

An enterprise innovation: University of Reading Video Publishing System



Elite Award Entry
Best Paper Award Finalist
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University of Reading



- ❧ 17,000 students
 - ❧ 13,000 UK and EU
 - ❧ 4000 non-EU
 - ❧ 9,300 undergraduates
 - ❧ 7,700 postgraduates
- ❧ 4,000 staff

Innovation ~ Journey of Discovery



- ❧ Technological implementation
- ❧ Organizational culture
- ❧ Vision and strategy formation
- ❧ Strategic alliance

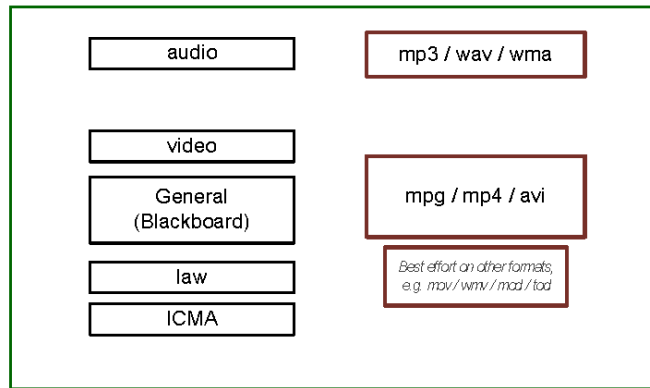
Technological implementation



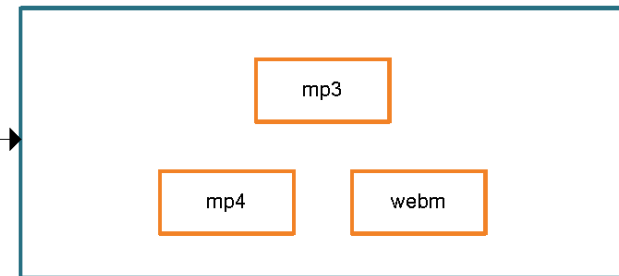
Component	Purpose
Upload webserver	To support upload, and workflow routine
Server with Dropbox2	To run modified Dropbox2 script, read and send emails
Storage server	To save uploaded and transcoded files
Transcoding server	To run Telestream Episode (licensed)
Delivery server	To disseminate files, and JW Player (licensed)

Reading VPS: Design

Input routes and file formats



Storage and output formats



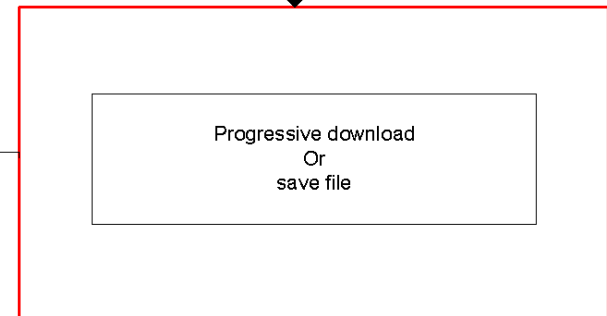
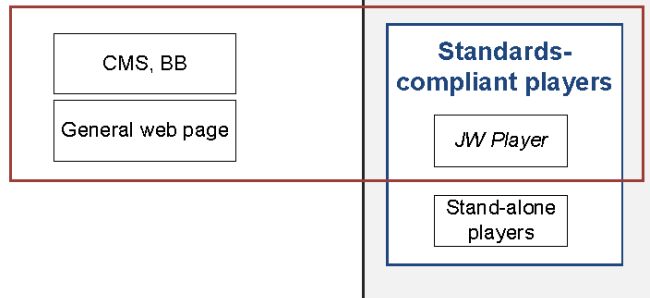
Processing workflow

Processing workflow

Processing workflow

User interaction

Application embedding

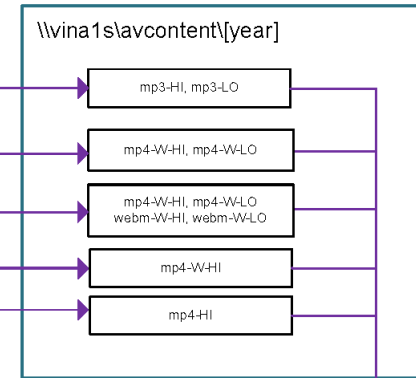


Reading VPS: workflow

Input routes and file formats

Route name	Input formats	Upload from	Workflow scriptname (see Input: common settings)
audio	mp3 / wav / wma	http://www.reading.ac.uk/interal/its/its-av-upload.aspx	/home/vis09a/bin/audio-fetch.pl
video	mpg / mp4 / avi	http://www.reading.ac.uk/interal/its/its-av-upload.aspx	/home/vis09a/bin/video-fetch.pl
General (Blackboard)	mpg / mp4 / avi	Blackboard: E-learning support - Video Upload tab	/home/vis09a/bin/general-fetch.pl
Law	mpg / mp4 / avi	File copy to \\vina1savupload\$Law	
ICMA	mpg / mp4 / avi	File copy to \\vina1savupload\$ICMA	

NetApps: Storage and output formats



Input: common settings

Upload server (Ubuntu): viwvd1 (test: viwdrop1)
 Upload application: NSSDropbox 2 (from University of Delaware)
 NSSDropbox temp storage: \\vina1savupload\$vnssdrop*
 "Input folder": \\vina1savupload\$vnssdrop\download\[video|audio|general]
 Cron: /home/vis09a/etc/fetchmail-video-audio-general
 Email notifications: to admin (vis09a) and to uploader
 Transcoder: Episode Engine 6.4.1 on vitrans1 (Windows Server 2012 R2)

