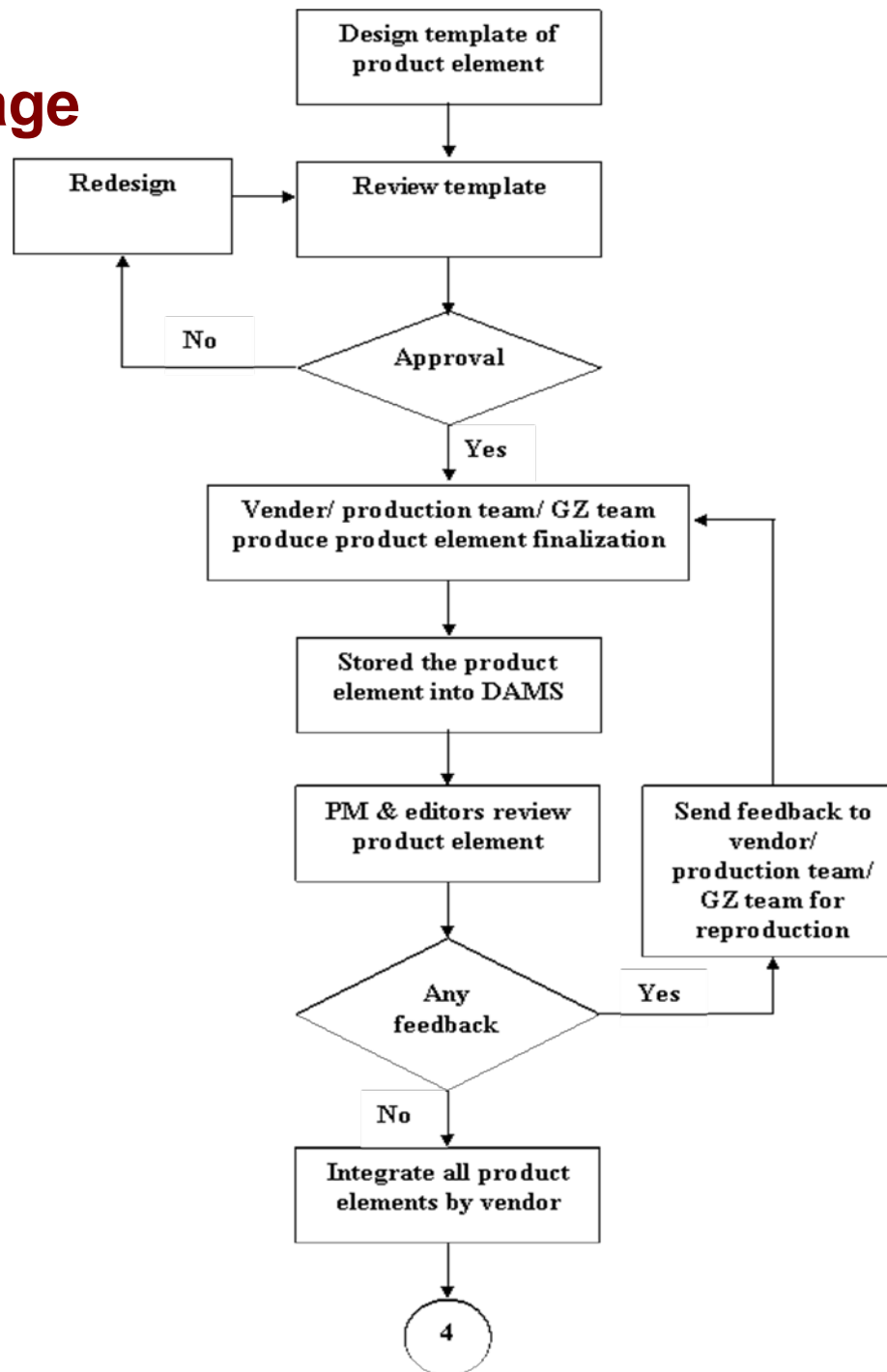
□ Planning Stage



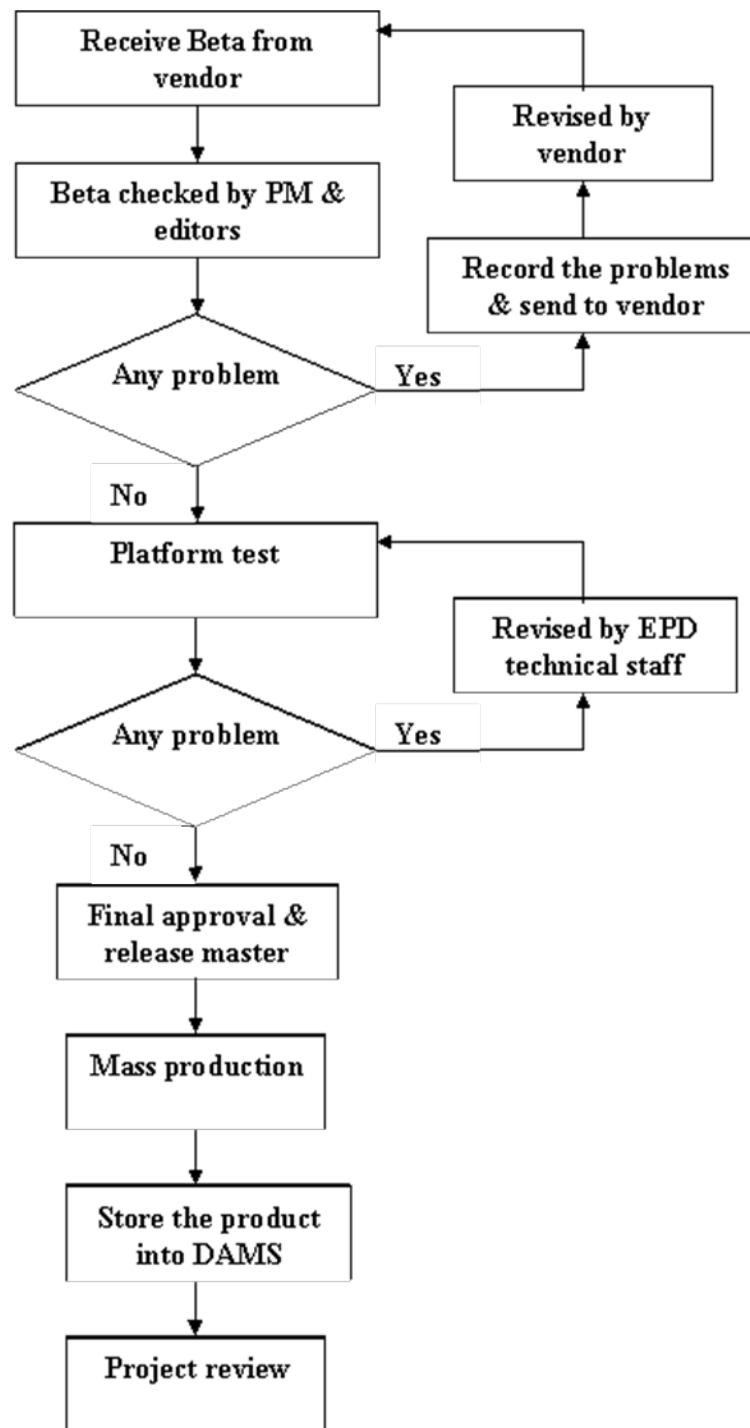
□ Pre-production Stage



□ Production Stage



□ **Preview checking & revision stage**



Solution Development

□ Metadata

- Crucial component for managing digital resources in a DAM system
- Design a metadata scheme base on Dublin Core (DC) and in-house standard with appropriate modification

	Elements	Refinement	Schema of Origin
1	Asset Number	/	Specifically define
2	Title	/	DC
3	Creator	/	DC
4	Contributor	/	DC
5	Description	/	DC

Solution Development

□ Metadata

	Elements	Refinement	Schema of Origin
6	Language	/	DC
7	Publisher	/	DC
8	Type	/	DC
9	Format	Size	Specifically define
		Duration	
10	System Requirement	/	Specifically define
11	Creation Application	/	Specifically define
12	Creation Date	/	Specifically define

