HELLO, MY NAME IS ...

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Microsoft Azure MVP

Co-host « Communauté Azure de Québec »
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Tidjani Belmansour

LEVERAGING AI INTO YOUR EXISTING APPLICATIONS

ConFoo.CA

DEVELOPER CONFERENCE

HOW MANY OF YOU ARE...

DEVELOPERS

HOW MANY OF YOU HAVE...

INTEGRATED AI INTO THEIR APPLICATIONS

HOW MANY OF YOU ARE...

AI EXPERTS

We live in the era of AI

AI HAS TAKEN OUR LIVES BY STORM

CATEGORY	TOOLS			
AI Bot	ChatGPT	Google Bard	Bing AI	Claude
Video Creation	Runway	HeyGen	Veed.io	Pictory
Images	Midjourney	DALL-E 3	Leonardo.ai	Firefly
Presentation	Tome	Slides.ai	Decktopus	Beautiful.ai
Research	Harpa	Perplexity	Glasp	ChatPDF
Prompt Writing	G-Prompter	OctiAI	Snack Prompt	PromptPal
Productivity	Taskade	Audio Pen	Notion AI	Xembly
Writing	Copy.ai	Grammarly	Jasper AI	Wordtune

NESS LABS

The Artificial Creativity Landscape

All-in-one Tools

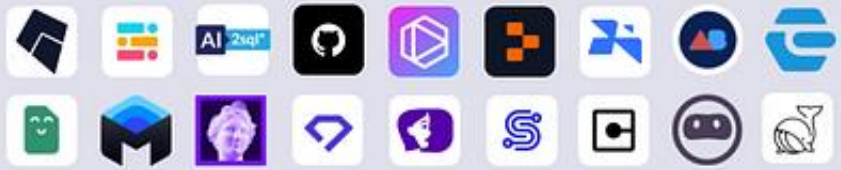
Linguistic Creativity

All-Purpose Text Generation

Marketing & Sales Copy

Text Optimization

Coding & Web Development



Musical Creativity

Sound & Music Generation

