### Project Title
Co-constructing use cases for using distributed ledger technologies (DLTs) for collecting and storing taonga

### Field
Software Engineering

### Division/School
HECS - School of Computing and Mathematical Sciences

### Project Location
Hamilton

### Project Abstract
Distributed ledger technologies (DLTs and, most infamously, blockchains) can be used to securely store information in a distributed and decentralised fashion. They are often used when many people want to collaborate on building a resource or have support in conversations in a free and open but secure way. This project will require co-working within a community (perhaps iwi-based, or marae-based) to develop use cases (stories, scenarios etc.) for how people might use DLTs to support kōrero, conversations, collaborative mana-preserving decision making, storing taonga (like whakapapa, perhaps) and so on. The project may (given time and success in the use case building) move onto developing or using DLTs to instantiate the use cases, and will then involve user feedback on the prototyped system. The student will work alongside people in communities already working with us (via Āhau and Ben Tairea). They must also experience writing use cases, and experience of working collaboratively with people. An understanding of appropriate tikanga and the role of kaitiakitanga and how kaitiaki might be supported by DLTs is very important.

### Student Skills
- Fluency in te reo Māori would be the ideal, but certainly an understanding of tikanga and the role of kaitiakitanga
- Good basic software engineering skills
- Experience at eliciting user requirements from people

### Project Tasks
- Establish links to people in the community you will be working with
- Explain to them the ideas behind DLTs
- Develop with the community members broad ideas for what might be supported (taonga storage, kōrero around decisions, technology that might acceptably uphold kaitiakitanga etc.)
- Once a broad area has been agreed, work with the community on the format and content for use cases for DLTs used in the various ways considered in Task 3.
- Write up the use cases
- Present the use cases back to the wider community
- Have conversations around the use cases in order to improve them
- Present the final form of the use cases and the kōrero around them which shows they have community involvement and support
  If time allows, work on an actual DLT platform to instantiate the use cases

### Expected Outcomes
- Student’s Research Poster (as per clause 6 of the Scholarship regulations)
- Strong links with a suitable community (iwi, hapu, marae etc.)
- Co-design on use cases for DLT-use
- Final use cases
- Evidence of acceptability of the use cases by the community