Solution Development

□ Metadata

	Elements	Refinement	Schema of Origin
13	Version	/	Specifically define
14	User Type	/	Specifically define
15	Subject	Book Series	Specifically define
		ISBN	
		Edition	
		Chapter	
		Education Level	
16	Location	/	Specifically define

Solution Development

□ Metadata

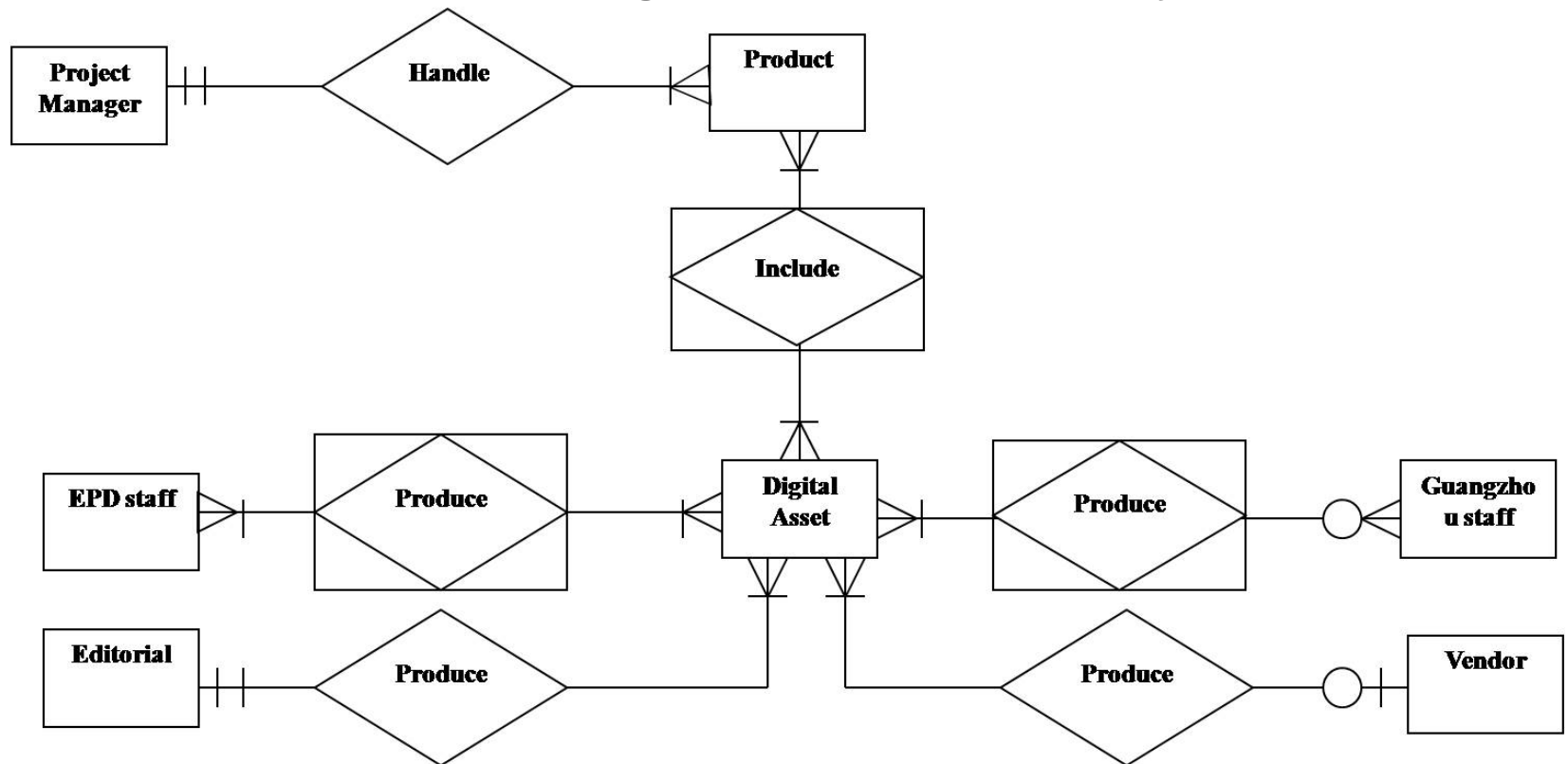
	Elements	Refinement	Schema of Origin
17	Ownership	/	Specifically define
18	Descriptor	/	Specifically define
19	Relation	/	DC
20	Identifier	/	DC
21	Rights	Access Right	DC
		Valid Period	Specifically define
22	Note	/	Specifically define

