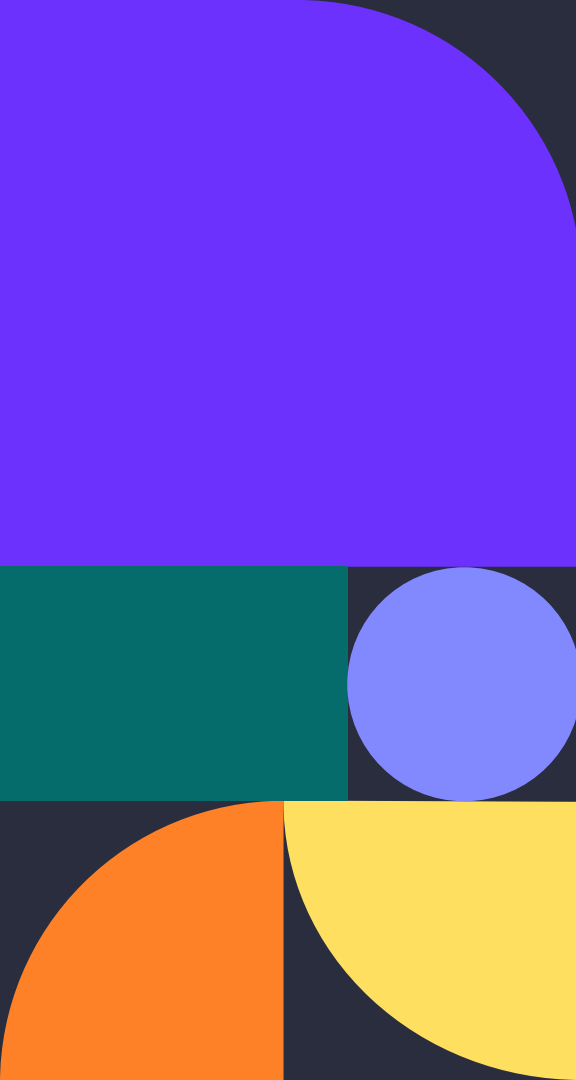




Building the Ultimate R AI Assistant

Pawel Rucki

@ useR! 2026

About Me

Pawel Rucki

Principal Data Scientist @ Roche

Doing R and AI in clinical trials



Why not existing solutions?



Quality

It performs poorly on less popular, domain specific R packages

Knowledge cutoff date

We don't want to wait for new model release / refresh after package release

Knowledge gaps

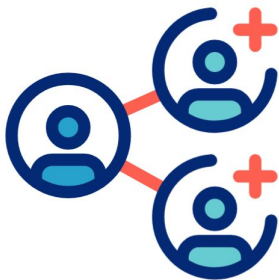
Unaware of internal packages, tools, conventions etc.

Code hallucinations

Inexistent packages, functions, arguments, etc.

Architecture

This assistant is a **multi-agent** system where individual agents are responsible for a single R package. Agents dynamically **handoff** control to one another based on their specializations.

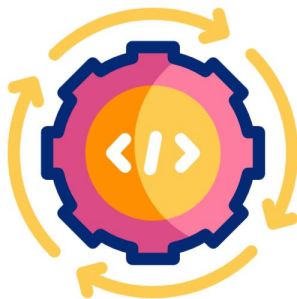


This is a **self-adapting** system where agents are dynamically created when needed based on user question. Created agents are cached and shared across users.

Architecture

An agent utilises the whole **R package documentation** . This includes function manual, vignettes and others.

Agents are equipped with set of **tools** to get additional knowledge.



