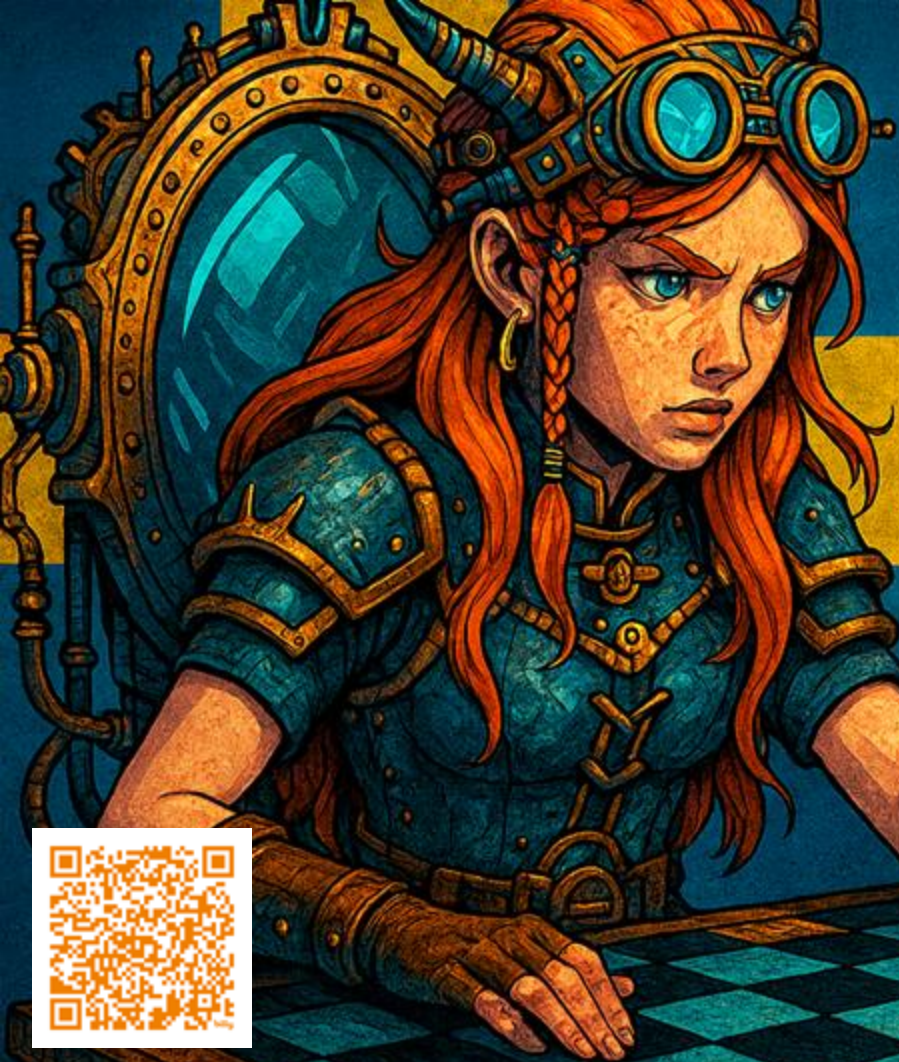




THROUGH THE AI LOOKING GLASS



<https://bit.ly/through-ai-looking-glass-stockholm>



<https://bit.ly/through-ai-looking-glass-stockholm>

My Value Chain

OSS

Vendor A

Vendor B

GSI

DevEx

Platform

Infrastructure

App
Dev

Business
User

Consumer
User



Portal (Backstage)

Golden Path Templates

DevX: Collaboration, Tutorials, Videos, Slack

Developer Environments

DBaaS, Kafka-as-a-Service, Cache-as-a-Service, SSO-as-a-Service, etc

CLI (kubect!, helm, git, oc), API

Observability (Ops/SRE view, Dev view, AppOps view, PE view)

Continuous Delivery

Artifact Storage

Security: Runtime scanning, build-time scanners

Continuous Integration Engine & Task Runners

Artifact Builder, Image Builder

Source Control

AuthN/AuthZ/RBAC

Compute/Network/Storage, Namespace-as-a-Service/Cluster-as-a-Service, Configuration Management

