Recent Updates to ACT-R

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ACT-R 6.1

• Current version of ACT-R is 6.1
  • Made available last December r1744
  • Next version before the end of the month ~r1833
Chunks do not have a type!

- A chunk is a collection of slots and non-nil values
- A slot value of nil means that the chunk does not have the slot
  - Both for setting slot values and testing them

<table>
<thead>
<tr>
<th>6.0</th>
<th>6.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHUNK</td>
<td>CHUNK</td>
</tr>
<tr>
<td>ISA TEST</td>
<td>SLOT1 &quot;value&quot;</td>
</tr>
<tr>
<td>SLOT1 &quot;value&quot;</td>
<td>SLOT2 NIL</td>
</tr>
<tr>
<td>SLOT2 NIL</td>
<td>SLOT3 NIL</td>
</tr>
</tbody>
</table>

\[(p* \text{ works-as-expected-in-6.1}) \Rightarrow \text{imaginal} > \text{isa test} \]
\[\text{slot1 slot3} \]
\[\text{slot1 =s} \]
\[\text{goal} > \]
\[\text{isa test} \]
\[\text{=s nil} \]

\[\Rightarrow\]
Documentation

- Manuals
- Tutorial
- Examples
Longer running models

• User values specified in seconds are tested and warnings provided
  • Then converted to ms before used internally
• Most user functions now allow times to be specified in s or ms
Buffer failure

- New query available
  
  \textit{buffer}\> failure

- Current modules set it when they set “state error”

- The difference is that “buffer failure” clears when the buffer is cleared
  
  - Including strict harvesting which it will trigger

- The three “buffer” queries of full/empty/failure are mutually exclusive
Vision and audio modules can clean up after themselves

• :unstuff-visual-location and :unstuff-aural-location
  • Nil – just like before (the default)
  • T – the module erases the chunk from the buffer after appropriate time
    :visual-onset-span or :sound-decay-time
  • New – the next stuffed chunk will overwrite the previous one
  • # – erase the buffer after the specified time in seconds
Default context buffer changed

• Default values for :ga and :imaginal-activation are switched
  • :ga defaults to 0
  • :imaginal-activation defaults to 1
New Extras

• ACT-Touch
  • Manual module and interface extensions for touch interfaces
    • Frank Tamborello

• Multiple ACT-Rs
  • Within a single Lisp load and run multiple separate ACT-R “systems”
    • Same Lisp code and model
  • In the extras/parallel-execution directory
Misc.

• Add-text-to-exp-window has a new keyword param :font-size
• New device method vis-loc-coordinate-slots
• Event Queue button in environment