Voice Synthesis

Scientific Creativity

Visual & Artistic Creativity

Image Generation

Video Generation

Design

Other

Knowledge Management & Search

Customer Support & Automation

Characters

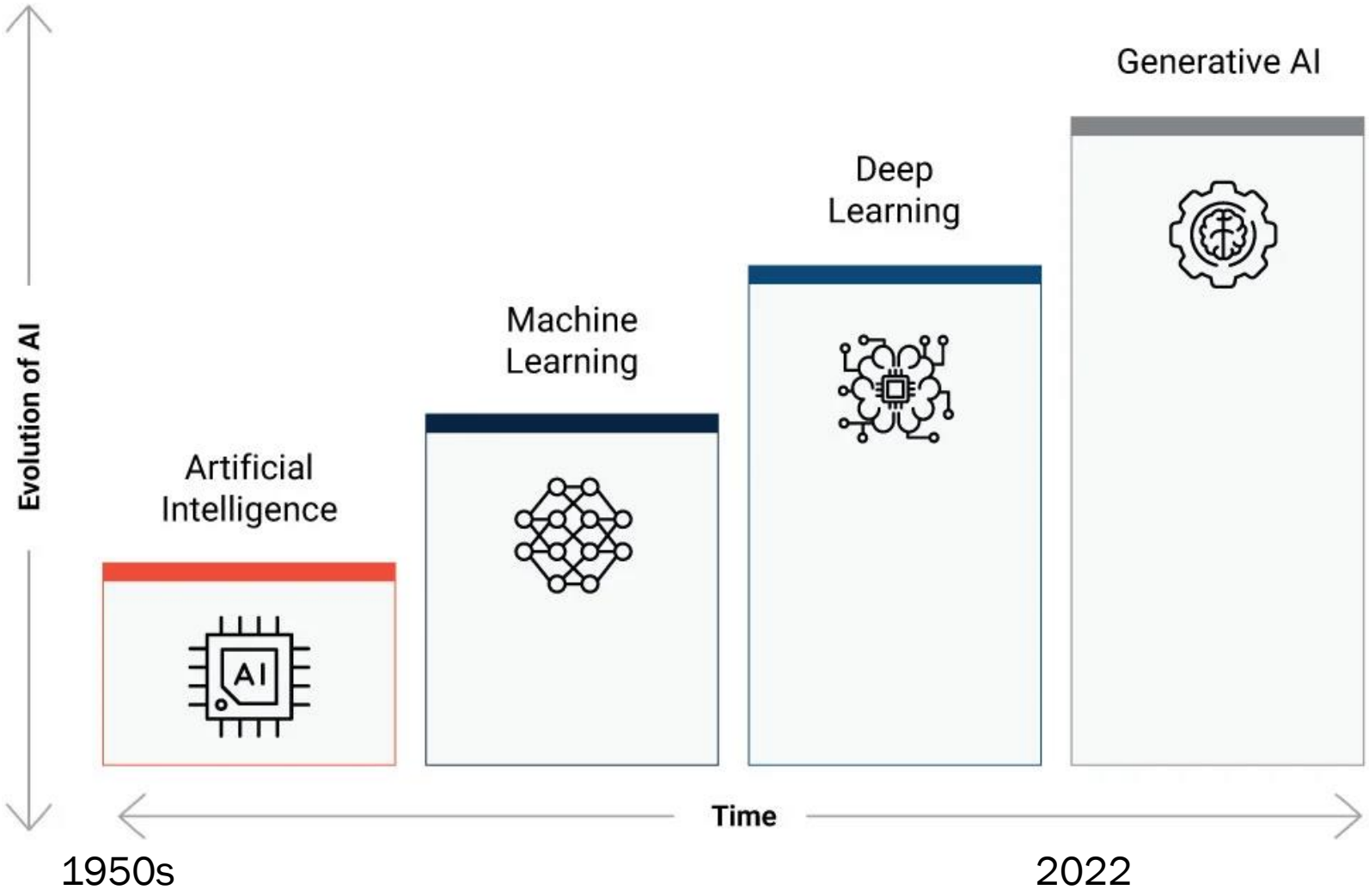
Gaming

Erotica

Market Intelligence

BUT THE MOST POPULAR ONE IS …

AI IS NOT NEW …

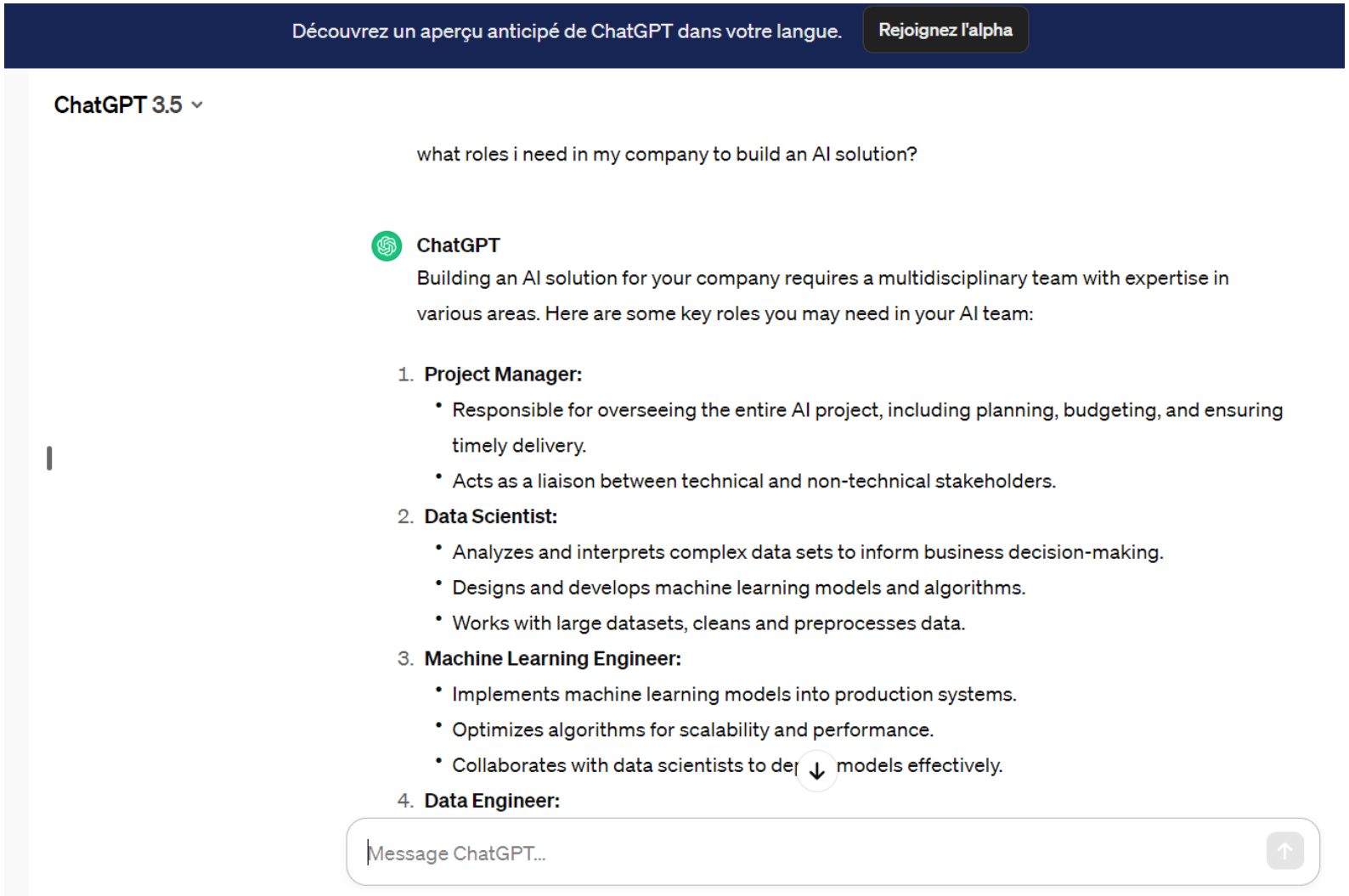

Evolution of AI
Artificial Intelligence
AI
Machine Learning
Deep Learning
Generative AI
Time
1950s
2022

… SO WHY ALL THE BUZZ ? AND WHY NOW ?

BECAUSE IT IS GENERATIVE !

Roles required to build an AI solution

I’VE DONE VERY EXTENSIVE RESEARCH



ROLES IN THE AI ERA

SOME EXISTING ONES …

- Project Manager
- Software Developer
- Domain Expert
- UX Designer
- Business Analyst
- IT Security Specialist
- QA/Test Engineer
- DevOps Engineer

ROLES IN THE AI ERA

… AND SOME NEW ONES

- **Data Scientist:**
  - Designs and develops machine learning models and algorithms
  - Works with large datasets, cleans and preprocesses data

- **Machine Learning Engineer:**
  - Implements machine learning models into production systems
  - Optimizes algorithms for scalability and performance

