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# iREAL: Indigenising Requirements Elicitation for Artificial Intelligence in Libraries

Lustre Workshop 4: The Future of AI to Unlock Digital Records

Prof. Paul Gooding (University of Glasgow), Dr. Lauren Booker (University of Technology Sydney), Dr. Abdenour Bouich (University of Glasgow), Samantha Callaghan (King's College London), Rosie Spooner (University of Glasgow), Dr. Kirsten Thorpe (University of Technology Sydney)

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# iREAL: Inclusive Requirements Elicitation for AI in Libraries

- Six month BRAID (Bridging Responsible AI Divides) scoping project;
- Aims to “develop a model for responsible AI systems development in libraries seeking to include knowledge from Indigenous communities, specifically Aboriginal and Torres Strait Islander communities in Australia.”
- Partners:
  - UofG (Paul Gooding and Rosie Spooner);
  - King’s College London (Samantha Callaghan);
  - University of Technology Sydney (Kirsten Thorpe and Lauren Booker)
  - Digital Preservation Coalition (Robin Wright)
- Still early days – presentation will describe our critical context, and where we’re going in the remaining months.

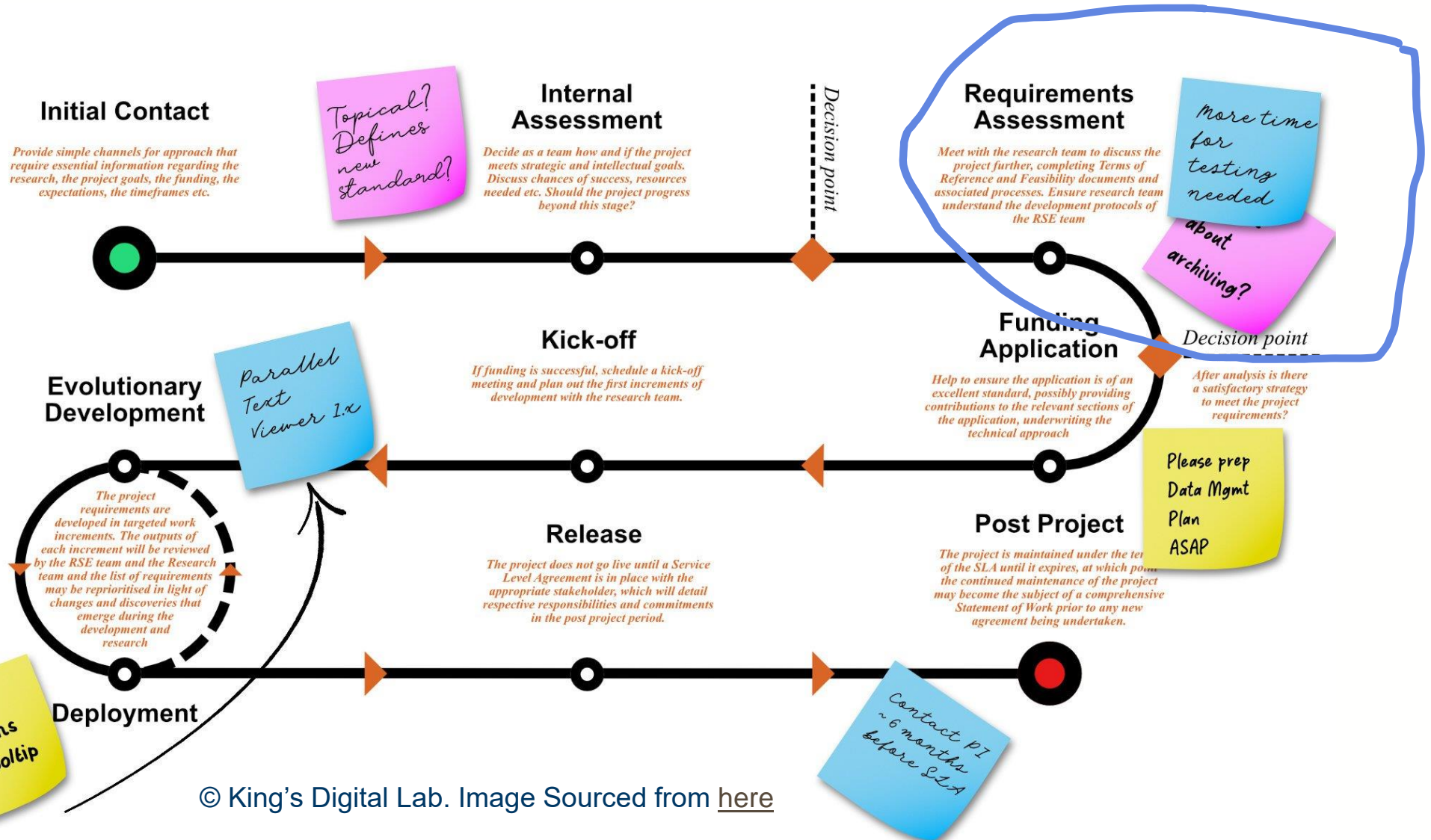




## What is Requirements Elicitation?

- Term widely used in Business Analysis to identify and prioritise requirements for a business change.
- Elicitation of functional and non-functional requirements related to the creation of a new system or process.
- Practice embedded in HE and libraries via e.g. King's Digital Lab Software Development Lifecycle (SDLC see next slide) = “requirements assessment”.
- Ultimate aim to remodel the “requirements elicitation” phase of AI development in libraries:
  - Model as “polysemous”: theoretical and operational functions.
  - Focused exclusively on requirements elicitation – specific intervention into a larger development lifecycle.
    - Early on in the process – first point where internal assessment is tested with stakeholder communities.

