Moderated collaboration among wireless users

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- groupware for shared modifications to create definitive version
- system performance depends on user availability
  - typical users are wireless
- analyzed wireless LAN users @ ND, IBM research, Île Sans Fil hotspot federation, SIGCOMM ’01
  - sessions becoming smaller
- analyzed central: exclusive access & last writer wins, dist.: epidemics
  - poor performance when more users are active

operating on a shared copy is not tenable for wireless users

Alice and Bob create report
Tom and Emily create presentation
Alice and Emily run exp. and create results used in presentation and report
All read all documents while in progress
Moderated collaboration among wireless users

- no single shared copy
- each member exclusively maintains own updateable copy
- users can hoard read-only copy of other’s version
- epidemic propagation of updates
- each member independently moderates (manual reconciliation) and incorporates changes from other’s read only replicas
- eventual convergence
- log, files opened during session
- logs indicate convergence

Prototype using fuse + git exhibits adequate FS performance

Alice and Bob create report
- Alice edits her copy, hoards Bob’s
- Bob edits his copy, hoards Alice’s
- Alice incorporates Bob’s modifications on his copy into her copy and vice versa

Emily/Tom could hoard any copy or create their own copy for modification
- Tom hoards Alice’s copy