



# Building A Second Brain

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In Microsoft Azure

By Yves Goeleven

# A metaphor for personal knowledge management

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# What will you get?



A **process** for personal knowledge management



Different **ways to structure** your knowledge



**Tools** to work on, and with, your knowledge



Cloud **services** to enrich your knowledge



On a personal **budget**



**Start thinking** about your own second brain



## Why care?

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- As a knowledge worker you can get a **significant advantage** by
- Capturing everything **you care about** quickly
- **Accessing** relevant information whenever you need it
- Having the ability to **answer questions on the spot**
- **Reuse material** when working on new projects

*“You don't rise to the level of your goals,  
you fall to the level of your systems”*

– James Clear

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# Yves Goeleven

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## **Independent Solution Architect**

- 23 years of experience
- Specialized in distributed software development on Azure
- First Belgian Azure MVP, in Azure since 2008
- Co-Founder Azug & Cloudbrew Crew member

**Knowledge is my most valuable asset!**



Can Azure  
extend my  
second brain?

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# But, first some theory...

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The CODE process

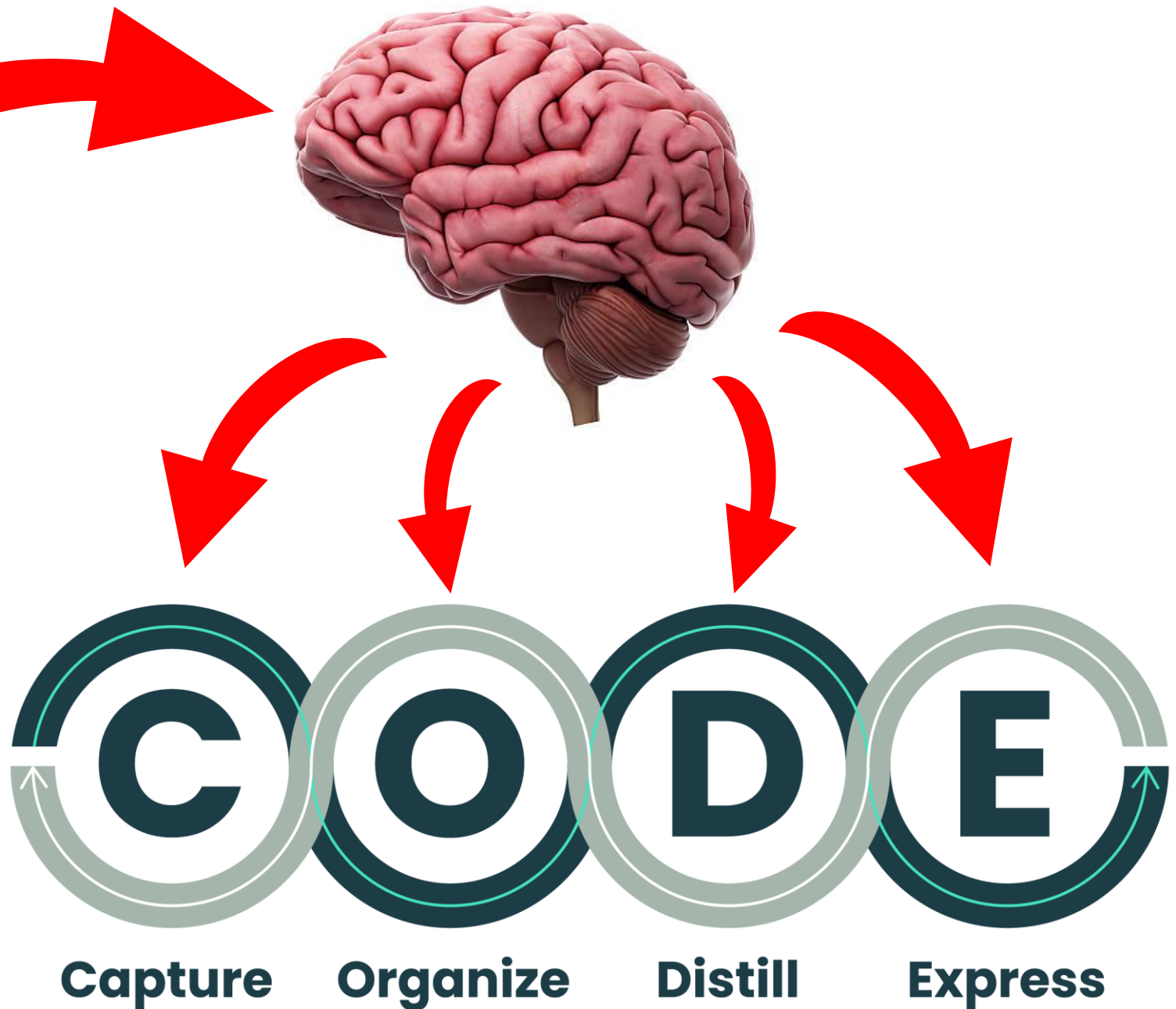
REMEMBER EVERYTHING,  
ACHIEVE ANYTHING

# Building a Second

## Brain

A Proven Method to Organize  
Your Digital Life and Unlock  
Your Creative Potential

**TIAGO  
FORTE**



# CODE process



Capture noteworthy information, that **resonates** with you, store it somewhere you control



Organize materials based on **actionability**



Distill the materials down to **the core ideas**, so you can use them easily in the future



Express yourself by **repurposing** these core ideas into new formats and content.

A close-up of Jerry the mouse from the cartoon Tom and Jerry. He has a grumpy, almost angry expression, with his eyes squinted and his mouth downturned. His large, pinkish-orange ears are prominent on either side of his head. He is holding one of his paws near his chin. The background is dark and out of focus, showing vertical lines that might be part of a cage or a wall.

# Capture

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Capture noteworthy information that resonates with you, store it  
somewhere you control



## What information should you capture?

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- **What resonates on a personal level**
- No matter the topic
- Mix professional and personal
- Each of us has different interests
- The combination will make it unique

*“The Most Profitable Niche Is You”*

– Dan Koe

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What makes my  
knowledge unique?



**Software architecture**



**Managing a basketball club**



**Asynchronous knowledge work**



**Growing chilies**



# It is time

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For you to start thinking about your second brain

Which tool would you  
use to capture  
information and  
ideas?

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A close-up of Jerry the mouse from the cartoon Tom and Jerry. He is white with large, expressive eyes, a wide smile showing his teeth, and large orange ears. He is holding a small, silver, handheld device in his hands. The background is a solid grey color.

