



浙江大学计算机学院
数字媒体与网络技术

Digital Asset Management

数字媒体资源管理



任课老师：张宏鑫
2018-09-18



I. Introduction

I. 导论



Outline

- Content management
- Industrial Analysis
- Case Study



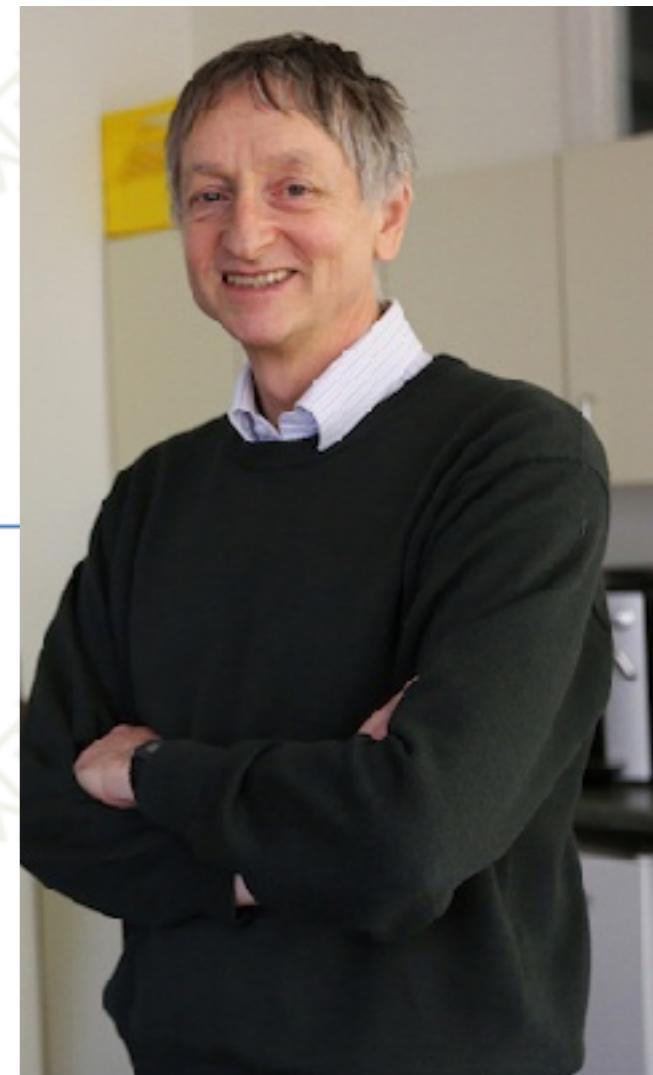
I.I. Content management





Content ? (内容)

The DT Era



2014年，马云对全体员工发了一封内部邮件。在邮件中，马云提出“以控制为出发点的IT时代正在走向激活生产力为目的的DT(data technology)数据时代”。

And the decentralization

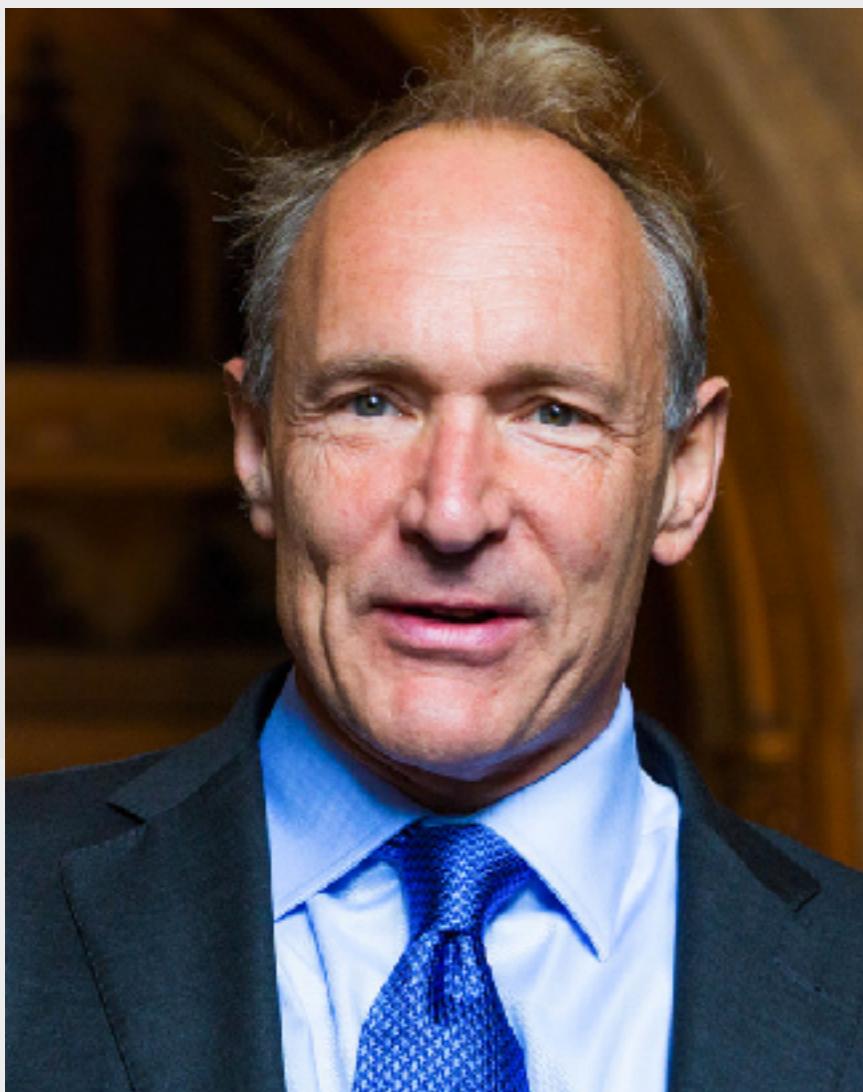
BitCoin

BlockChain

MPC

Internet of Things

True heroes in IT



Tim Berners-Lee



Richard Stallman



Linus Torvalds



Content

Content

Information

Data



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

- process, store and transfer (data) content
- Key: non-linear creation
- Media industry:
fusion between traditional company (news paper, broad casting, entertainment) and modern company (google, sina, apple, facebook)
- Non-Media industry:
data and documents in big companies, education units, research units, museums

