


Implementing Open Source Software for Land Administration Processes in Developing Nations

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Data Models vs Processes

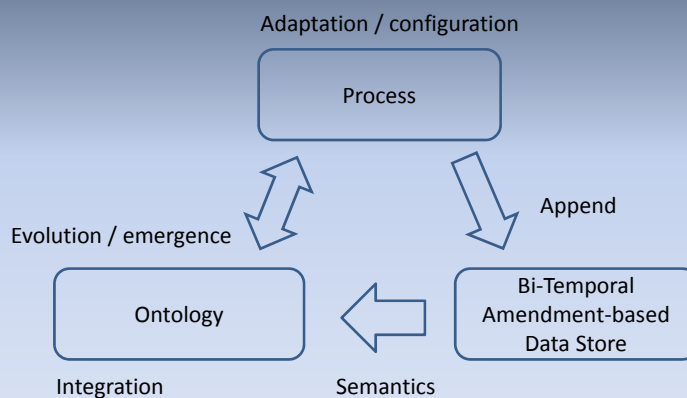
- A data model defines structural aspects of domain data as it is understood...
 - at the time the model is created
 - and by the minds that created it
 - Processes are not considered
 - Not temporal – complexity associated with time varying data
- Data models and associated code modules are static - difficult to adapt, evolve, and integration is via standardisation.
- Processes are highly variable across jurisdictions
 - Legal, cultural, social, historical
 - difficult to standardise, and typically implemented as *ad hoc* code
 - relies on humans to ensure there are no errors and the process is completed correctly as it is understood
- This has implications for community-based development of LA software.
We have taken the stance that a temporal architecture is the solution to these problems. This temporal architecture requires that *processes* are the key jurisdiction specific modelling abstraction.

Instrument-based Architecture for Land Administration Software

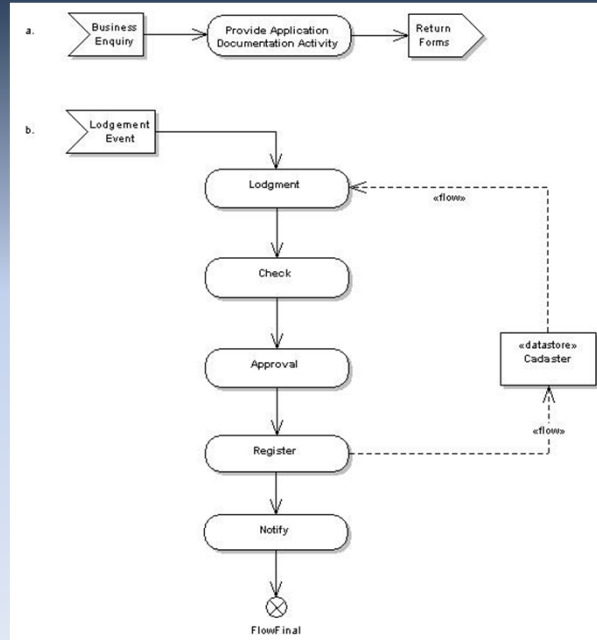
- The *instrument-based* captures the notion that a cadaster/land registry can be described by a set of formal processes associated with LA
- An *Instrument* represents “*how something should be done*” it describes the *process* but also captures the legal, social, customary aspects of “*why it is done this way*”
- It also describes the data elements that are being manipulated

Hence, an instrument is a formal definition of some part of a specific LA context, defined externally from software code and... preferably in a way that is *executable*.

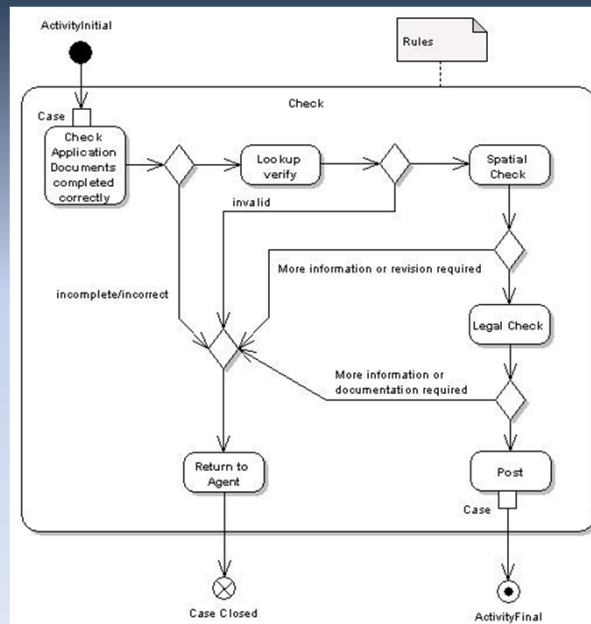
Instrument-based Architecture for Land Administration Software