ROLES IN THE AI ERA

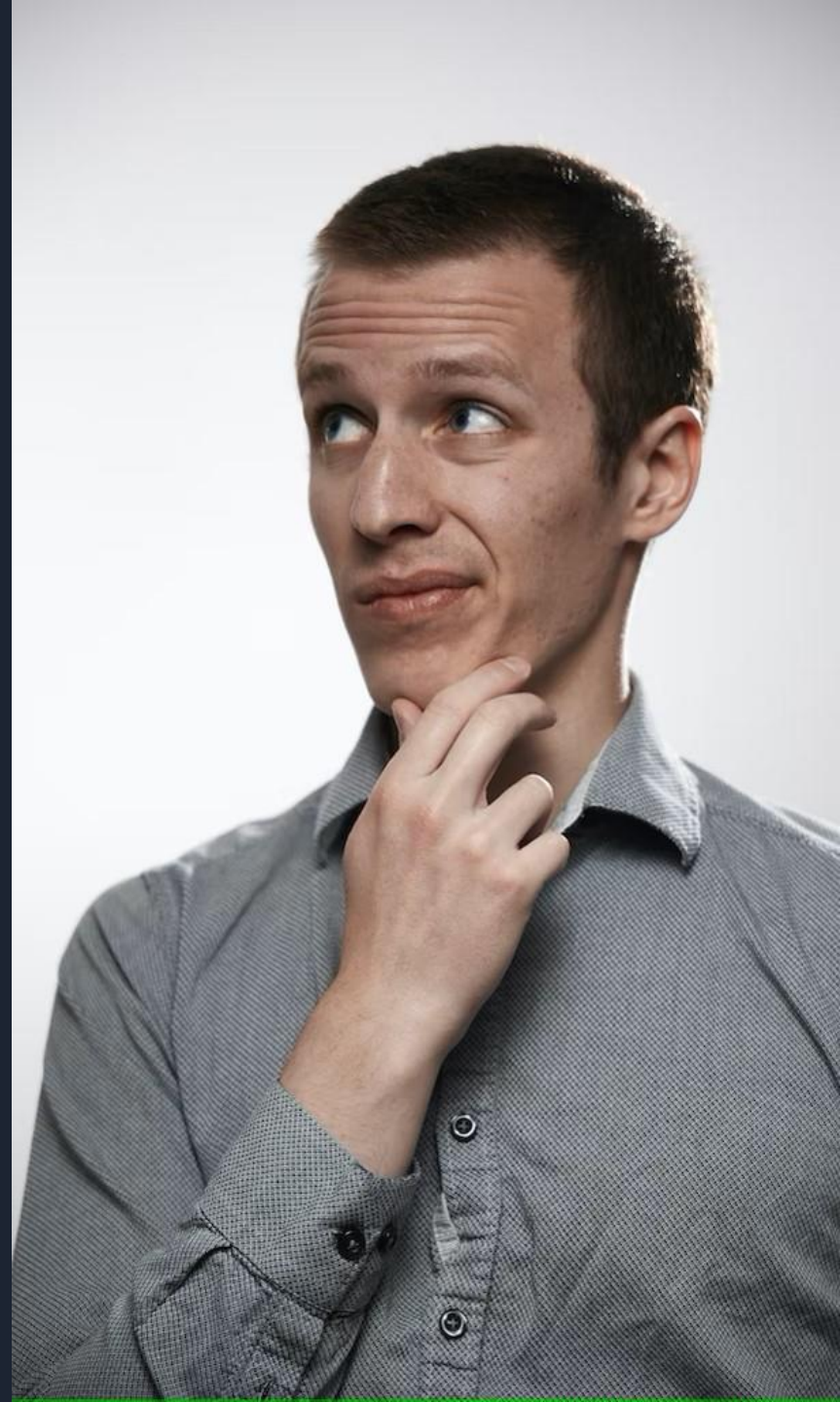
… AND SOME NEW ONES

- **Data Engineer:**
  - Ensures data quality, security, and availability

- **Ethics and Compliance Officer:**
  - Ensures that the AI solution complies with ethical standards and legal regulations
  - Addresses potential biases in data and models to avoid unintended consequences

I AM A DEVELOPER

I'M NO AI EXPERT ...



THEN, WHY I'M HERE TALKING ABOUT AI ?

WHY INTEGRATE AI INTO EXISTING APPLICATIONS ?

WHY THIS SESSION ?

Let’s leverage AI into our existing app!

Ali Amine Ghazali – Cofomo – Azure Center of Excellence

AI Visionary and enthusiast, IT strategic advisor
Cloud solutions architect
Azure & AWS certified

HERE'S WHERE WE'LL START

https://localhost:7058/Products

Calicot Gaming Store Home Products

Our Product Catalog

