

Innovation and the Digital Humanities: Early lessons from King's Digital Lab

James Smithies

Director of King's Digital Lab

Simon Tanner

Pro Vice Dean for Impact and Innovation, Arts & Humanities

@kingsdh

Background: Enabling DH at Scale

@kingsdh:

- 30 years of activity, against a background of rapid innovation and change in Humanities Computing and Digital Humanities.
- Centre for Computing and the Humanities (1991); Centre for eResearch in the Humanities (2008).
- Department of Digital Humanities (2011-):
 - ~200 students across 5 Masters and 1 Undergraduate degrees
 - 29 staff. (16 fte academic; 8.5 fte research only and 4 fte teaching fellows)
- **King's Digital Lab (2015):**
 - 10 staff (2 more planned).
 - 180+ virtual machines, 400GB RAM, 27TB data + AWS / Azure.
 - 90 inherited projects, 20 ongoing. ~5 million digital objects.
 - Business, HR, Operational Plans for 2016 – 2020 complete.
 - Supported by external funding, under-written internally.

Benefits of the model

- **DDH:**

- Focus on research and teaching.
- Larger, more sustainable research projects and programmes

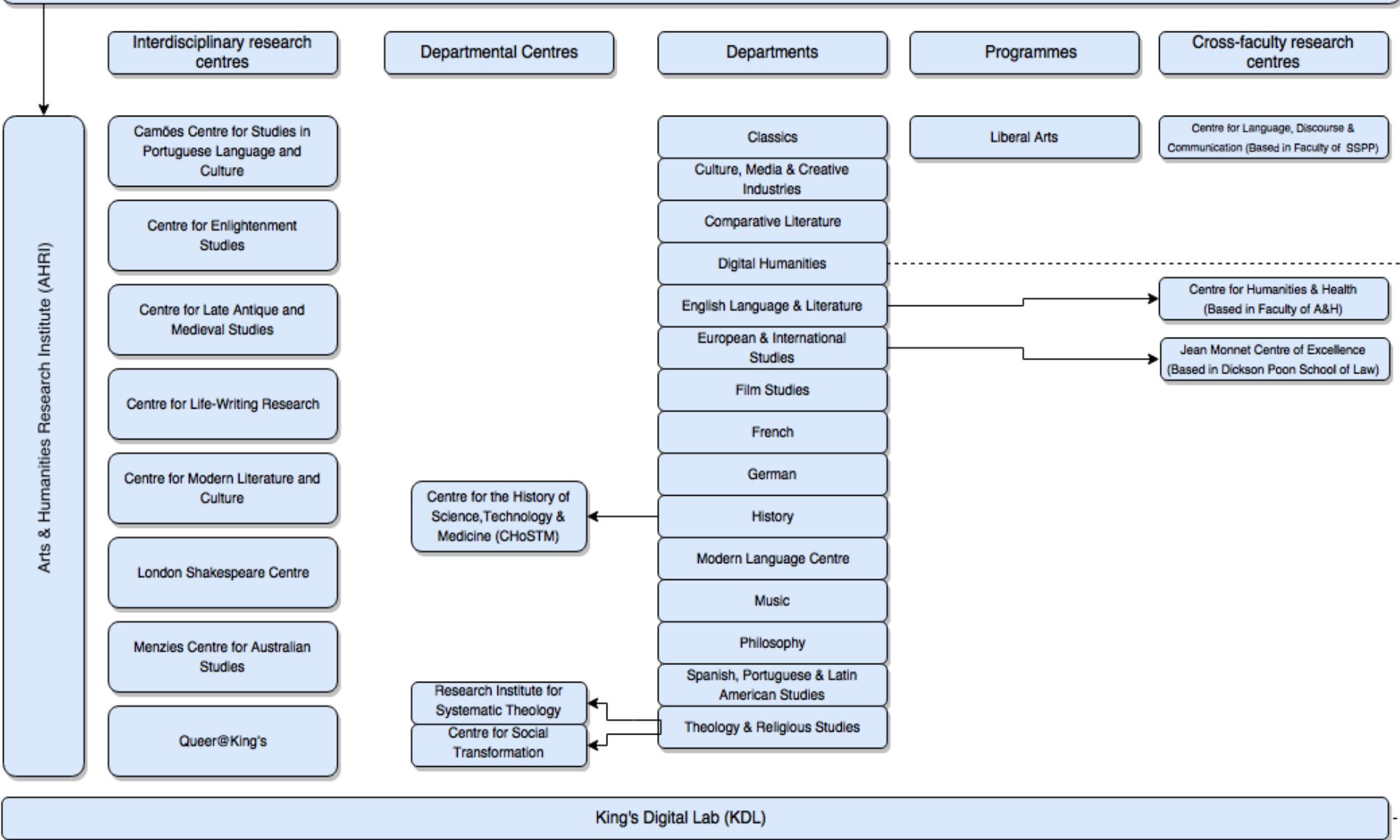
= @kingsdh / open innovation

- **KDL:**

- DH even more embedded in academic practice across Arts & Humanities and the rest of King's
- Focus on software development / infrastructure.

DH at (sustainable) Scale

Faculty of Arts and Humanities



King's Digital Lab: Human Resources

- Director (0.25 DDH, 0.75 KDL), Project Manager (1 permanent); Analysts (2 permanent, 1 fixed term); Software Developer (x1); UI/UX Designers (x2 permanent); Developers (x3 permanent); Systems Manager (x1 permanent).
 - Research Software Development careers.
 - Knowledge retention.
 - Maintenance & sustainability.
 - Porous border across to DDH: internships, fellowships, teaching & research infrastructure, innovation.
 - 10% time for personal projects: maker culture, VR / AR, machine learning.

King's Digital Lab: Product Catalogue

Pre-grant analysis (gratis) and:

Activity	Product	Estimated Hours Required	Estimated Cost	
General	Programming	~	£500.00 / day	
	Web development	~	£500.00 / day	
	Mobile App development	~	£500.00 / day	
	Server maintenance	~	£500.00 / day	
	Consultancy	~	£500 - £1000 / day	