Solution Development

□ System Development

▣ Entity-relationship diagram of DAM system

- Express the overall logical structure of DAM system



Solution Development

□ System Development

▣ Entities & Attributes in DAM system

Entities & Attributes in DAM system
Product
Attributes: ↪ Product Name, Project Manager
Guangzhou Staff
Attributes: ↪ Guangzhou Staff Number, Guangzhou Staff Name
Editorial
Attributes: ↪ Editorial Staff Number, Editor Name
EPD staff
Attributes: ↪ EPD Staff Number, EPD Staff Name

Solution Development

□ System Development

□ Entities & Attributes in DAM system

Entities & Attributes in DAM system

Project Manager

Attributes: ⚙️ Project Manager Staff Number, Project Manager Name

Vendor

Attributes: ⚙️ Vendor Number, Vendor Name

Digital Asset

Attributes: ⚙️ Asset Number, Title, Creator, Contributor, Description, Language, Publisher, Type, Format, System Requirement, Creation Application, Creation Date, Version, User Type, Subject, Location, Ownership, Descriptor, Relation, Identifier, Rights, Note

Solution Development

□ System Development

□ Entities & Attributes in DAM system

Entities & Attributes in DAM system

Guangzhou Production Detail

Attributes: ↻ Guangzhou Production Number, Guangzhou Staff Number, Asset Number

Product Production Detail

Attributes: ↻ Product Production Number, Product Name, Asset Number

EPD Production Detail

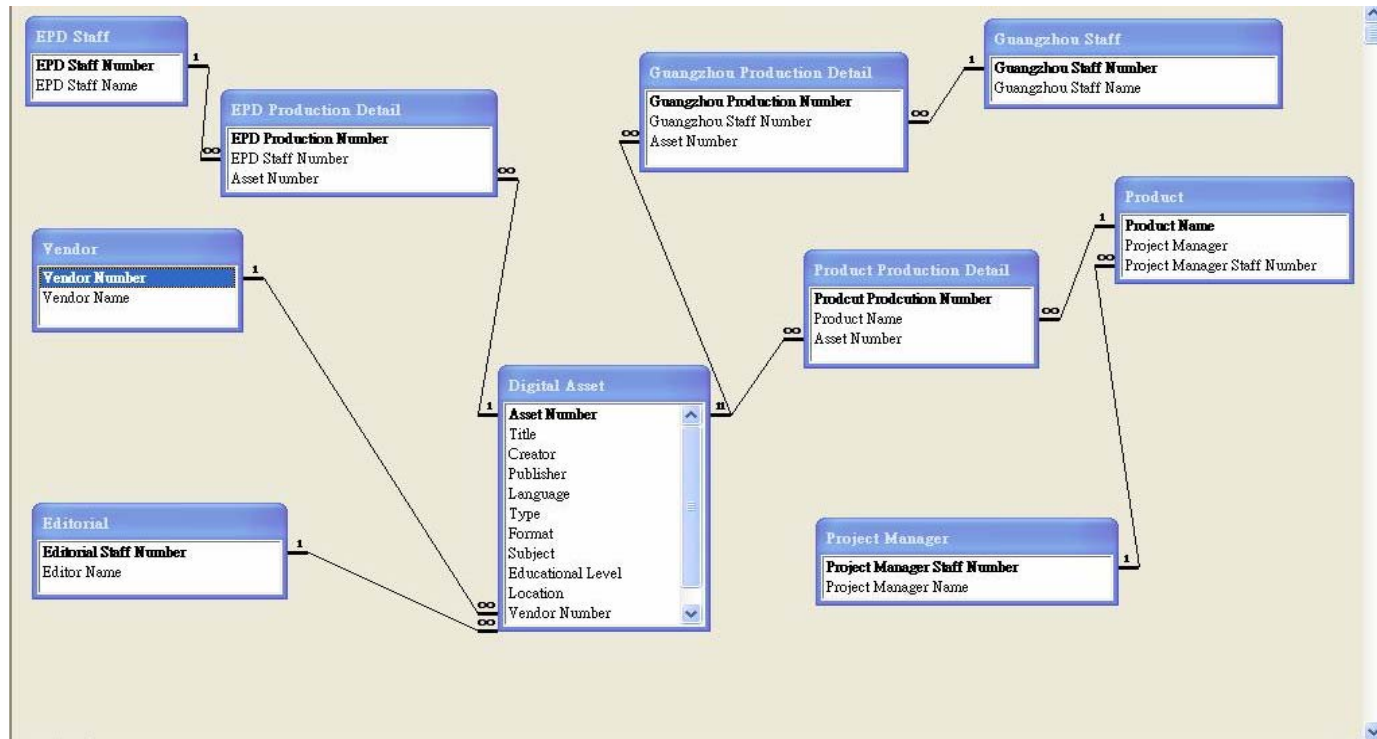
Attributes: ↻ EPD Production Number, EPD Staff Number, Asset number