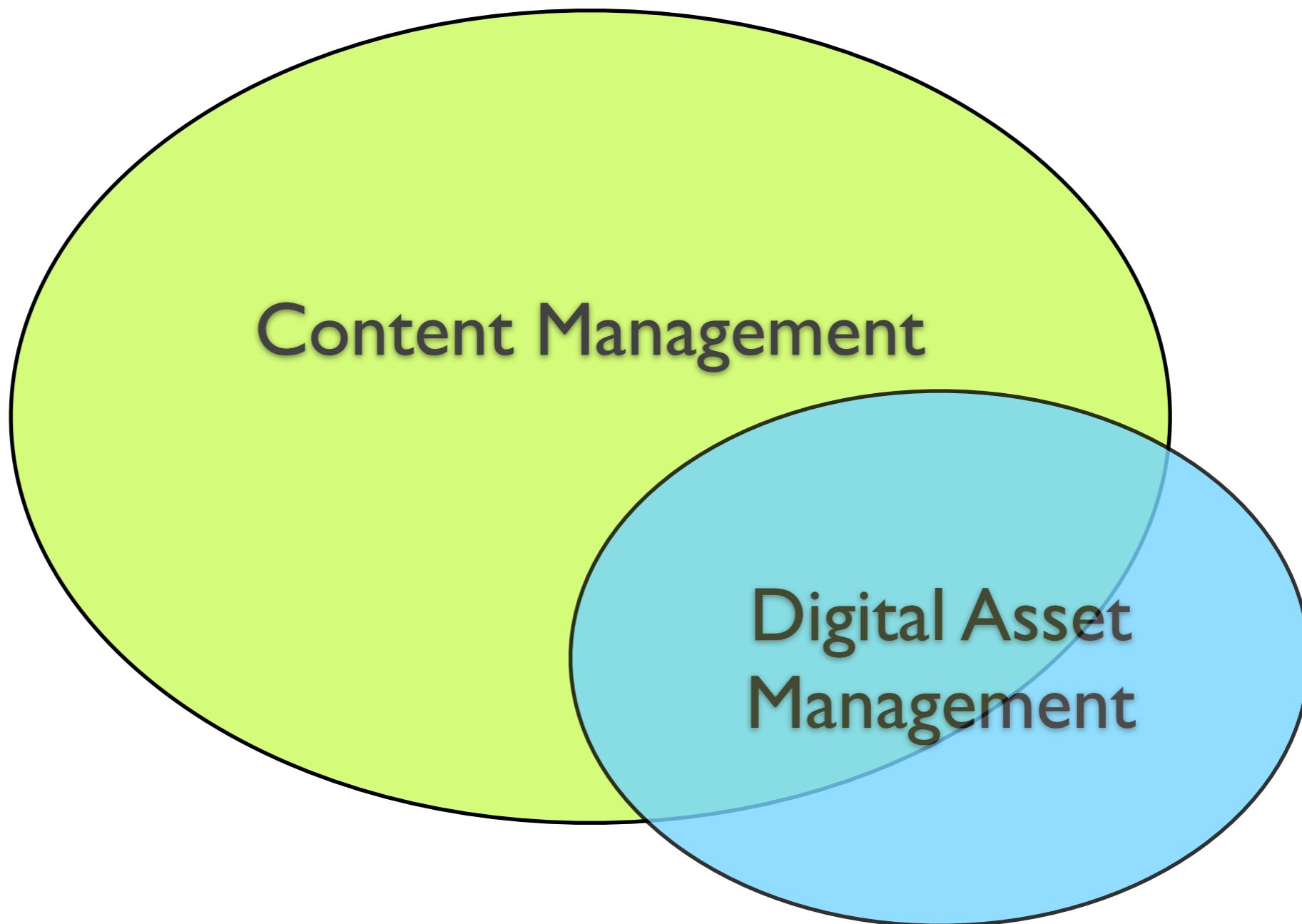
信息 / 内容的银行？

- 保险柜？
- 交易平台？
- . . . ?

Typical CMS

- Website of a research unit
- Personal blog
- Wiki

Digital Asset Management



What is Digital Asset Management?

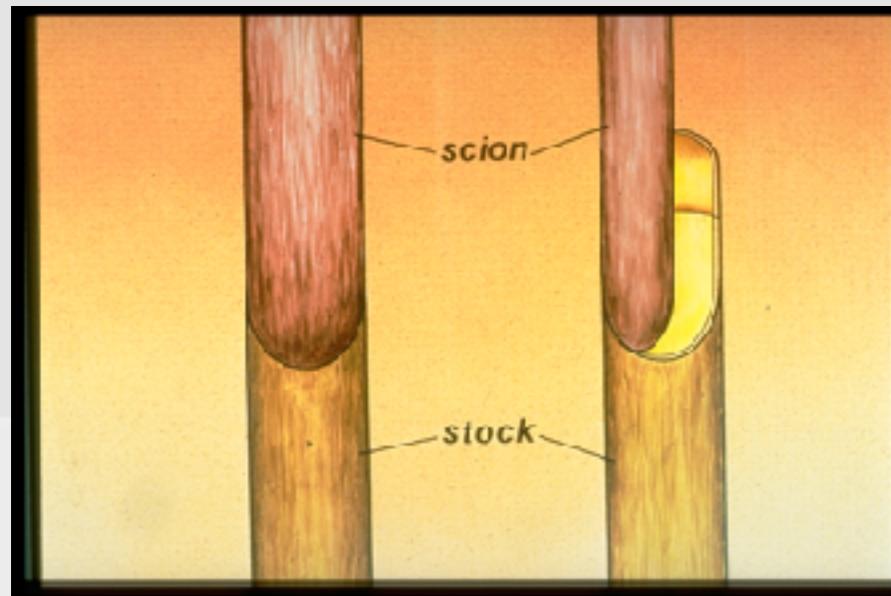
- Tools for organizing, storing and retrieving content in digital format
 - downloading, renaming, backing up, rating, grouping, archiving, optimizing, maintaining, thinning, and exporting ...
 - https://en.wikipedia.org/wiki/Digital_asset_management
- Includes:
 - text, video, images, movies, sound, 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