servicenow

zendesk

Plan

Create

Build

Verify

Package

Release

Configure

Monitor

   	   	    	     	    	   	     	        
--	--	---	--	---	--	--	---

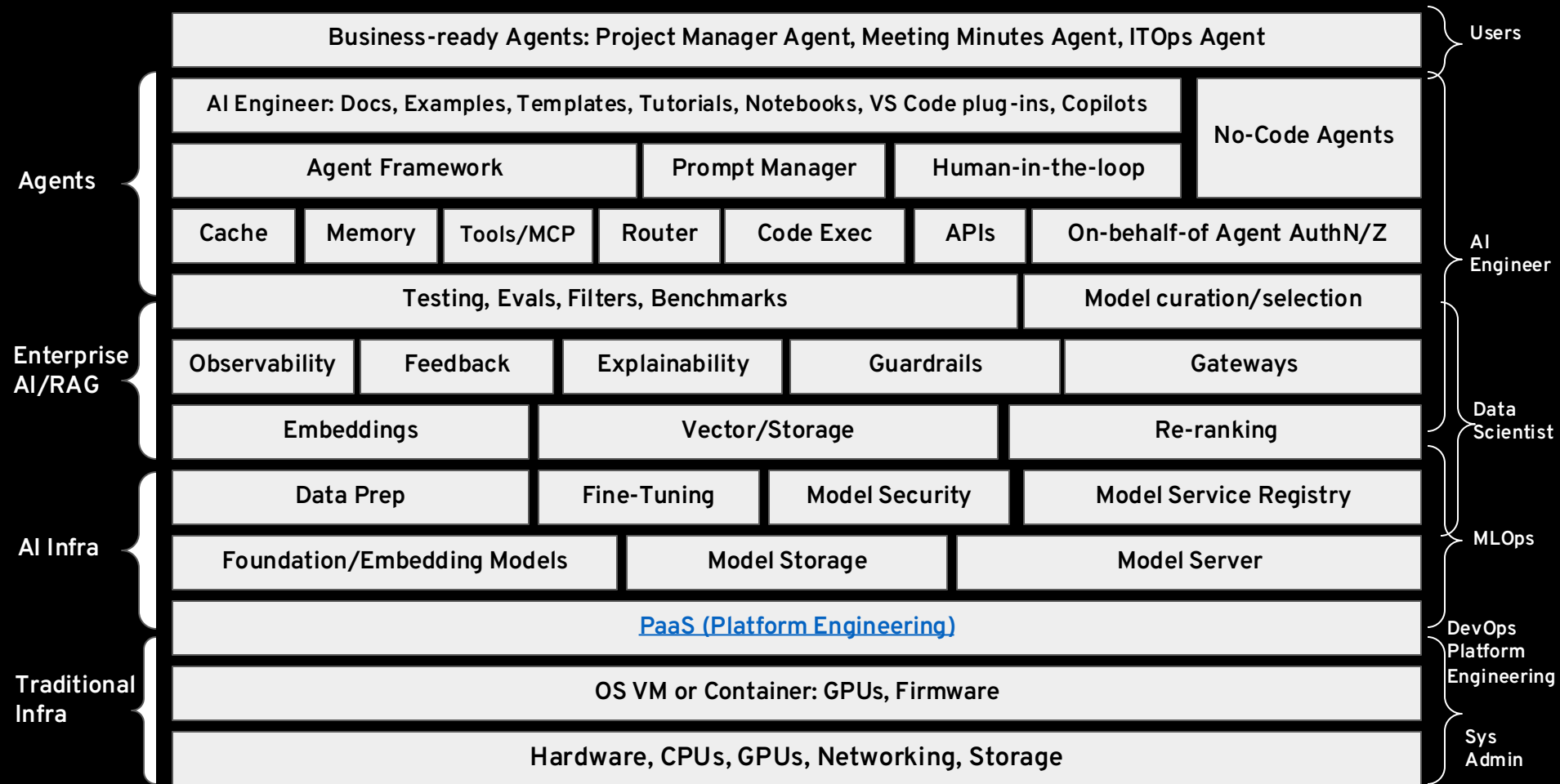


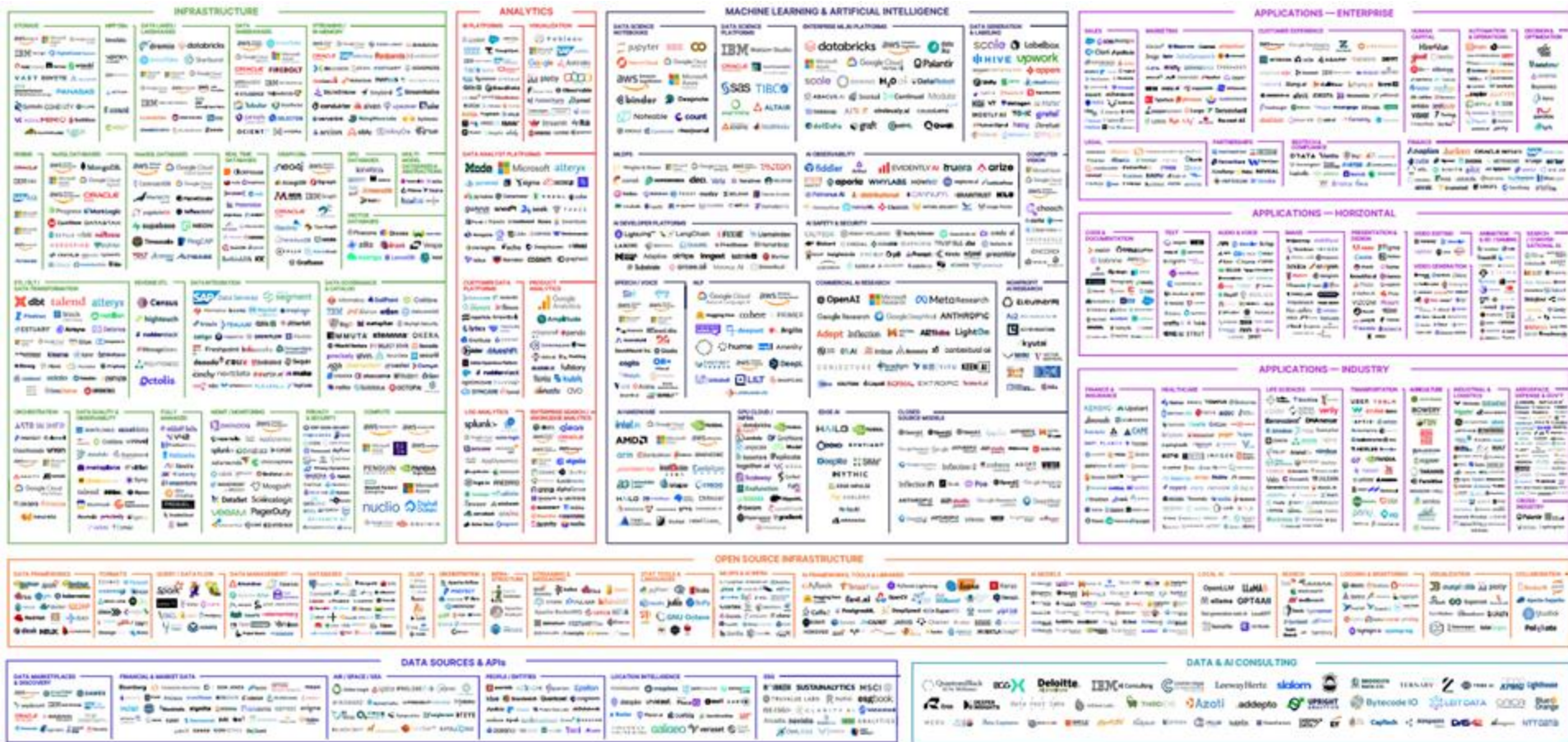
GitHub



GitLab

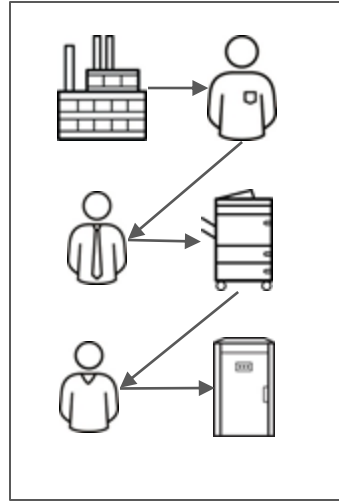
PERFORCE





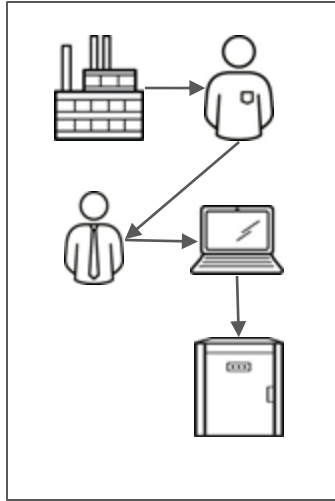
Business & IT: 80's to Future

ChUI



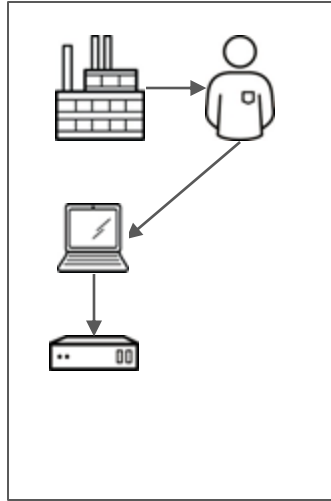
80's

GUI



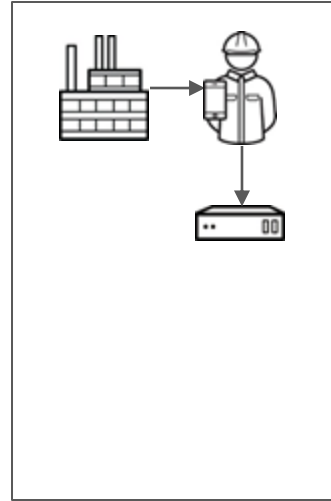
90's

Web



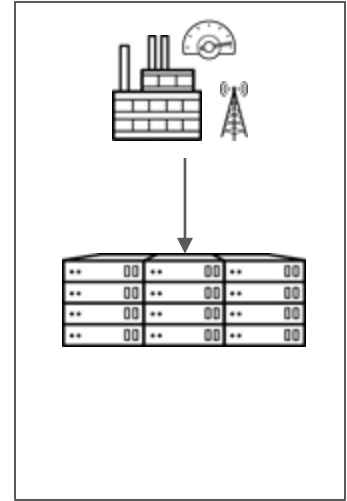
00's

Mobile



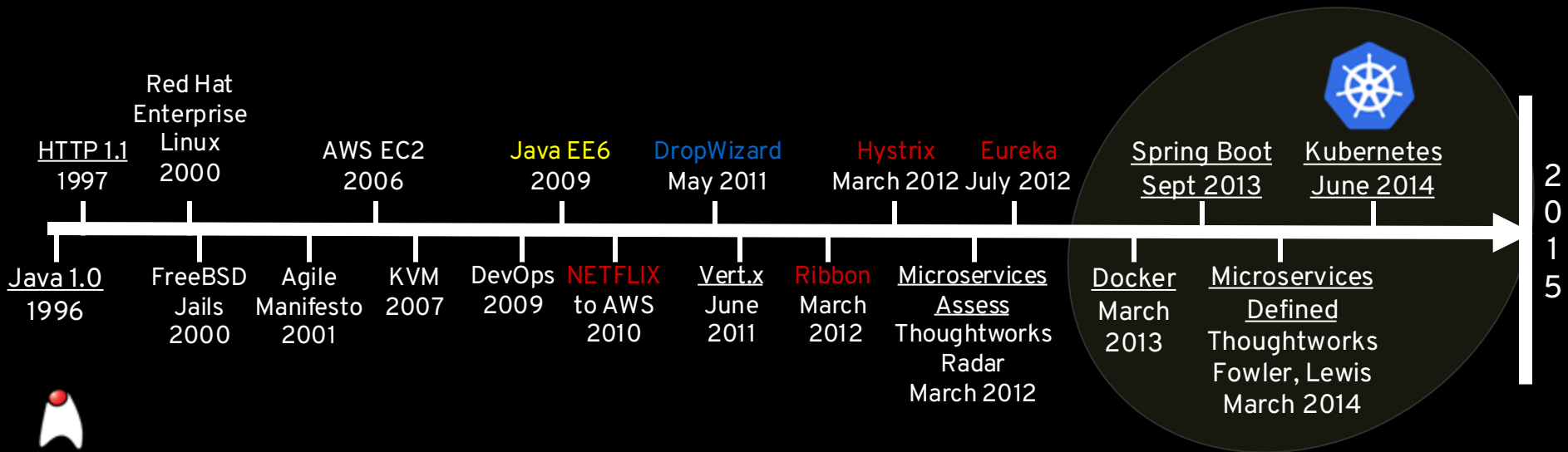
10's

Bots



20's

Journey to Cloud Native



OpenShift 3.0 on Kubernetes

2015 JBoss Red Hat Keynote Demo



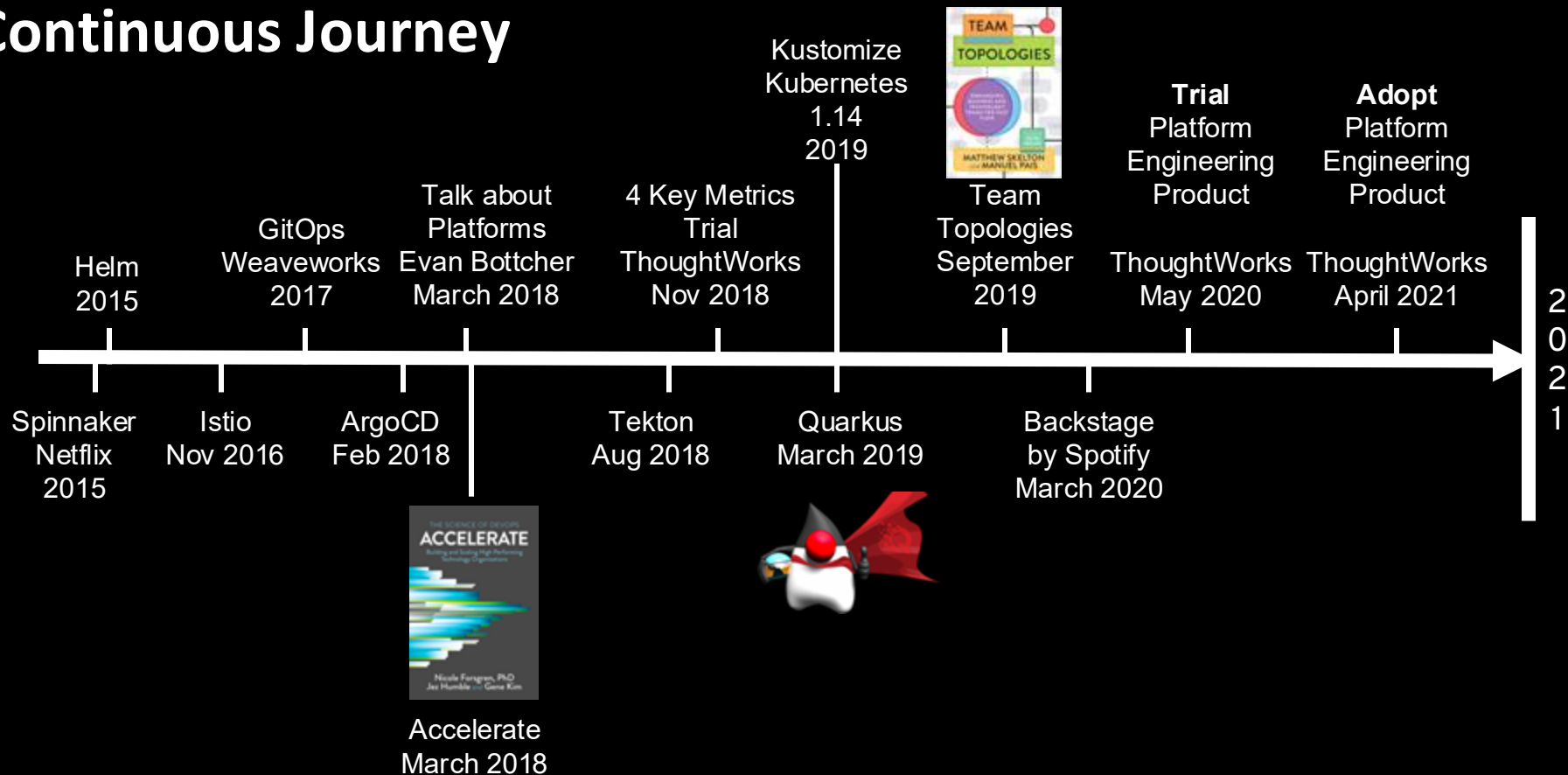
2015

Launch 1000+
Containers

Audience
Claims a
Container

<https://www.youtube.com/watch?v=GCTpncA0Ea0&feature=youtu.be&t=1031>

Continuous Journey



On November 30, 2022, OpenAI released ChatGPT

As a free public "research preview," which quickly went viral on social media.

The launch made advanced AI accessible to the public,
leading to massive user adoption (over a million users in less than a week)

Gartner Says Worldwide AI Spending Will Total \$1.5 Trillion in 2025

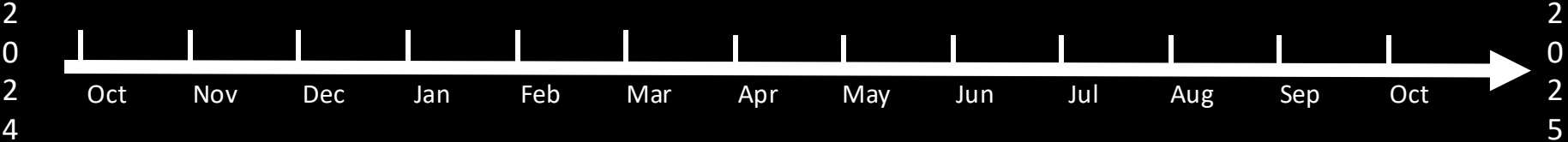
STAMFORD, Conn., September 17, 2025

Continuous Demand for AI Is Expected to Fuel Investments in IT Infrastructure

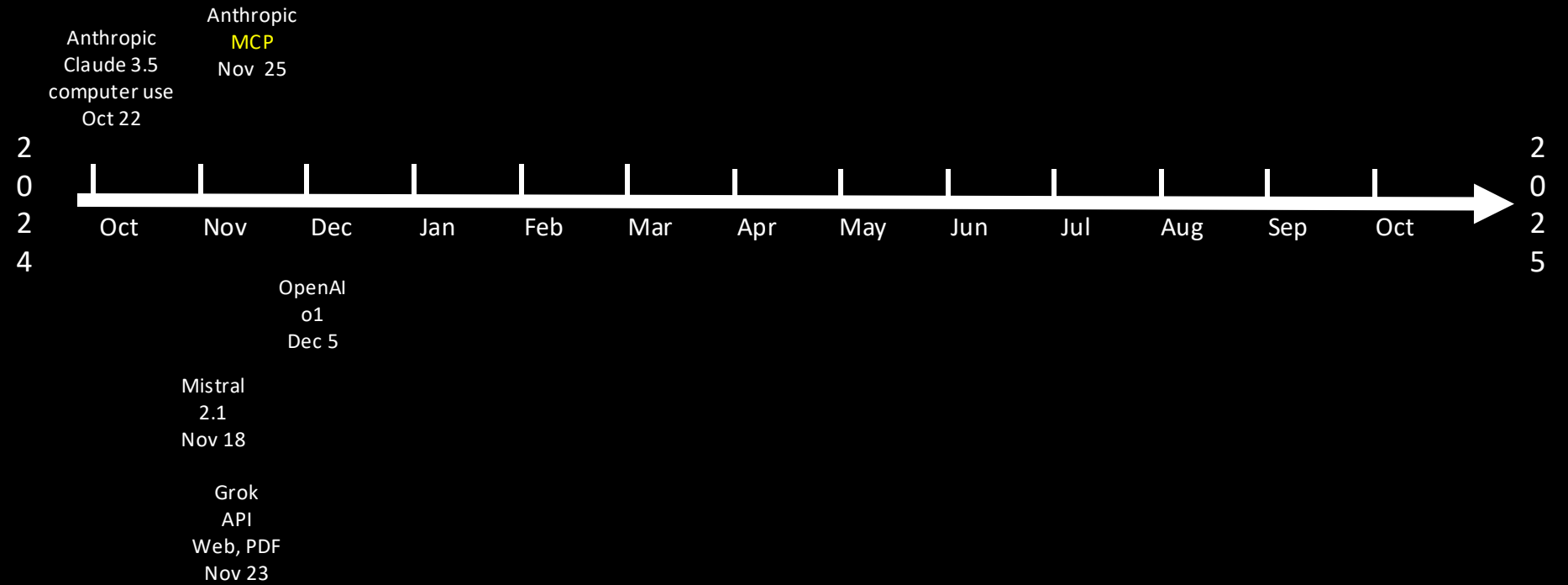
Worldwide spending on AI is forecast to total nearly \$1.5 trillion in 2025 according to Gartner, Inc. a business and technology insights company.

<https://www.gartner.com/en/newsroom/press-releases/2025-09-17-gartner-says-worldwide-ai-spending-will-total-1-point-5-trillion-in-2025>

