

# Environment & Education & More

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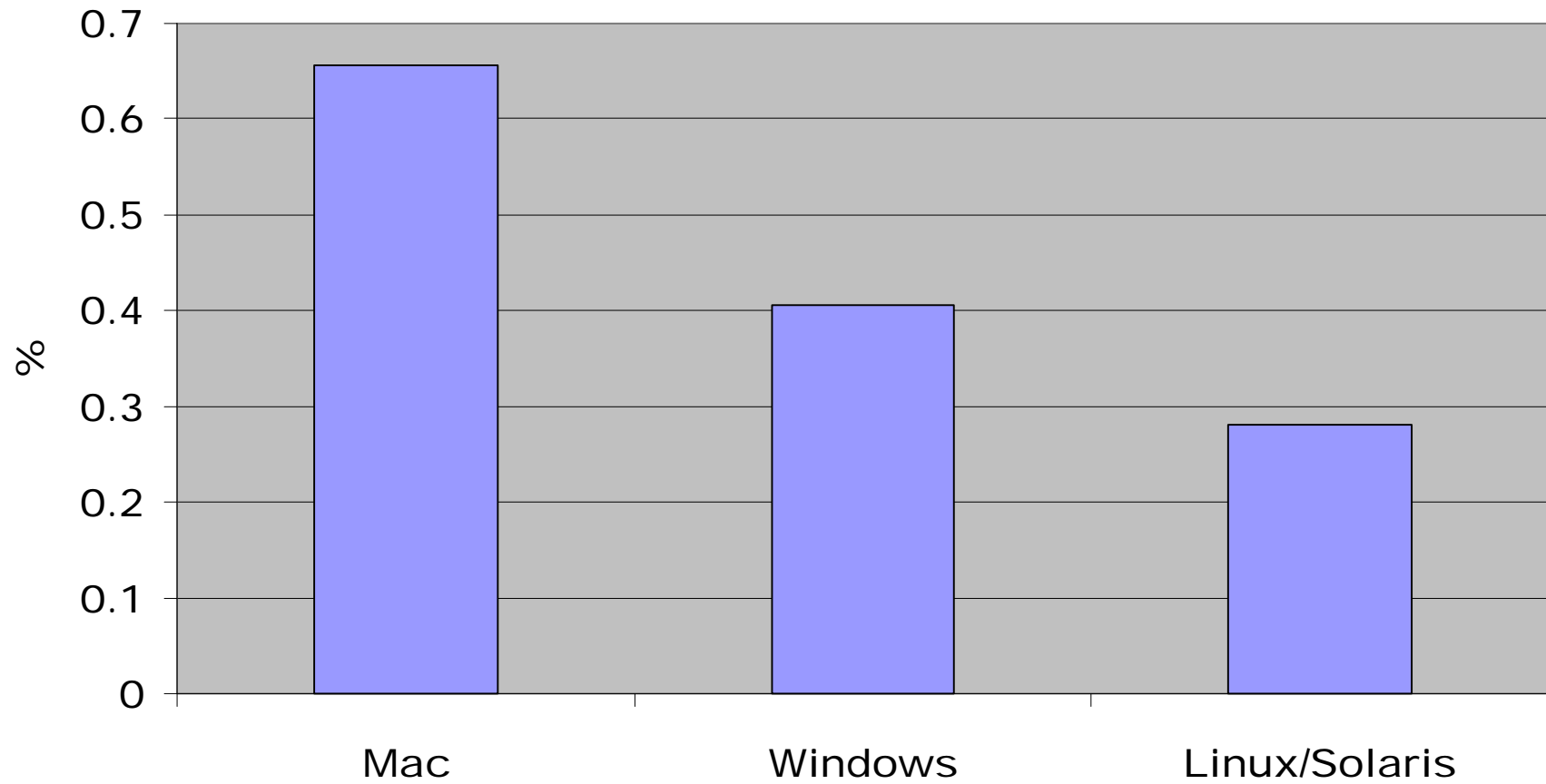
# Overview