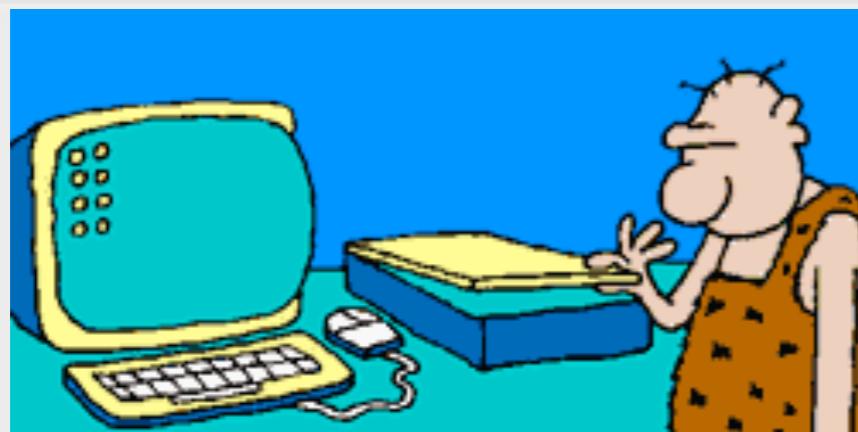


Photographs



More Digital Media (Asset)

Sound



Movies



Animation



浙江大学计算机学院
数字媒体与网络技术

Document

Hypermedia document

E.Selvaraju

1

Layering

Technique by which adventitious roots are caused to form on a stem while it is still attached to the parent plant. It is then detached to become a new plant.

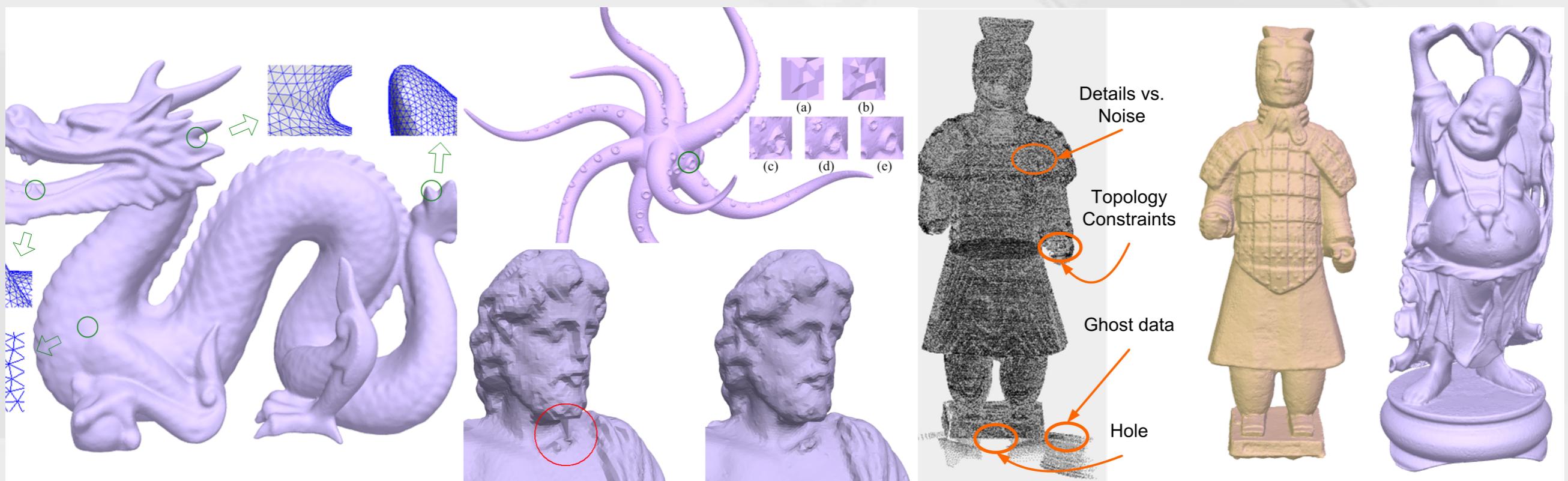
Endorhizic layering

1. Trichosis - still connected to parent plant. In some respects is similar to grafting - yet no association of C/H/O on at point of branching.
2. Stress avoidance - it is not detached from parent plant. Better water relations. Less leaf senescence and browning on plants that take long time to root.
3. Light exclusion - similar to blanching in tip layering. Isolation in trench layering.

Main uses of layering

1. For plants that propagate this way naturally such as raspberries, blackberries.
2. Plants which are difficult to propagate other ways - such as cutting but which are valuable enough to do this since it is a labor-intensive method. Mangos air layering, fibrous simple layering, muscadine grapes - compound layering.
3. For producing a large

3D content



3D printer / scanner ...

Kinect...

UE4 Content



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?



- Average creative person looks for a media file 83 times per week
- 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 ?

- Catalog large numbers of formats
- Create a visual category using thumbnails
- Add keywords, data fields
- All fields can be searched
- Select images for an electronic gallery - specific lecture topics
- Share over the internet

