Environment & Education & More

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Overview

- Data
- Teaching Materials
- Environment
- Other ACT-R 5.0 and RPM issues
Data

• User survey
  – 32 responses
  – No analysis - just the facts

• Online Tutorial (4.0) use
Ever used the Environment?

![Bar Chart]

- **Ever**
- **Now**

Legend:
- MCL
- ACL
- NO
- limited
Online Tutorial

- Running since July 1999
- 1475 total users
- 1355 users after some cleaning
Tutorial Usage
Limited Feedback

• Replies from 2 “independent” users
  – Units 2 and 4
  – Too much Lisp
  – Material was unfocused
Teaching Materials

• Learning ACT-R
• Tutorial units
• Manuals
How does one learn ACT-R

• Take a class
• Self taught from materials
  – How many have done so?
  – Can we make it easier?
  – Should we make it easier?
Tutorial Units - Content

• Changes for 5.0
  – Some additional explanation
  – Comments in the model files

• What else do we need?
  – Comments in the productions
  – Instruction on Environment use?
  – ???
Tutorial Units - Distribution

• Previously Interbook
  – Pro
    • Lots of hyperlinks
      – Glossary
      – Other manuals
    • Saved your place
  – Con
    • Too many windows sometimes
    • Unstable
    • Hard to produce the units “right”

• Currently MS Word and (bad) html

• ???
Manuals

- ACT-R Manual
- ACT-R/PM Manual
- Environment Manual
- UWI manual
- Dummies Guide to ACT-R
ACT-R Manual

- Exists now
- Not yet updated for ACT-R 5.0
- Written for the serious ACT-R user
- A good command reference but little in depth explanation
ACT-R/PM Manual

• Exists now
• Not yet updated for ACT-R 5.0
• Written for an experienced ACT-R user
• Good description of the modules and commands but doesn’t really cover putting it all together
  – there is an example that uses almost everything
Environment Manual

• Exists now
• Somewhat updated for ACT-R 5.0
• Written for a current ACT-R user?
• Basically just a list of interface elements and what they do
• Needs a lot of work…
UWI Manual

• Exists now – but really hard to find
• doesn’t need to be updated for ACT-R 5.0
• Written for me basically…
• Needs some serious revision – assuming that the UWI is maintained
Dummies guide to ACT-R

- Does not exist
- Do we need it?
Dummies Guide Contents

• What is ACT-R
• Who would want to use it
• How they would get it
• What they need to run it
• How would they learn how to use it
• ???
ACT-R Environment

• What is it?
  – A teaching aid?
  – A general set of tools?
  – A full featured set of debugging and running tools?
Survey responses

• Why don’t current users use it?
  – don’t like the editor windows
  – too many windows
  – isn’t a version for my system
  – prefer the listener interface
Environment issues

• Standalone versions
  – ACL (Windows) version is almost usable
  – MCL (Mac) version nonexistent
  – No other versions even considered

• Why?
  – It’s basically a full Lisp development system
Environment issues continued

- Different sources for each system
  - since written directly in each
  - hard to maintain and update
Possible solutions

• CLIM
  – keeps the whole thing in Lisp
  – expensive and requires the end user to buy even more

• 2 part environment
  – GUI in a system independent language which then “talks” to a Lisp system which is running ACT-R
2 Part Environment cont.

• Would still require a different Lisp interface for each implementation
  – likely much smaller than the environment
• Needs to use a fast and uniform communication system
  – sockets probably a good choice
• What language for the GUI
  – Java
  – Tcl/Tk
  - ???
2 Part Environment cont.

• May help with the standalone problem
  – an ACT-R application without a development system easier to build from commercial Lisps

• The big question –

• Would anyone use it?
ACT-R 5.0 Environment

• Missing features
  – Parameter setting tools
    • sgp/spp/sdp in editor
  – RPM tools
    • visicon inspector
    • ???
ACT-R 5.0 Environment cont.

- Possible new features
  - option to use a single editing window
    - maybe just scrap the multiple edit windows entirely
  - integrate the graphing utilities
    - ACL has an ACT-R run time parameter grapher
    - MCL has a more general graphing package (but not included with the environment yet)
Possible new features cont.

• A better stepper/runner
  – event based?
• A graphical trace – like a PERT chart
• A GUI based experiment generation tool
  – based on the scripting extension?
• ???
Other issues

• Compatibility
• General ACT-R issues
• RPM issues
• ???
Compatibility

• Conforms to ANSI CL standard, but designed in MCL and shows it
  – MCL’s symbol bug
    • handled now
  – MCL’s automatic compiling
    • single file models likely to run slower elsewhere
Porting to other Lisps

- Not a big problem with ACT-R
  - minor conflicts
- More difficult with RPM
- Need a general solution to cover both
  - ACT-R package?
  - build standalone apps with a robust environment so no need to port to other Lisps
  - ???
New for ACT-R 5.0

• New scheduler for ACT-R/PM
  – treats cognitive events like any other in RPM
  – without LHS retrievals productions can order correctly with the other events
  – needs some more work to really clean it up
Possible new feature

• Some way to save the state of ACT-R
  – like dumping an image of the brain
• Would anyone use it?
RPM issues

- visible windows for Unix users
- LHS find-locations a.k.a. +visual-location>
- lose-focus
- no-motor-speedup
Visible windows for Unix

• A Tcl/Tk extension of the UWI?
• ???
LHS find-locations

• If Mike doesn’t cover it…
lose-focus

- buffer stuffing vs the blink
no-motor-speedup

- not as painful as lose-focus, but still a bit unfriendly
Anything else?

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