

# Updates and Future of ACT-R

2024 ACT-R Workshop

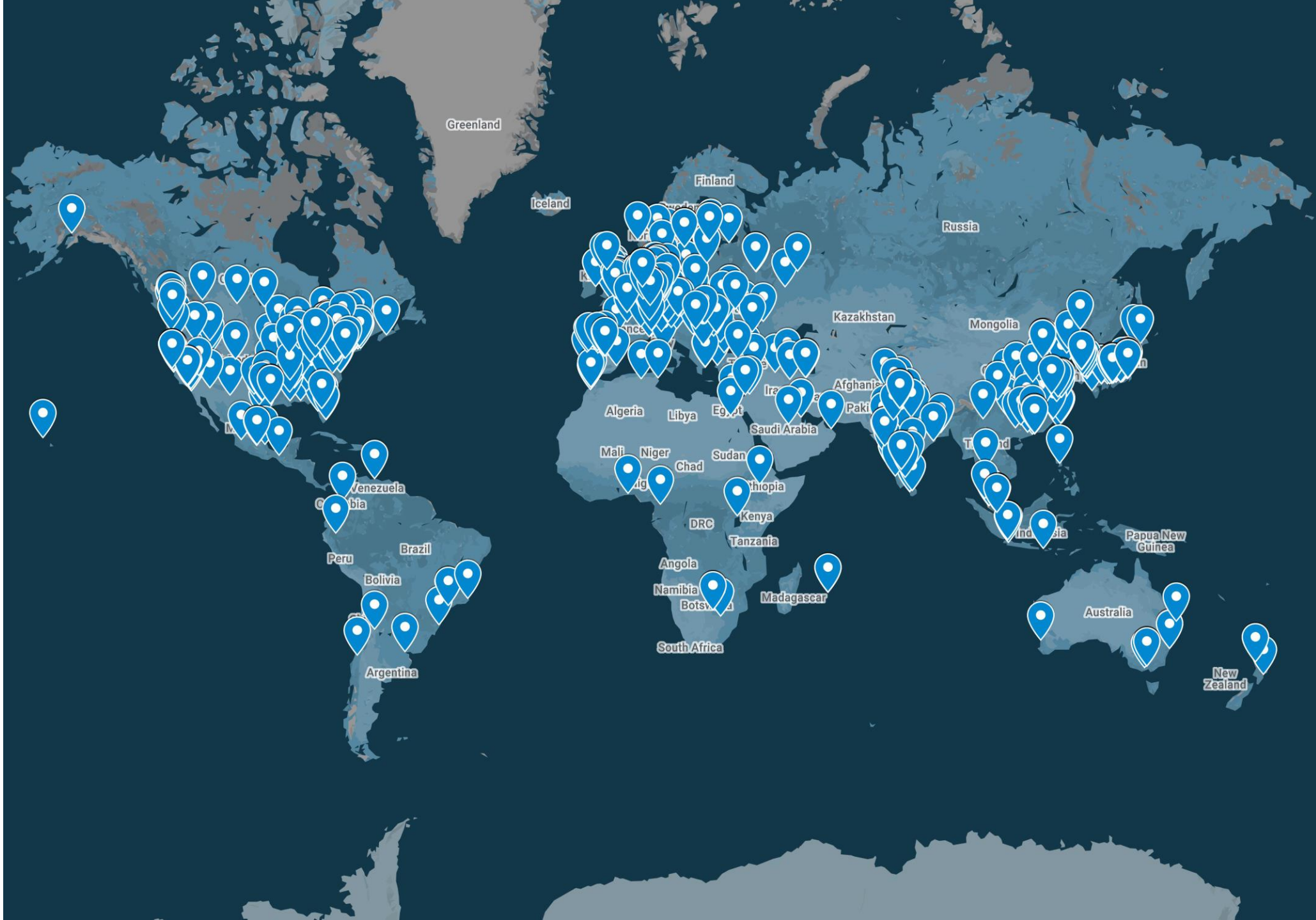
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# How many people use ACT-R?

