

# Don't Shed a Tier for me, Clojure

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- \* Lift, Scala, NextStep
- \* Commercial Spreadsheets/Real-time
- \* Brick Alloy: Solid · Transparent · Results



# The Pain of Tiers



- \* Different Languages
- \* Different Semantics
- \* Impedance Mismatch



# Examples



- \* Business Objects/SQL & Excel
- \* Java/Server & JavaScript/Browser



# And Sometimes it's just **WRONG**



- \* Map/Reduce jobs in Java



# Clojure to the Rescue



- \* Great Semantics for Data Manipulation
  - \* Functions
  - \* `core.async`
- \* Compiles and runs across Tiers  
What can't run JVM or JavaScript?



# (Except)



- \* Clojure Syntax “uninviting” for Excel set
- \* Not declarative enough
- \* Don’t want `core.async` in users’ faces



# What We Want



- \* Functional Semantics across Tiers
- \* Pleasant Introductory Syntax and Excel-like Semantics
- \* Same Semantics streaming or batch



# Plugh



- \* My Clojure toolkit
- \* Browser/Server chat via `core.async`
- \* Misc other stuff



# Visi



- \* Reimagining the Spreadsheet
- \* Sources/Sink/Computation
- \* Oddly like, `core.async` on the edges



# Plugh-ish Visi Thingy



- \* Two things in one  
Thanks to Bodil & Instaparse



# An Example



\* `source: twitter`

```
add-sentiment(tweet) = tweet.text >> calc-sentiment >> (tweet.sentiment := )
```

```
with-sentiment = xform(add-sentiment, twitter)
```

```
filtered-sentiment =  
  xfilter( x => sent = x.sentiment  
            ((sent.pos > 2) ||  
             (sent.neg < -2)),  
          with-sentiment)
```

```
average-sentiment = flow( (c, t) => c :>= { .pos-sum -> ( + t.sentiment.pos),  
                                              .neg-sum -> ( + t.sentiment.neg),  
                                              .pos-cnt -> inc,  
                                              .neg-cnt -> inc} ,  
                          { .pos-sum -> 0, .neg-sum -> 0,  
                            .pos-cnt -> 0, .neg-cnt -> 0} , filtered-sentiment)
```

```
sink: averages = average-sentiment
```



# Waves Hands



- \* And rants about playing with things



# Demo



- \* Using the same Visi code in
  - \* JVM Server
  - \* Browser
  - \* ~~Map/Reduce on Riak~~  
(need feature — @dpp sheds tear)



Thanks!



\* Questions?