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

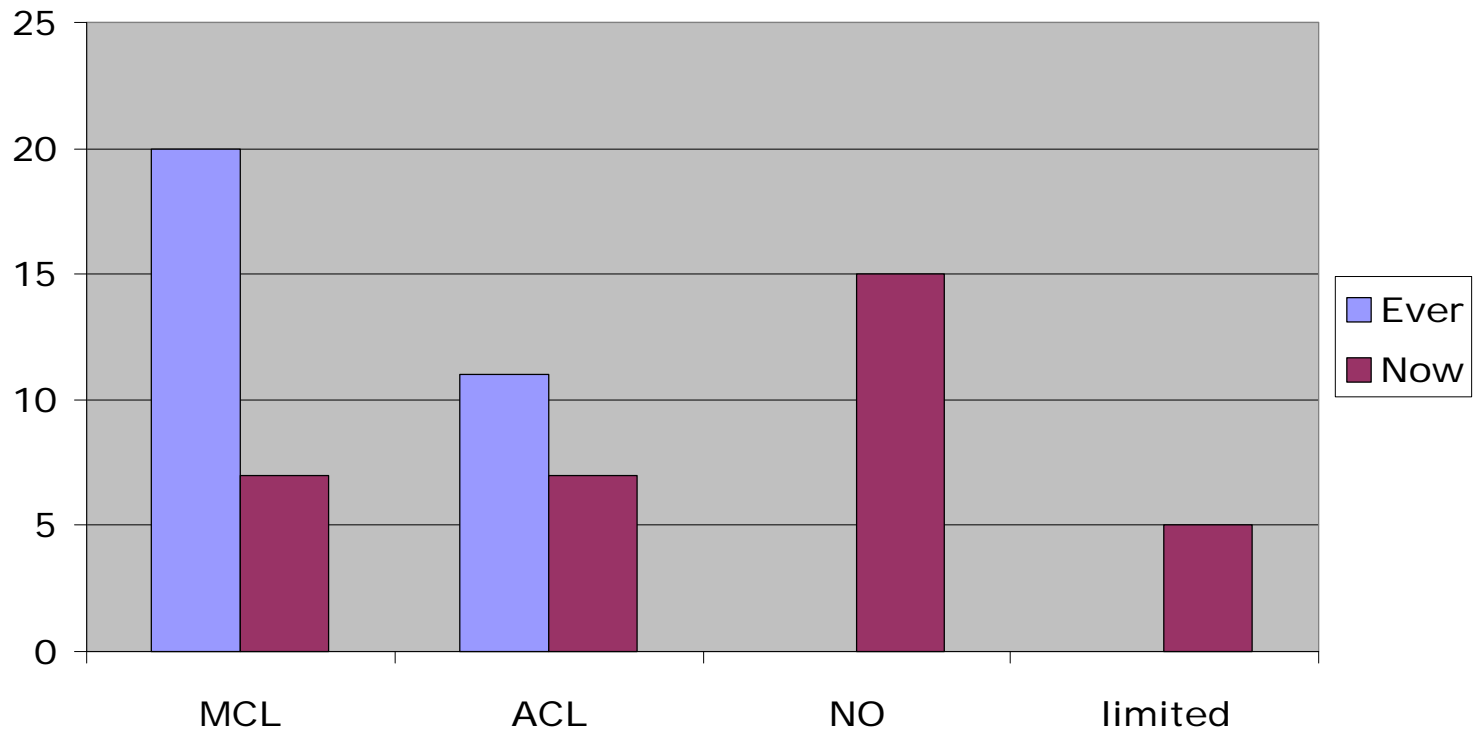
# Data

- User survey
  - 32 responses
  - No analysis - just the facts
- Online Tutorial (4.0) use