- Can answer how many people download the software from the ACT-R website.
- 12 Months starting April 2023
  - Count any version of the ACT-R 7 software
  - Unique IP addresses
    - Not counting web crawlers, me, and most on campus CMU access
- 1746 IP addresses
  - 1708 valid results from free info at db-ip.com
  - 712 unique locations based on that info
  - [Google Maps](#)



# What was downloaded

sources	319
Linux	96
macOS	379
Windows	658
sources & Linux	35
sources & macOS	45
sources & Windows	114
Linux & macOS	8
Linux & Windows	16
macOS & Windows	31
sources & Linux & macOS	3
sources & Linux & Windows	12
sources & macOS & Windows	11
Linux & macOS & Windows	7
All	12

# Prerelease of next version available

- <http://act-r.psy.cmu.edu/next/>
- Updated since announcement in June
- Will become current version next week

# Updates since last workshop

- Changes
- Bug fixes/inconsistency issues
- macOS Sonoma
- Applications

# Changes

- Added another request parameter to retrieval requests  
:lf-value
- Not stuffing the aural-location buffer because of the filtering from set-audloc-default filtering does not result in a find-sound-failure
- Single-threaded mode allows quicklisp libraries :usocket, :bordeaux-threads, and :cl-json to be loaded before loading ACT-R without breaking them

# Bugs/inconsistencies

- Trigger-reward always returns nil when there's a problem
- All of the scheduling commands that were documented as returning multiple values now actually do so
- :v and :cmdt when given a string of a pathname
  - Use translate-logical-pathname on that string
  - Return the string instead of the actual Lisp stream
- EMMA extra
  - Tracks the eye movement states appropriately in the emma buffer
  - Handles the visual clear request better now
- Updated actr.py to work with Python 3.12
- actr.py handles errors better when used with the “Import Python module” button in the Environment
- Environment stepper tutor
  - highlights appropriately in dark mode



# macOS Sonoma

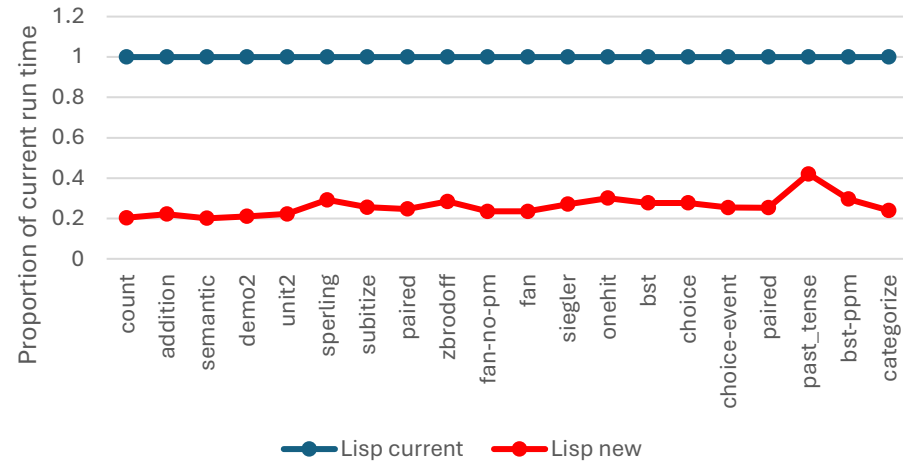
- Updated to a newer SBCL
  - The lock mechanism in the newer SBCL (futexes) exposed issues with how I used :bordeaux-threads (bt:acquire-lock isn't safe on its own in SBCL) which required reworking the remote interface code
- Rebuilt the Environment application with Tcl/Tk 8.6.13
- Rebuilt the HTML Environment application with newer versions of node.js and pkg