DAM Example: Picasa

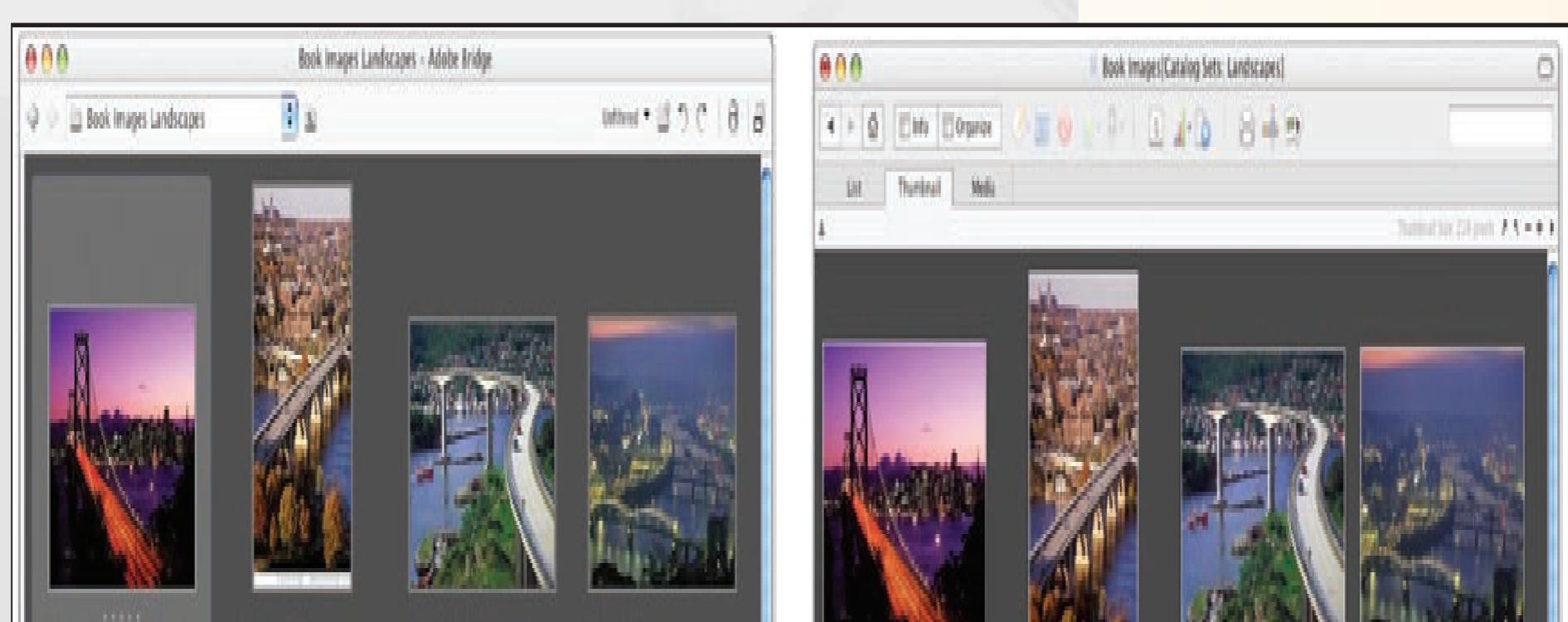


Photo Management: Client Software + Web Service

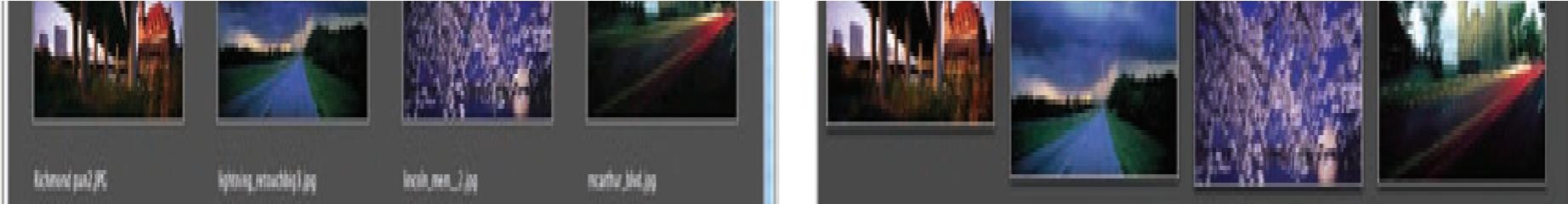
Rules of sound DAM

- 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

- Enterprise solutions
 - \$35,000 + (can be in millions)
- Middle tier - interdepartmental
 - \$3,000 - \$5,000 +
- Desktop level
 - \$100-500 + (depending on server requirements)
- Future, SaaS (cloud) solution
 - free or very low price



Desktop Solutions

iView Media Pro™

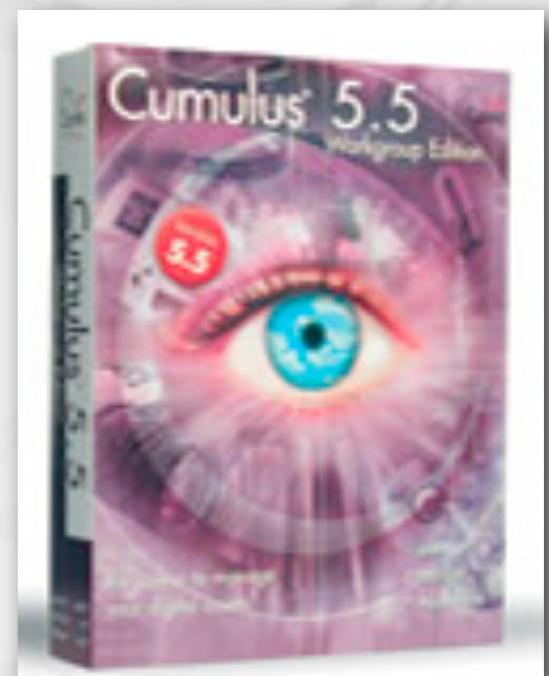
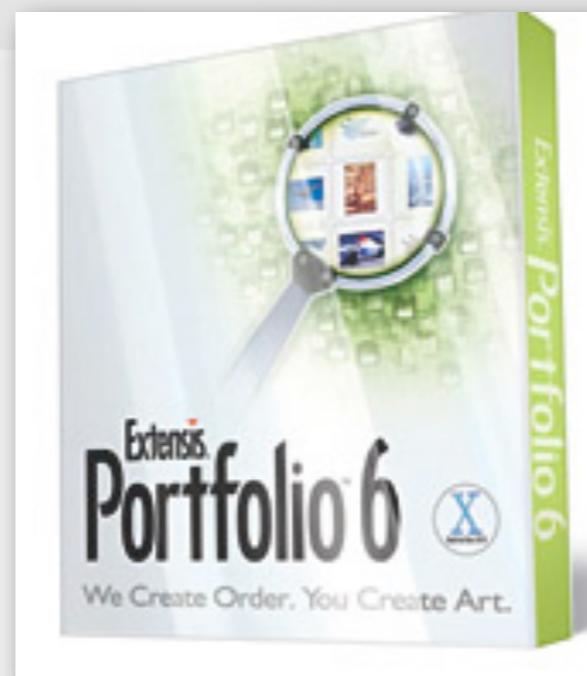
Experience the Pro difference. [iView MediaPro](#) is essential for creative professionals who need to organize, view, annotate, print, backup and repurpose media, as well as automate their workflow.