# Demo

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Capturing information through a slack bot

# I settled for a slack chatbot, Pinky

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- Capturing should be **quick**
- Should be a **share target** for content on mobile
- I can **type** random ideas
- **Easily accessible** both at home, and at corporate clients
- Support **text, links** and **files**
- It's a **quiet** place, like a cabin in the woods

What storage  
would you trust  
with your brain?

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# I chose GitHub

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- Available local & remote, works offline
- Supports **text & files**
- Provides **a way to organize** in folders
- Allows **easy editing**

A close-up of Jerry the mouse from the cartoon Tom and Jerry. He is white with large, expressive eyes, a wide smile showing his teeth, and large orange ears. He is wearing a white shirt and an orange tie. He is holding a small, silver, rectangular device in his hands. The background is a solid grey color.

# Demo

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Information stored in controlled location

At Particular,  
everyone uses git



**Sales**



**Marketing**



**Human Resources**

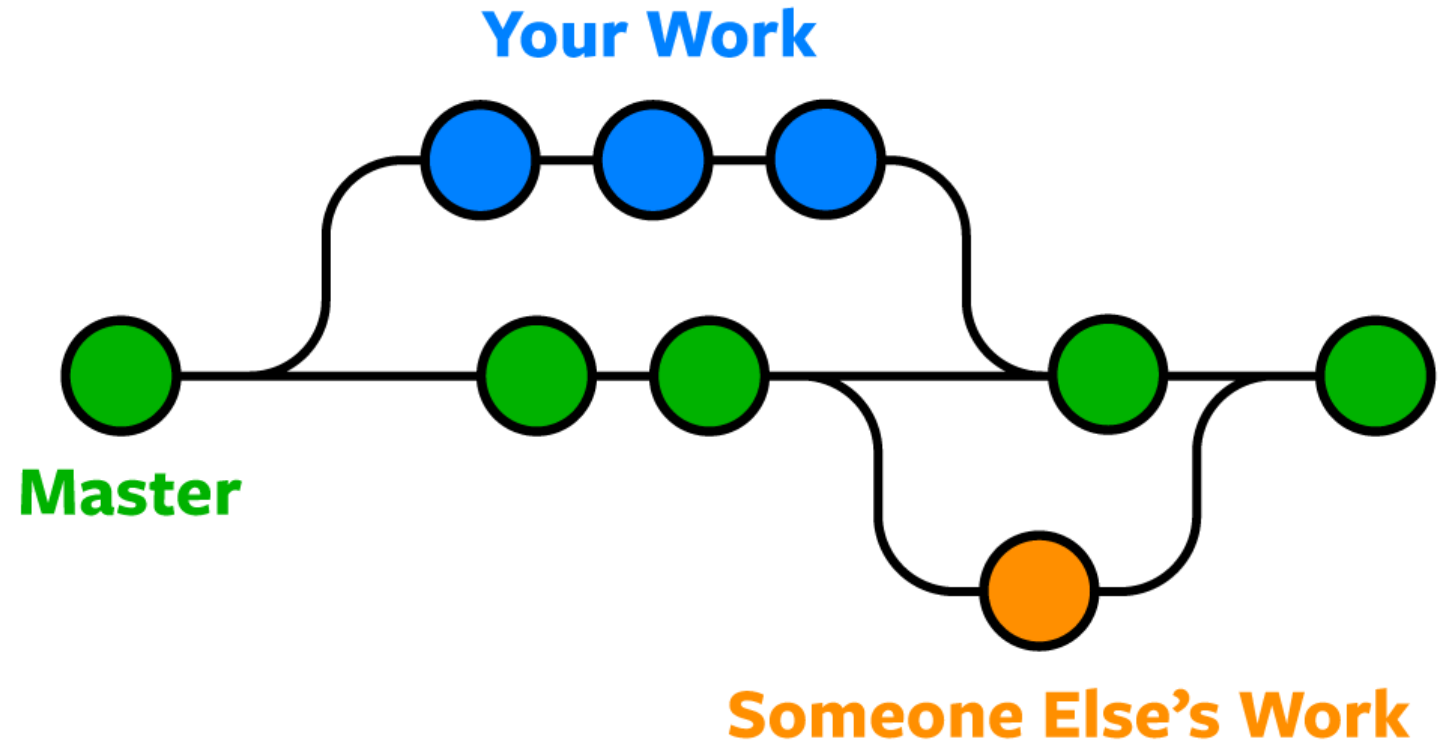


**Everyone, even the devs**

## Git is a file revision control system

- It shows who changed what and when
- It's collaborative
- Supports multiple versions
- And you can travel back and forth in time

Everyone would benefit from learning git



DevOps



GitHub



GitLab

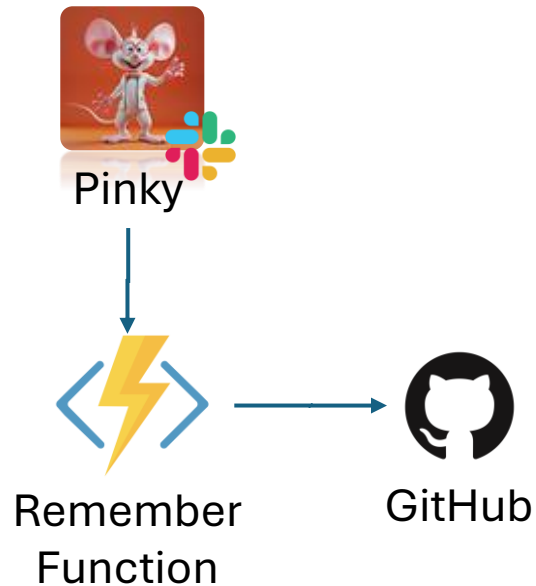
Which technology  
would you use to push  
from your capture tool  
to storage?