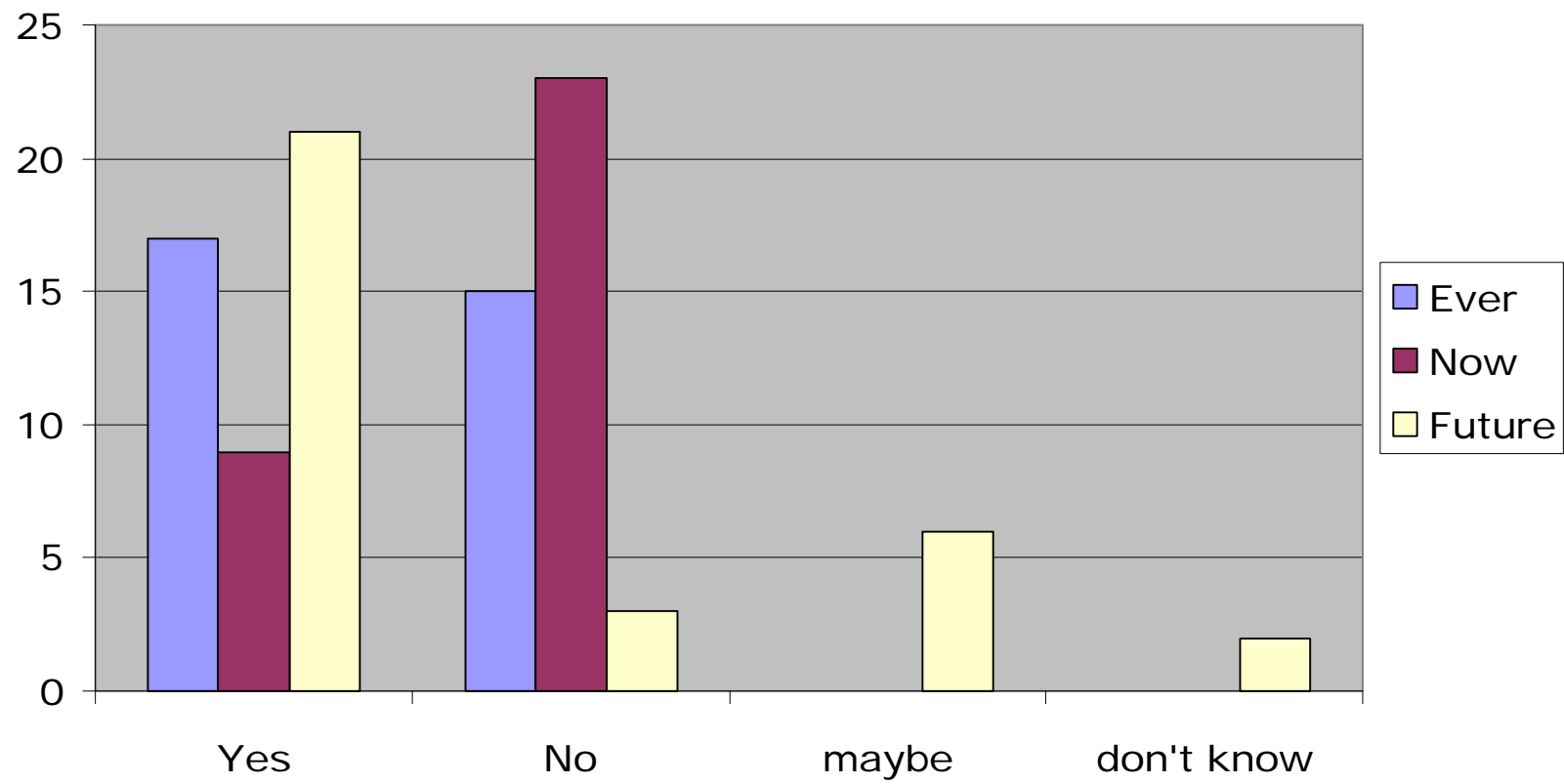
# OS choice



# Ever used the Environment?



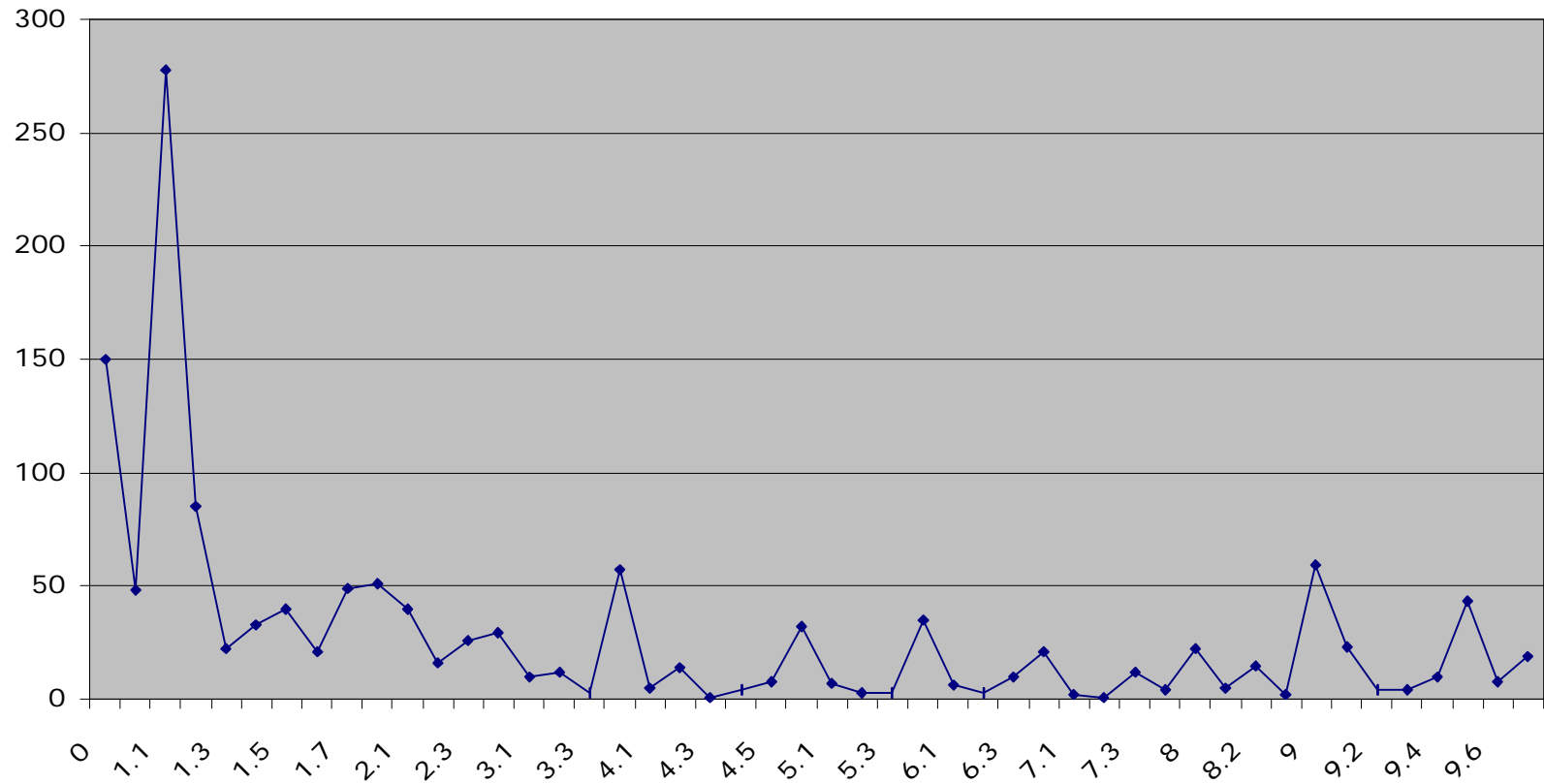
# RPM use



# 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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