Andrew Ng
Agentic
June
2024

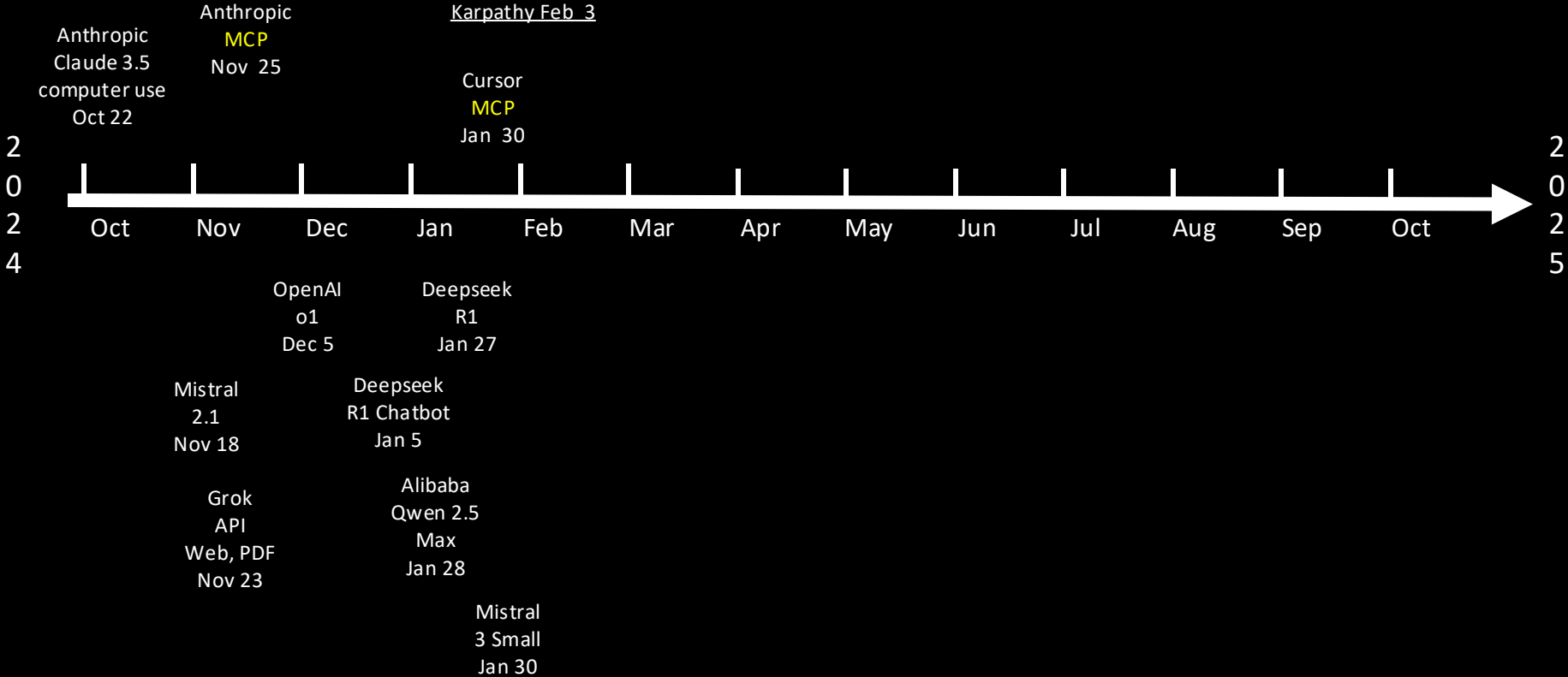


Andrew Ng
Agentic
June
2024

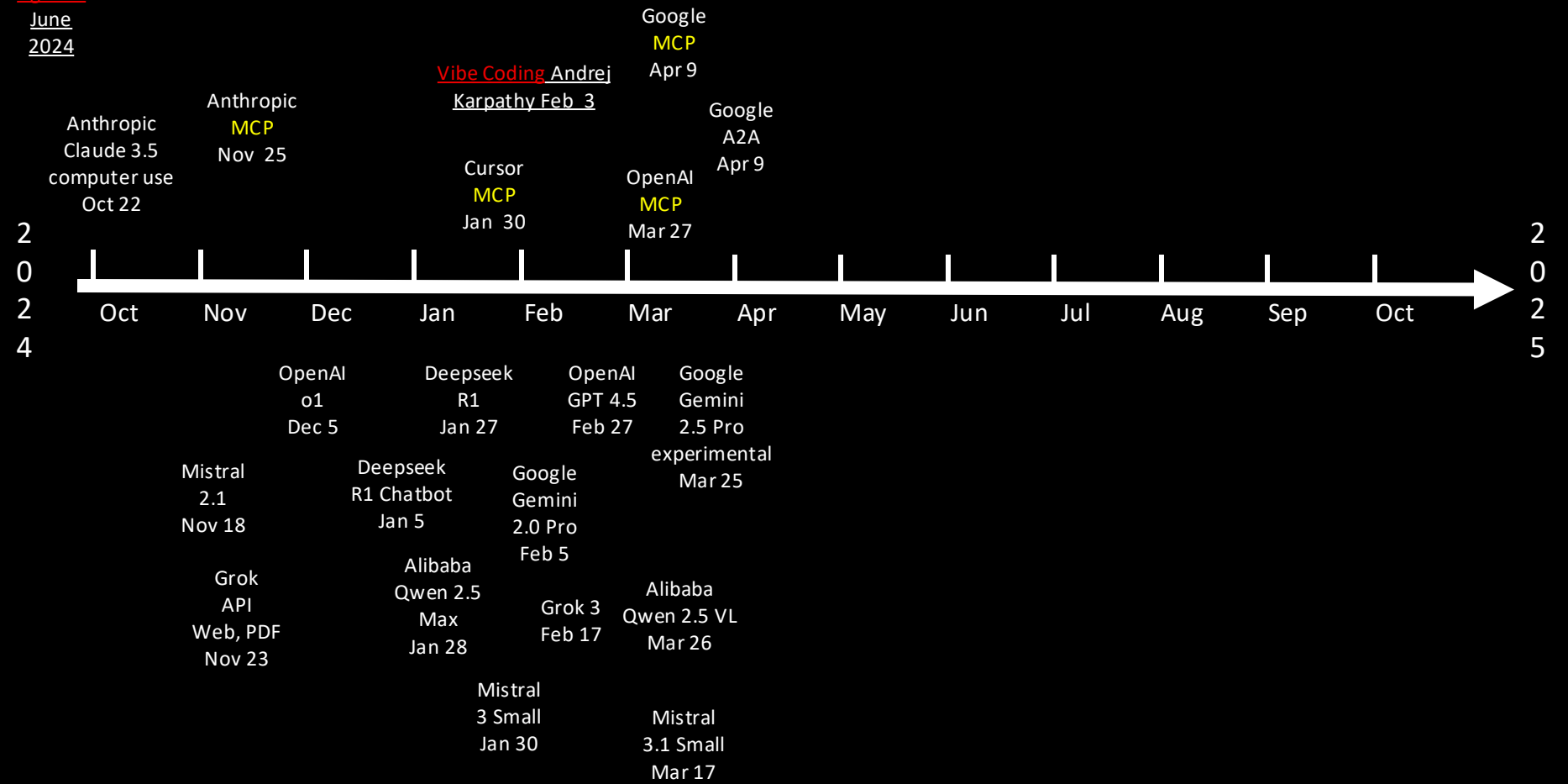


Andrew Ng
Agentic
June
2024

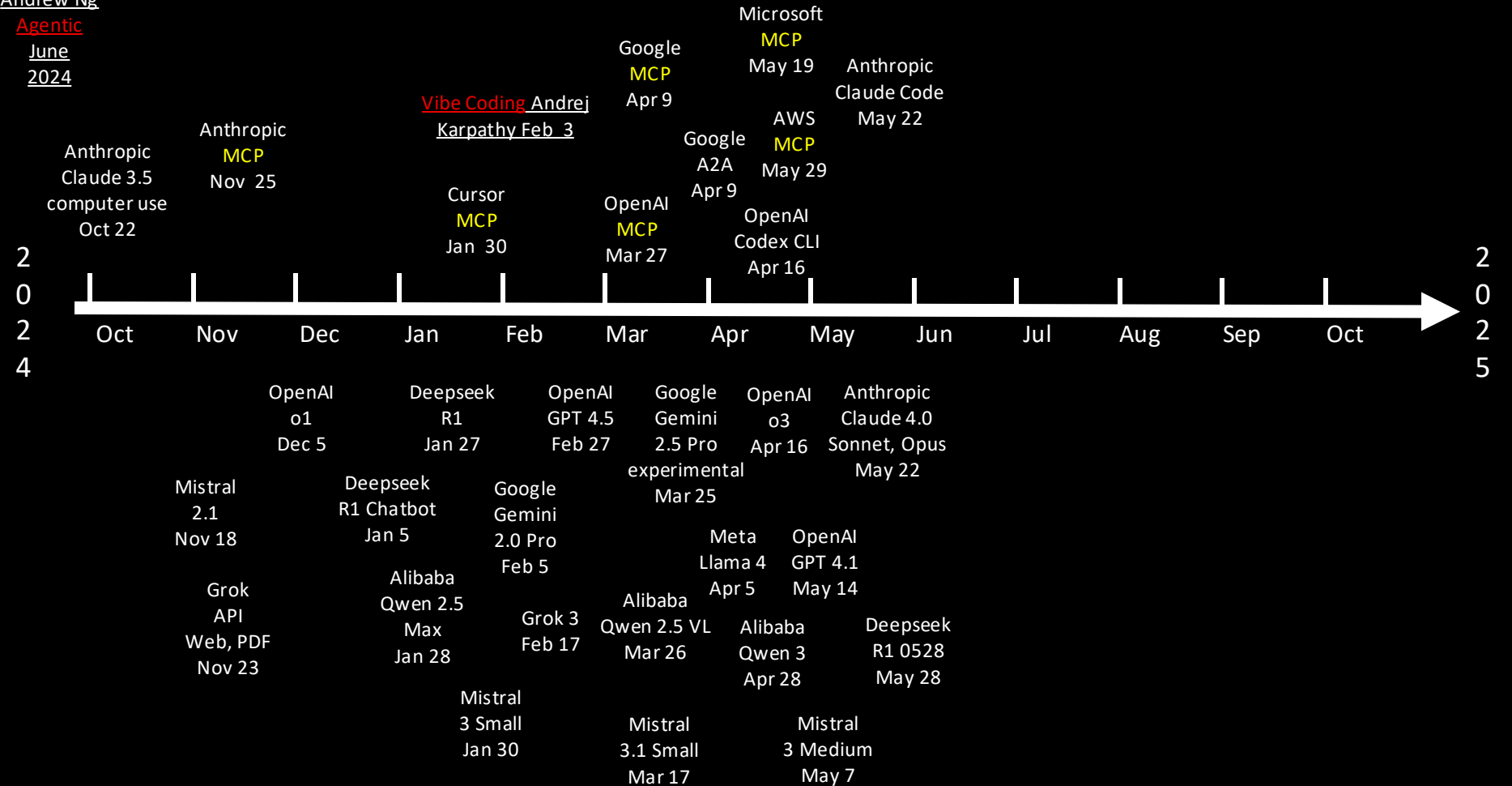
Vibe Coding Andrej
Karpathy Feb 3



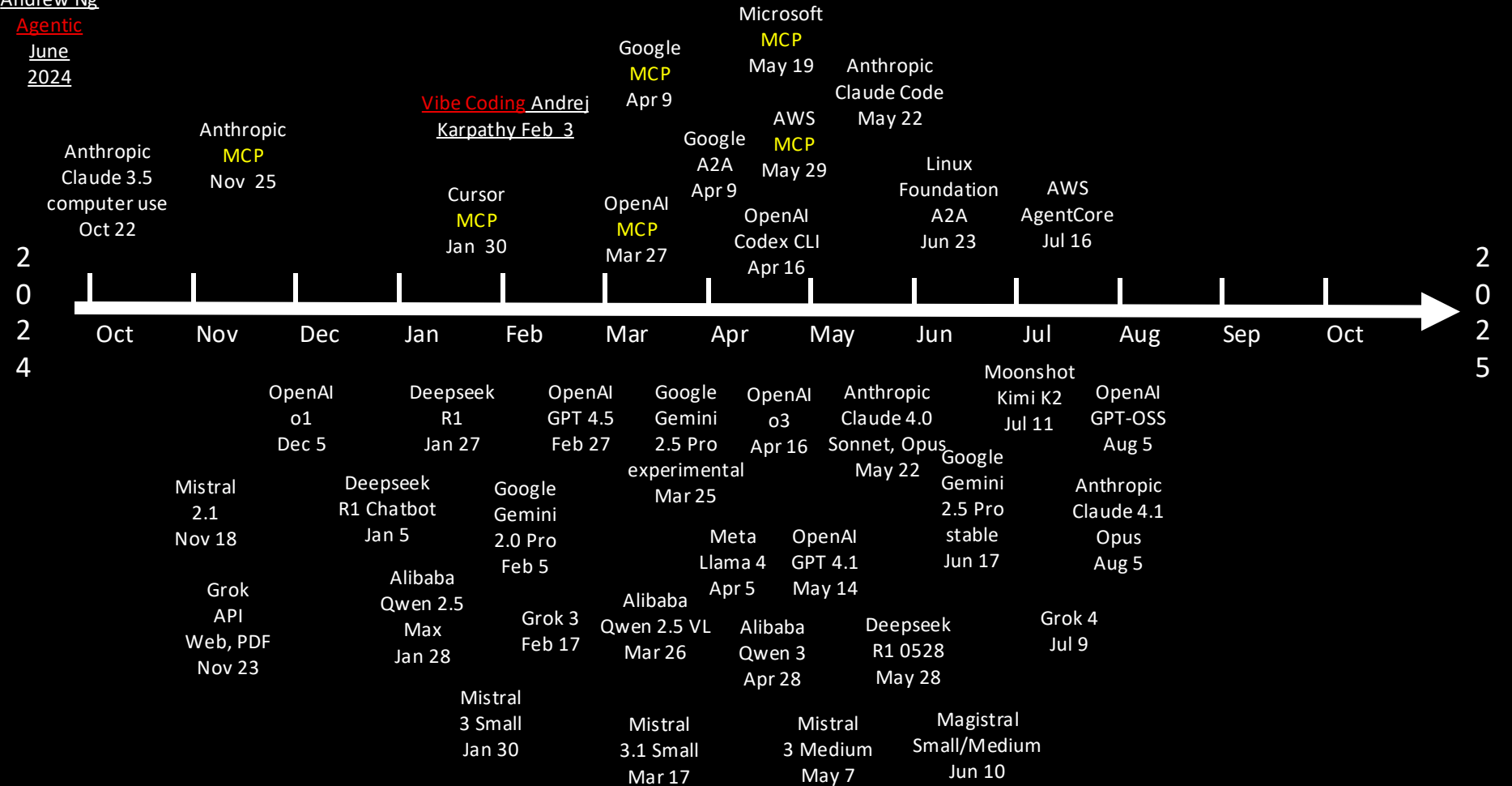
Andrew Ng
Agentic
June
2024



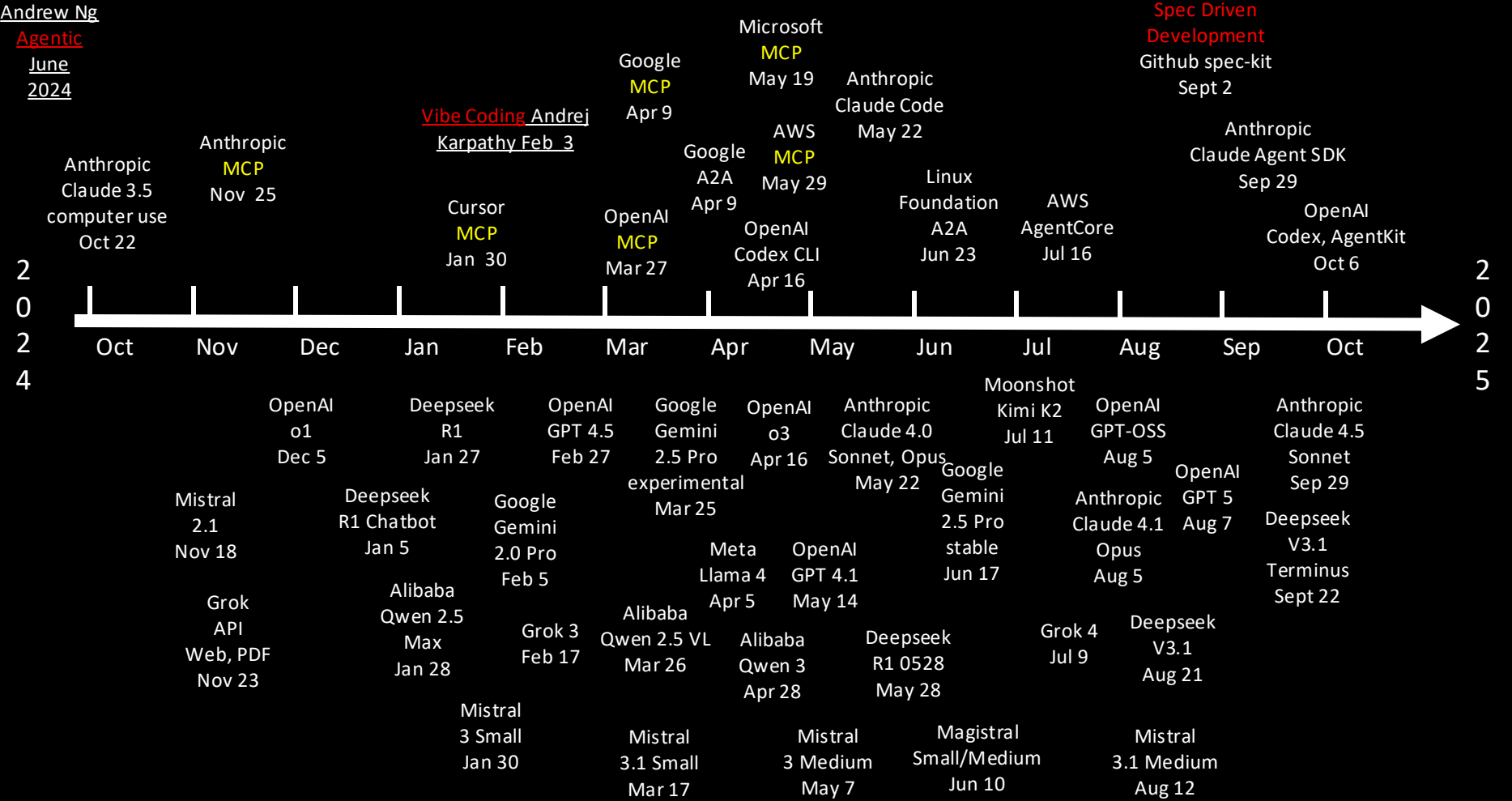
Andrew Ng
Agentic
June
2024



Andrew Ng
Agentic
June
2024



Andrew Ng
Agentic
June
2024



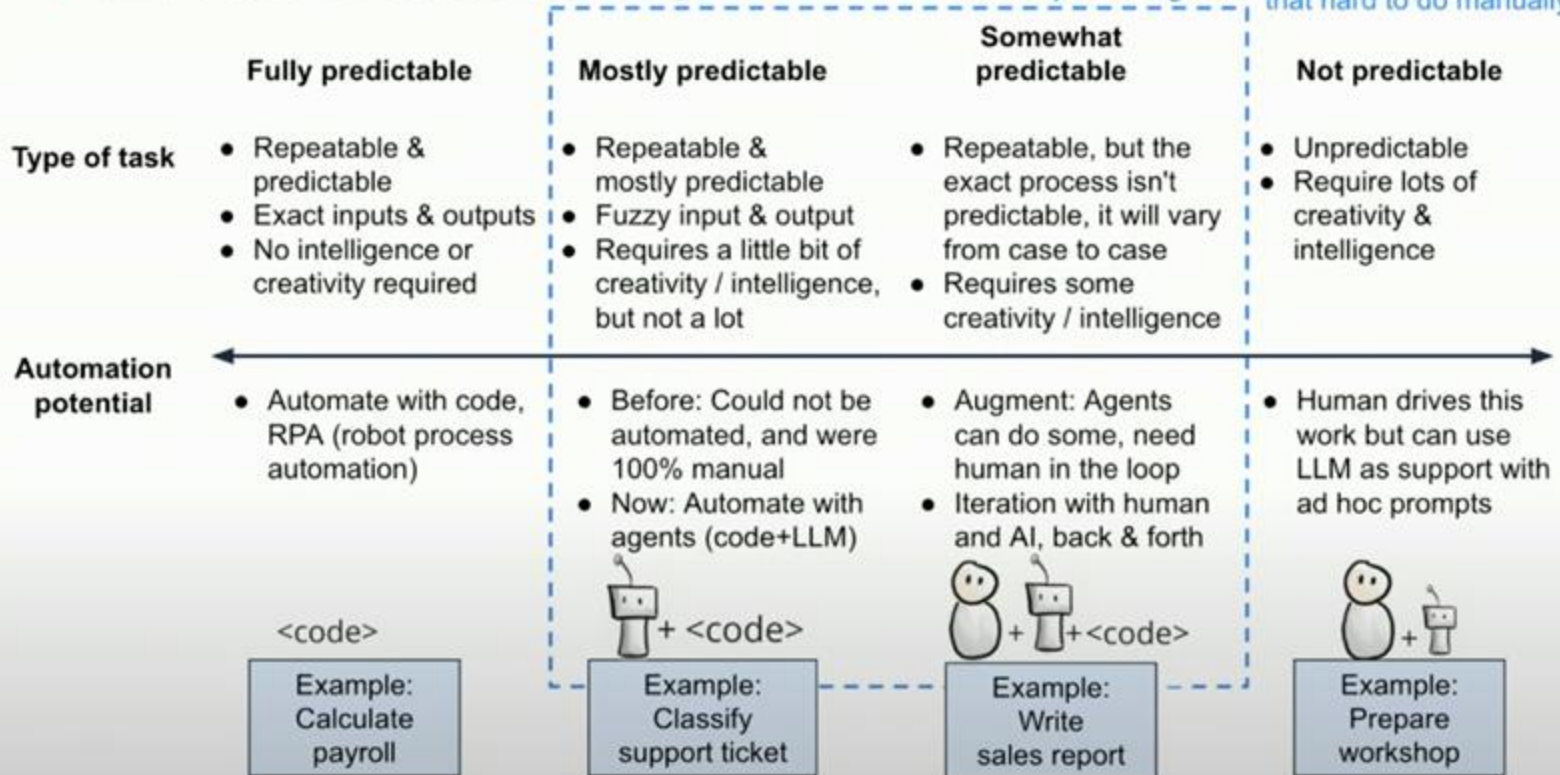




The scale of automatability

- Known, existing workflows
- Manual, time-consuming and boring work that is not actually that hard to do manually

Sweet-spot for agents



Fully Predictable

Known inputs
Verifiable outputs
Repeatable
Frequent

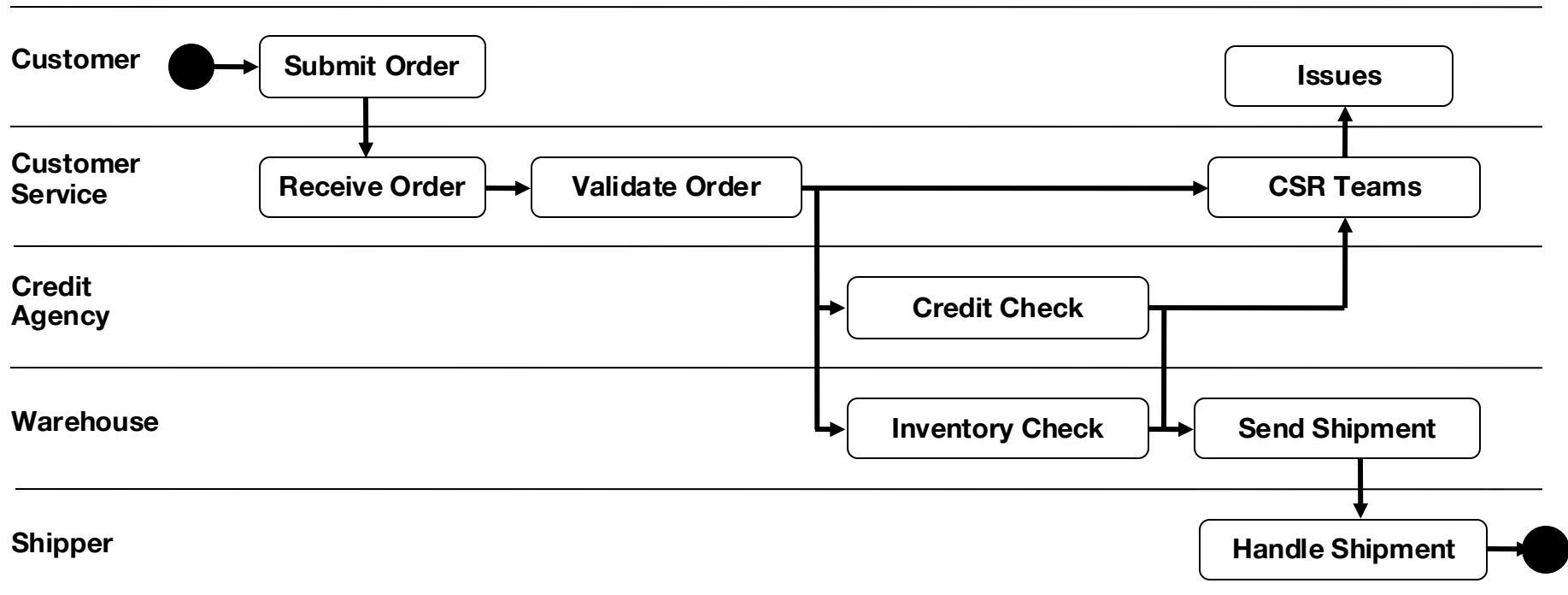
Not Predictable

Unknown inputs
Bespoke outputs
Not repeatable
Less frequent

Debit/Credit GL
Deposit check
Update inventory
Ship goods

Tell me a story
Write a poem
Create a workshop
Vacation Planning

Order Handling Process



Fully Predictable

Known inputs
Verifiable outputs
Repeatable
