



A Prototype Implementation of Transactors in Salsa

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Transactors review

- Actor extension that stores dependency information.
- Use rollbacks and checkpoints to ensure consistency.
- Discussed on April 19 in class.

Language features

- Built on Java/Salsa
- Supports any language which supports stdin/stdout.
- Transactors of differing languages can communicate.
- Uses standard simple standard input/output
- Language details are transparent to the user.

Language drawbacks

- Each received message causes a program restart.
 - This reduces the likelihood of side effects.
 - Necessary: supporting any language means there is no way to prevent users from storing information in variables.
- Still vulnerable to side effects, e.g. from file I/O.
- Use of simple string matching reduces ability to send complex messages.

Prototype-specific notes

- State could be corrupted if Java layer crashes during file I/O. However, program is safe from program crashes.

Implementation Diagram