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# I used Azure Functions

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- A slack bot is nothing but a set of **webhooks**
- Able to **push to git**, using the GitHub API (OctoKit)
- **Cheap** to host
- [Remember on GitHub](#)



# Organize

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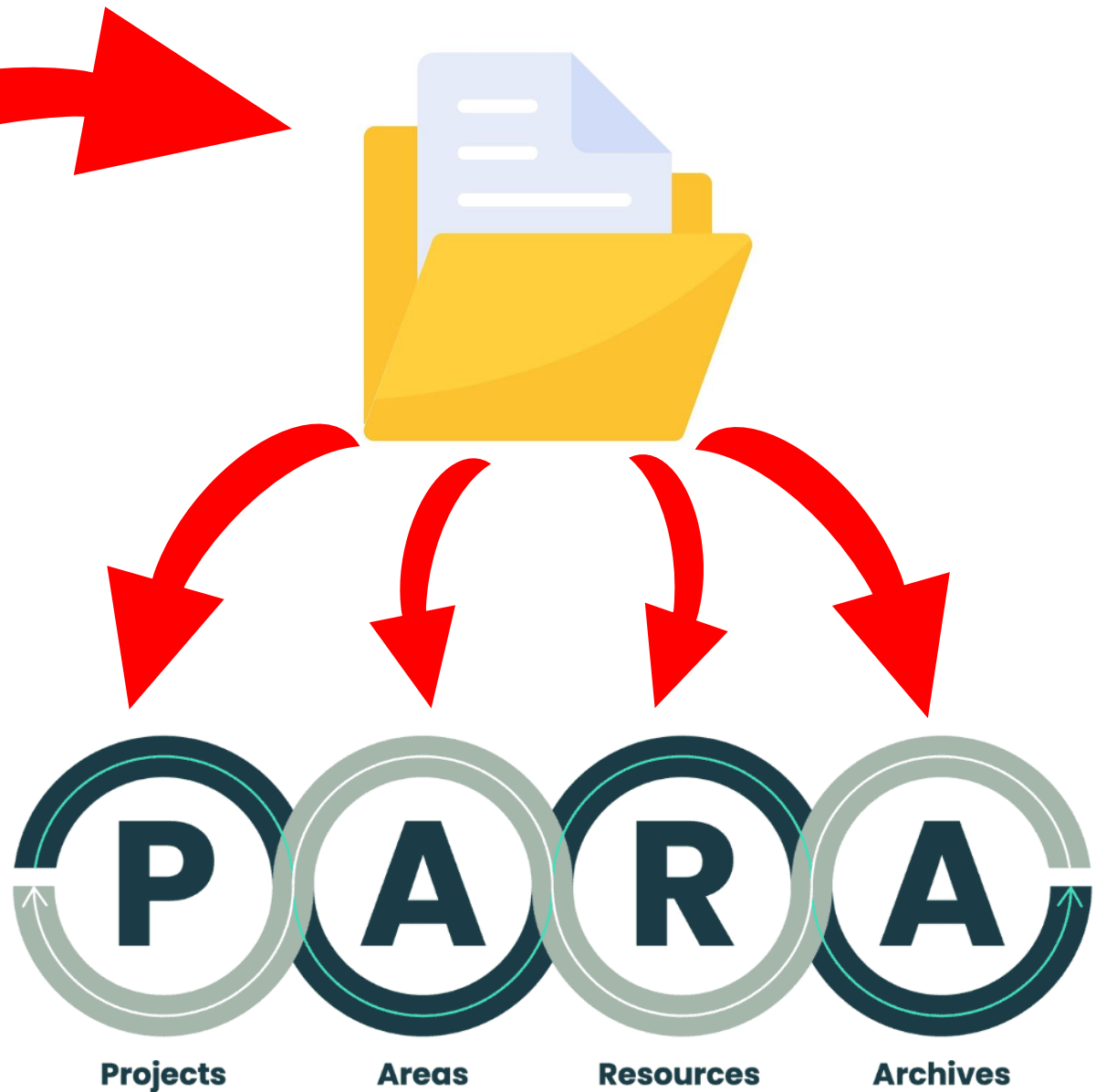
Organize materials based on actionability

# The PARA Method

Simplify, Organize,  
and Master Your  
Digital Life

**TIAGO FORTE**

BESTSELLING AUTHOR OF *BUILDING A SECOND BRAIN*





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## Organize by actionability

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- **Projects:** Currently working on, short time periods
- **Areas:** Current areas of expertise and ongoing responsibilities
- **Resources:** Material for potential future use
- **Archive:** No longer working on, or care about
- **+ Capture:** Inbox
- **+ Create:** Outbox with created content

# When to organize

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- Process your **inbox on a regular basis**, e.g. daily
- Only organize your **projects** folder, **when you work on them**
- Review areas **periodically**, e.g. weekly or monthly
- You can **leave the rest messy**; Azure will help finding stuff there...



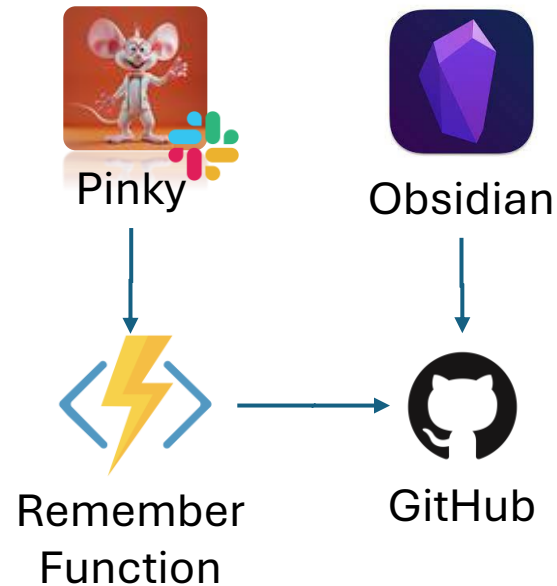
Which tool would  
you use to organize  
your files?