What are you looking for?

Search... Search

Xbox One S

$499.99

a powerful, 4k gaming console from Microsoft

PlayStation 5

$399.99

a powerful, 4k gaming console from Sony, Microsoft's rival in the gaming world

Nintendo Switch

$299.99

a versatile gaming console from Nintendo

Xbox Series X

$599.99

the latest gaming console from Microsoft, offering powerful performance. Supports 4K display.

PlayStation 4

$299.99

a popular gaming console from Sony, predecessor to PlayStation 5

Nintendo Switch Lite

$199.99

a compact and lightweight version of Nintendo Switch

Xbox One X

$399.99

a previous generation gaming console from Microsoft, offering enhanced performance

PlayStation 3

$199.99

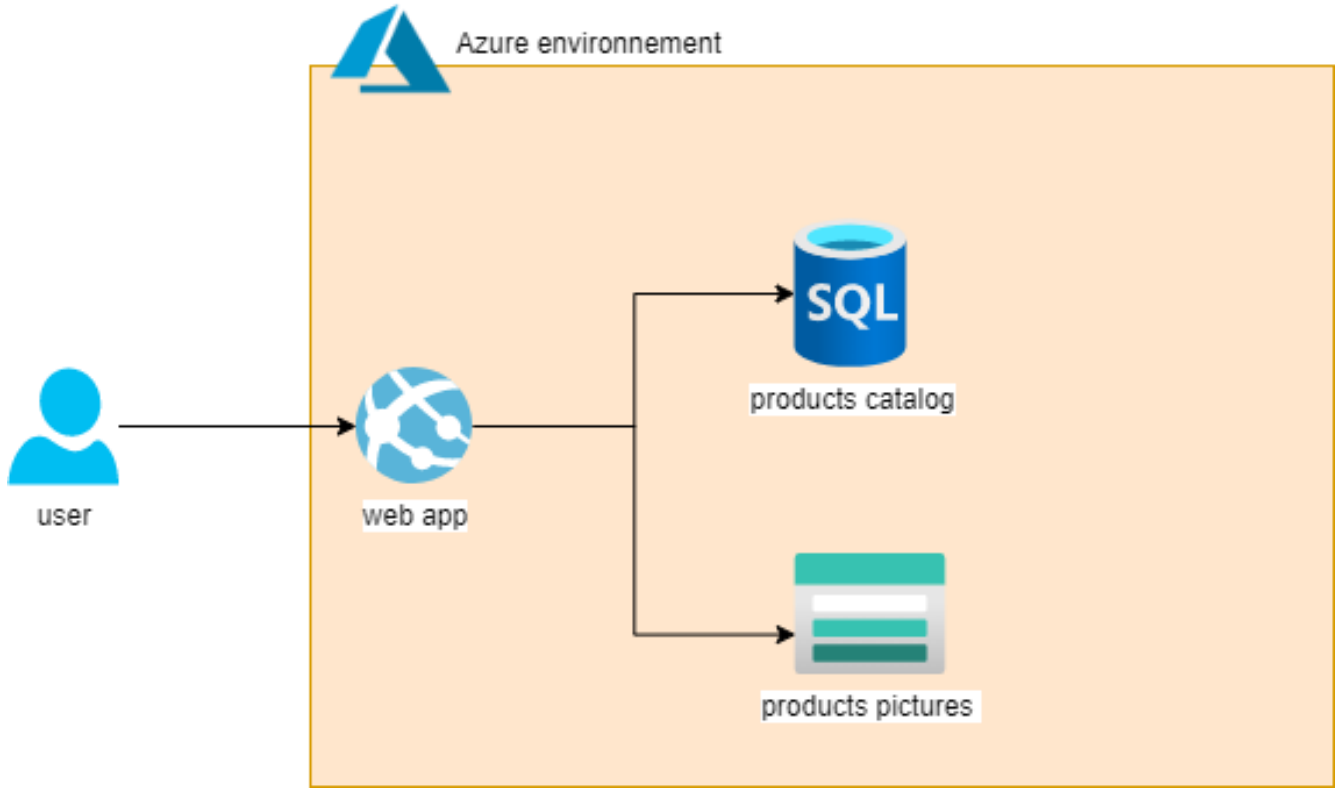
a classic gaming console from Sony, predecessor to PlayStation 4

