

Manual Verification

Two subjects (S1, S2) look at 400 commits from *react*

TABLE 7. MANUAL VERIFICATION REVEALS A HIGH TOOL PRECISION AND AGREEMENT BETWEEN SUBJECTS, WHERE S1 AND S2 ARE THE HUMAN SUBJECTS AND T IS THE TOOL IMPLEMENTING THE ALGORITHM.

Subject Agreement	Occurrences	Percentage of Selection
$S1 \cap T$	316	79%
$S2 \cap T$	313	78%
$S1 \cap S2$	395	99%
$S1 \cap S2 \cap T$	312	78%
$(S1 \cap T) \cup (S2 \cap T)$	319	80%

Threats to Validity

- Generated repositories may not reflect actual systems
- Lack gold-standard for measuring precision in actual systems
- Roadblocks to commit origin recovery:
 - re-writing the default merge commit message
 - multiple branches pointing to the same commit
 - implicit merges (e.g., cherry-pick, rebase, fast-forward merge) are undetectable
 - renamed branches are undetectable