	Basic website (design, development, 5 years web hosting)	210	£15000.00	
	Scope document	35	£2500.00	
	Archiving & preservation assessment (document)	35	£2500.00	
	Data modelling	~	£500.00 / day	
	Data analysis	~	£500.00 / day	
	Data visualization	~	£500.00 / day	
	Data preparation	~	£500.00 / day	
	Infrastructure	Web hosting (per GB RAM, GB Disk Space, backup & maintenance requirements)	~	£500 per year +. See table below.
		Data hosting (per GB disk space, disk type, backup & maintenance requirements)	~	£500 per year + See table below.
Training	TEI-XML	7	£500.00	
	Python for Digital Humanities	7	£500.00	
	Machine Learning for Digital Humanities	7	£500.00	
Project Definition (Gratis)	Terms of Reference (document)	2	£143.00	
	Feasibility Assessment (document)	2	£143.00	
	Project Approach Questionnaire (workshop & document)	4	£286.00	
	Statement of Work (document)	2 - 10	£143.00 - £715.00	
	Quotation (document)	2 - 10	£143.00 - £715.00	
	Archiving assessment (document)	7	£500.00	

King's Digital Lab: Management Challenges

The image displays a Trello project management board for King's Digital Lab. The board is organized into columns representing different stages of project development. Each card represents a project, with details such as title, progress indicators, due dates, and team members. The columns are: Labels, Pre-Project, Feasibility, Submitted to Funder, No go, Foundations, Evolutionary Development, Deployment, and Post-Project. The board includes a sidebar with labels and a top navigation bar with the King's Digital Lab logo and team visibility settings.

Labels:

- Action needed
- Waiting feedback
- Sprinting
- Upcoming sprint
- Post funding maintenance
- Has maintenance agreement
- No further action on this

Pre-Project:

- SciencescapeS (Due: 22 Aug)
- H2020: DESIR (DARIAH-ERIC SUSTAINABILITY REFINED)
- ERSC-DDH: Ways of Being in the Digital World
- ERSC-ICSA: Ways of Being in the Digital World
- Digital Dickens (Due: 29 Aug)
- Data infrastructure / ML
- Digital Sudan
- Cultural Protection Fund (Due: 15 Jul)
- SDO3: potential update of SDO
- King's College IT Research Strategy
- Lost Archives of the Book Trade (Due: 17 Aug)
- Local test install of DH Box for DDH (Due: 17 Aug)