Frequent

Semi-Predictable

Manual, time-consuming
Often repeatable
Previously difficult to automate
Natural language inputs & outputs
Human-in-the-loop

Not Predictable

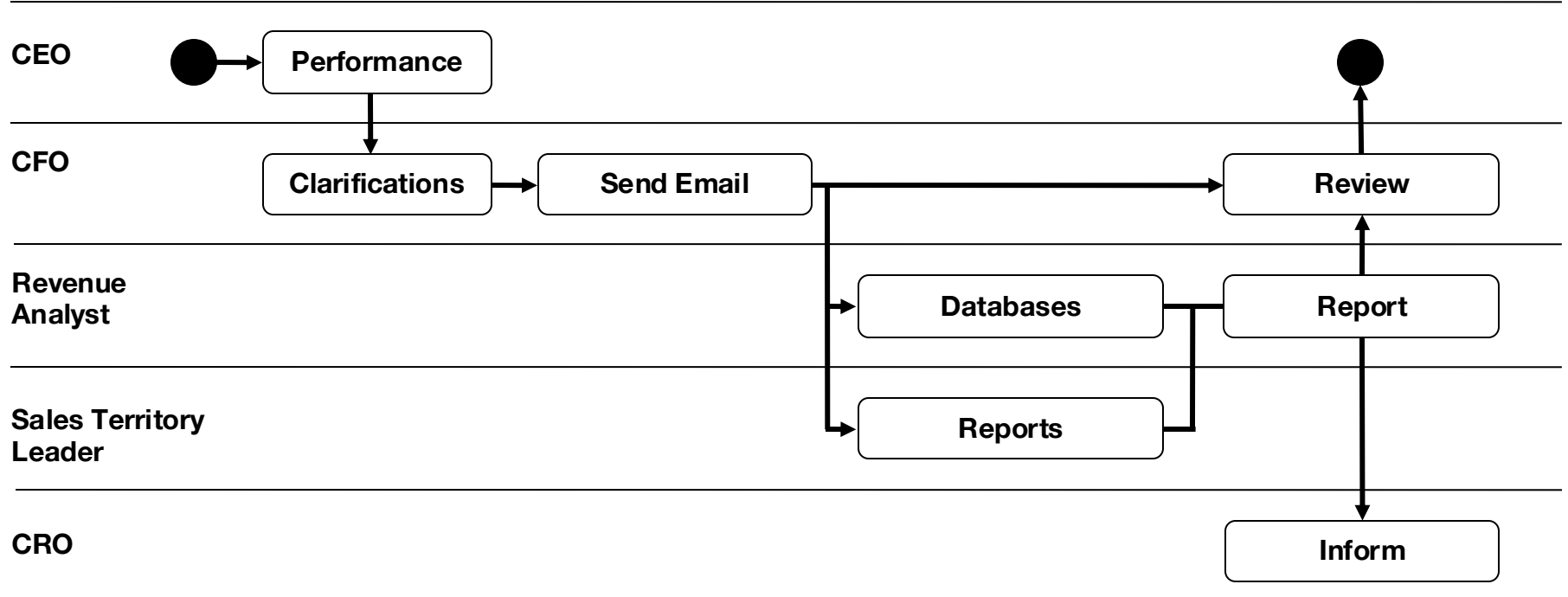
Unknown inputs
Creative outputs
Not repeatable
Infrequent

Debit/Credit GL
Deposit check
Update inventory
Ship goods

Help Desk
Research
Analysis

Tell me a story
Write a poem
Create a workshop
Vacation Planning

Revenue Performance Workflow



Your Journey to LLM Awesomeness



Prompt

Your Journey to LLM Awesomeness



Prompt



Structured
Output

Your Journey to LLM Awesomeness



Prompt



Structured
Output



Tools
MCP

Your Journey to LLM Awesomeness



Prompt



Structured
Output



Tools
MCP



RAG

Your Journey to LLM Awesomeness



Prompt



Structured
Output



Tools
MCP



RAG



Patterns

(Evals,
LLM-as-a-judge,
maker-checker,
ReAct)

Your Journey to LLM Awesomeness



Prompt



Structured
Output



Tools
MCP



RAG



Patterns

(Evals,
LLM-as-a-judge,
maker-checker,
ReAct)



Agents

(planning,
orchestration,
retries, error-
correction)

