Semi-Automatic Garbage Collection for Mobile Networks

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Motivation: DGC in Mobile Networks

- Limited connectivity of the nodes.
- Inaccessible reference ≠ Broken reference.

Context-dependent information

- Semantics of the application are required to clear objects.

Referencing Strategies

- Language support to apply a collection strategy to the remote reference.
- Express the disposability of a reference upon disconnection:
  - Temporal disposability
    - ... expressing disposability based on time constraints.
  - Domain-specific disposability
    - ... expressing disposability based on context information.

- Resolving conflicts.
- Indirect References.
- Language support to annotate groups of remote references.

How long should the system wait for the connectivity of the devices?

- Application-dependent!
- Even context-dependent!

Who is responsible for garbage collection?

- Developer?
- System?

Referencing Strategies express collection policies (remote object) + kind of rebinding (client object) upon disconnection.

A combination of both:

Semi-Automatic Garbage Collection

- Remote-references as a two-party contract.

Read more?


http://prog.vub.ac.be/amop