Feasibility:

- TEMPLATES
- Adam Crymble Games Project (Due: 15 Aug)
- IOSPE2 (Due: 30)
- SNAP 1.5 (Due: 18 May)
- Creative Campus
- The Community of the Realm of Scotland, 1301-29
- Hollywood Mapping (Due: 10 Jun)
- Empathy, efficiency, and the modernisation of clinical care (Due: 22)
- The Bibliography Project
- ASCD: Anglo Saxons Coins Database
- Early Modern Blasphemy
- Poetic Forms Online (Due: 30)

Submitted to Funder:

- Digging into Data (Mark Hedges)
- AHRC Forced Displacement (Due: 13 Jul)

No go:

- Layers of London
- T. S. Eliot Collected Poems
- H2020: Research Infrastructures: Moving Europe (Due: 30 Mar)
- Neo-Latin Poetry
- Letters of Elizabeth Montagu
- EHRI
- John Drew - open transcription / translation interface
- COLT: Cultural Distributed Ledger Technology (EPSRC)

Foundations:

- TEMPLATES
- EEL: Early English Laws
- KDL Archiving and Sustainability

Evolutionary Development:

- TEMPLATES
- MKCHEUR: Making of Charlemagne's Europe (Due: 3 Jun)
- SHIRLEY: The Complete Works of James Shirley
- IOSPE: Ancient Inscriptions of the Northern Black Sea (Due: 30)
- PBW: Prosopography of the Byzantine World
- kdl.kcl.ac.uk (Due: 2)
- HP: Historical Pageants (Due: 28 Oct)
- DPFR: Digital Prosopography of the Roman Republic (Due: 31 Oct)
- TVOF: The Values of French (Due: 31 Aug 2019)
- OCVE: Online Chopin Variorum Edition (Due: 31 Mar 2017)
- SCRAMBLED: Scrambled Messages (Due: 30 Sep 2017)
- MOI: Ministry of Information (Due: 31 Dec 2017)

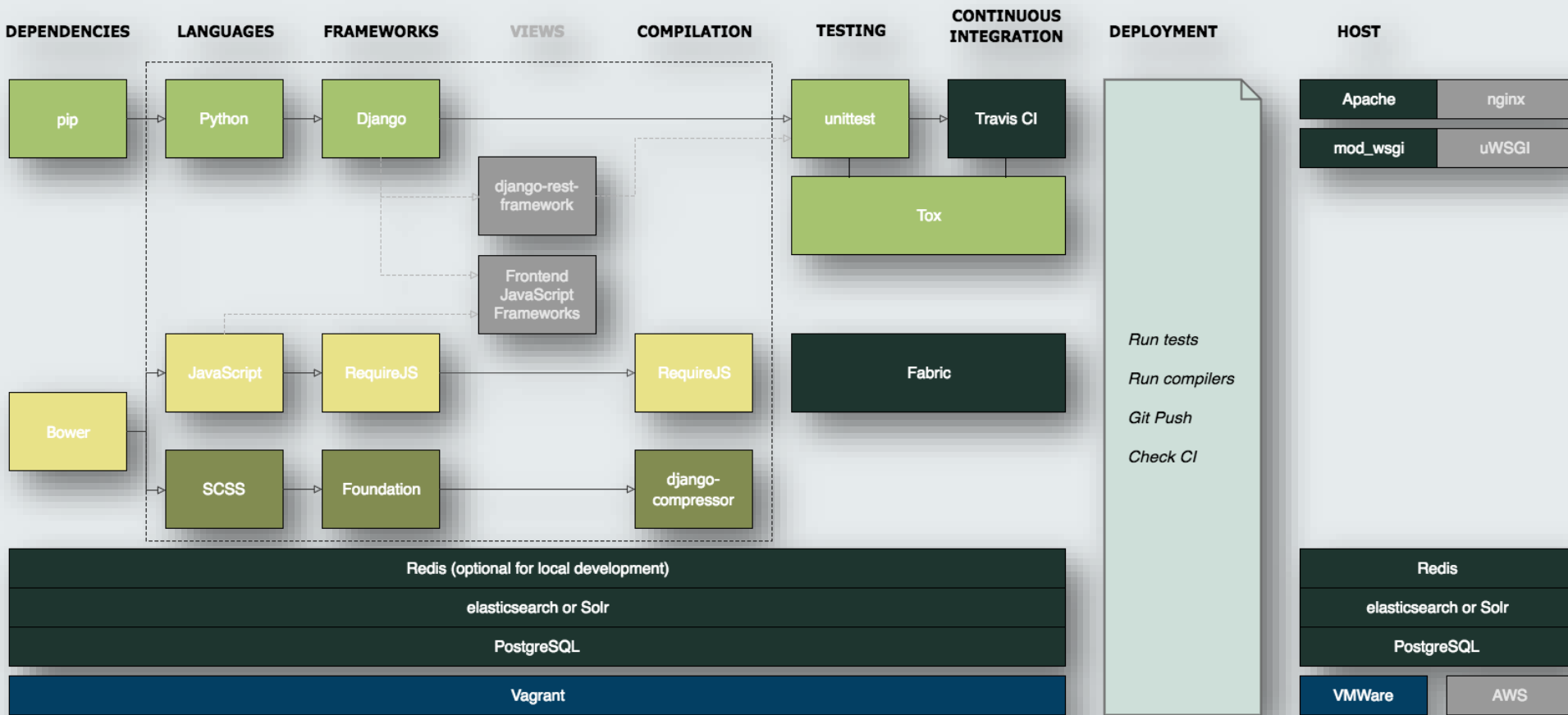
Deployment:

- TEMPLATES
- PDE: Profile of a Doomed Elite
- German Screen Studies Network
- SHAK: Shakespeare400
- HGL: Heritage Gazetteer for Libya
- PROMS: The Production and Reading of Music Sources (Due: 30 Jun)
- WS: The Cult of Saints in Wales (Due: 30 Mar 2017)

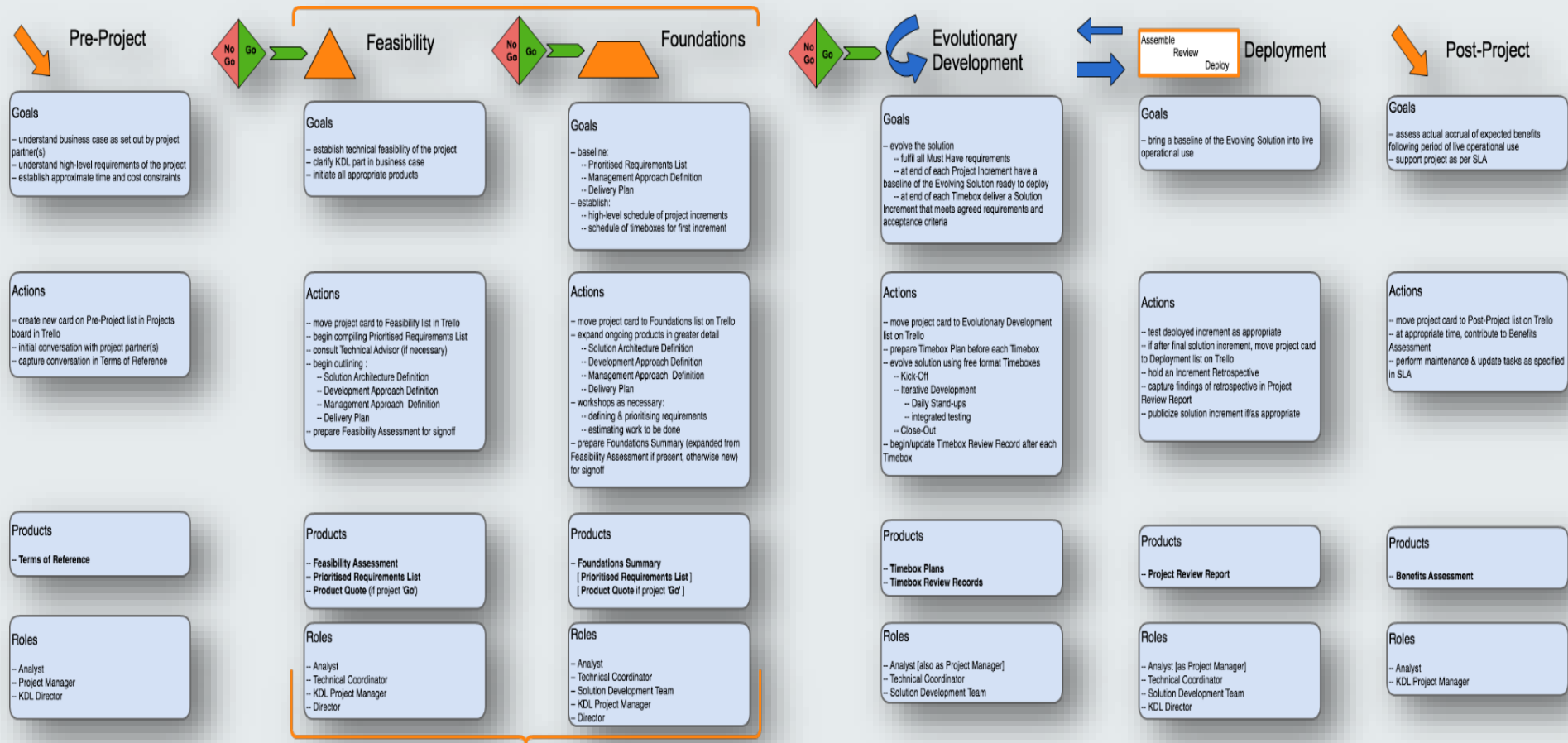
Post-Project:

