

## Rhys Owen



Job title: Technical Lead

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Abstract:

### **Title: Wrangling Cultural Heritage Data in New Zealand**

Victoria University of Wellington is at the forefront of digital humanities research in New Zealand. Our projects focus on accessing, manipulating, and reusing nineteenth-century rich cultural heritage data for user-enabled interactivity, generative artworks, augmented reality, and discovery engines for computational research. This talk discusses several challenges across the spectrum of data, discovery, and delivery. Unexpected Connections is a flagship project that reimagines the nineteenth century through generative art using the combined affordances of serendipity and palimpsests. Rights-free digital assets from NZ collecting institutions include manuscripts, printed works, botanical drawings, maps, plans, and photographs plus digitized historic newspaper images from PapersPast. Merging DigitalNZ's API with Mitchell Whitelaw's Succession randomization engine, enabled individual assets to be selected then resized, cropped, and layered to create evocative images that reflect both the archival research enterprise and challenge historians' assumptions about sense-making. However, using an API key that, unlike code, cannot be delivered through a third party portal, relying on a metadata aggregation service, and troubleshooting asynchrony between re-architecting and re-harvesting meant the project was almost derailed. Wrangling PapersPast data at scale resulted in further investigations into new generation OCR techniques using image rectification and machine-enabled confidence-measures as well as innovative image segmentation processing for Chinese and Māori texts.

The challenge of our small development team is to implement a high-level ontology across incompatible systems, leverage data fusion techniques to reconcile disparate datasets, and translate interoperability into sustainable practice for researchers and practitioners working in the GLAM sector.

Bio:

Rhys Owen (Te Rarawa) is Technical Lead for research-funded digital humanities projects directed at Wai-te-ata Press, Victoria University of Wellington, by Dr Sydney Shep, Reader in Book History and The Printer. He comes with longstanding experience in data visualisation, systems design, and the use of digitised cultural heritage assets for research and user interaction. Working in an agile, cross-disciplinary collaborative environment, his DevOps code is instantiated as infrastructure connecting data with deliverables, thus empowering research and further collaboration through “creative conversations” - a touchstone for the Press. Current challenges are with ontology-empowered visualisations across a variety of corpora, with legacy and emerging technologies for machine transcription of newspapers in english, chinese and māori in collaboration with PapersPast, and with social graph analytics in an inter-cultural National Science Challenge project.