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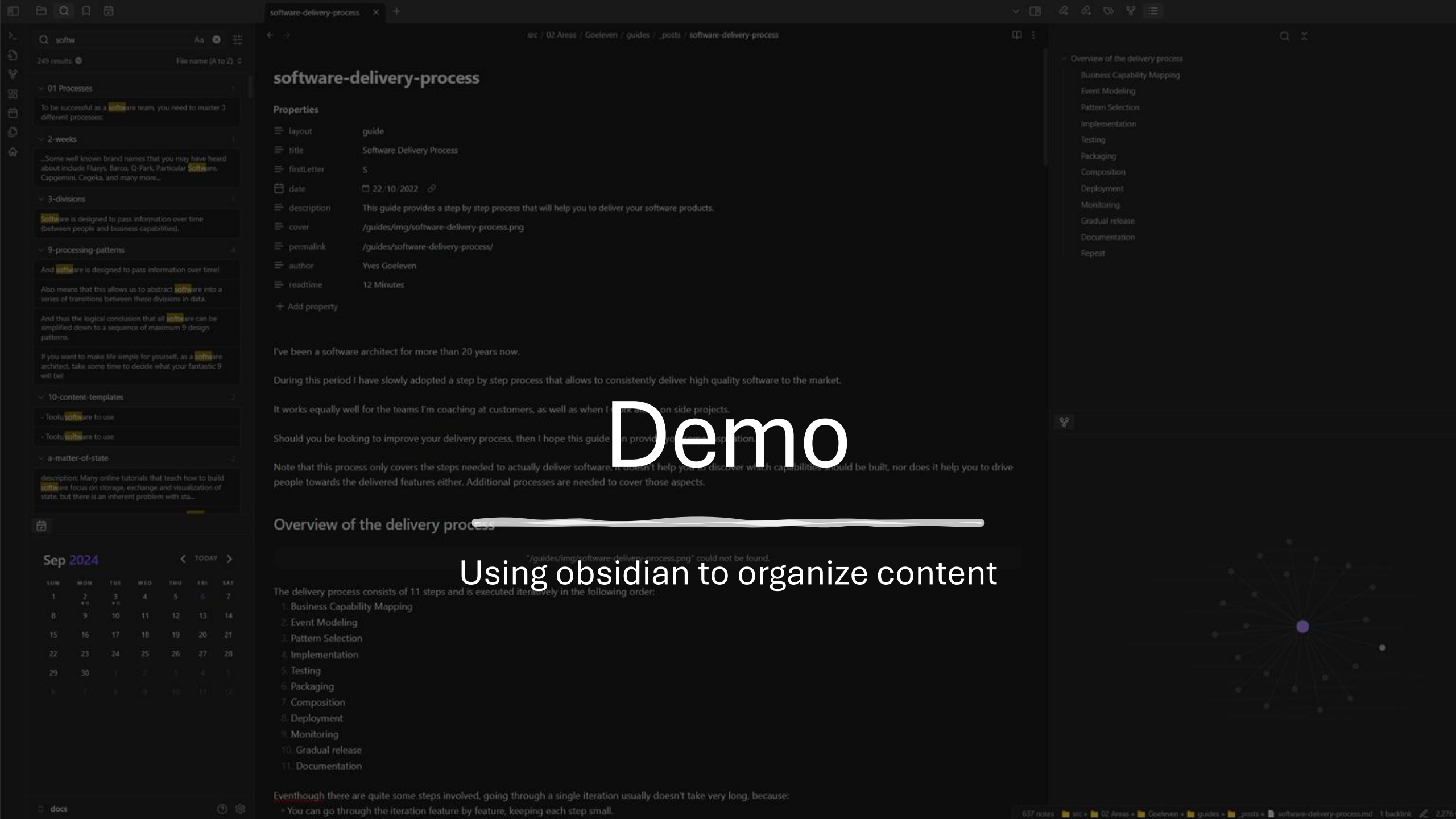


# I organize with obsidian

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- Supports **Markdown**
- Works on **local file system**
- Makes it **easy to move files** around
- It's extremely **good with links**





## Obsidian



- Is a Markdown based **writing app**
- Works on **local file system**, can be backed by git
- It is **very good at link management**
  - Automagically tracks links and backlinks
  - Keeps them up to date when you move files and folders around
  - You can link to future files
  - Allows to visualize links (canvas)

- Noteworthy alternatives

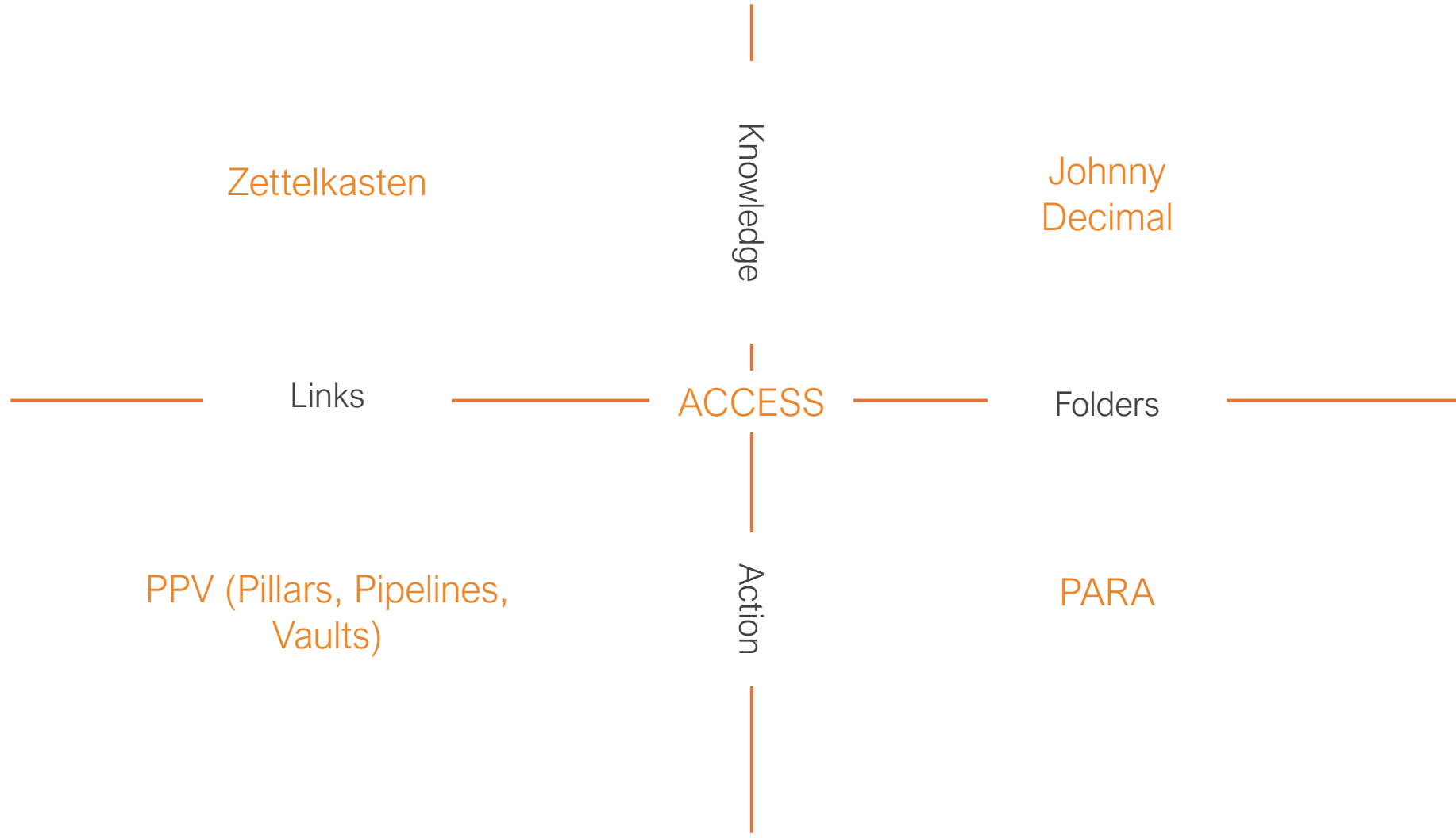


VS Code



Logseq

# Different ways to organize





# Distill

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Distill the materials down to the core ideas, so you can use them easily in the future