# Applications

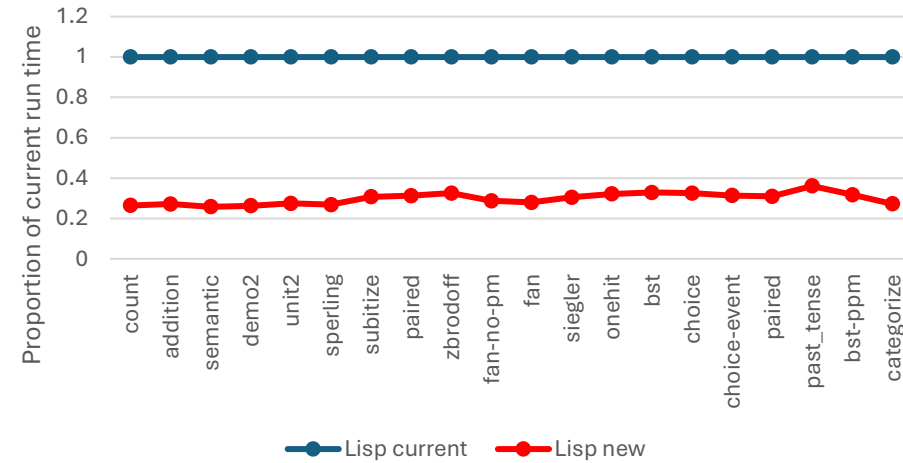
- All of the ACT-R applications for the standalone versions are now built with SBCL
  - Consistency
  - It is actively maintained
  - Speed