Models

LLMs - different sizes and capabilities



LLMs - different super powers



THE AI TEAM



THE AI TEAM



Dejan Kulusevski



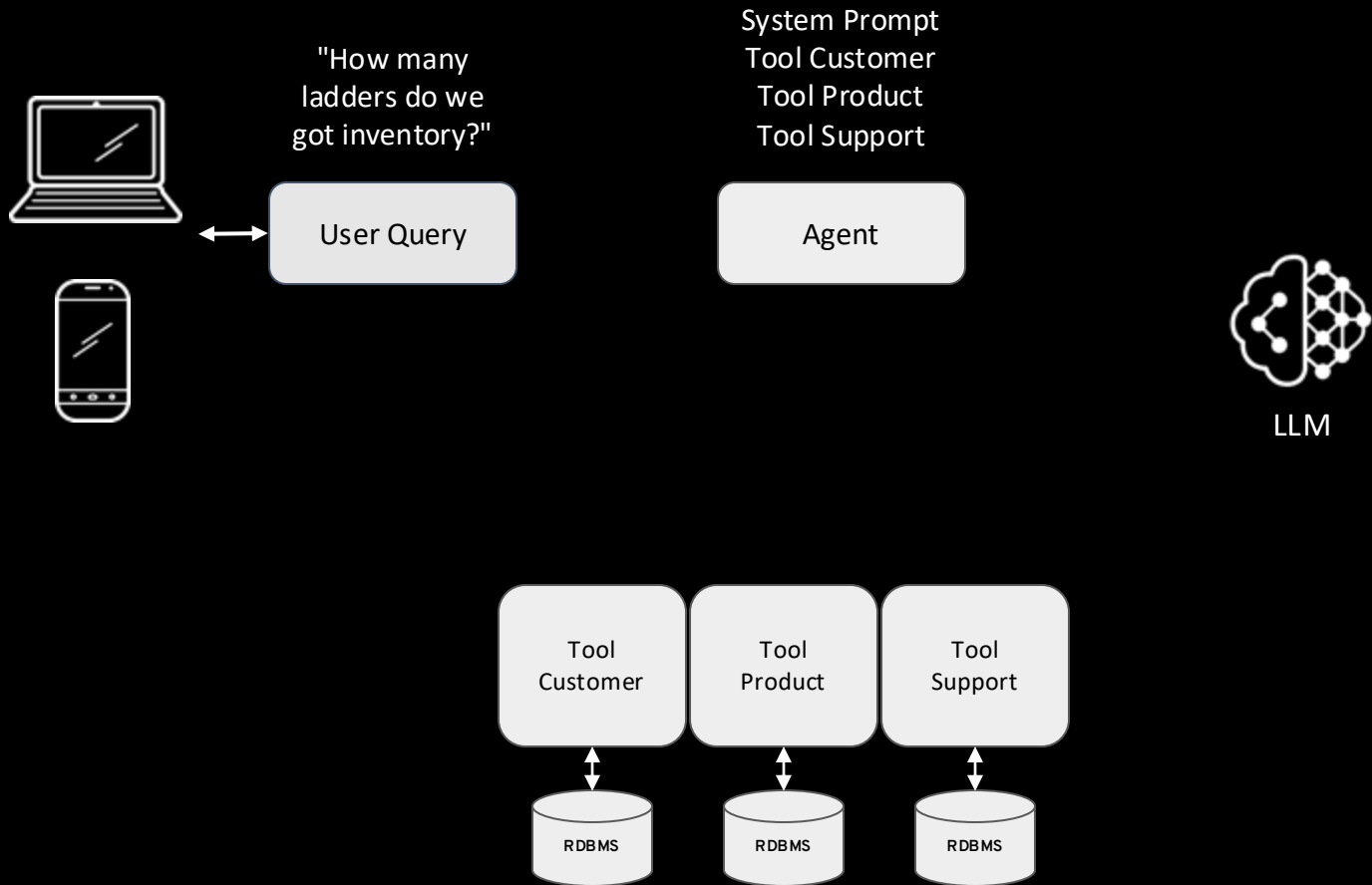
Alexander Isak

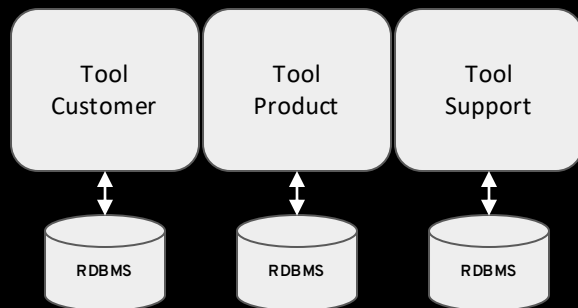
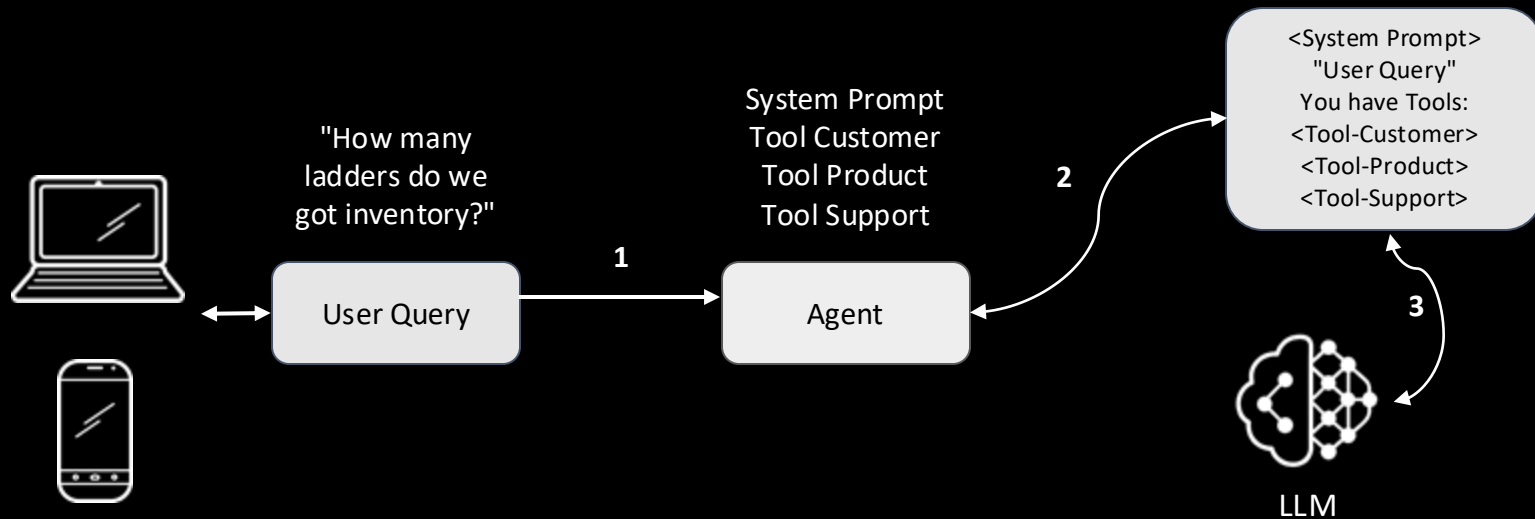


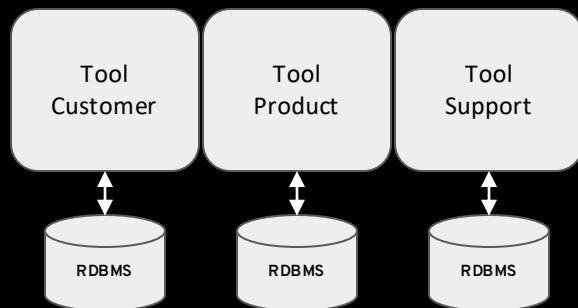
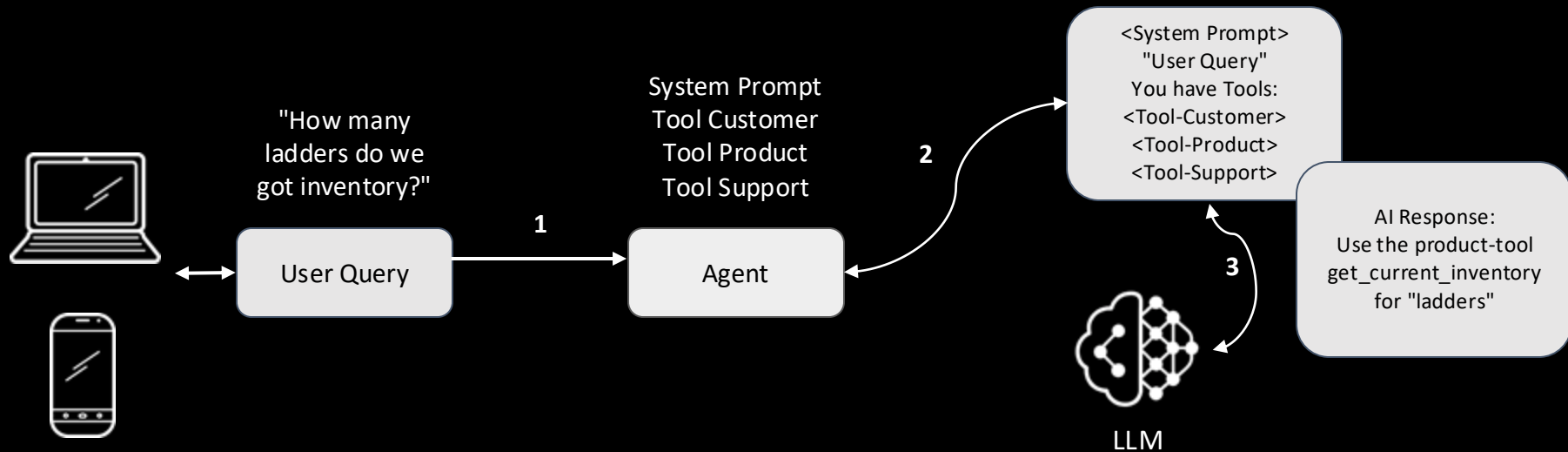
Viktor Gyökeres

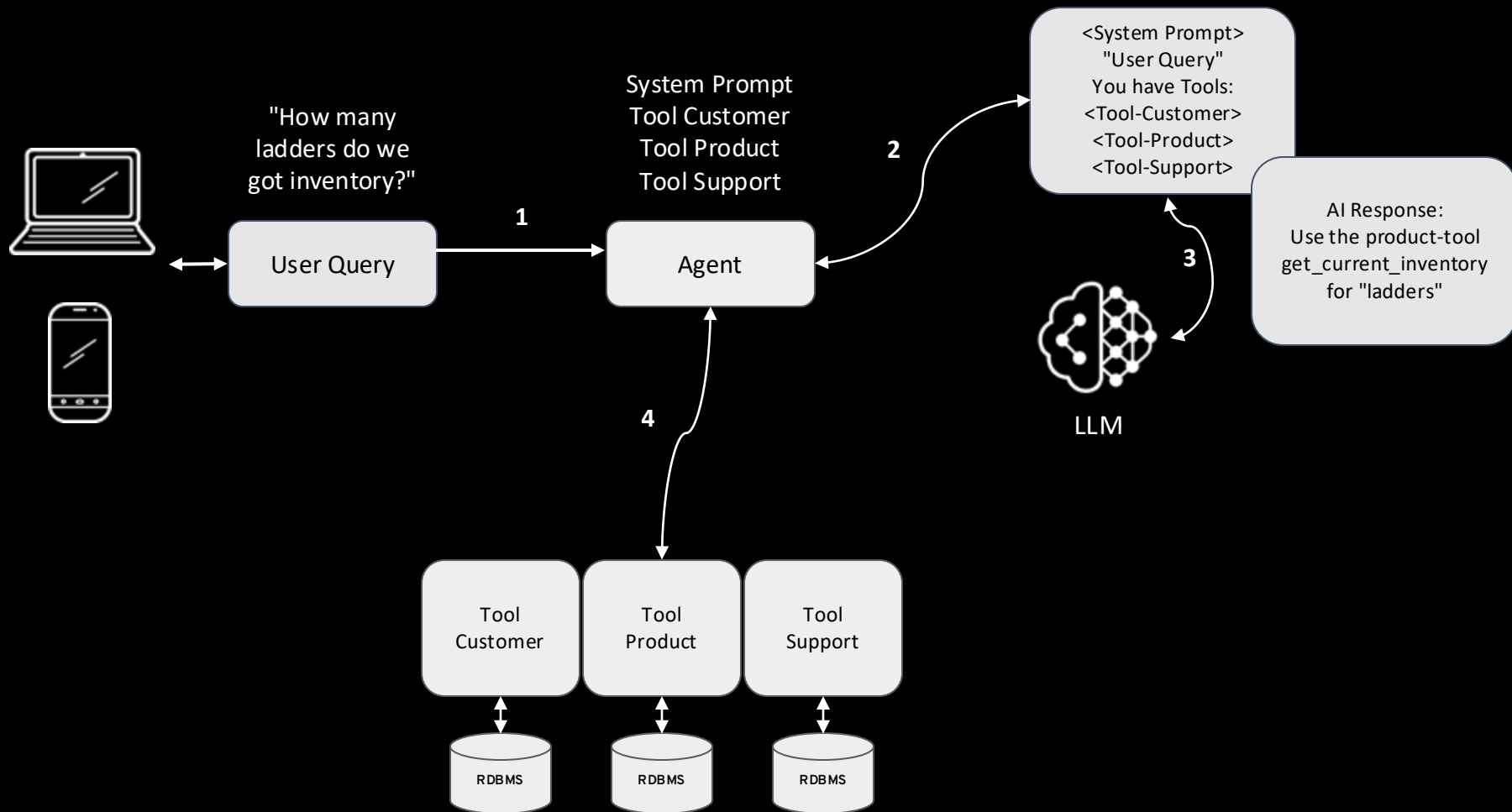
Tools

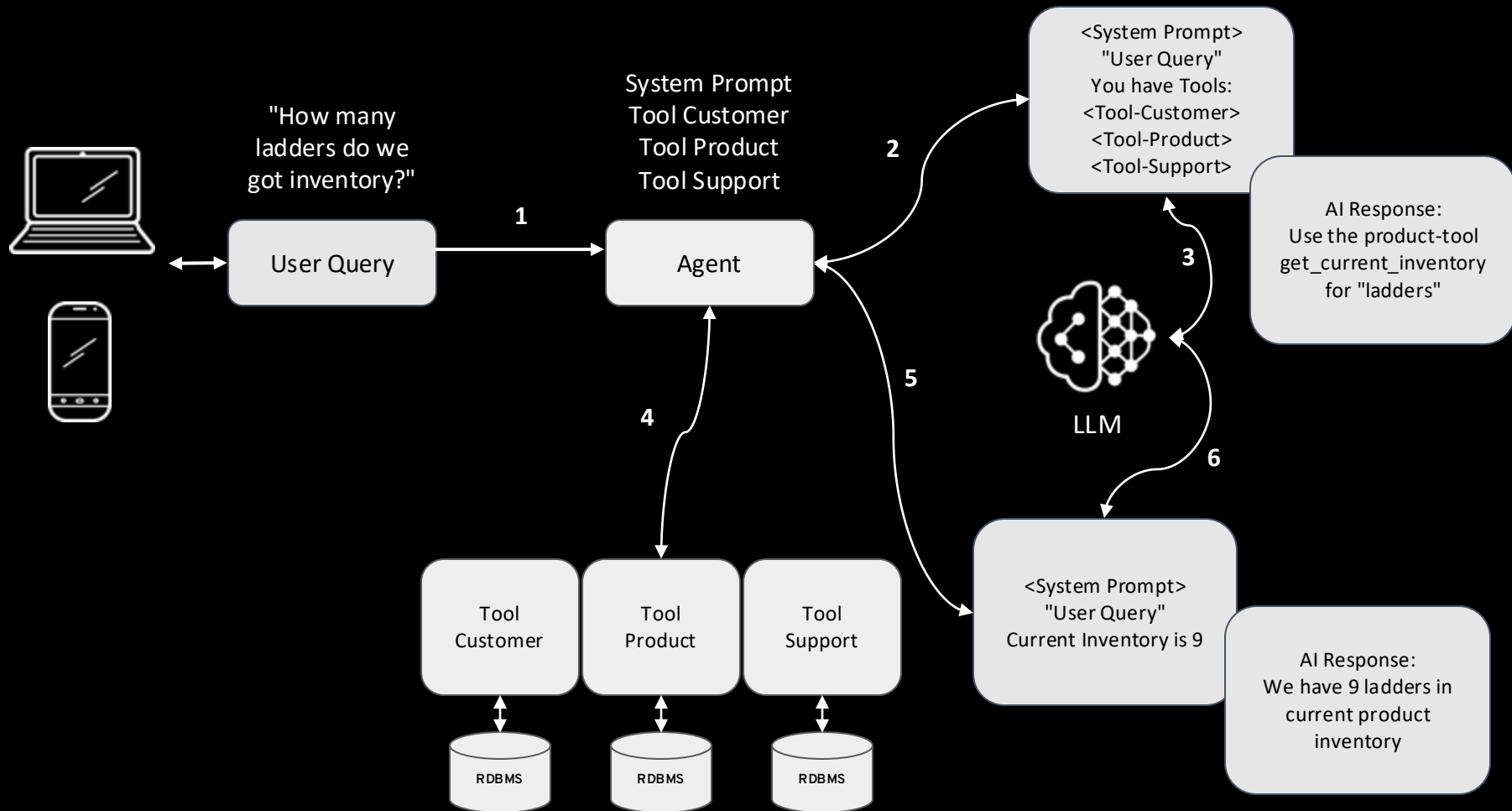
(dynamic data, actions)