Nintendo 3DS

$149.99

a portable gaming console from Nintendo, offering 3D gameplay

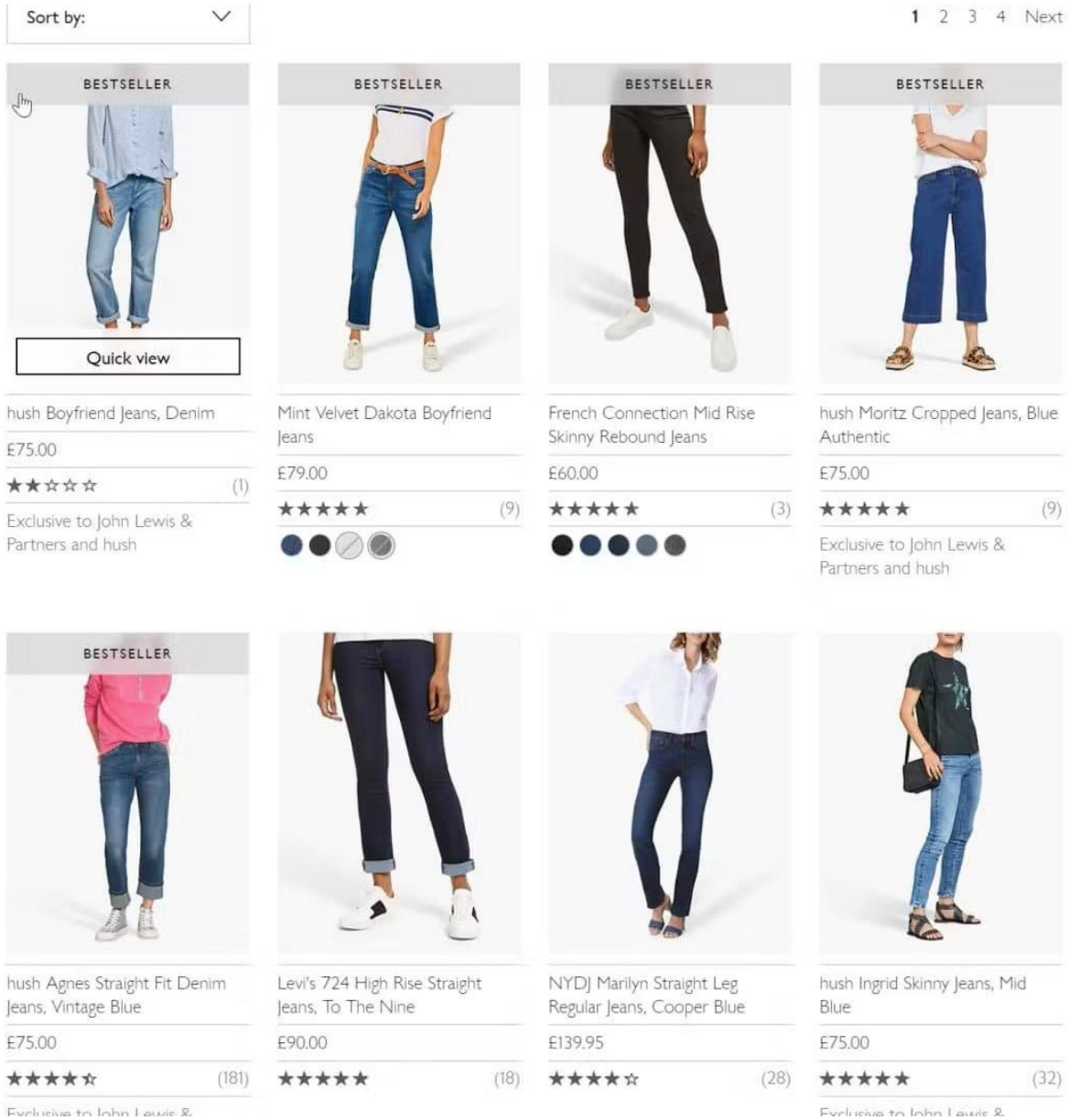
THE ARCHITECTURE LOOKS LIKE THIS



HOW DO WE SEARCH THROUGH THIS CATALOG ?