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## Distilling is about deleting

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- **Removing words** until only the **essence** is left.
- But first you'll need to **find** any content you may or may not have

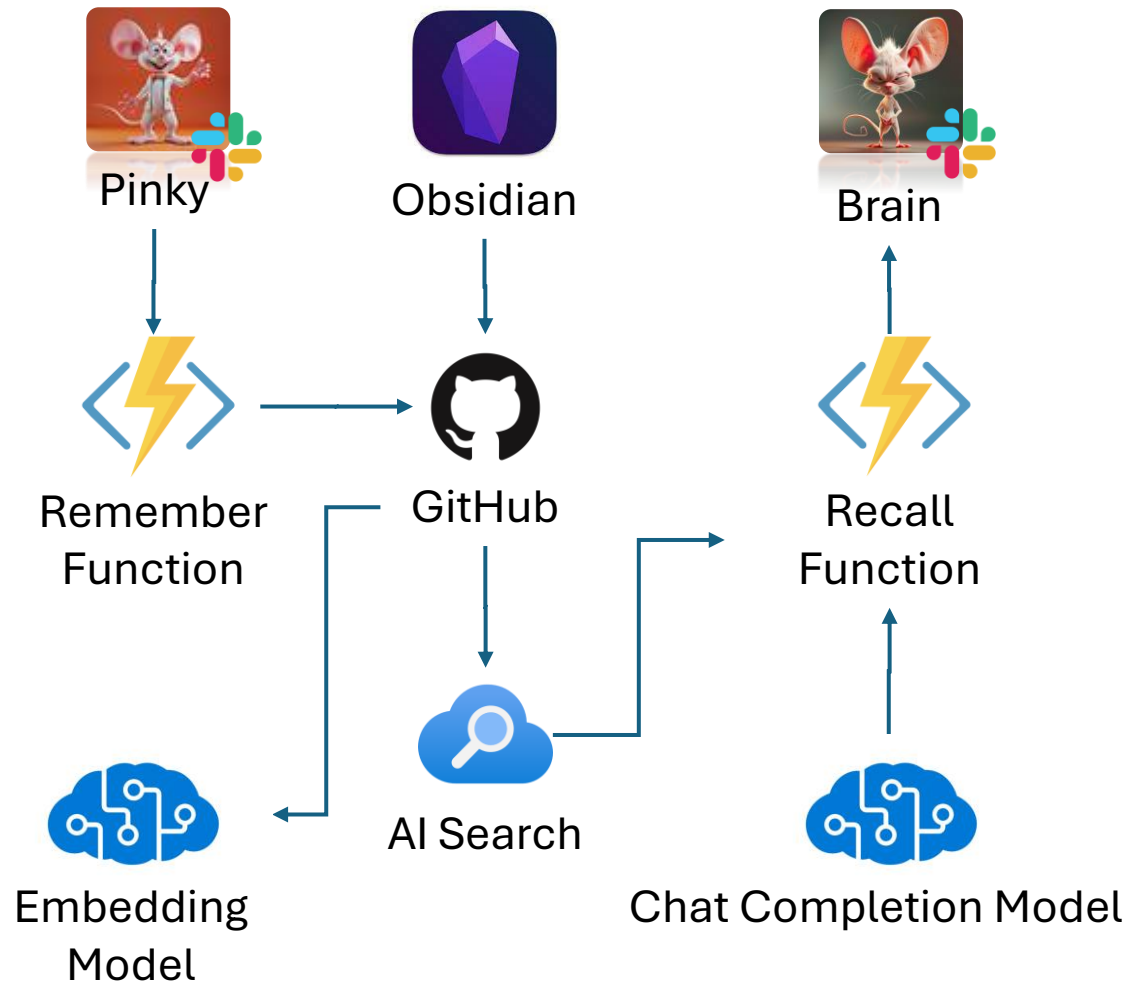
What would be the  
ideal way for you to  
find content?

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# I used another chatbot, Brain, backed by AI search

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- Easy to **find** articles in messy resources and archives folder
- Ability to **summarize information** to the essence
- **Can identify gaps** in my knowledge
- Easily **accessible** through chat

Two white rabbits with large, upright orange ears are shown from the chest up. They are both smiling and looking towards the camera. The rabbit on the left has its hands raised in a playful gesture, while the rabbit on the right has its hands clasped together. The background is a solid dark grey.

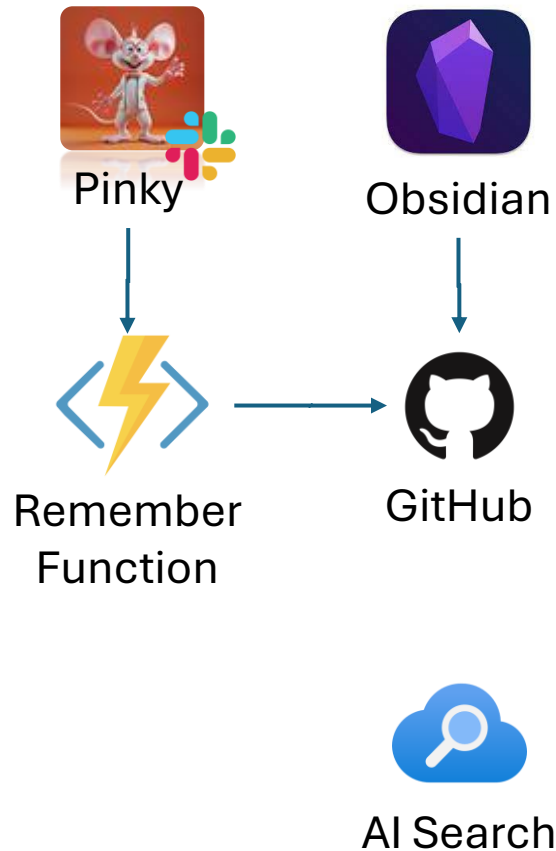
# Demo

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Let's have a chat with our second brain