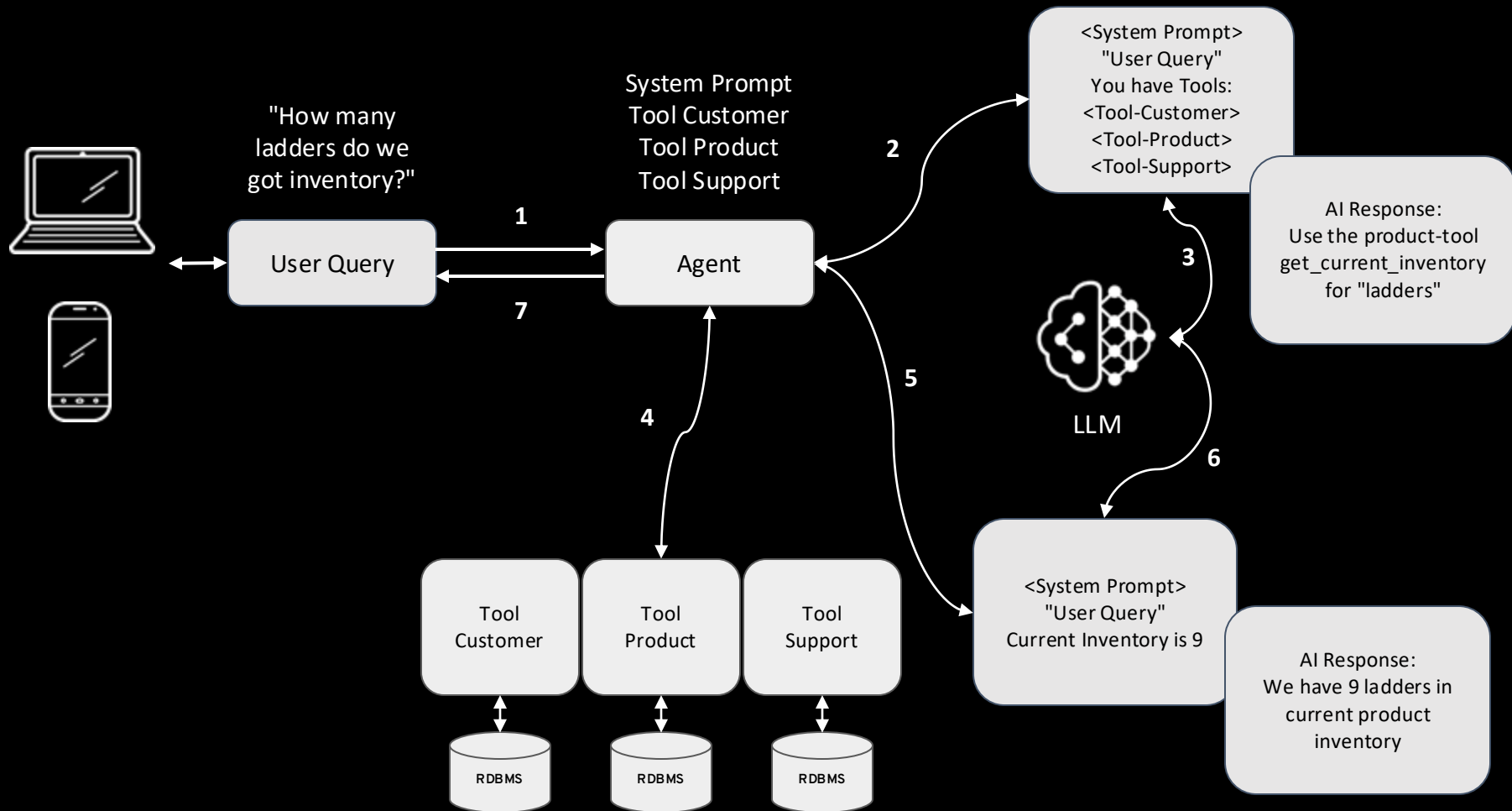




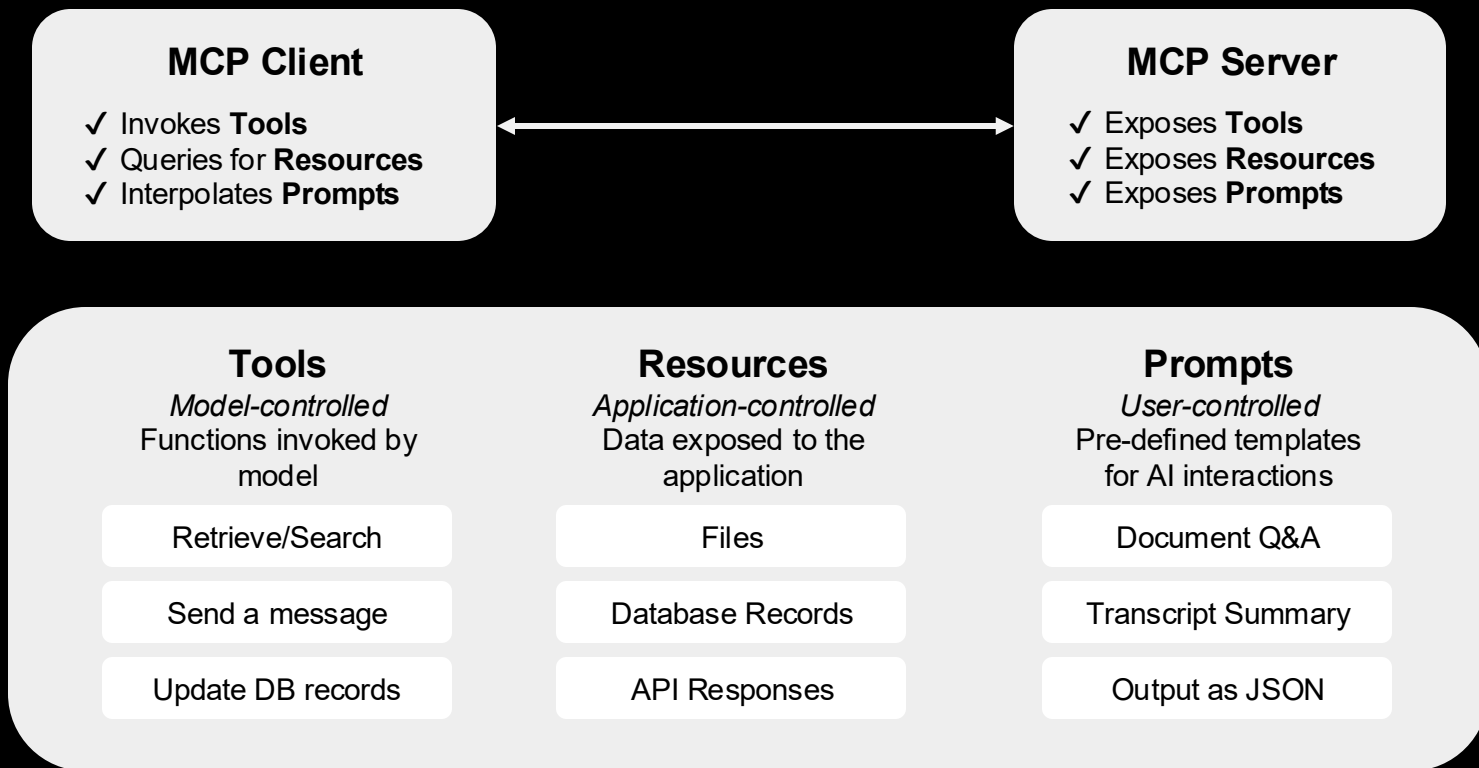








Model Context Protocol (MCP)



Cheetah Habitat and Hunting Patter...

any interesting trends? please graph

Let me analyze our cheetah tracking data for some interesting trends and create a dashboard to visualize them!

R read_query

R read_query

R read_query

R read_query

R read_query

WildTrack Cheetah Conservation Dashboard

Interactive artifact

Interesting Trends in Cheetah Tracking Data

Based on our analysis, I've identified several fascinating patterns in the cheetah tracking data:

1. Gender-based hunting success: Male cheetahs in our study show a slightly higher hunting success rate (57.14%) compared to females (50%)

ugh the sample size is relatively small.

Reply to Claude...

Sonnet 4

WildTrack Cheetah Conservation Dashboard

Hunting Success by Gender

Males show slightly higher hunting success rates (57.14%) compared to females (50%)

Gender	Success Rate
Female	50%
Male	57.14%

Hunting Success by Habitat

Grasslands show highest success rates (75%), while no successful hunts in Scrubland

Habitat	Success Rate
Grasslands	75%
Savanna	50%
Scrubland	0%

what is thomashardy@example.com order history?

Order History (3 orders total):

1. Order #ORD-008

Date: January 30, 2024

Amount: \$59.99

Status: PENDING

2. Order #ORD-003

Date: January 25, 2024

Amount: \$89.99

Status: PENDING

3. Order #ORD-004

Date: January 10, 2024

Amount: \$199.99

Status: DELIVERED

Summary:

Total Orders: 3

Total Value: \$349.97

Delivered: 1 order (\$199.99)

Pending: 2 orders (\$149.98)

Thomas Hardy has two orders currently pending (ORD-008 and ORD-003) and one successfully delivered order (ORD-004).

1 Tab

8.8%

Plan, search, build anything

Go Agent

claude-4.5-sonnet

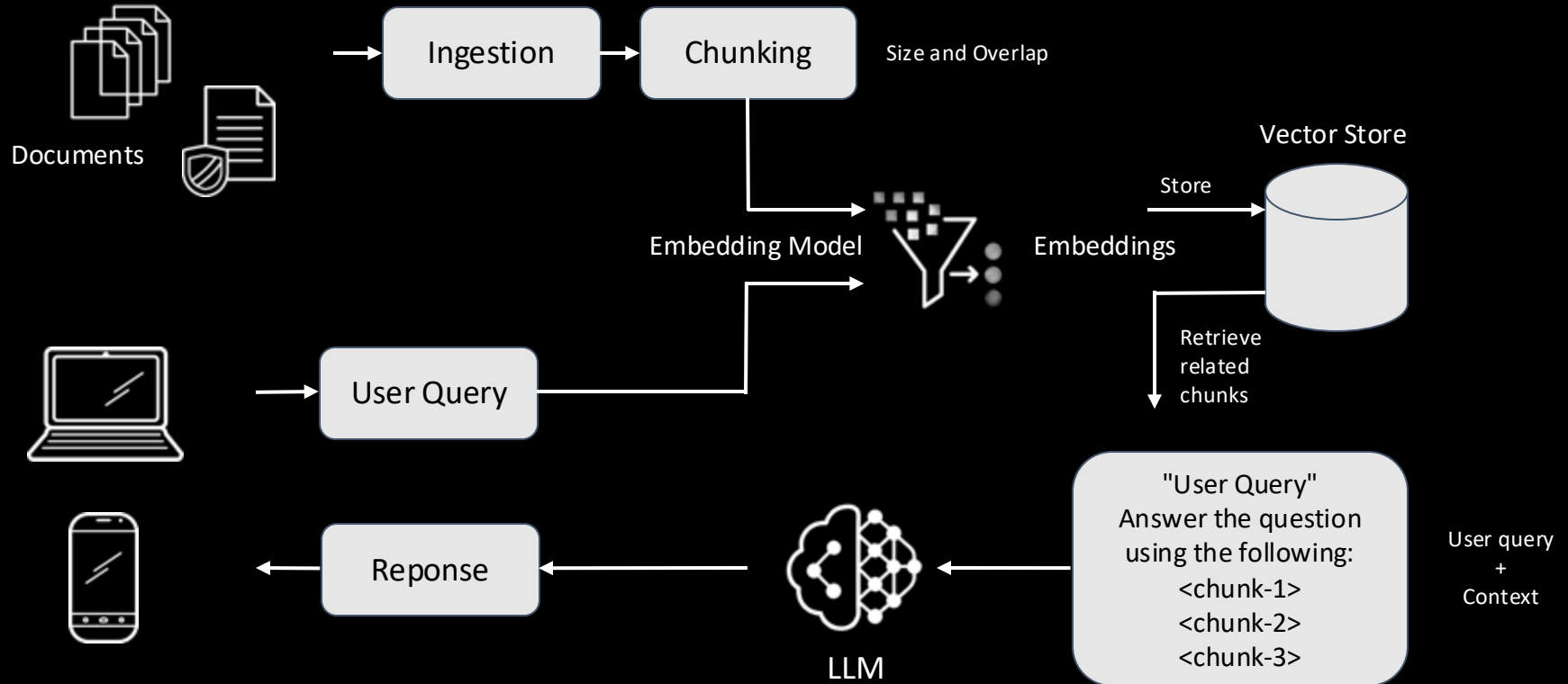
LLMs - Too many tools to juggle?





RAG
(Knowledge)

Naive RAG



Tables, graphs or hand-writing- look at tools like Docling or VLM

Playground

Chat

Upload Documents

Inspect

Configuration

Model

llama-3-2-3b-instruct... ▾

Processing mode ⓘ

☒ Direct

Directly calls the model with optional RAG.

☐ Agent-based

Uses an Agent (Regular or ReAct) with tools.

Chat



How can I help you?



what are my HR benefits?



I'd be happy to help you with your HR benefits. However, I need some more information from you to provide a more accurate answer.

Could you please provide me with the following details:

1. Your company name or industry
2. Your job title or position

Ask a question...







ACME Corp

123 Your Street
Your City, ST 12345
(123) 456-7890

Time Sheet

Name: Jack Jones
Timeframe: Week of 9/4/2024 - 9/8/2024
Submitted on: 9/8/2024

	Mon Sep 4	Tue Sep 5	Wed Sep 6	Thu Sep 7	Fri Sep 8	Totals
Check-in Meetings	1.00	2.50	2.00		1.00	6.50
Research		2.50		5.00	2.00	9.50
Graphic Design	6.00	3.00	3.50	0.50	5.00	18.00
Integration Session	1.00		4.00			5.00
Total hrs	8.00	8.00	9.50	5.50	8.00	39.00
Billing rate (hourly)						140.00
						\$5,460.00

2. In consideration of the worked performed by Contractor pursuant to an SOW Agreement, Contractor shall be paid for services performed on a time and materials basis in accordance with the following schedule of rates. For fixed price deliverables, Contractor shall be paid in accordance with the payment schedule included in the applicable SOW Agreement. All rates shall be inclusive of any and all fees and expenses, including mileage.
3. If the State Authorized Representative approves in writing in advance Contractor Personnel working remotely, at a location other than as directed by the State, all Contractor Personnel hours worked remotely must be clearly reported as remote and invoiced at the appropriate remote rate.

IT Service Category	Title of Positions	Hourly Rate	
		On-Site	Remote
A. Business Analyst/PM			
	Program Manager	\$225	\$205
	Senior Project Manager	\$220	\$200
	Project Manager	\$195	\$185
	Senior Business Analyst	\$195	\$180
	Business Analyst	\$175	\$160
E. Enterprise GIS Services			
	Program Manager	\$225	\$205
	Senior Project Manager	\$220	\$200
	Project Manager	\$195	\$185
	Senior Technical Consultant	\$210	\$195
	Technical Consultant	\$195	\$185
	Data Architect	\$250	\$235
	Enterprise Architect	\$250	\$235
	Application Architect	\$240	\$220
	Solution Architect	\$240	\$220

21 of 68



Photography Invoice

INVOICE

Invoice #: 12074

Invoice date: 7/19/24

Job Details: Photo Shoot

123 Street Name
Denver, CO 80205
P: 555-555-5555
email@samplebusiness.com

Bill to: Customer Name
Address: 123 Street Name
Denver, CO 80205
Phone: 555-555-5555

Description	Qty	Unit price	Discount	Price
Wedding Ceremony Photos	1	\$1,500.00		\$1,500.00
Bride & Groom Portraits	1	\$500.00		\$500.00
Engagement Photoshoot	1	\$300.00		\$300.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00

Invoice Subtotal \$2,300.00
Tax Rate 6.00%
Sales Tax \$138.00
Deposit Received \$50.00
TOTAL \$2,388.00

Please make all checks payable to Wedding Photography.
email@samplebusiness.com | www.samplebusiness123.com



Union Physician Services

Patient Intake Form

Last Name: McCauley First Name: Kate MI: D Date of Birth: 5/9/70

Age: 54 Male or Female: F Social Security #: 869-31-0721

Home Address: 123 Great Expeditions Lane, Raleigh, NC 27619

Street City State Zip

Home Phone: 919-372-5555 Cell Phone: same Work Phone: N/A

Email Address: kate@greatexpeditions.com

Employer: N/A Primary Language Spoken: Eng.