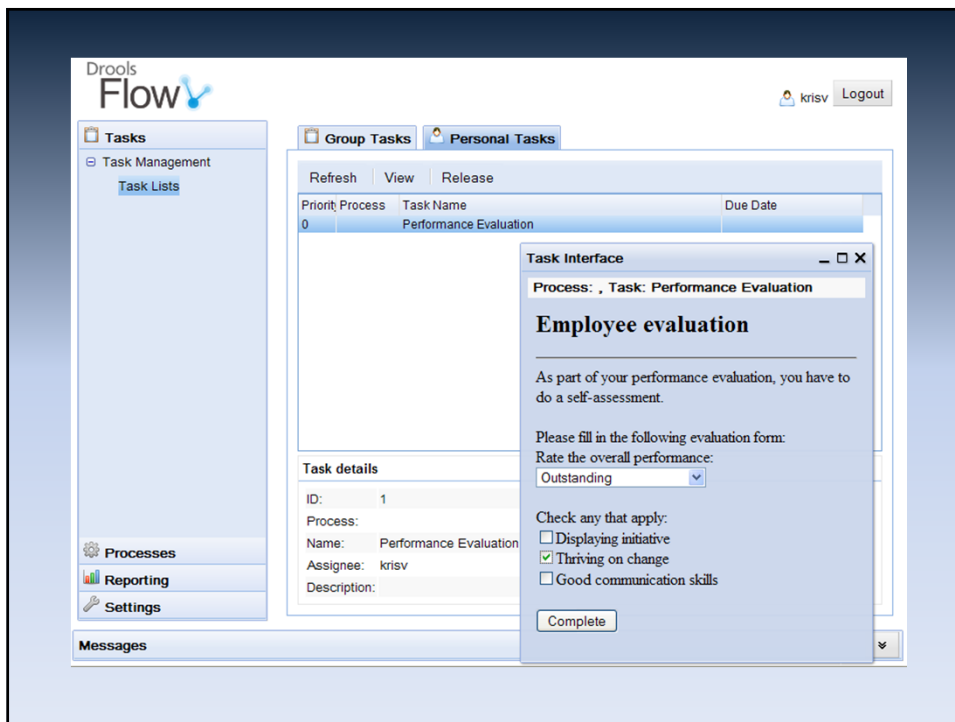
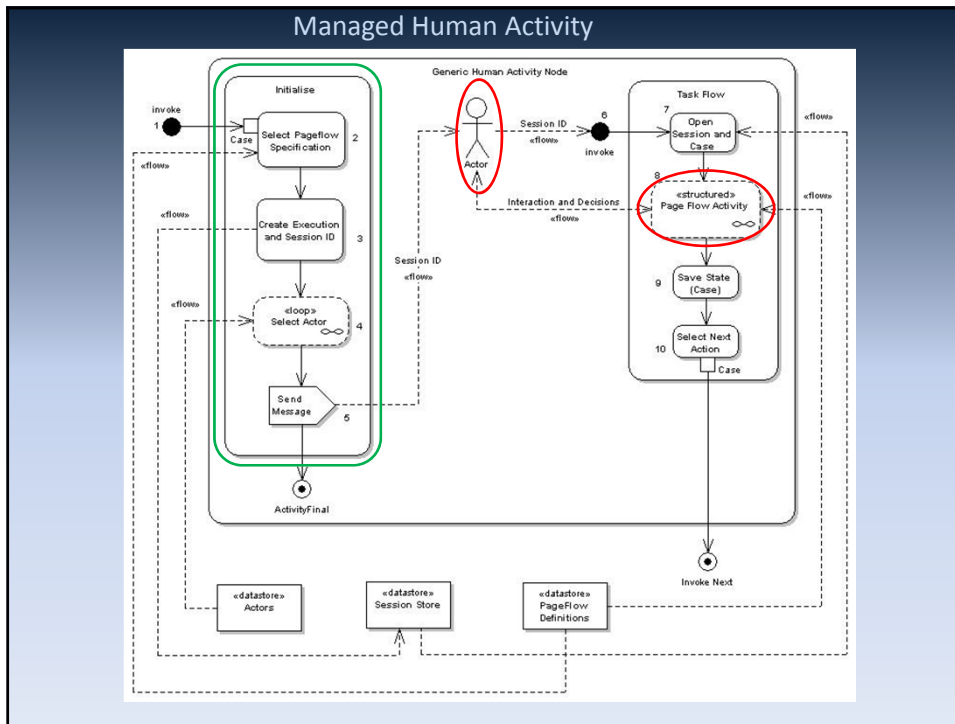


A Generic LA process



Check Process





The Open Source Cadastral Application and Registry (OSCAR) Vision

- Land Administration Software for Developing Nations that is:
 - An implementation of the Instrument-based architecture
 - Free/Libre Open Source Software (FLOSS)
 - Rich representation supporting local needs, ideals, customs, practices. *Via local ontology*
 - Does not necessarily impose foreign standards or values. *Integration via ontology layering*
 - Long lived. Easily adaptable, evolvable and maintainable locally. *Via process –based (temporal) model*
Everything is temporal!