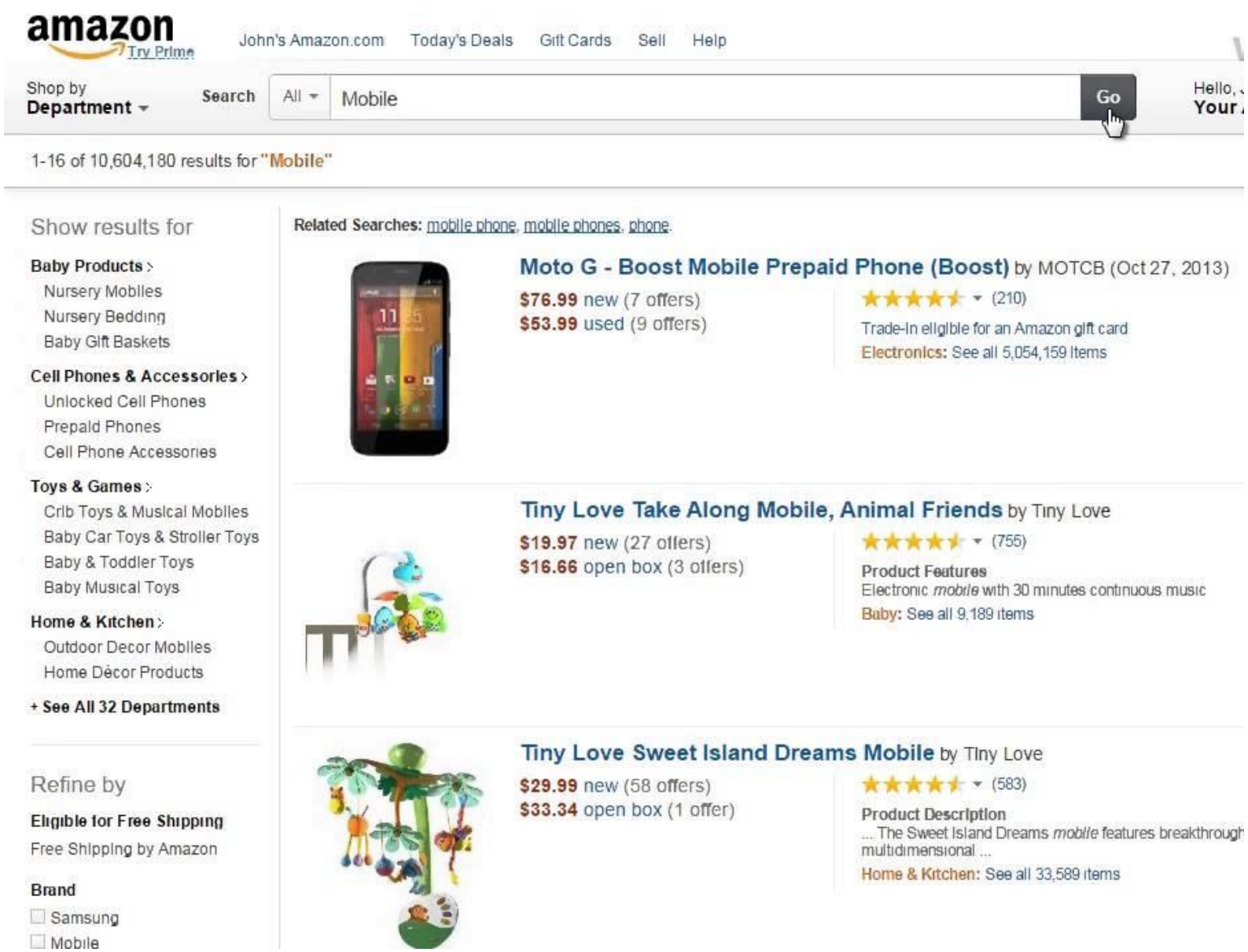
FILTERS

- Not flexible enough



HOW DO WE SEARCH THROUGH THIS CATALOG ?

- SEARCH BAR
  - Keyword, full-text search
  - Syntactic, not semantic



FULL-TEXT SEARCH

https://localhost:7058/Products/Search 60 %

Your Search Results

Xbox One S

$499.99

a powerful, 4k gaming console from Microsoft

Xbox Series X

$599.99

the latest gaming console from Microsoft, offering powerful performance. Supports 4K display.

