ACT-R Software Updates 2019

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Updates over last year

• Last summer
  – Current: 7.5-<2244:2017-07-11>
  – Prerelease: ACT-R 7.11.1-<2629:2018-07-17>
• January 2019
  – Current: 7.12.10-<2762:2018-12-20>
  – 7.5 moved to old
• Now
  – 7.13.5-<2888:2019-07-02>
New Software

• Built-in Remote Procedure Call system
  – Based on a subset of JSON RPC 1.0
• Internals are thread safe
• Entire tutorial reworked with all of the tasks implemented in both Python and Lisp
• Other remote connection examples included
7.5 -> 7.11

• Lots of API changes to support the RPC interface

• Most notable is the *device* construct overhaul
  – Last year’s workshop
  – Commented example of changes for unit 2 demo task
7.11 -> 7.13.5

- Dropped the “:ul complete” mechanism
- Fixed a bug in vision with within-move
- Production compilation over perceptual buffers allowed to occur for more cases
- :cache-sim-hook-results saves values across a reset for the same :sim-hook value
- New command: run-until-action
- Tracker module available in extras
ACT-R Environment Changes

• Stepper can be opened at any time
  – “Step All” flag bypasses stopping on only output events

• Connections & Commands
  – Documentation on available commands

• Running indicator
  – Off by default for performance on some machines

• Buffer viewer shows either chunk or status

• Collapsed some similar buttons
Performance testing

• Use the tutorial models
  – Turn off traces, visible displays, and real-time
• Start with version 7.5 and find how many runs or trials needed to take ~30s for each
• Run them that many times in the new versions
ACT-R 7 Performance

Ratio to version 7.5

- 7.13(Lisp)
- 7.13(Py)
Not a fair comparison

• 7.11 really what 7.5 should have been
  – Thread safety needed to use Environment

• 7.13 has a single threaded mode
  – Lisp only with no external connections
New system parameter

• :high-performance
• Setting to t (ssp :high-performance t)
  – Disables model output (better than :v nil)
  – turns off all the safety/readability parameters that shouldn’t affect model operation
Near Future

• More documentation
• Extending the node.js interface