[Download & Try](#) [Buy Now](#) [Take a Tour](#)

Ver. 1.5.7 \$90 (US) [Features](#)

 Mac OS X, OS 9, 8.6  [Register for release alert](#)



Desktop Solutions

- Avid Technology - Alienbrain
- Exensis - Portfolio
- Canto - Cumulus

Each of these programs is easy to use. Demonstration copies are available on the web at
www.alienbrain.com (Alienbrain)
www.exensis.com (Portfolio)
www.canto.com (Canto)

Open Source Solution

<http://www.opensourcedigitalassetmanagement.org>



I.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

京东 数字内容 全部分类 搜索 高级搜索 数字商品购物车 > 我的电子书刊 >

出版社荐书 JDRead1 今日简史 轩辕诀 遮蔽的天空 刘慈欣 心想事成

电子书分类 图书首页 电子书 畅销榜 知识服务 客户端下载 | 我的畅读 | 我的阅读设备 | 购买帮助

特色分类
一周好书榜 月度畅销榜单
豆瓣独立作家 热门作者

文学
影视原著 中外名著 漫画杂志
文学 小说 传记 言情 悬疑

经管/励志
金融投资 市场营销 管理学
职场进阶 名人励志 情商

科学新知
人工智能 电子商务 大数据
科普 程序设计 办公软件

人文社科
历史考古 政治军事 艺术摄影
心理学 哲学 法律 宗教

生活休闲
两性情感 家教育儿 家居
时尚 健康养生 运动健身

学习教育
外语学习 英语读物 职业技术

韭菜的自我修养
写给每一位进场者的生存指南！
“看不懂”的A股、楼市、区块链，从此洞若观火。
京东电子书抢先看

李笑来首次公开投资原则
“韭菜”进股市之后
如何用一位投资者的思维去想

控制焦虑
心理学大师经典作品

Ellis

人体的故事
从进化、健康与疾病的关系着手，
审视人体命运

The Story of the Human Body

每日疯抢

魔力法则：用一句话照亮一生财富
（音频+3册）

财迷+利器+消失的爱人
（音频+3册）

我们缺什么
成名的人生哲学
（音频+3册）

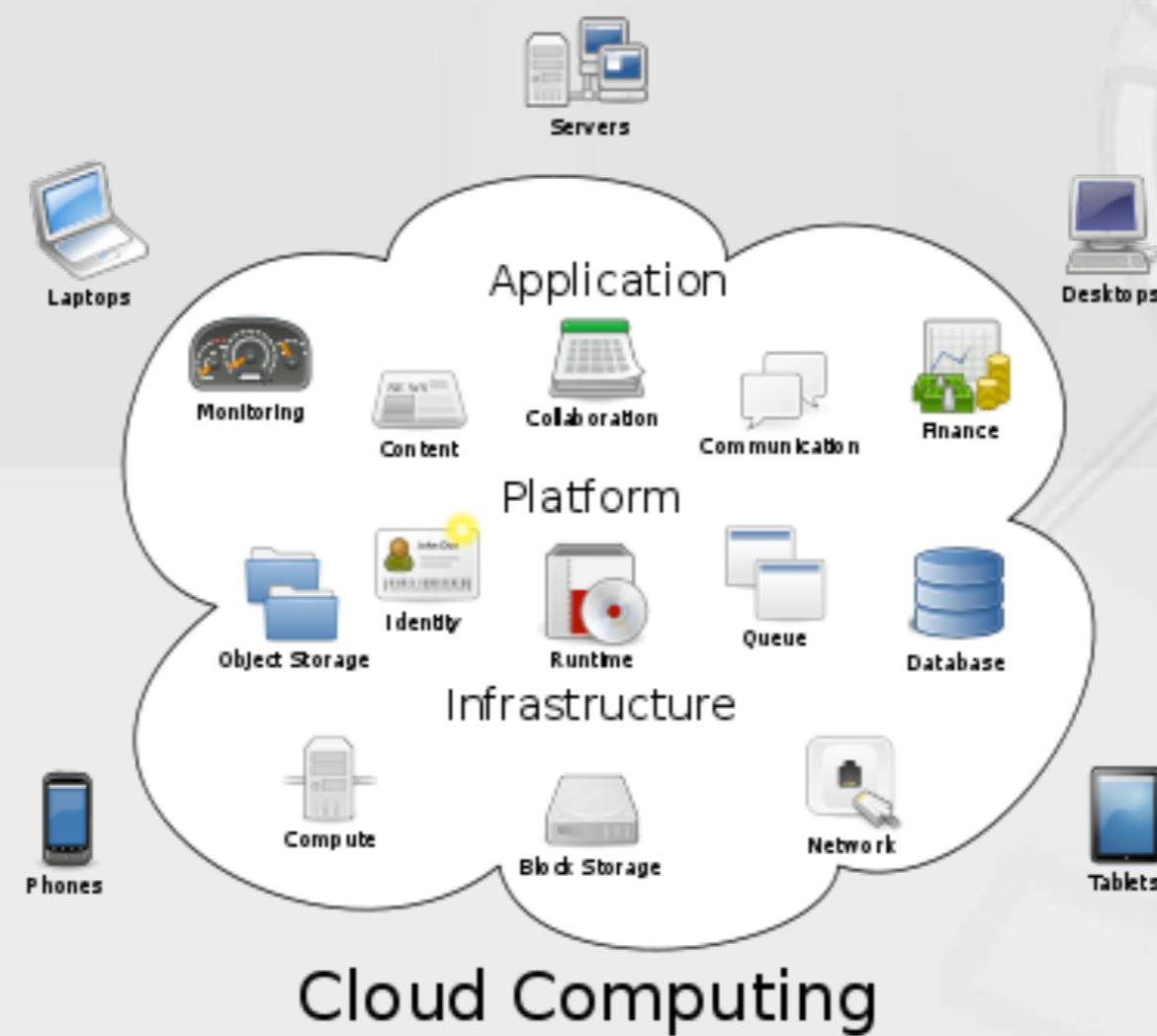
全科状元
新日本能力考试 N1-N5讲解
（音频+3册）

INFLUENCE
THE PSYCHOLOGY OF PERSUASION



DAM: Past and Present

DAM system is moving to





浙江大学计算机学院
数字媒体与网络技术

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



赛诺-2018上半年整体市场-销售量			赛诺-2018上半年整体市场-销售额		
(单位:万台)			(单位:亿)		
排名	品牌	总计	排名	品牌	总计
1	OPPO	3813	1	APPLE	1727
2	vivo	3551	2	OPPO	761
3	Apple	3211	3	HUAWEI	755
4	Huawei	3057	4	VIVO	693
5	HONOR	2839	5	HONOR	410
6	MI	2670	6	MI	348
7	Meizu	698	7	Samsung	150
8	Samsung	384	8	MEIZU	72
9	GIONNE	373	9	GIONNE	51

<https://www.esmchina.com/news/3895.html>

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**?