# Speed: tutorial tasks run in Lisp

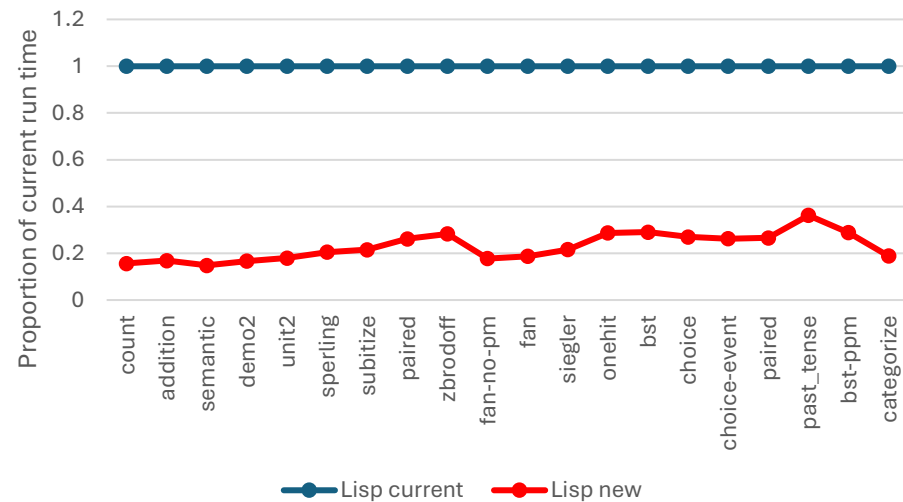
## Windows



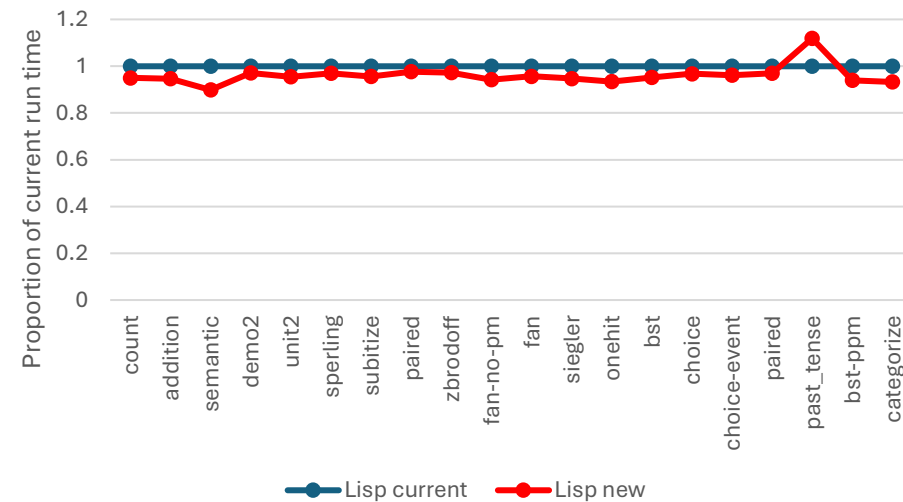
## Linux



## macOS (Intel)

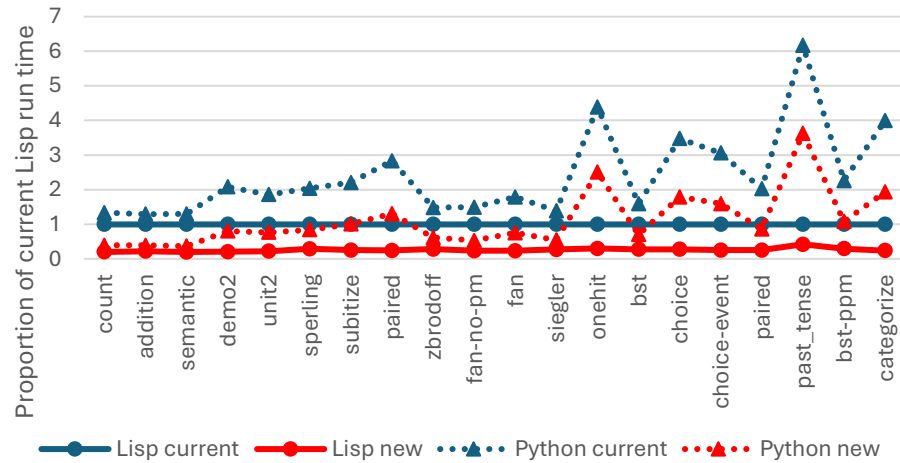


## macOS (Apple silicon)

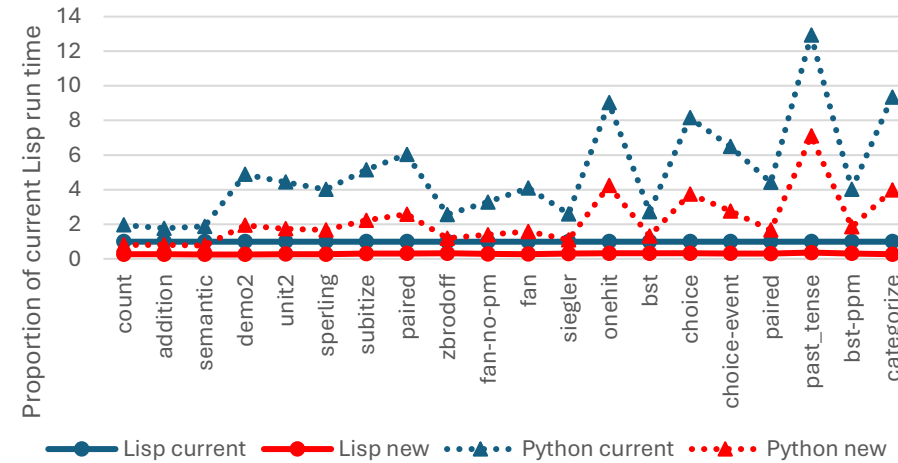