# The King's Digital Lab Software Development Lifecycle – Where is Our Intervention Focused?







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## Progress to Date: the Literature Review





# I. Indigenous Knowledges: A Relational Perspective

- Indigenous knowledges, held by 476 million Indigenous peoples across 5,000 distinct communities worldwide, are complex systems of epistemology, ontology, methodology, and axiology.
- Despite diversity, Indigenous knowledges often share common worldviews – place-based, experiential, collectively mediated through embodied performances such as stories, ceremonies, rituals and cultural expressions.
- Aspects that feed into AI implementation in libraries:
  1. Land and life;
  2. Relationality;
  3. Stewardship and care;
  4. Fluidity and adaptability.



## II. Western Epistemologies, Ontology, and the Idea of the "Other"

- Over past five centuries, particularly since 17<sup>th</sup> and 18<sup>th</sup> centuries, Indigenous lifeways and knowledges have been disrupted by colonial projects:
  - Anthropocentric, logocentric, and empiricist – equation of the validity of history, civilization and knowledge with Western industrialization, progress, literacy and scientific objectivism;
  - Marginalising Indigenous histories - as “prehistoric” or mythical; and knowledge – as superstitious and lacking in objectivity.
- Colonialisation thereby shapes the concept of “otherness,” that dehumanizes and objectifies Indigenous peoples.



### III. Settler Colonial Sovereignties of Ownership: *Structures of Possession through Elimination and Appropriation*

- Dehumanisation is a cornerstone of the settler colonial enterprise, defining particular long-standing practices that negatively impact Indigenous peoples:
  1. Settler colonial commodity and property regimes;
  2. Dehumanisation and dispossession;
  3. Settler colonial discourse of possessiveness;
  4. Policies and practices of elimination;
  5. Shift in discourse;
  6. Continuity of settler colonialism.