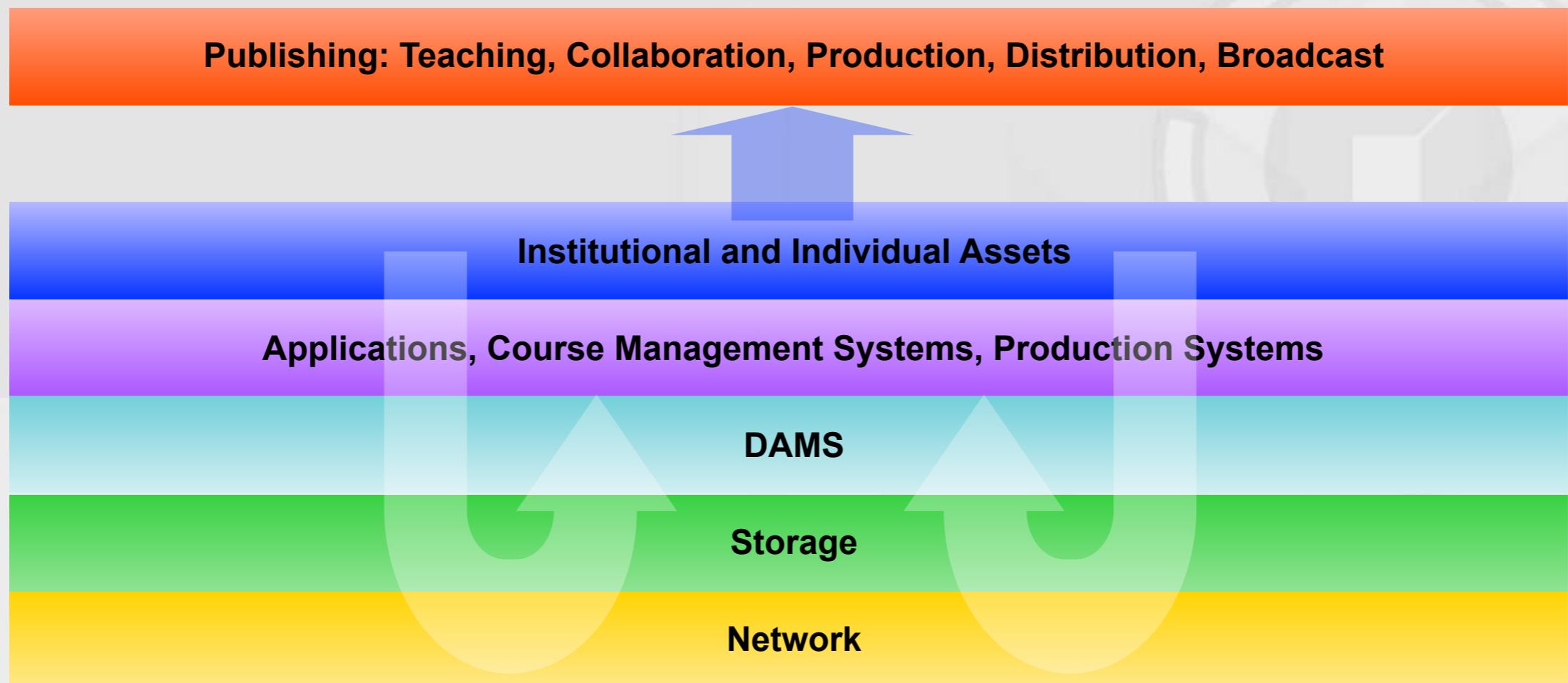
- Create a robust infrastructure to ingest (获取), manage, store and publish digital rich-media (富媒体) assets and their associated metadata.
- Streamline the “workflow” required to create new works with digital rich-media assets.
- Build an environment where assets are easily searched, shared, edited and 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