# Speed: tutorial tasks run in Lisp & Python

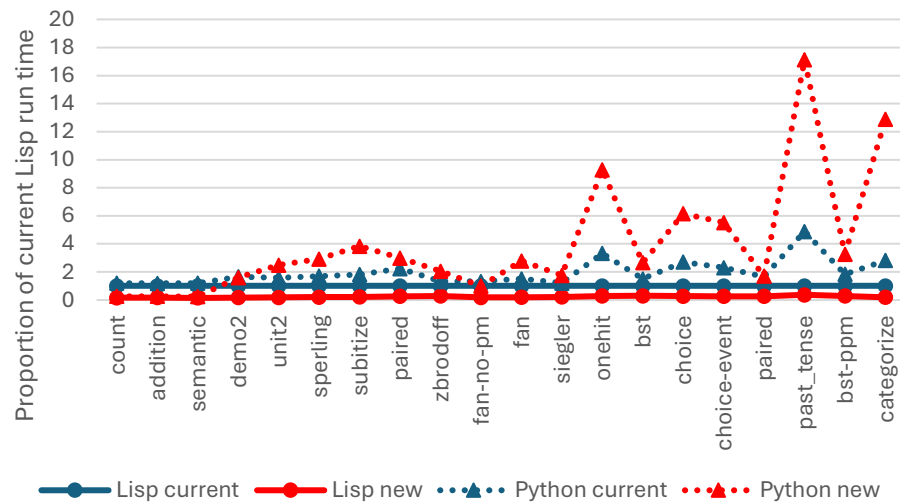
## Windows



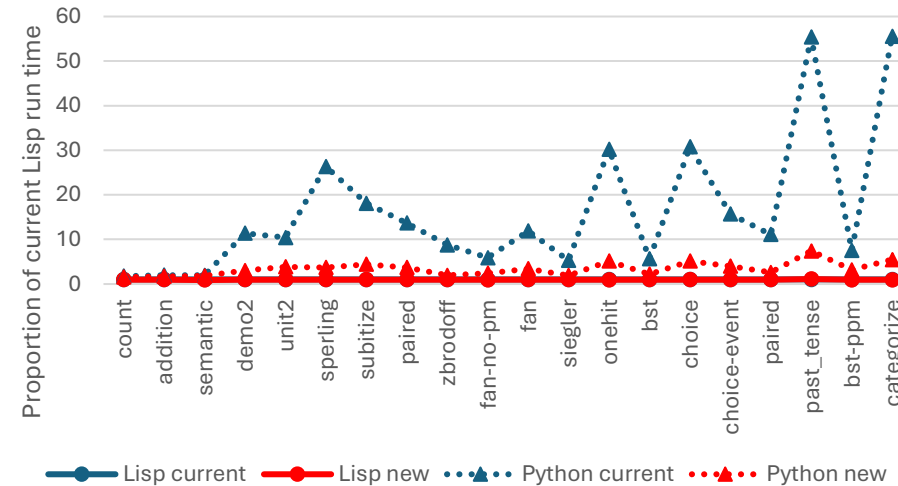
## Linux



## macOS (Intel)

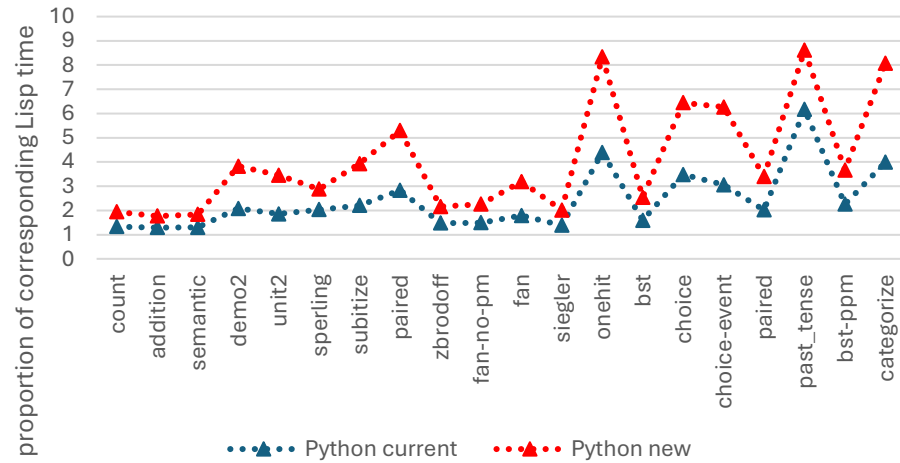


## macOS (Apple silicon)

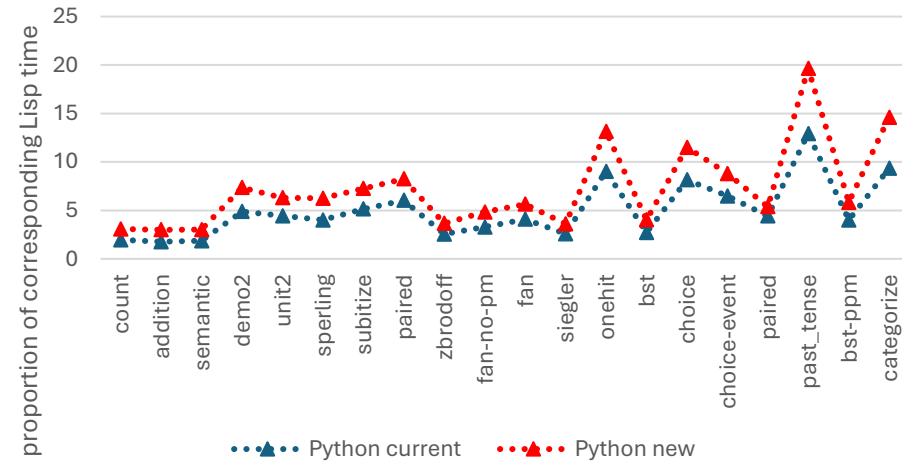


# Speed: Comparing Python to Lisp

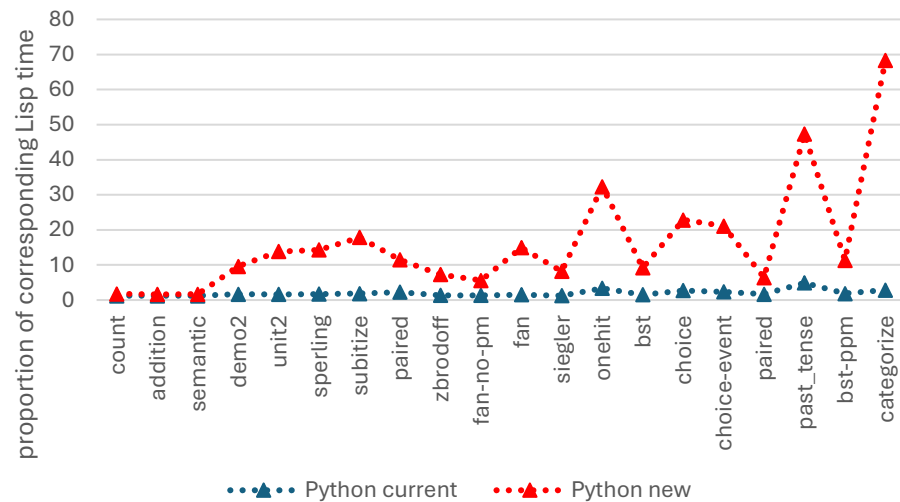