Output formats

mp4 (H264 AVC video, AAC audio)
 "HI" ~ 640x480 (4.3, AVC Level 3)
 "LO" ~ 320x240 (4.3, AVC Level 1.2)

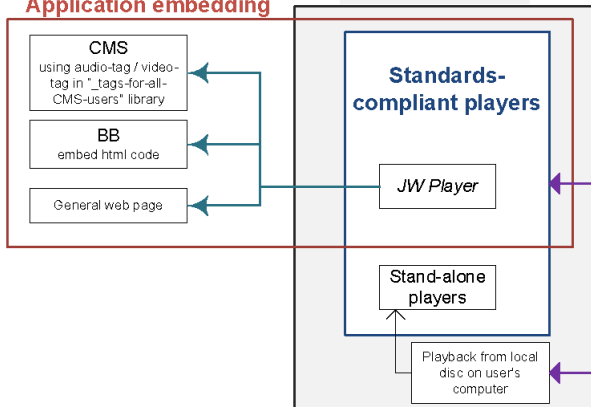
 "W-HI" ~ 640x360 (16.9, L3)
 "W-LO" ~ 320x180 (16.9, L1.2)

 Webm
 "W-HI" ~ 640x360 (16.9, Vorbis)
 "W-LO" ~ 320x180 (16.9, Vorbis)

mp3
 "HI" ~ 128Kbit 44KHz stereo
 "LO" ~ 32Kbit 32KHz mono

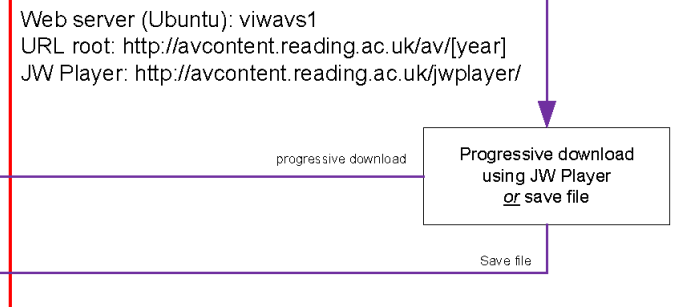
University standard
PC with media players

Application embedding



firewall, authentication, proxy

User interaction



Organizational culture



- ❧ Marketing department know what they want
- ❧ IT Services know what can / should be done

Organizational culture



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- ❧ Marketing device: mandate, policies, campaign
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- ❧ Key academic departments: we are different
- ❧ Teaching and Learning: we could be very different

Note: T&L – CQSD in paper

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-
- ❧ ITS perceived as owner of technologies as well as services, but less on ideas
 - ❧ anyway, it is ITS problem they want to solve, but do they know that?

Vision and strategy formation



- ❧ Develop own solution
- ❧ Community support and development
- ❧ Industry best practices
- ❧ Integrated to current workflow and work practices

Vision and strategy formation



- ❧ Short-term wins / strategies gain early momentum
- ❧ Social engineering and entrepreneurial ideas
- ❧ Agile methods
- ❧ Gains
 - ❧ community passion
 - ❧ commitment and sharing
 - ❧ leadership comes more naturally

Vision and strategy formation

- ❧ Excellence model, i.e. enablers on
 - ❧ Skills
 - ❧ Knowledge and transfer
 - ❧ Policy
 - ❧ Strategy

- ❧ Move away from a mandate approach, replace this with mission that we collectively achieve together

Strategic alliance



Analogy

- ❧ Managing semi-independent sub-brands
- ❧ Moving at paused pace
- ❧ No one coordinating
 - ❧ Ok, that's ITS then
- ❧ I (ITS) have the best set of knowledge and resources, and ITS leadership called it go, good and bad times
- ❧ So, I / we went, but we needed a plan, or to start somewhere

Strategic alliance

A brief outline of VPS



- ❧ Marketing wanted a video solution
 - ❧ they achieved this by buying hardware for iTunesU
- ❧ Using model analysis, marketing decided they were out-resourced and halted the project, iTunesU idle

Strategic alliance

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- ❧ Release 1, my role to encourage marketing on-board
- ❧ Community acceptance, no formal acceptance, but anyway ▶ institutionalized service

Annual upload totals



Year	T&L	Marketing	Total
2011	200	530	730
2012	260	170	430
2013	237	203	440
2014	248	156	404

Strategic alliance



Key stakeholders

❧ Marketing – rich workflow, all platforms, cool and quick, full-proof

Strategic alliance



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- ❧ Major departments (History, Business, Language, Education) – reliable, traceable, end-to-end publishing, pluggable / adaptable, international, transparency

Strategic alliance



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- ❧ ITS (project office, systems, web team, e-learning) – sustainable, long-term, business backing, best practice

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- ❧ External supplier – fitting solution and requirements

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- ITS (project office, systems, web team, e-learning) – sustainable, long-term, business backing, best practice
- External supplier – fitting solution and requirements
- Establish a **‘guiding coalition’**

Strategic alliance



Principles

1. Identify, engage with and manage potential **stakeholder groups** using project and service management best practices

Strategic alliance



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3. **Ease of use** for customers, supported by user guide and user community

Strategic alliance



Principles

1. Identify, engage with and manage potential stakeholder groups using project and service management best practices
2. Core system supports open framework, thereby supporting different types of users and different purposes
3. Ease of use for customers, supported by user guide and user community
4. Technical documentation to support **training and knowledge transfer** for administrators and support staff

Strategy as imagination

How we win



Win by

1. Vision
2. Being open
3. Being adaptable
4. Knowledge

∞ Integrated cascade of choices – discover winning aspiration, decide where and how to win, what capabilities to use, and what management system to require where choices earlier cascade down to refine the process

Summary

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Any questions?

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Thank you for your interest

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