## IV. Colonialism, Data, and GLAM: Archival Sites of Indigenous Misrepresentation, Appropriation, and Elimination

- Data collection and archival storage has been key in establishing colonial and settler nation states – and thus UK and Australian institutions have significant collections appropriated from Indigenous peoples:
  1. Data violence against Indigenous peoples;
  2. Colonial use of Indigenous data;
  3. Misrepresentation of Indigenous peoples and misinterpretation of Indigenous Knowledges;
  4. Harmful practices of digitizing Indigenous knowledges;
- Data violence today – settler colonial control of data continues to marginalise and oppress Indigenous peoples;



## IV. Global Indigenous Resurgence: *Indigenous Relational Knowledges as Decolonising and Indigenising Research Projects*

- From the second half of the 20<sup>th</sup> century, Indigenous activist voices have been influential on the global scene, contributing to social transformations.
- Foundation of the World Council of Indigenous Peoples (WCIP) in 1974 and development of Indigenous research agendas leading towards self-determination, decolonisation and resurgence (Smith, 2021):
  1. Emergence of Indigenous Studies;
  2. Relationality in Indigenous knowledges;
  3. Decolonial theories and sovereignty;
  4. Indigenous decolonial interventions in academia;
  5. Indigenising methods in academic research.
- 1. **Relationality** lies at the foundation of Indigenous knowledge systems, shaping research methodologies and offering powerful lens for research that prioritises mutual benefit for libraries and Indigenous peoples.



## VII: AI, Indigenous Knowledges, and Requirements Elicitation in GLAM - iREAL

- Ethical considerations – open access vs community dissemination protocols (Francis et al., 2016; Christen 2016).
- Adopting *Indigenous Archives Collective Position Statement on the Right to Reply to Indigenous Knowledges and Information Held in Archives* (2021). Ethical/methodological design principles:
  - **The Right to Know;**
  - **Participation;**
  - **Cultural Safety;**
  - **Consent;**
  - **Institutions as Facilitators, not Owners;**
  - **Advocacy.**
- Operationalising Indigenous protocols of relationality:
  - Need to understand relationship between collections, Indigenous peoples, and institutional practices;
  - Indigenous leadership is essential – co-creation of knowledge, centring Indigenous perspectives.
  - Centring concepts of Indigenous Data Sovereignty and Self-Determination.
  - UN Declaration on the Rights of Indigenous Peoples (2007) Principles for self-determination and reciprocity + ethical data governance frameworks.





# Pathfinder workshops: Storytelling and Action Research

- Workshop One – Canberra (30<sup>th</sup> – 31<sup>st</sup> July 2024):
  - Immersing attendees in the relational framework of libraries, AI and Indigenous knowledges.
  - Introduce participants to Indigenous Data Governance principles in an Australian context.
  - Collaboratively map out key decision-making points for Indigenous community input into AI processes.
  - Discuss datasets for Workshop Two.
- Workshop Two:
  - Action Research – using relevant datasets in web-based dashboard to critically explore application of AI to specific Indigenous knowledges;
  - Focuses on specific tasks and materials – e.g. Named Entity Recognition from textual materials.
- Results – prototype model for inclusive requirements elicitation and final report containing proposals and recommendations for inclusive requirements elicitation.



## Conclusion: Decolonising and Indigenising GLAM: Creating Spaces for Indigenous Data Sovereignty and Self-Determination

- AI creates new challenges – library-controlled and vendor systems / where is the ethical line?
- Indigenising several "Areas for Further Investigation" from "collections as data" framework (Padilla et al., 2019):
  - "Moving from ethical considerations to action";
  - "Conducting more community-specific user studies to inform workflow development";
  - "Developing functional requirements in service to user and collection steward needs".
- Indigenous data sovereignty and self-determination are central to solving these challenges in relation to AI.
- Minimisation of harm – but self-determination is also an *opportunity*:
  - To tell new stories;
  - To centre marginalised perspectives;
  - To reflect on how libraries manage their custodial responsibilities for Indigenous materials.



University  
of Glasgow

Thank you for listening  
[paul.gooding@glasgow.ac.uk](mailto:paul.gooding@glasgow.ac.uk)

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