## Windows



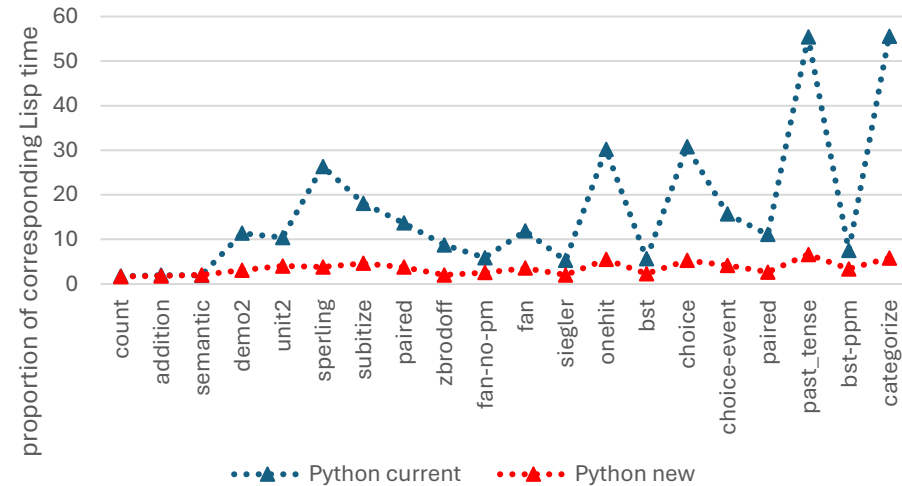
## Linux



## macOS (Intel)



## macOS (Apple silicon)



# Future

- No significant changes anticipated
- Maybe update the Docker + JupyterLab interface
  - Insurance against OS/computer issues
  - Will people use it?