Ethnicity: ☒ Non-Hispanic ☐ Hispanic ☐ Other

Race: ☐ African American ☐ Asian ☒ Caucasian ☐ Hispanic ☐ Native American ☐ Other

Referring Doctor: N/A

Marital Status: ☒ Married ☐ Single ☐ Widowed ☐ Divorced

Spouse Name: C. Gray Date of Birth: 12/21/68

Insurance Co: United Policy #: 3376-051 Group #: 034-F

Subscribers Name: Patty Gray SSN: 072-44-63 DOB: 12/21/68

Address if Different than Patient: Phone: 919-639-0737 Relationship to Patient: Spouse

Street City State Zip

Insurance Co: N/A Policy #: _____ Group #: _____

Subscribers Name: _____ SSN: _____ DOB: _____

Address if Different than Patient: Phone: _____ Relationship to Patient: _____

Street City State Zip

Emergency Contact (EC) / Release of Information (ROI) - Please Check the Boxes that Apply:

Name of Person to Contact in case of Emergency/ or we may release information to:

Name: Virginia Patel Phone: 919-241-1777 Relationship: Mother ☒ EC ☐ ROI

Name: _____ Phone: _____ Relationship: _____ ☐ EC ☐ ROI

Name: _____ Phone: _____ Relationship: _____ ☐ EC ☐ ROI

Communication: ☐ Message may be left ☐ Answering Machine ☐ Family Member

Living Will? ☒ N ☐ Y Durable Power of Attorney? ☒ N ☐ Y (if yes) Name: _____

Phone: _____

Relationship: _____

Date: 3/28/25

Print: Kate McCauley Signature: Kate McCauley

Vision Models

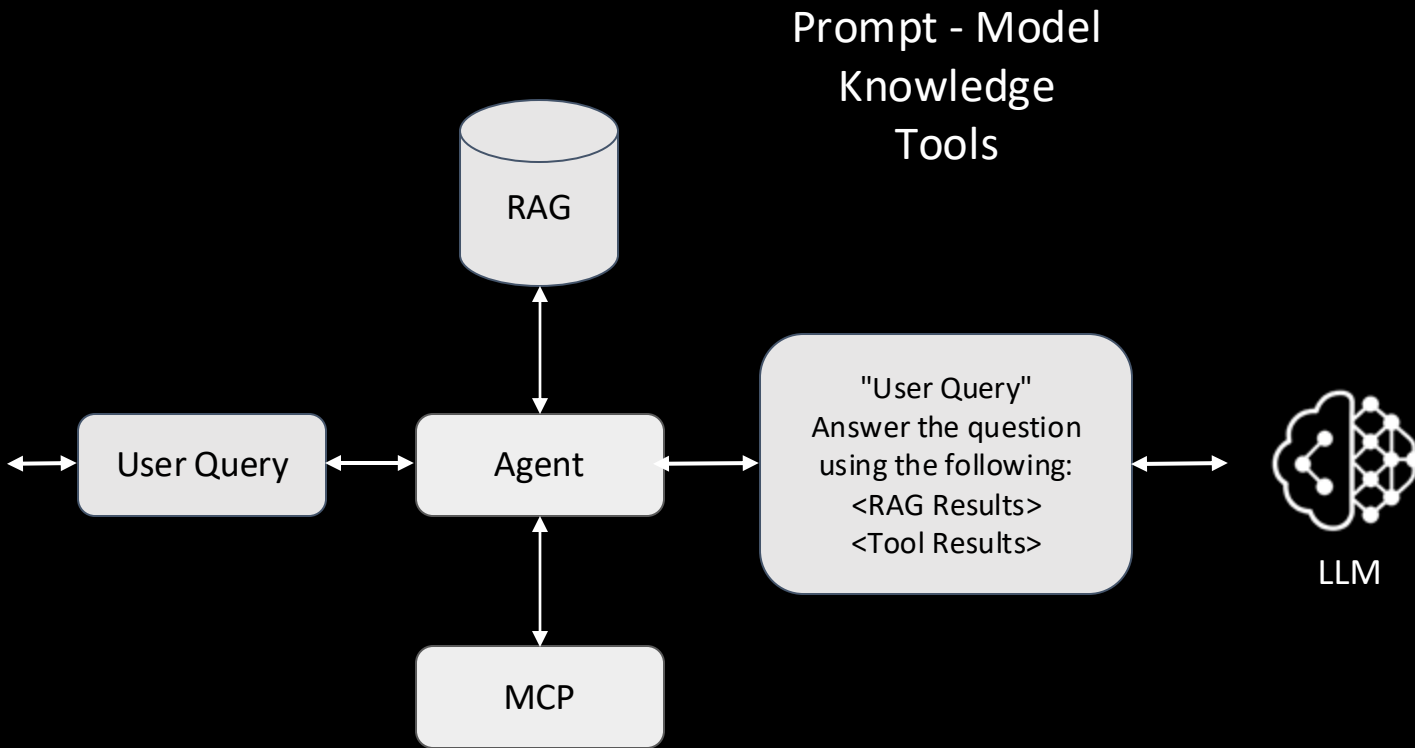
<https://ollama.com/library/llama3.2-vision:11b-instruct-fp16>

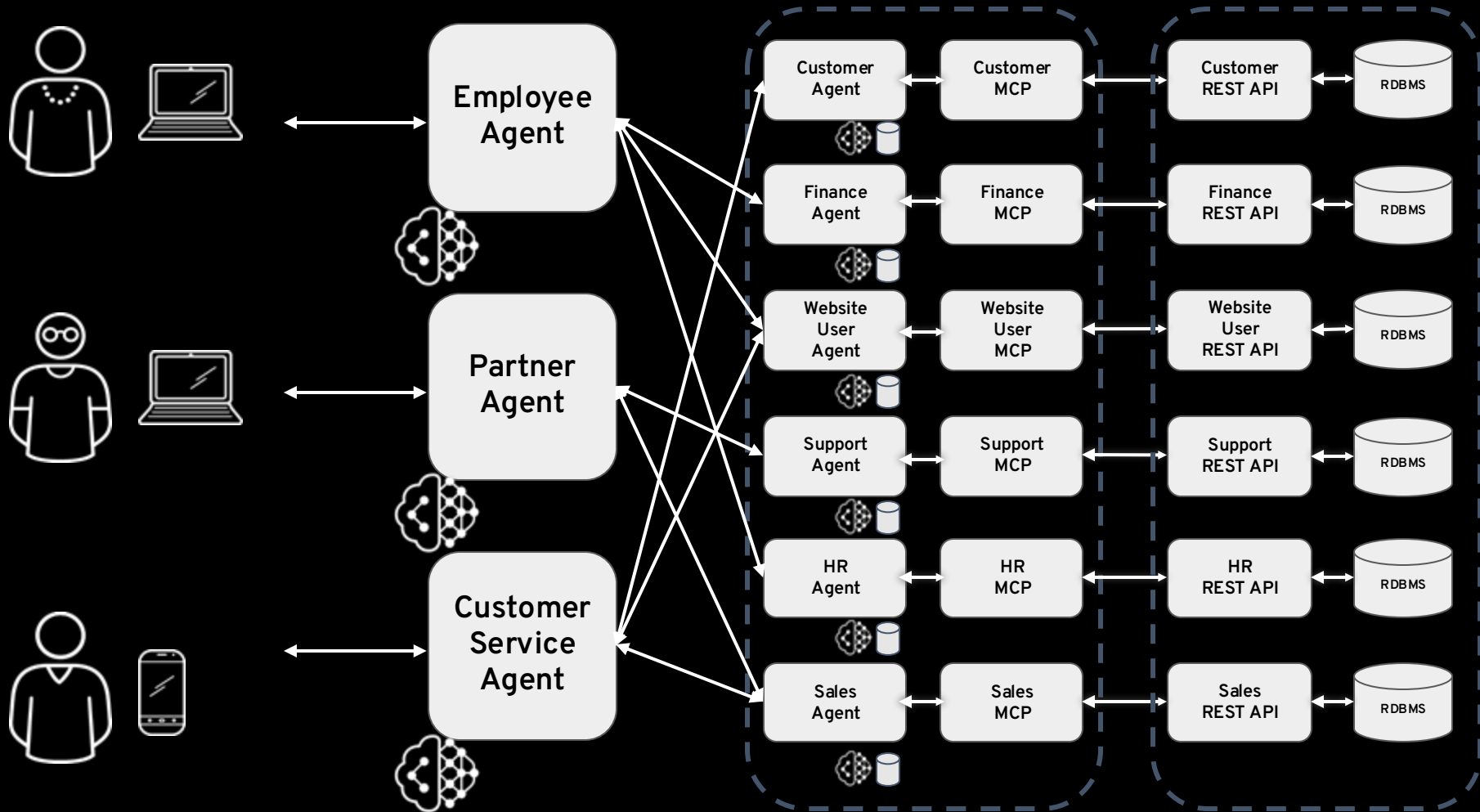
<https://ollama.com/library/granite3.2-vision>



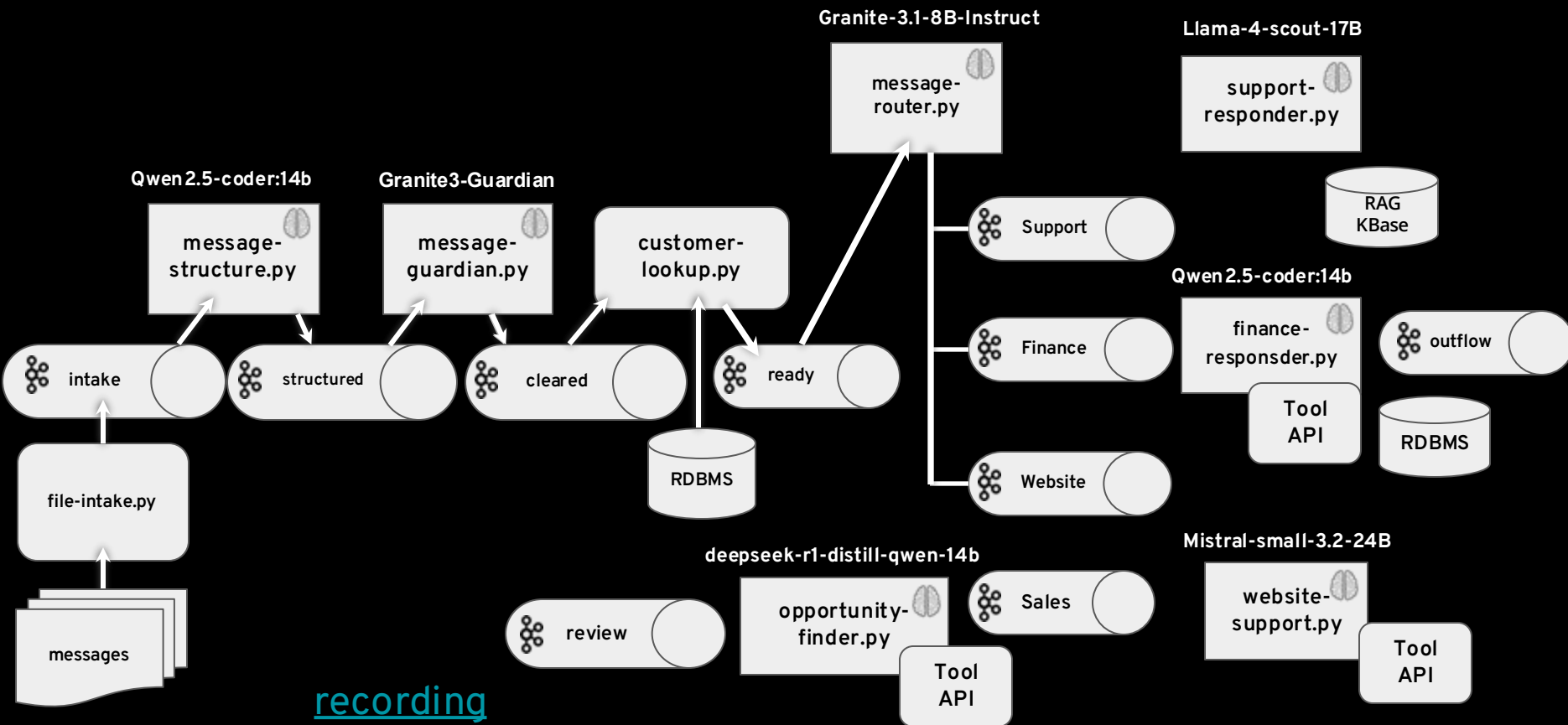
Agents & MCPs











Platforming

Platform Engineering
Platform as Product

"A **digital platform** is a foundation of **self-service** APIs, tools, services, knowledge and support which are arranged as a **compelling** internal product. "

Evan Bottcher - 2018



**Platform
Engineer**



Product Manager



UX



**Developer
Advocate
(DevRel)**

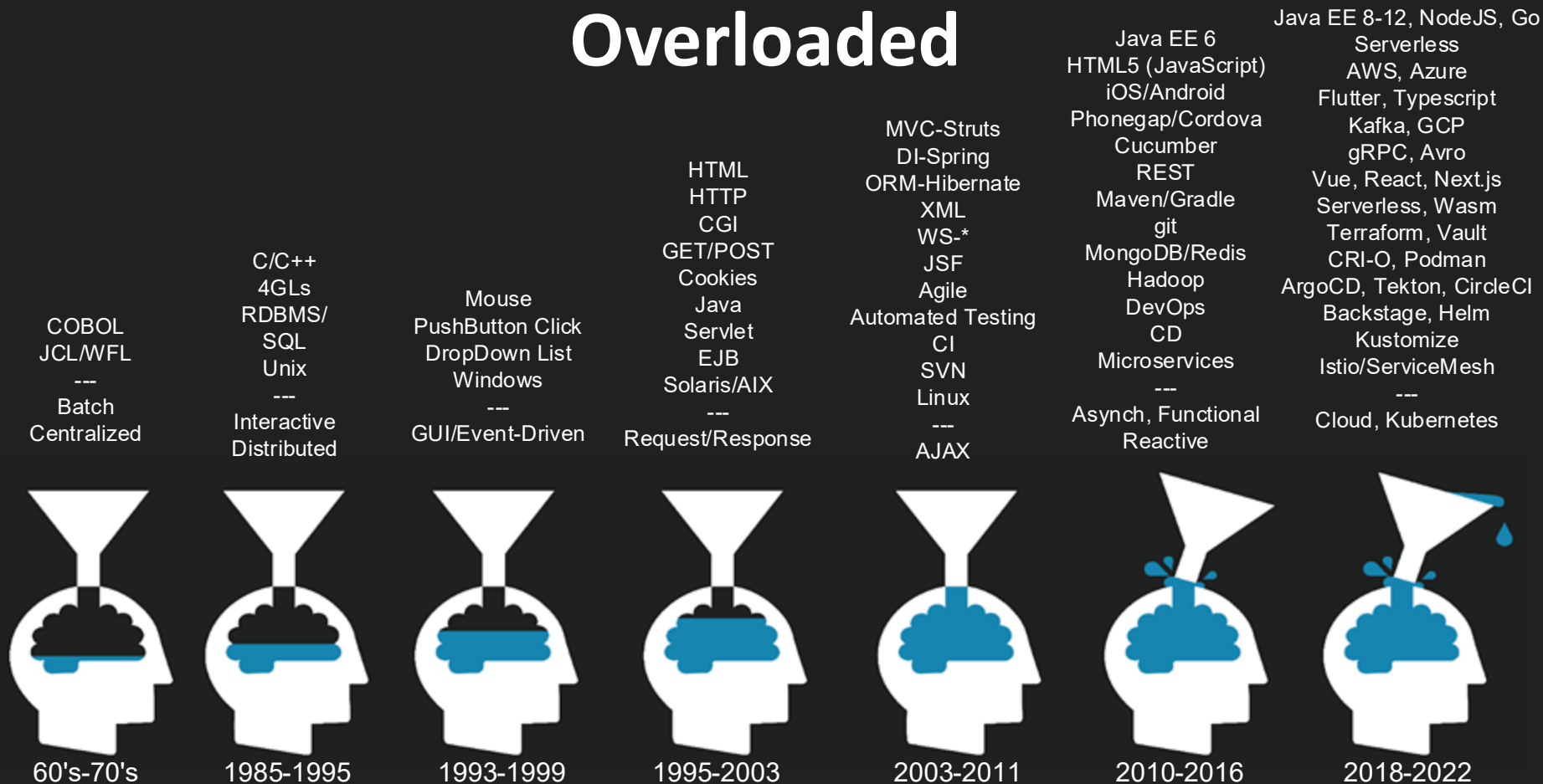


Instead, we begin with **a group we seek to serve**, a problem *they* seek to solve, and a change *they* seek to make.

