

The New ACT-R Environment

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What is the Environment

- A GUI for ACT-R
 - Inspectors
 - debugging tools
 - Editing windows
 - should we be providing these?
- Mostly a teaching tool
 - Tutor modes that are used in the tutorial
- Could it be more?

Why a New Environment

- Old version has some problems
 - Very limited set of supported platforms
 - MCL (prior to 4.3.1?)
 - ACL v5.0.1 for Windows
 - Separate sources
 - Hard to maintain
 - Different tools provided
 - Built for use with ACT-R 4.0
 - ACT-R 5.0 needs different tools

Overview of New Environment

- The GUI is separate from Lisp (ACT-R)
- Not tied to a particular Lisp (mostly)
- Some better tools for ACT-R 5.0
- Includes an ACT-R/PM visible window on all platforms (the AGI and visible virtuals)

The New Environment Status

- Used for the Summer School
- Works on the following platforms
 - Mac OS 9 with MCL
 - Mac OS X with OpenMCL (maybe ACL)
 - Window with ACL (LispWorks soon)
 - Linux with ACL (CMUCL soon)
- Usable, but not quite ready
 - Tutor modes not operational yet
- The manual is available now

General Design

- A separate application for the GUI
 - Some issues about that
- GUI written in Tcl/Tk
 - Freely available for “all” systems
 - Simple to use (at least I found it to be)
 - Existing ACT-R user base
- Connected to Lisp (ACT-R) with a TCP/IP socket connection

Design Specifics (Lisp side)

- A loader (slightly implementation specific)
- Network and multiprocessing abstraction
 - 10 functions necessary for each new Lisp
- The handlers and hook function support
 - Machine independent

Design Specifics (Tcl/Tk side)

- (Almost) identical across platforms
- A starter script
 - Controls the communications
 - Opens the “Control Panel”
- A directory of tools that get sourced
 - Could remove those not desired
 - Add your own
 - David Peebles has already built one

The New Stepper Tool

- Steps on all module events
- Shows the chunks tried on a retrieval
- Has a fast forward mechanism
 - Until a specified Time
 - Until a particular Production selected
- (Brief Demo)

ACT-R 5 and experiments

- ACT-R 5 interacts with experiments
- ACT-R/PM supports “real” windows in ACL and MCL
- Has a virtual window abstraction for others
 - Hard to debug a model using a virtual window

Visible virtual windows

- The new mechanism makes the virtual windows visible using a Tcl/Tk window
- The same everywhere
 - No “shifting” of locations between systems
- Limited support right now
 - Enough to run the tutorial models
- The AGI (ACT-R GUI Interface) manual is available
- Does not allow ACT-R to see Tk windows

Cool Environment Features

- Does not need to be on a single machine
 - Nor do the machines need to be of the same type
- Can connect multiple Environments to a single ACT-R session
 - Possible teaching applications
 - Remote debugging
 - could debug a problem “on” the users machine

Still some Issues

- The interface needs some work
 - Multiplatform complications
- A little awkward to start right now
- Requires Tcl/Tk to be installed
- Needs some more documents for users to be able to develop their own tools

Future Plans

- Build the Tcl/Tk side into an application
 - Remove the installation requirement
- Supply an installer program
 - Scripts that could start the whole thing easily
- Build a complete Standalone version
 - Including a Lisp image with ACT-R
- Perhaps provide a tool repository for users
- More options (fonts in particular)

End

- Demo session Saturday evening
- Quick Questions now