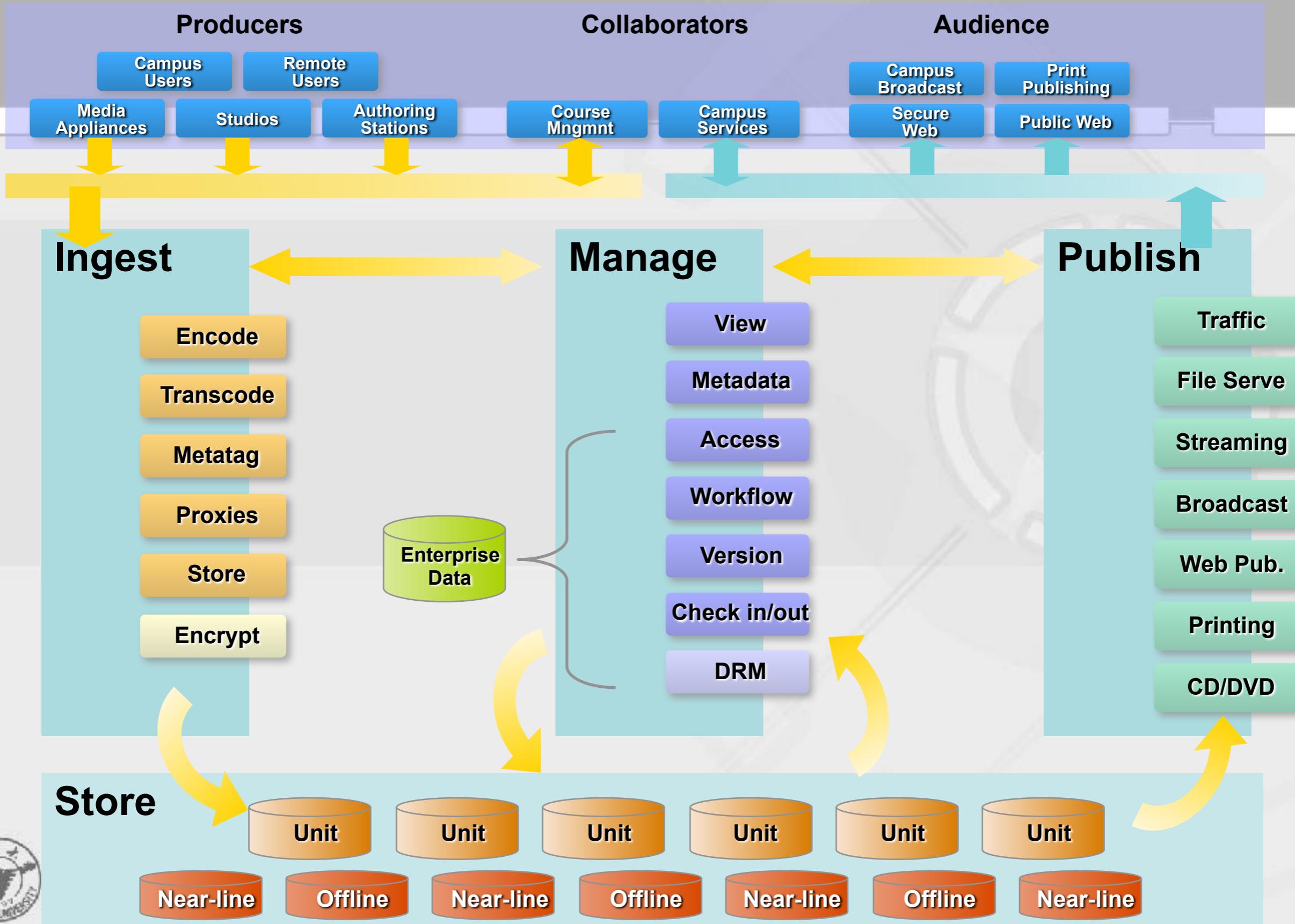
- Infrastructure level
- Tuned for rich media (time-based)
 - video
 - audio
 - 3D VR modeling and animation
- Capability for non time-based data (text, numerical data, still images)
- Metadata collection and management: automated or semi-automated
- Campus-wide availability
- Not primarily a content 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?



DAMS Component Services



DAMS Living Lab Configuration

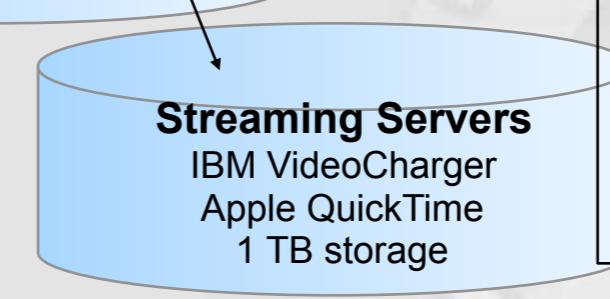
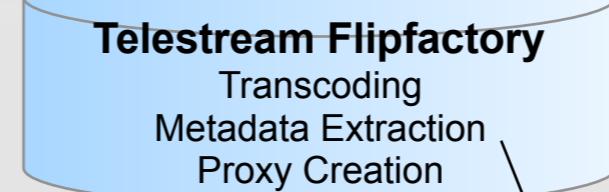
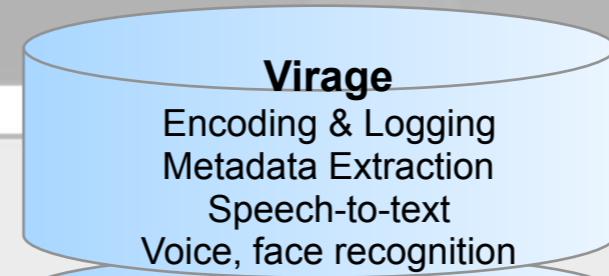
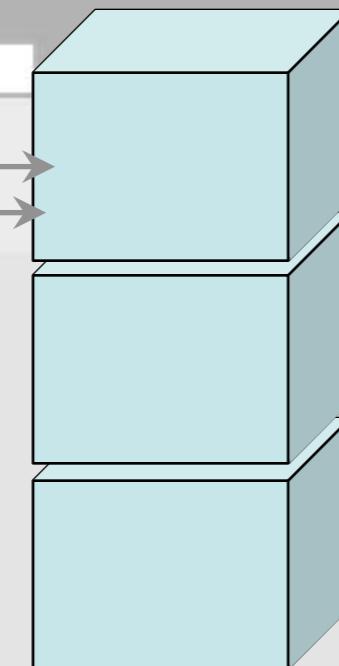
Remote Source:

- Telestream ClipMail Pro
- FTP upload of existing digital file

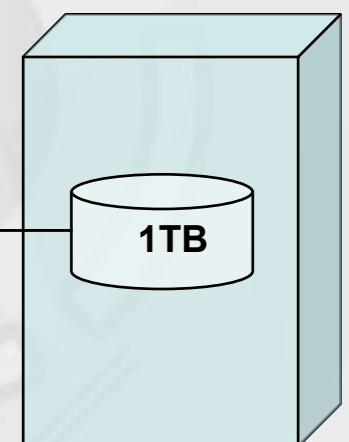


- Local source:
- Tape Deck
 - Live Media Stream
 - Scanner
 - Existing Digital File