# Azure AI Search

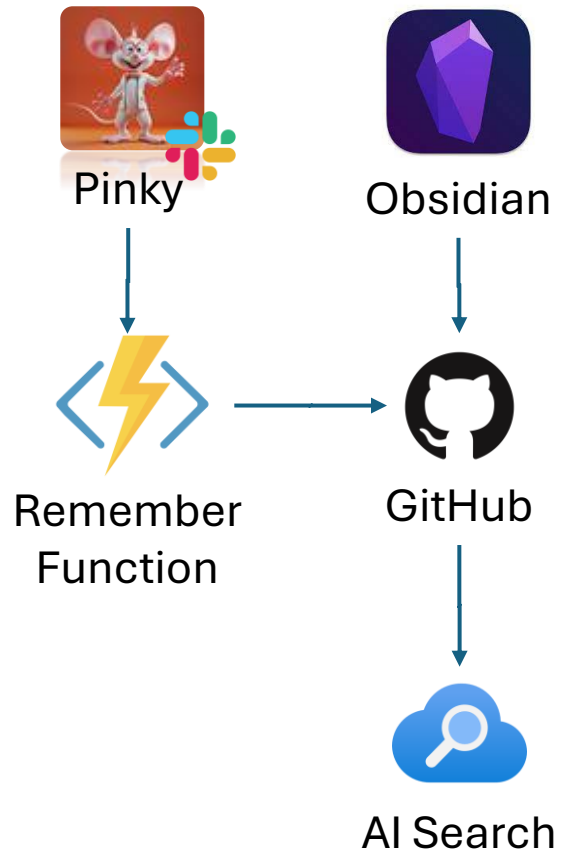
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- Vector DB: Stores **text as numeric values**
  - Much easier to find what you are looking for with vectors than pure text search (available in obsidian)
- **Similarity search** (dog, canine)
- **Multilingual** (dog, hond)
- **Multimodal** (text, pdf, ...)

# GitHub actions

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- Trigger **on push**
  - By pinky, or commit from myself
- **Copies content** from GitHub to search
- Custom GH Action steps to **detect changes** and index them properly
  - Copy action led to **duplicates** when moving files around, which is a large part of CODE
- [Index on GitHub](#)

# Kernel memory

## ImportDocumentAsync



**AI library** for **efficient indexing** of datasets



**Cracks** the filetype, extracts content



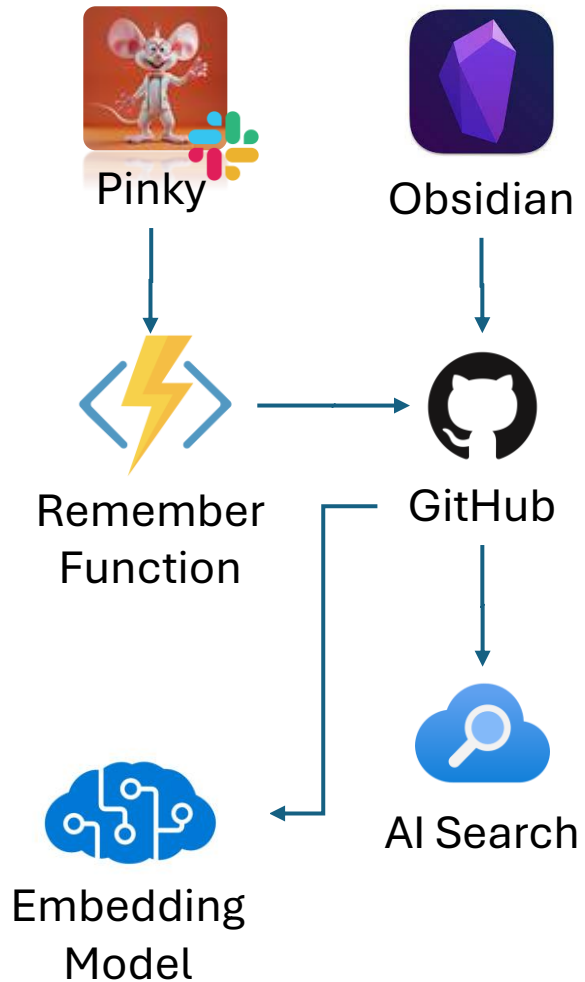
Chunks and transforms content into **embeddings**



Store embeddings in **Vector DB**

# Azure AI Embedding Model

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- To create **embeddings** KM needs an **embedding model**
- You can deploy such models via Azure AI Studio
- Provided by Open AI and others (Meta, Hugging Face, Mistral, and many more...)

