Process model

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What it is

- A formal model of the elections process in both graphical and textual representations
- A catalog of the relevant activities and tangible things (“objects”)
- An identification of the dependencies among activities and objects

Why it is

- TGDC Resolution #33-05, “Glossary and Voting Model”
- Needed to specify intended scope of requirements
- Complements glossary to further clarify vocabulary
- Organization of document (deferred)

Where it is

- Draft VVSG2 Section 3 (corrected)
- Errata

Origins

- Review of previous work
- Input from CRT subcommittee
- Reconciliation of conflicting vocabulary and models
- Elaboration as needed

Example

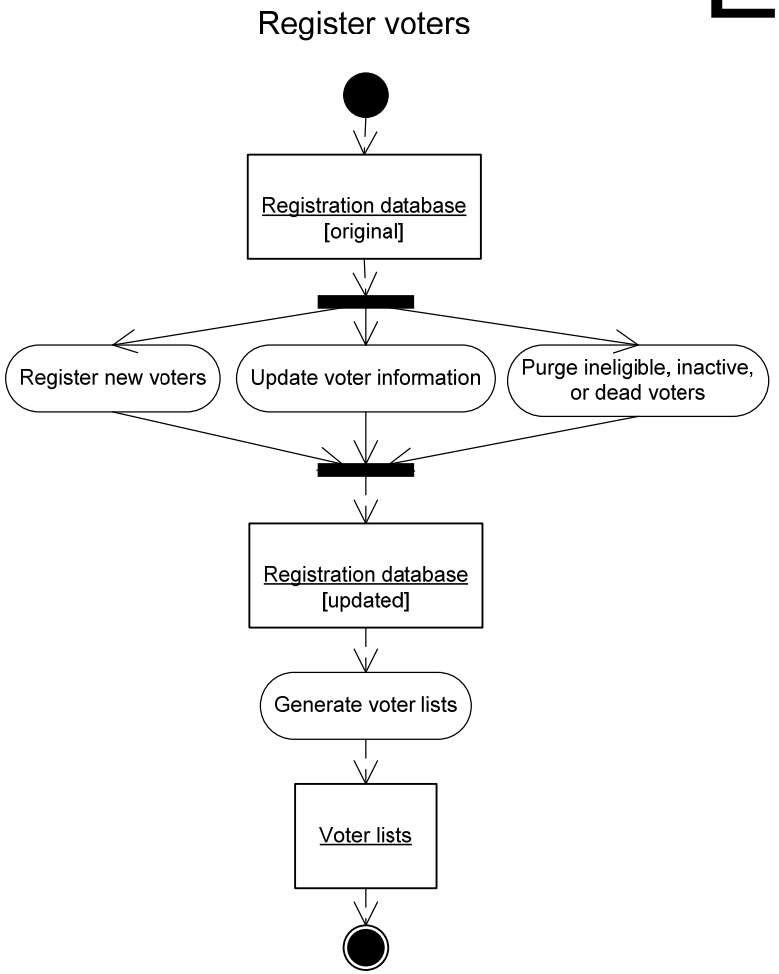

Diagram: Register voters

Begin
[Registration database [original]]
ParBegin
(Register new voters)
(Update voter information)
(Purge ineligible, inactive, or dead voters)
ParEnd
[Registration database [updated]]
(Generate voter lists)
[Voter lists]
End

Language

- Graphical representation is activity diagram as defined in Unified Modeling Language version 1.5
- Textual representation is custom pseudocode language

Issues

- Vocabulary is still evolving
- Needs review
- Probably never match any state's processes perfectly
- Technical peeves with text formalism

Technical peeves

- Sacrificed technical perfection for readability
  - "Improper" nesting of processes
  - Abuse of Dijkstra's parbegin/parend
- Sufficiently powerful formalisms would enable a "proper" translation to text
- Powerful formalisms not usable by untrained reader

Discussion