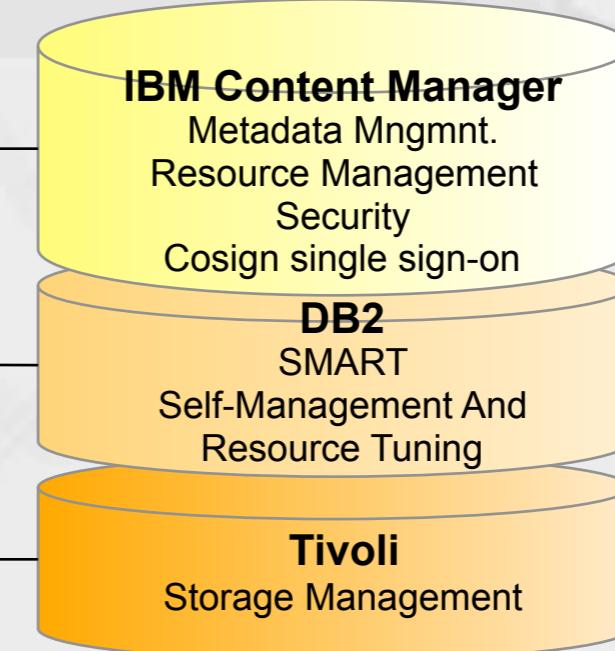
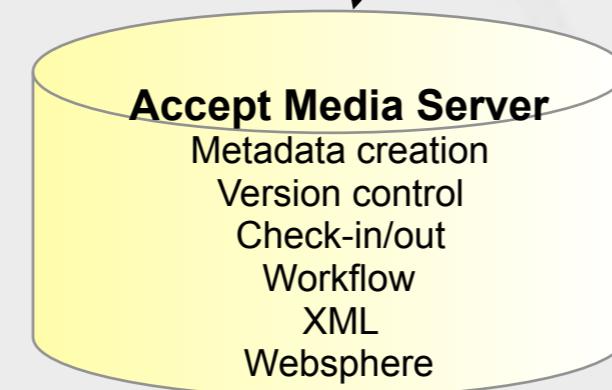
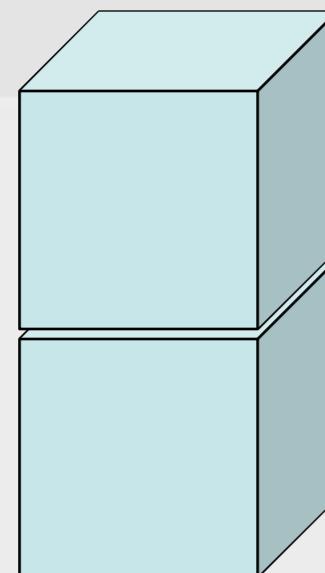
Asset Processing



Remote iSCSI Storage



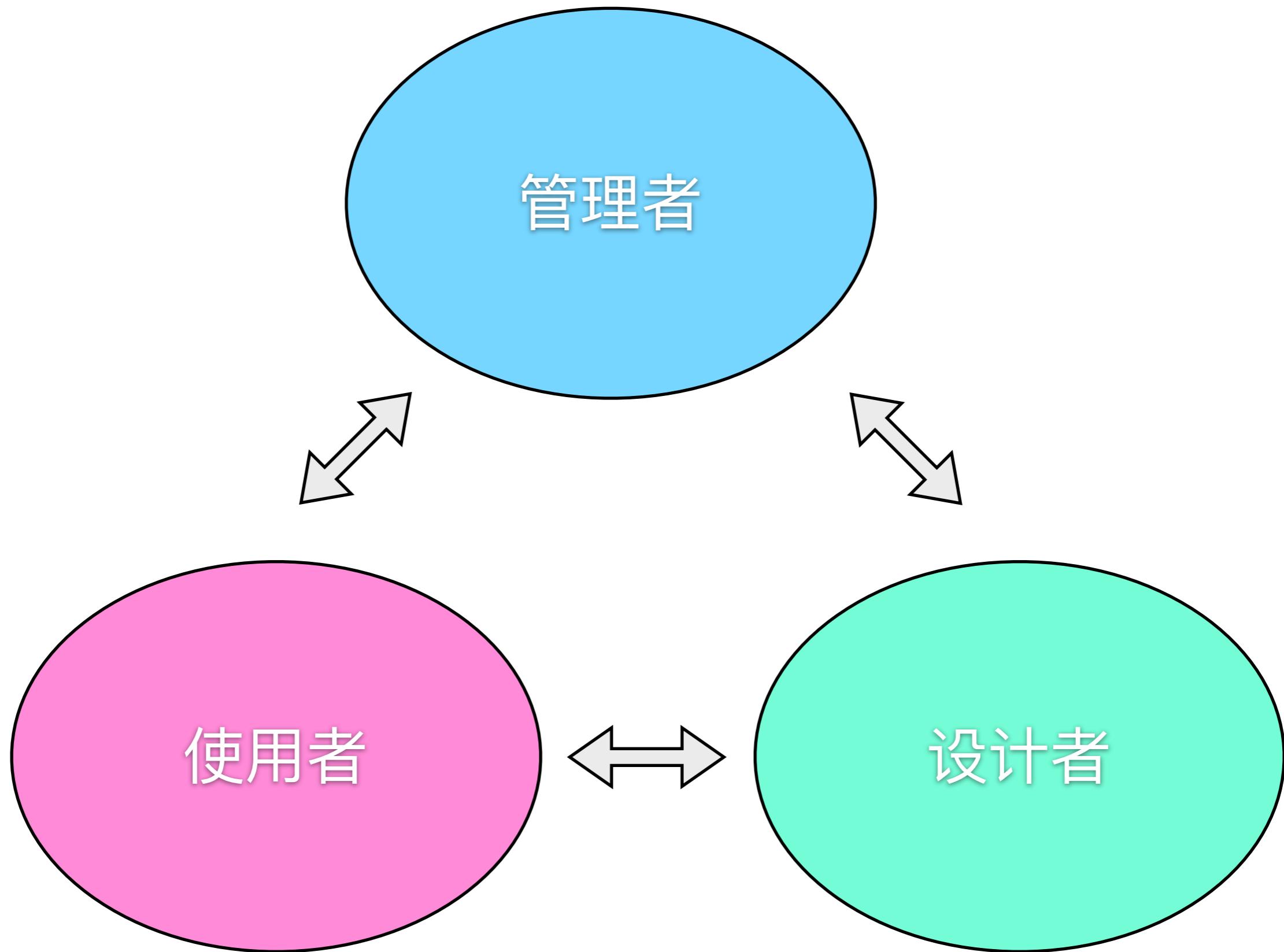
Resource Manager



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



Homework today

- Send an e-mail (damzju@163.com) to TA, including following items:
 - include your name, student ID, e-mail address
 - 1 clear front face photo
 - WeChat number (not necessary, but recommended),
 - talk something about **Raspberry PI or Blockchain**
 - even a brief greeting to TA
- It's A0