# Kernel memory

## AskAsync



**Natural language query**



**Cognitive planner**



**Semantic memory**



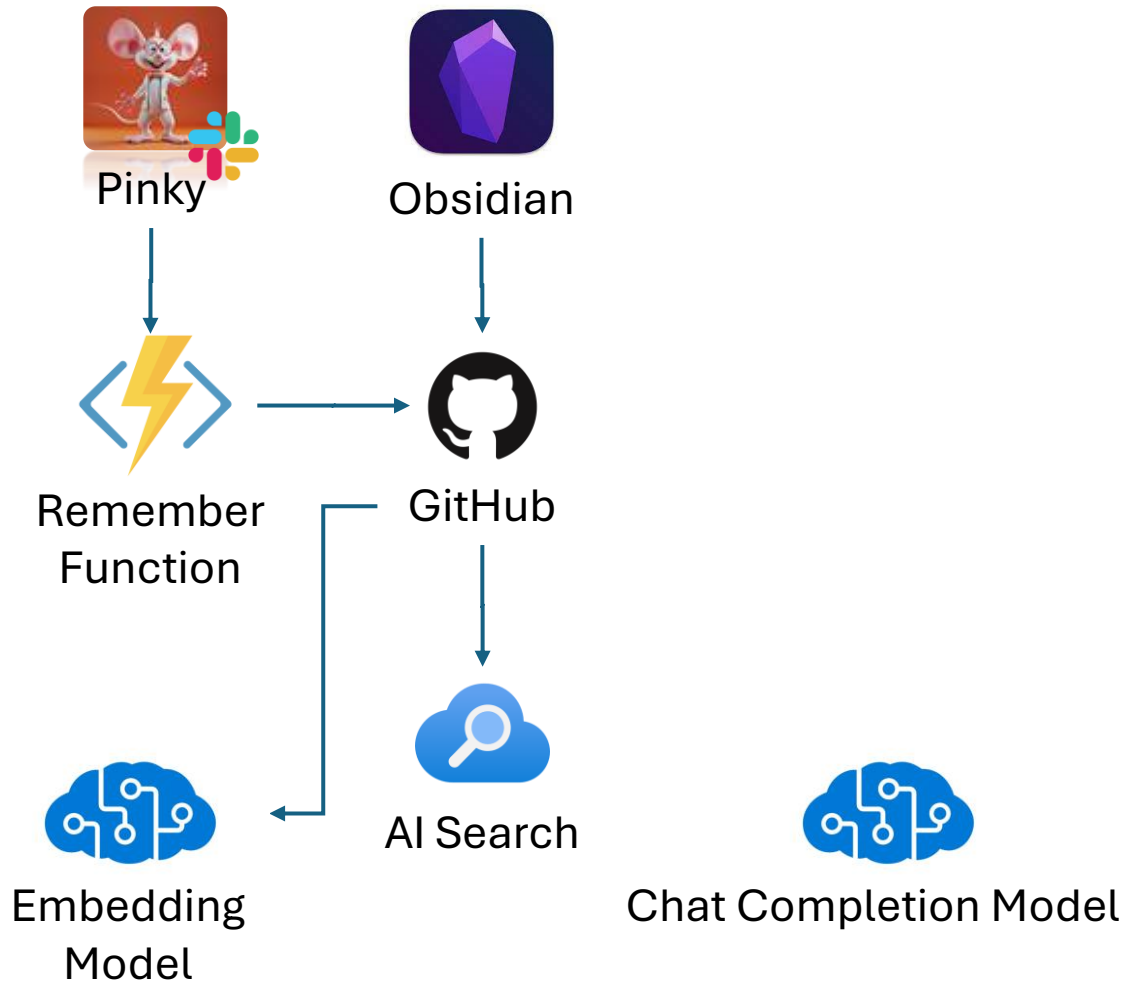
**Retrieval Augmented Generation (RAG)**



**Answers with citations**

# Azure AI Chat Completion Model

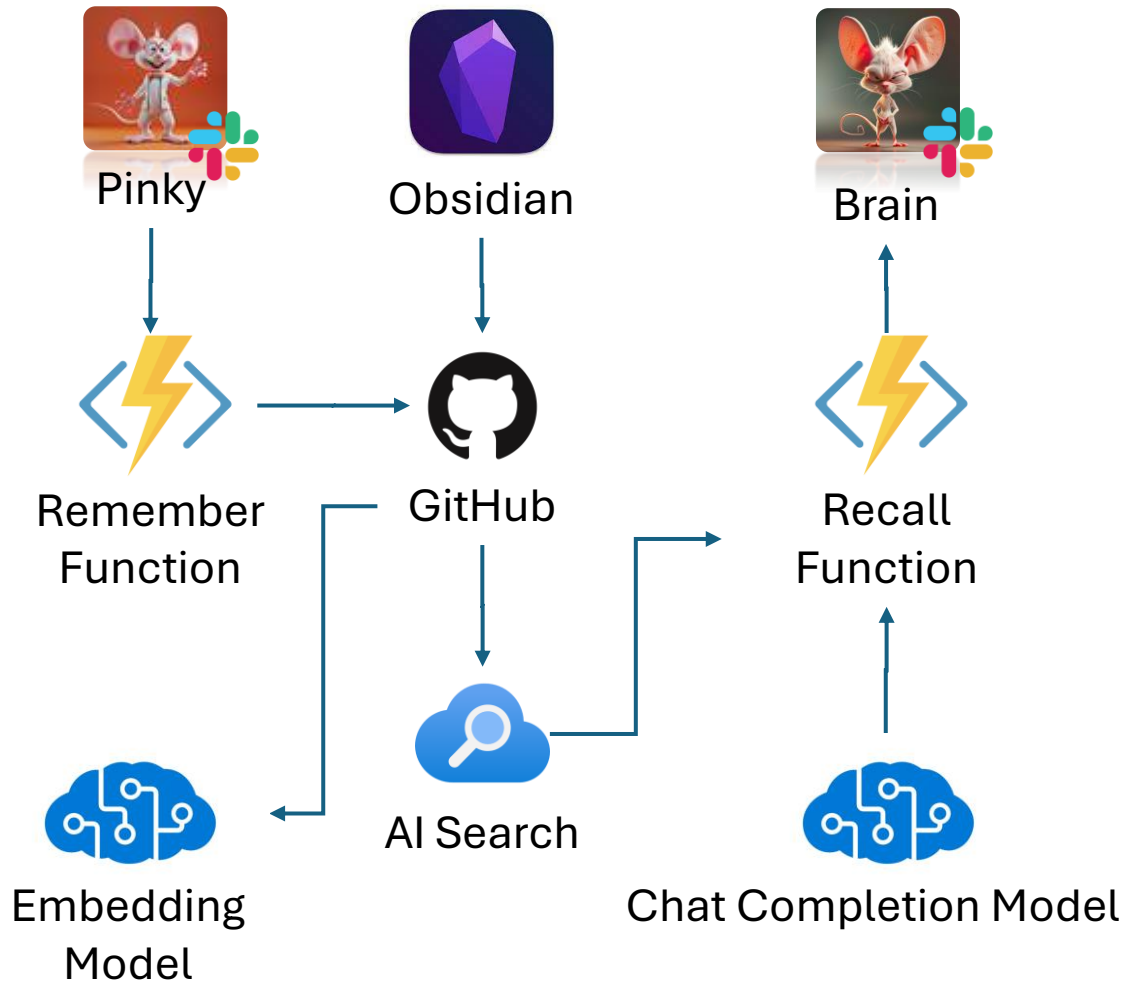
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- To create **answers** KM needs a **chat completion model**
- You can also deploy such models via Azure AI Studio

# A second slack bot

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- I wrapped **kernel memory AskAsync** in an azure function
- Exposed it as **a second bot** in slack.
- Use it to interrogate my content with **while distilling**.
- [Recall on GitHub](#)

A white rabbit artist with large orange ears, holding a paintbrush and standing next to an easel. The rabbit has a thoughtful expression, with one hand on its chin. The background is a soft, out-of-focus indoor setting.

# Express

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Yourself by repurposing these core ideas into new formats and content.