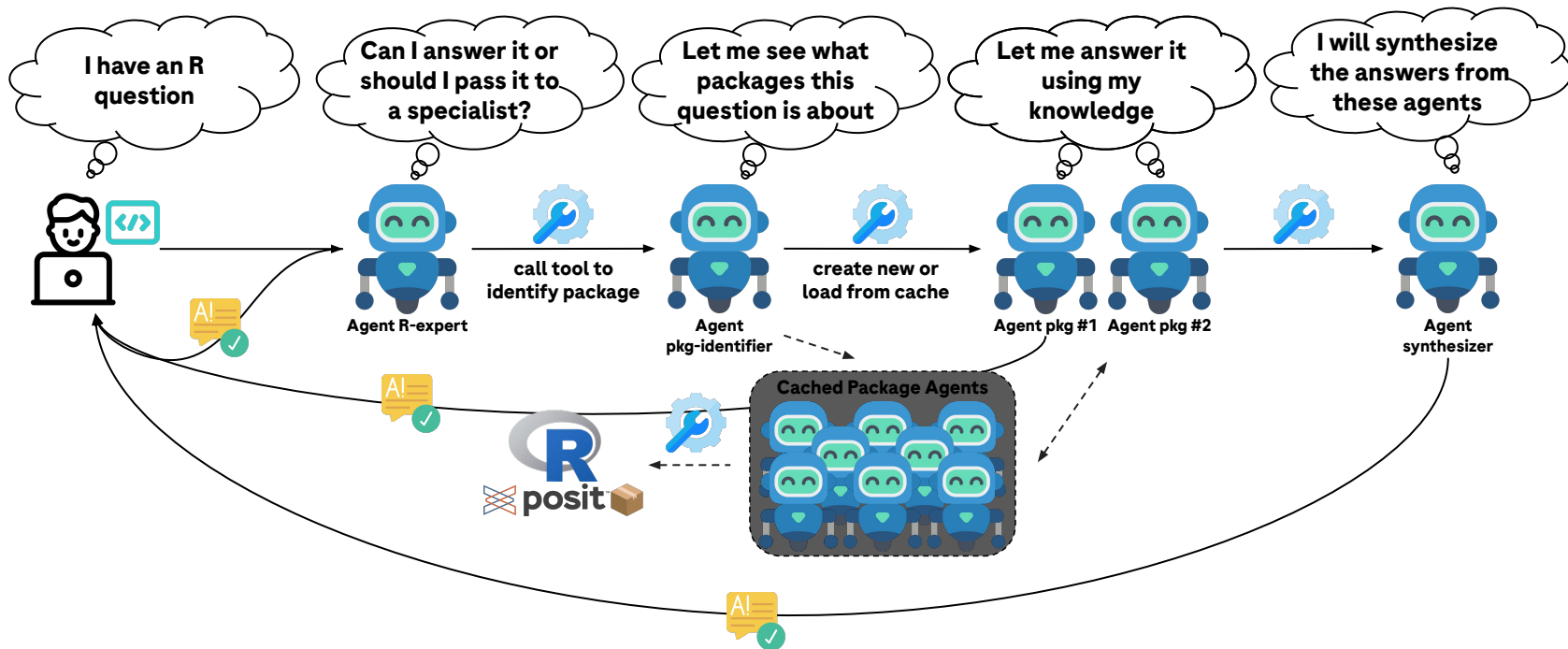
Agents are created using the **most recent** data – even right after release. There is no cutoff date or manual management of the knowledge base.

Architecture

The system covers more than **22k+** R packages from both public and **private** repositories. None of the AI Assistants cover internal packages.



Example



Usage: Chat App: see conversations between agents

>>

Deploy ⋮



how to create scatterplot in ggplot2?



See agents conversation details

A scatterplot in ggplot2 is created using the `geom_point()` function. Here's a basic example:



```
library(ggplot2)

# Create a scatterplot
ggplot(data = mtcars, mapping = aes(x = wt, y = mpg)) +
  geom_point()
```

Explanation

- `ggplot()` initializes the plot and specifies the dataset (`mtcars` in this case).
- `aes()` specifies the aesthetic mappings, indicating which variables should be used for the x and y axes (`wt` for weight and `mpg` for miles per gallon).
- `geom_point()` adds the layer that displays the data as points, creating the `scatterplot`

Your message



Usage: Chat App: WebR extension

>>

Deploy ⋮



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See agents conversation details



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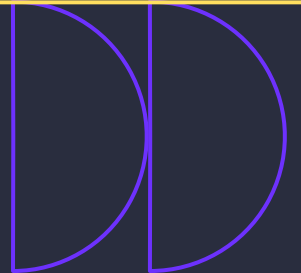
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Your message



Stop building {xyz} R package assistant
Build an ultimate assistant instead!



Thank you!