SETH GODIN | THIS IS MARKETING | 2018



Overloaded



Portal (Backstage)

Golden Path Templates

DevX: Collaboration, Tutorials, Videos, Slack

Developer Environments

DBaaS, Kafka-as-a-Service, Cache-as-a-Service, SSO-as-a-Service, etc

CLI (kubectl, helm, git, oc), API

Observability (Ops/SRE view, Dev view, AppOps view, PE view)

Continuous Delivery

Artifact Storage

Security: Runtime scanning, build-time scanners

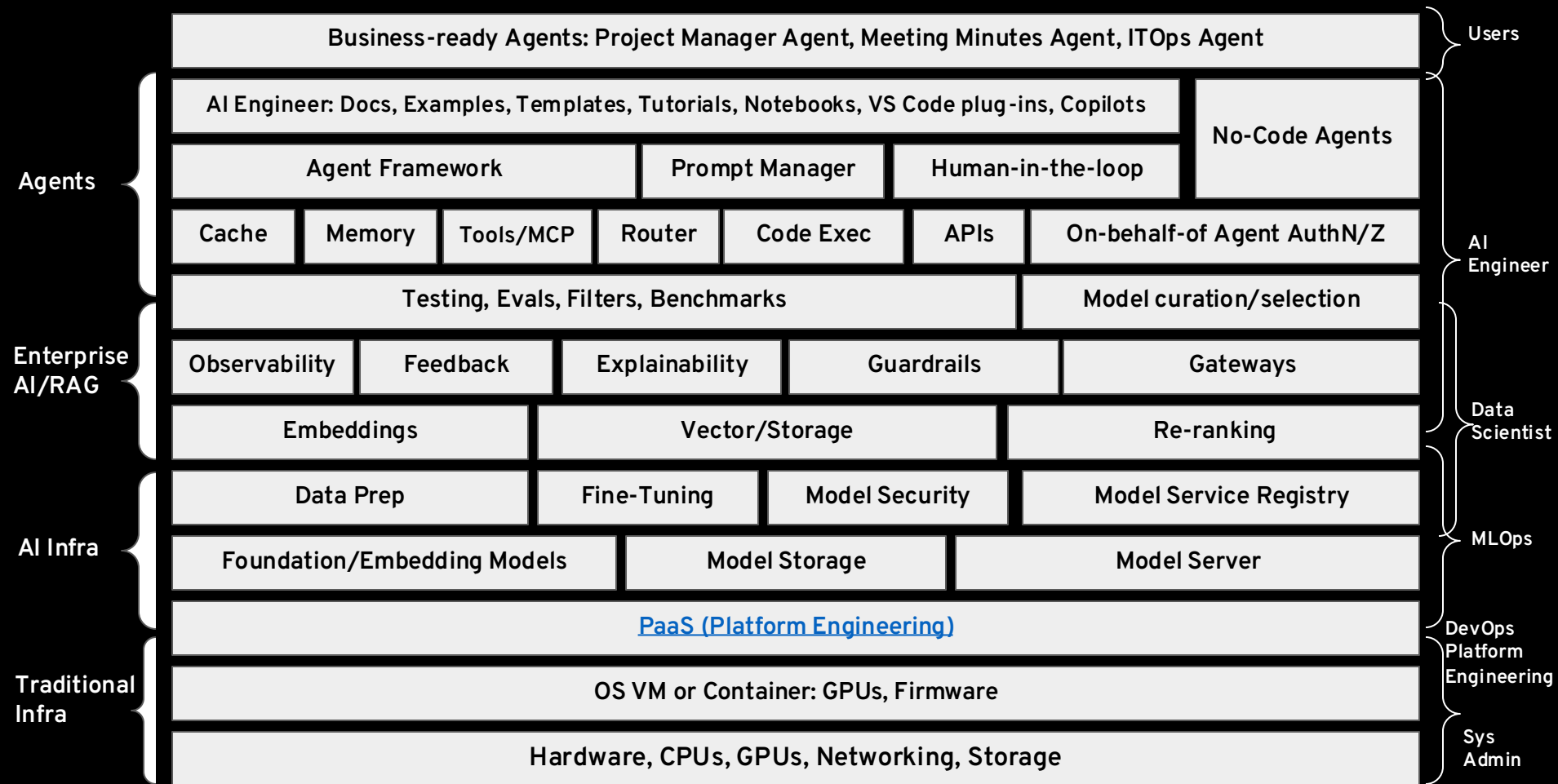
Continuous Integration Engine & Task Runners

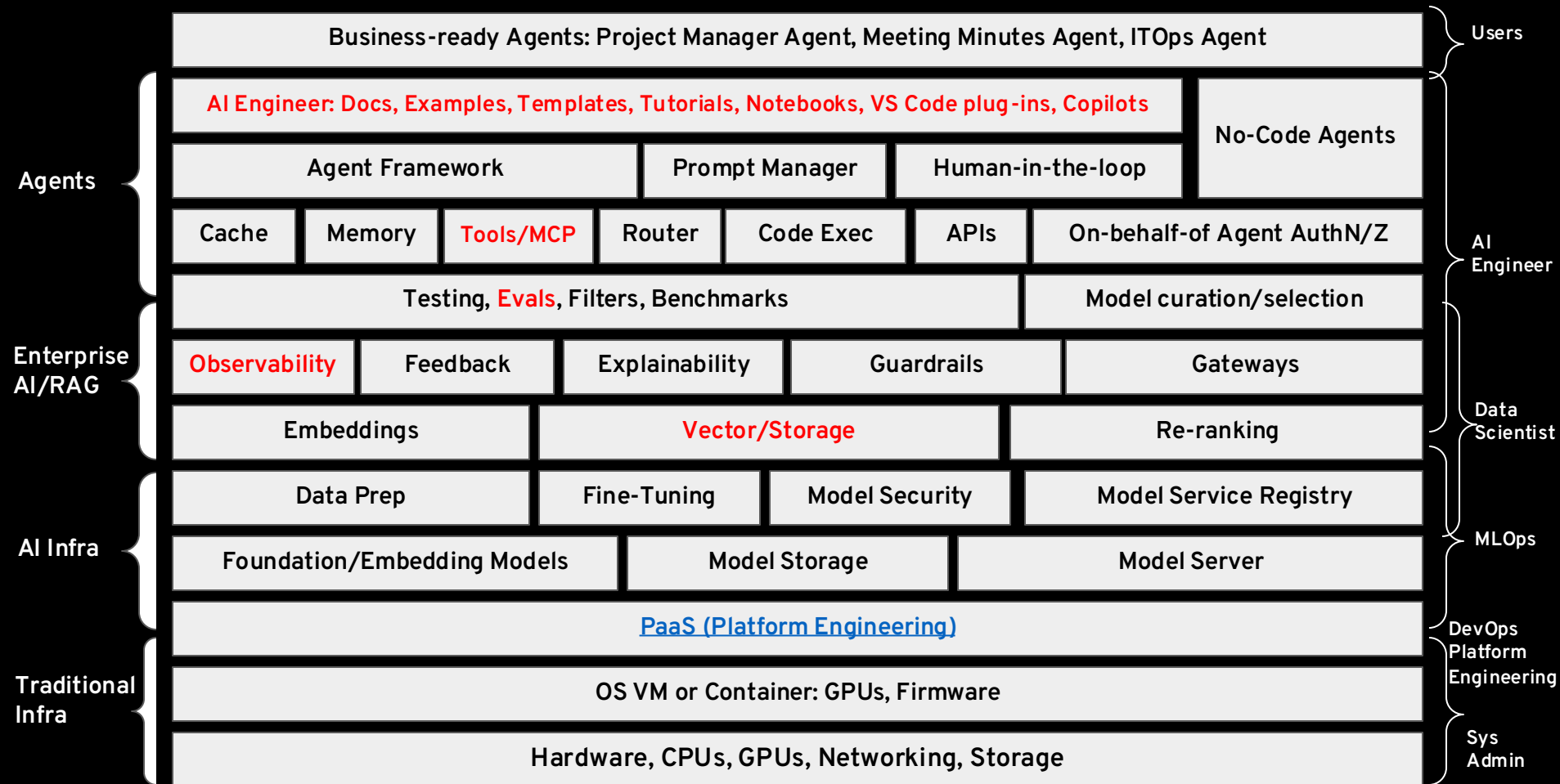
Artifact Builder, Image Builder

Source Control

AuthN/AuthZ/RBAC

Compute/Network/Storage, Namespace-as-a-Service/Cluster-as-a-Service, Configuration Management





Software Templates

Create new software components using standard templates in your organization

Search X

Personal

★ Starred 3

My Org

All 19

Categories

Tags

Owner

Templates

Service

Chatbot with external Large Language Model (LLM) ☆

Creates a secured quarkus application chatbot with configuration to access an external LLM.

recommended java quarkus maven
ai rhel rhtap

rhdt

Service

Chatbot with self-hosted Large Language Model (LLM) ☆

Creates a secured quarkus application chatbot provisioning and inferring a self-hosted LLM

recommended python ai rhel
rhtap

rhdt

Service

Gateway microservice with Vertx (Coolstore) ☆

Service

Chat with private docs using RAG ☆

Creates a secured python chatbot which enables you to ingest private documents for RAG.

recommended java python ai
rhel rag rhtap

rhdt

Service

LLM with model signature validation ☆

Creates a secured quarkus application chatbot provisioning and inferring a self-hosted secure...

recommended python ai rhel
rhtap

rhdt

Service

Inventory microservice with Quarkus (Coolstore) ☆

Service

RAG: Ingestion Pipeline ☆

Chat with your documentation using LLM and RAG.

recommended java python ai
rhel rhtap

rhdt

Service

Catalog microservice with Spring Boot (Coolstore) ☆

Create a Spring Boot microservice for Catalog built on a trusted software supply chain

coolstore demo java springboot
maven

rhdt

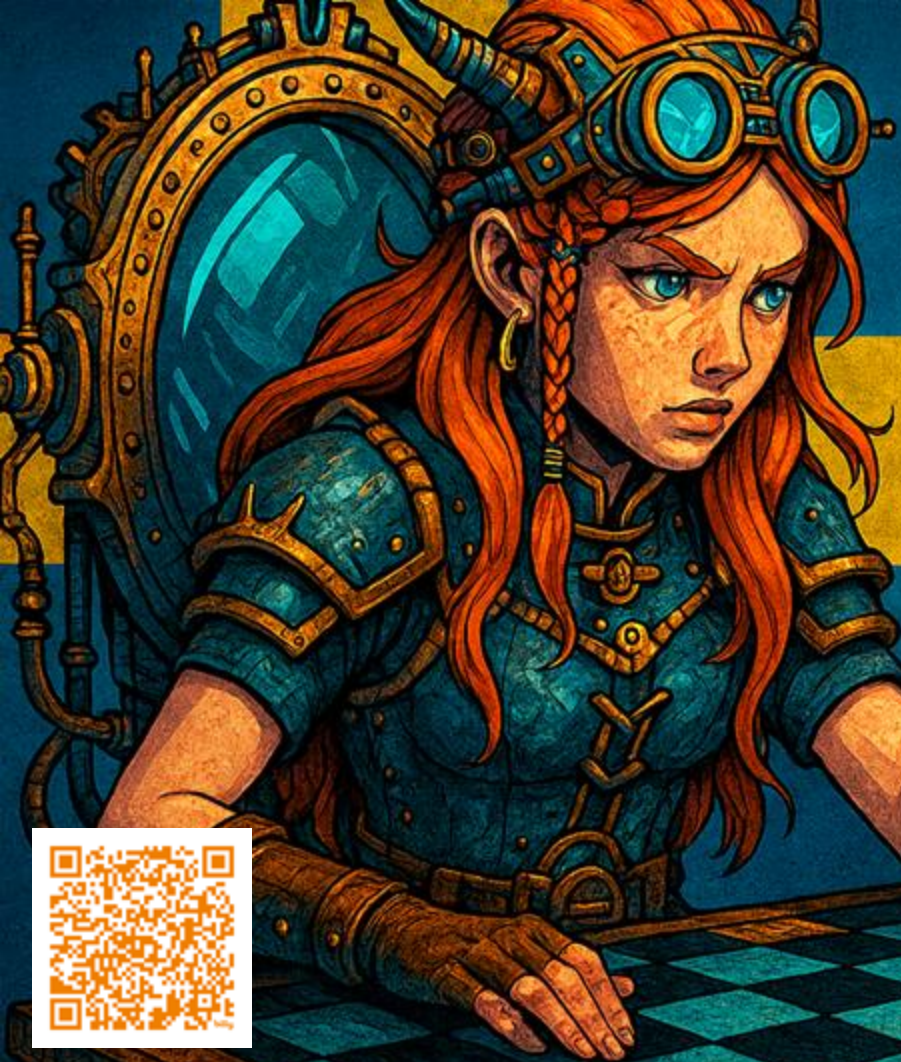
Service

Web app microservice with NodeJS (Coolstore) ☆

recording



<https://bit.ly/through-ai-looking-glass-stockholm>



THROUGH THE AI LOOKING GLASS



<https://bit.ly/through-ai-looking-glass-stockholm>