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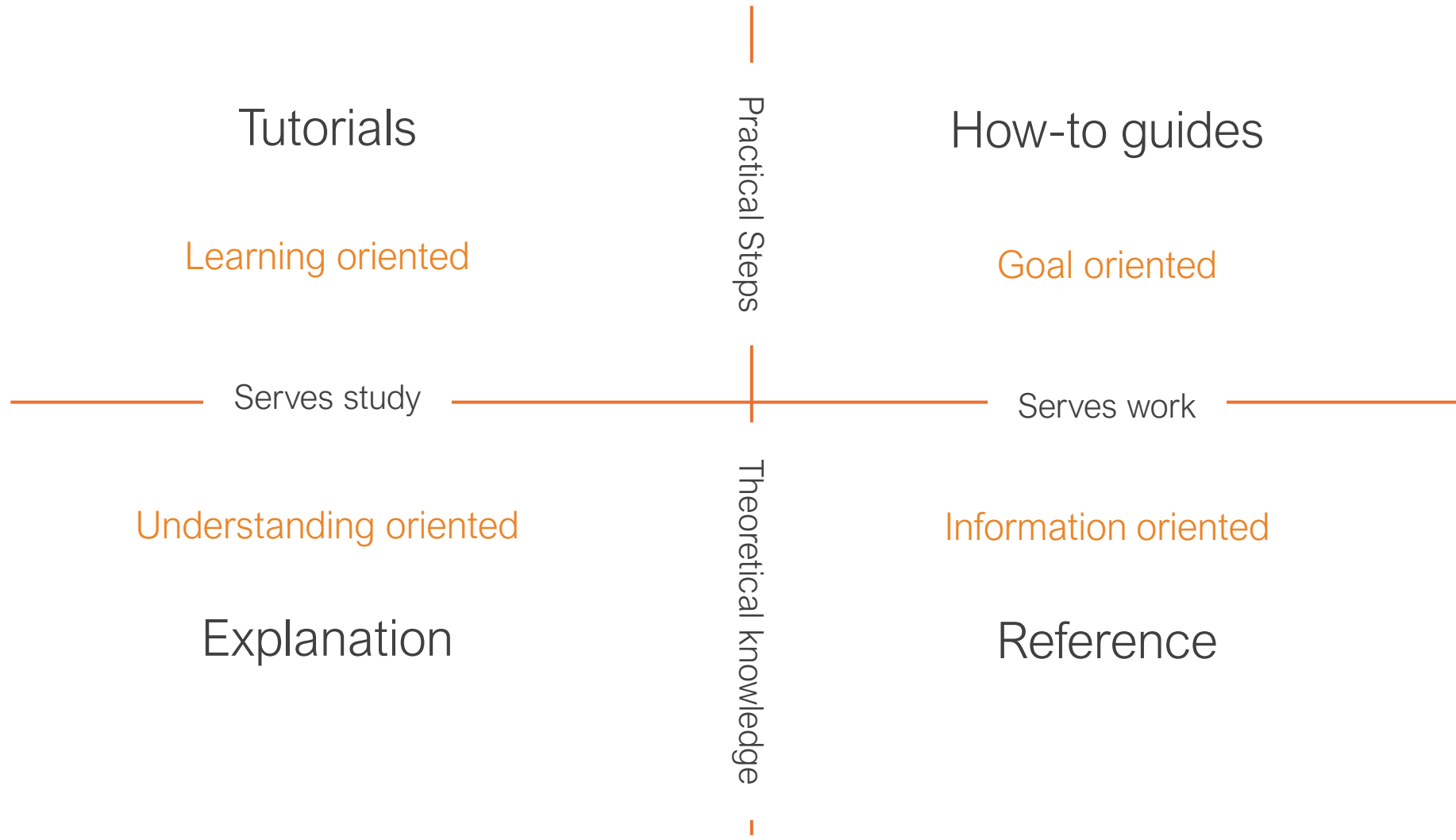
## Expression is about writing

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- **Templates** give you a head start
- You have distilled content
- And plenty of resources
- To start from
- **Put it together**
- And **distribute** it

# Express for your readers: Diataxis.fr

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How would you repurpose your content? What would you create?

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# Demo?



I express daily on LinkedIn



Follow me for a daily demo ;)



<https://www.linkedin.com/in/goeleven/>

# I also use a static site generator

Filter 355 Generators

All Languages All Templates All Licenses

Sort  
GitHub Stars

<b>Next.js</b> ★ 112320 🍴 24062 ⓘ 2200 A framework for statically-exported React apps (supports server side rendering) <b>Language:</b> JavaScript <b>Templates:</b> React <b>License:</b> MIT 🚀 Deploy to Netlify	<b>Hugo</b> ★ 69144 🍴 6973 ⓘ 589 A Fast and Flexible Static Site Generator. <b>Language:</b> Go <b>Templates:</b> Go <b>License:</b> Apache-2.0 🚀 Deploy to Netlify	<b>Gatsby</b> ★ 54736 🍴 10202 ⓘ 115 Build blazing fast, modern apps and websites with React <b>Language:</b> JavaScript <b>Templates:</b> React <b>License:</b> MIT 🚀 Deploy to Netlify
<b>Docusaurus</b> ★ 47957 🍴 7069 ⓘ 242 Build optimized websites quickly, focus on your content <b>Language:</b> JavaScript <b>Templates:</b> React, Markdown <b>License:</b> MIT 🚀 Deploy to Netlify	<b>Nuxt</b> ★ 47564 🍴 4220 ⓘ 926 A minimalistic framework for serverless Vue.js applications. <b>Language:</b> JavaScript <b>Templates:</b> Vue <b>License:</b> MIT 🚀 Deploy to Netlify	<b>Jekyll</b> ★ 47294 🍴 9506 ⓘ 89 A simple, blog-aware, static site generator. <b>Language:</b> Ruby <b>Templates:</b> Liquid <b>License:</b> MIT 🚀 Deploy to Netlify

- Static site generator turns **markdown into html** websites
- I wrote my own (Dish)
- But there are hundreds out there
- 355 on [jamstack.org/generators](https://jamstack.org/generators)



## Experimenting with PanDoc plugin



PanDoc

- PanDoc is a **universal document converter**
- The obsidian **plugin** for PanDoc supports **13 conversions from markdown**
- Among others
  - ePub
  - PDF
  - Powerpoint
  - HTML
  - Word
  - ...

# You can get all this at the cost of a B2C utility

- €0 /mo: **Obsidian**, free for personal use
- €75/mo: **Search**, basic tier
- €20/mo : **GitHub**, private organization includes 3000 build minutes
- €1.46/mo : **AI Cognitive services**
- €0.03/mo : Azure **functions** for bots





So, Brain...

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what are we going to do tonight?



The same thing...

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We do every night...



We're going to

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Take over the world!