Interacting with ACT-R: Waaay Way Past, Past, Present, and the Future!?

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What is my role here among my distinguished colleagues?

- Mike Byrne: Creator of ACT-R/PM
- Christian Lebiere: 1/2 of ACT-R Theory
- Kevin Gluck: Might hand of the USAF
- Mike Scholles: Super Lisp Hacker
- Dan Bothell: Do I really need to say anything more
- Salvucci: Creator of EMMA and the powerpoint picture and demo of DRIVER that we all like to “reuse”
- Ritter: Soar, ACT-R, ACT-R Faq, basically a renaissance man

So where do I fit in?

- Frank Lee: I’m the Ralph Nader of the ACT-R/PM, I’m here for YOU!
In the beginning, there was darkness...

Lisp Call

+ Plus
  - No external hook up!
  - Worked great, and if it didn’t simply redefine your I/O lisp function!
  - Didn’t have to deal with the messy questions like “Where is my finger?”

- Minus
  - “Questionable” constraints on model perception and action.
Let there be light!
And then there was ACT-R/PM v1.0 β 3.141

- ACT-R now finally had an eye and hands. This was an EPIC moment in ACT-R history!
- ACT-R/PM was applied to number of standard cognitive psychology experiments, and the future looked bright!
And then there was the KA-ATC TASK!

- ACT-R/PM was given the KA-ATC task a more complex and dynamic task that it was used to dealing with.
- Some of ACT-R/PM’s growing pains and resolutions were outlined in Lee and Byrne (1999) ACT-R Workshop presentation at GMU.
With the awkward years came happy growth spurts!

**ACT/RPM 1.0**

+ **ACT-R 5.0**

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**Gluck’s UAV**

**Gray’s Argus Prime**

**Salvucci’s DRIVER**

**Bryne’s X-Plane**

**Ritter’s Minesweeper**

**Anderson’s GTASP**

Among Others!!
Looking towards the future and beyond!

- Über dynamic environment
- Real-time
- Perceiving, Representing, and Processing 3D Space
- Perceiving, Representing, and Processing Time
- Multitasking
- Prospective Memory
- Skill Acquisition
  - Production Compilation
  - Strategy Learning
- Working with and against a mixed team of human and simulated agents
A peek into the future: The COGBOT Project

ACT-R

Goal Stack

Declarative Memory

Procedural Memory

Telnet Client

Actions

Sensory Information

Unreal Tournament

GameBot API