- TEMPLATES
- AEMA: Atlantic Europe in the Metal Ages
- SNA: Gaelic Scotland
- CEWBJ: The Cambridge Edition of the Works of Ben Jonson
- CRSBI: The Corpus of Romanesque Sculpture in Britain & Ireland
- SDO: Schenker Documents Online
- EMLoT: Early Modern London Theatres
- http://warburg.sas.ac.uk/ (Due: 30 Jun)
- OOTW: Out of the Wings
- Henslowe-Alleyn website (Due: 25 Apr)
- CELM (Due: 11 Aug)

King's Digital Lab: Development Stack



King's Digital Lab: Software Development Lifecycle



Feasibility and Foundations should be distinct phases for large-scale projects but can be merged into one phase for small scale projects

Innovation in the Arts and Humanities at King's

Innovation is a process through which value (intellectual, cultural, social or economic) is extracted from knowledge via the generation, development, and implementation of ideas.

The intended result of innovation is to produce new or improved ways of thinking, capabilities, services/products, strategies or processes.

Innovation and the Digital Humanities

Closed Innovation	Open Innovation	Digital Humanities
Most of the smart people in our field are known to us and work for us.	Not all the smart people work for us, so we must find and tap into that knowledge and expertise of bright individuals outside our company.	The smart people we want to work with are distributed all over the world as well as across my Faculty subject areas. We must tap into that knowledge and expertise to excel.
To profit from R&D, we must discover, develop and ship ourselves.	External R&D can create significant value; internal R&D is needed to claim some portion of that value.	Our research is collaborative, open and cross-disciplinary in nature. Our innovation must be shared and allow others to contribute as these projects are bigger than any one institution (e.g. TEI or citizen humanities).
If we are the 1 st to commercialize, we will win.	Building a better business model is better than getting to market first.	Building better research that is unique, useful and that will add to the wealth of human knowledge is of more immediate importance than commercialization. With research success comes other benefits; such as increased research funding and reputation. Our timescales for success will be longer than the commercial marketplace.
If we create the most and the best ideas in the industry, we will win.	If we make the best use of internal and external ideas, we will win.	If we share ideas, tools and techniques to enrich our research environments, we will win.
We should control our intellectual property (IP) so that our competitors don't profit from our ideas.	We should profit from others' use of our IP, and we should buy others' IP whenever it advances our own business model.	Being cited and credited for our research is a major win that cannot be achieved without open sharing of results, outputs and outcomes. We should make our IP as available as possible to foster collaboration and for all to build upon.

Digital Humanities at Scale: King's Digital Lab

DH values still strong:

- Openness
- Collaboration
- Collegiality and Connectedness
- Crossing subject boundaries
- Diversity
- Experimentation
- Innovation