Solution Development

□ System Development

□ Entity-relationship diagram of DAM system

■ Use Office MS Access to implement the ERD of DAM system

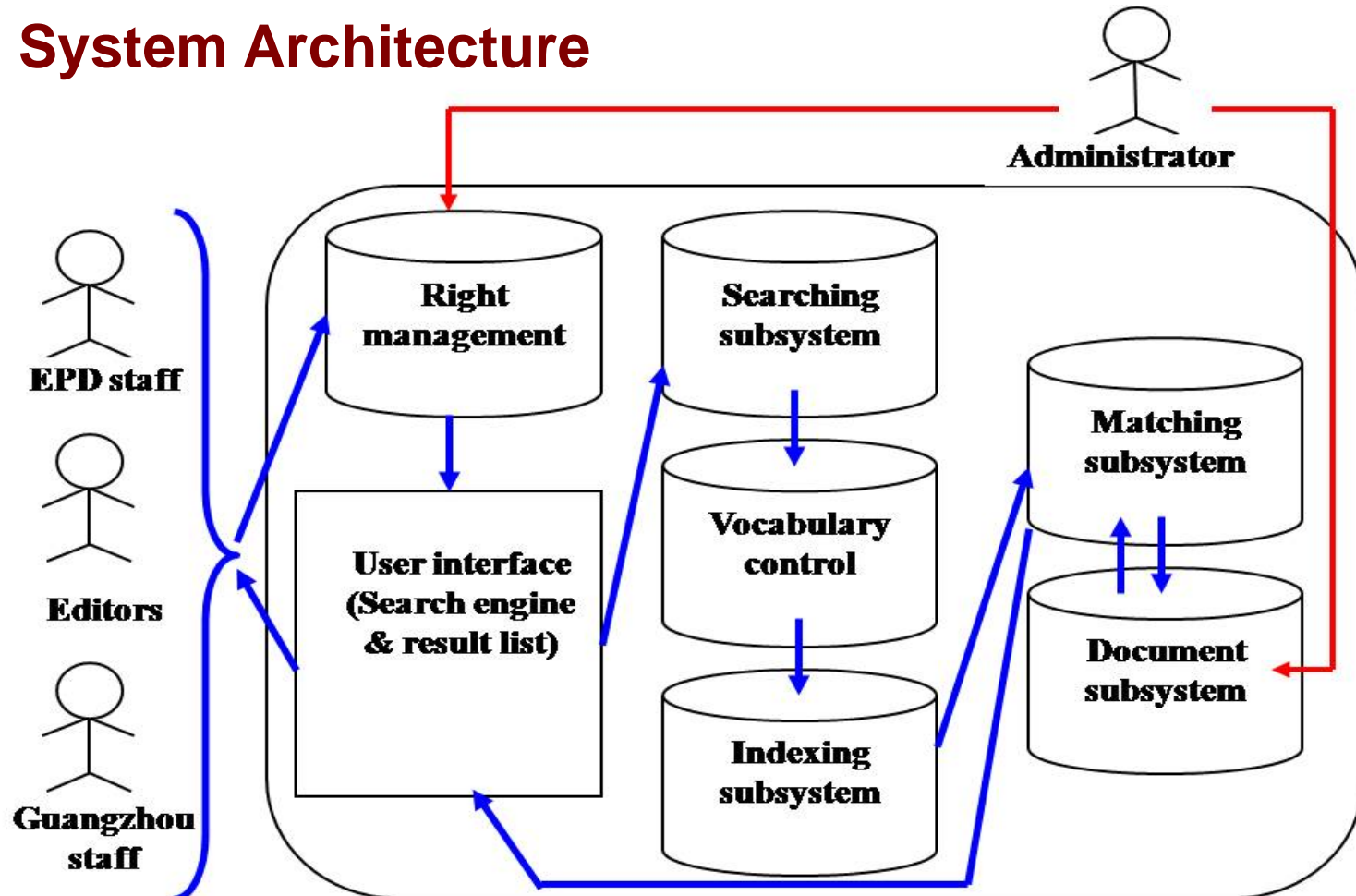


Solution Development

- **System Architecture**
 - **Information retrieval system (IRS)**
 - **Include six major subsystems:**
 - **User interface**
 - **Searching subsystem**
 - **Vocabulary control**
 - **Indexing subsystem**
 - **Matching subsystem**
 - **Document subsystem**
 - **Add a right management**

Solution Development

□ System Architecture



Notes:

Data flow:



Manage:



Solution Development

□ System Architecture

□ User Interfaces

■ Search engine

- Perform searching by inputting search terms
- Process the search query & search for the relevant digital assets
- Generate a search a result list

□ Searching subsystem

■ Field searching, e.g.

- Title
- Creators
- Asset number

Solution Development

□ System Architecture

□ Vocabulary Control

■ Language analysis

- Analyze the semantic after receiving query, e.g. natural language
- Make the database easier to search

□ Indexing subsystem

■ Indexes

■ Thesaurus

■ Subject terms

- Authorized vocabularies
- Ensure the search results become more precise

Solution Development

□ System Architecture

□ Matching Subsystem

■ Algorithms

- Find the best possible relevant information to satisfy user's information needs
- Concentrates on modifying query representations & modifying document representation
- Use in the field of information retrieval and matching functions of documents description with query descriptions

Solution Development

□ System Architecture

□ Document subsystem

■ Manage digital assets' records

- Creating, revising, deleting, reviewing & approving of document
- Important operations of document management

□ Right management

■ Authentication module

- Need to log in to use the system
- Match the information to verify the authority of users
- Ensure the security of the system

Evaluation


- **Strengths, Weaknesses, Opportunities and Threats (SWOT)**
 - **Strengths**
 - Simple and clear
 - Makes the staff more easily to understand
 - Harmonize with EPD's production process
 - **Weaknesses**
 - Only focus on electronic production
 - Lack of clarifying of right management

Evaluation

- **Strengths, Weaknesses, Opportunities and Threats (SWOT)**
 - **Opportunities**
 - Can be a candidate for adoption electronic publishing
 - **Threats**
 - Special requirements from other departments & parties
 - Content authors
 - Editors

Conclusion

- **Long-term journey**
- **Need times and efforts to establish an effective and standardized DAM**
- **Enhance the cooperation with other departments & parties**
- **Keep communicating to improve the workflow & DAM system in order to satisfy the users' needs**
- **Provide measures for the staff to adapt a new business process**



Q & A