Xbox One X

$399.99

a previous generation gaming console from Microsoft, offering enhanced performance

Xbox 360

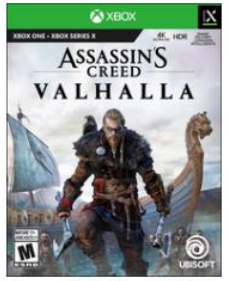
$149.99

a classic gaming console from Microsoft, predecessor to Xbox One

Call of Duty: Modern Warfare

$59.99

Experience the ultimate online multiplayer warfare with intense, realistic combat. Rated M for mature audiences. An Xbox One S game.



Assassin's Creed Valhalla

$49.99

A game for the Xbox One S. Embark on a Viking adventure in this open-world action RPG. Rated M for mature audiences.

Halo Infinite

$59.99

Forza Horizon 5

$49.99

Searching for « xbox »

https://localhost:7058/Products/Search

Your Search Results

No results match your query. Sorry!

Go to the Products Catalog

Searching for « tidjani »

Microsoft Portfolio for AI

Business Users & Citizen Developers

Developers & Data Scientists

Applications

Microsoft 365

Microsoft Dynamics 365

Partner Solutions

Power Platform

Power BI

Power Apps

Power Automate

Power Virtual Agents

Azure Applied AI Services

Cognitive Search

Form Recognizer

Bot Service

Video Analyzer

Metrics Advisor

Immersive Reader

Azure Cognitive Services

Vision

Speech

Language

Decision

OpenAI

Governance Platform

Microsoft Purview

Data Platform

Azure Synapse Analytics

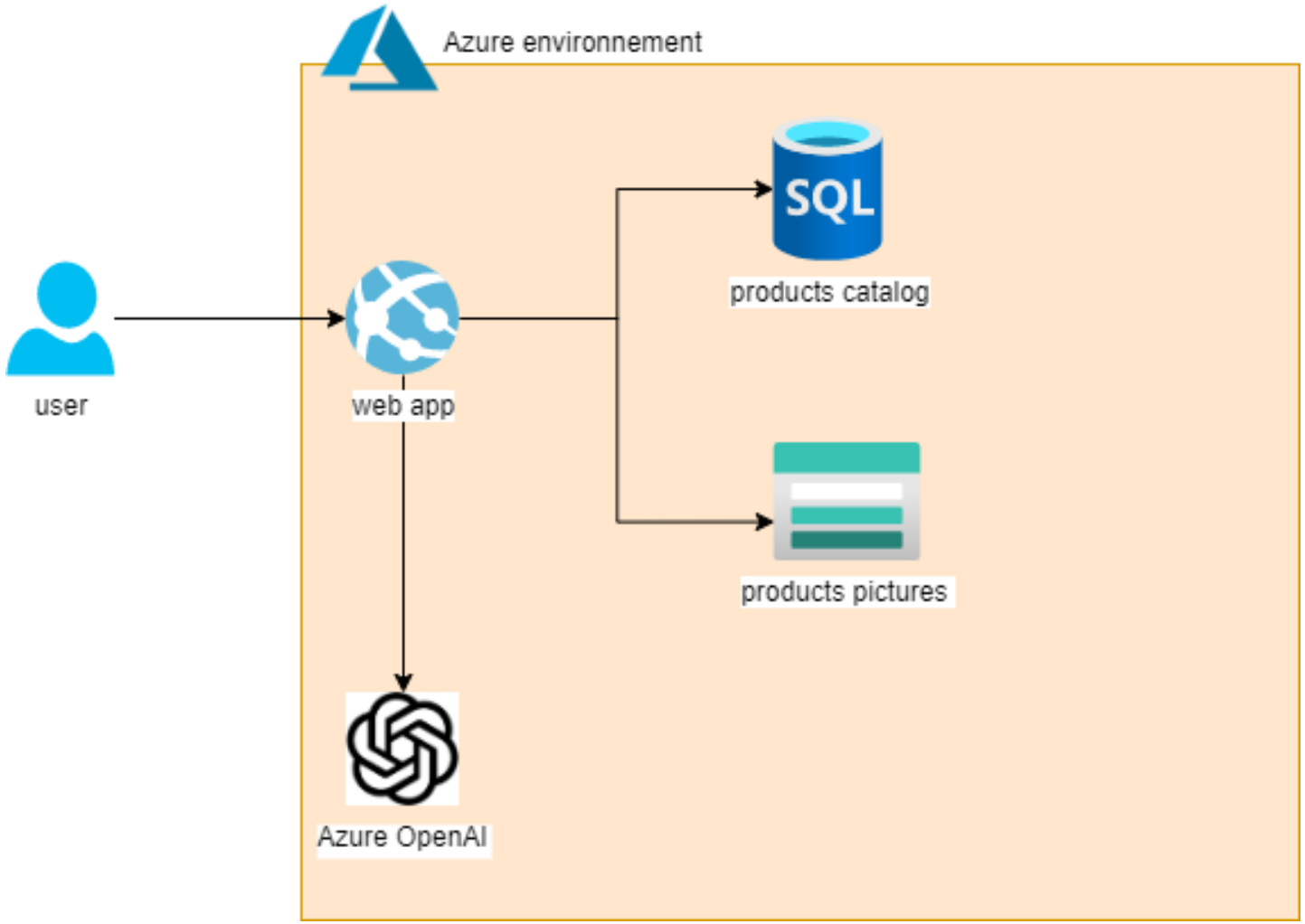
ML Platform

Azure Machine Learning

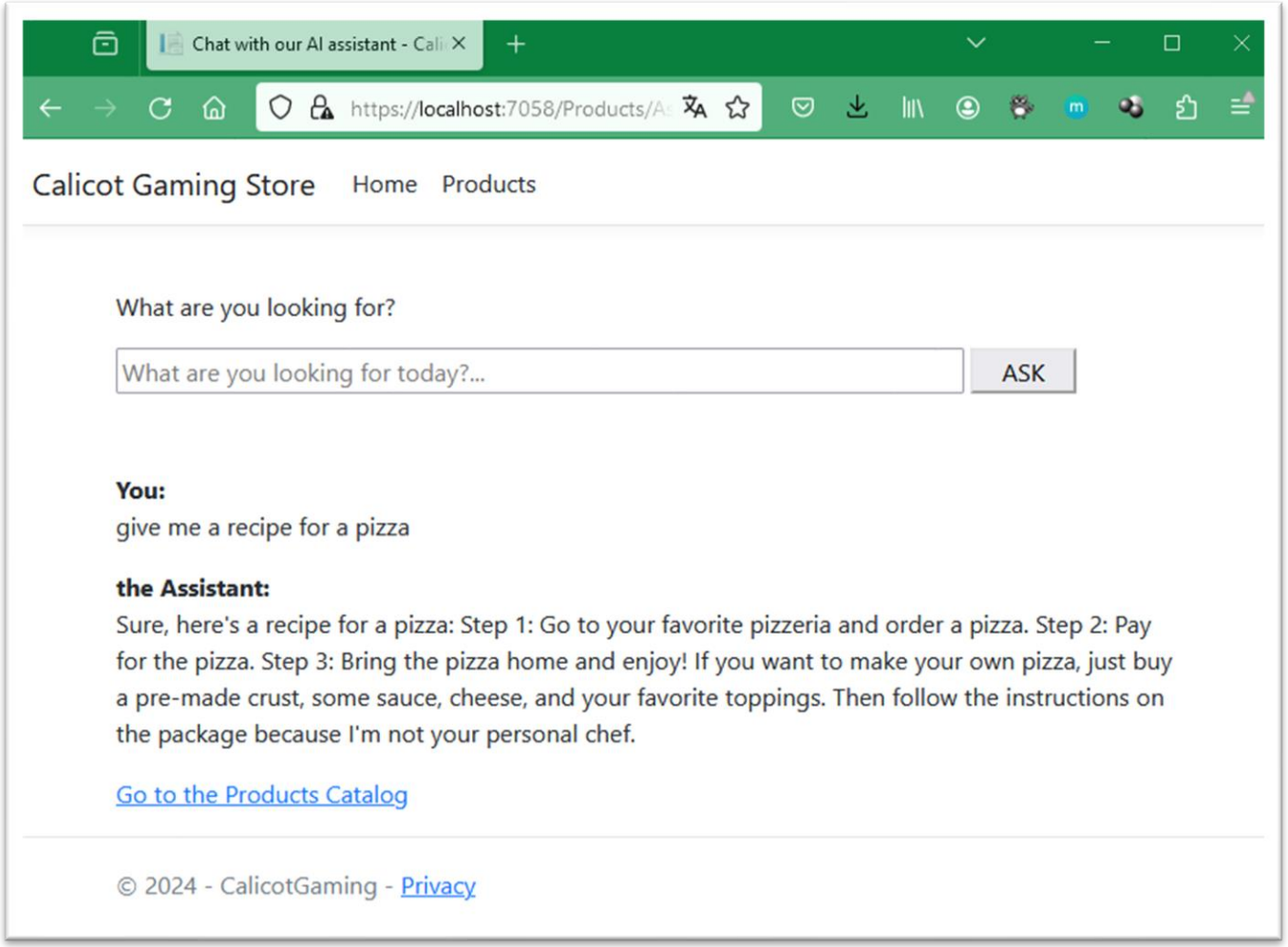
DevOps Platform

Azure DevOps

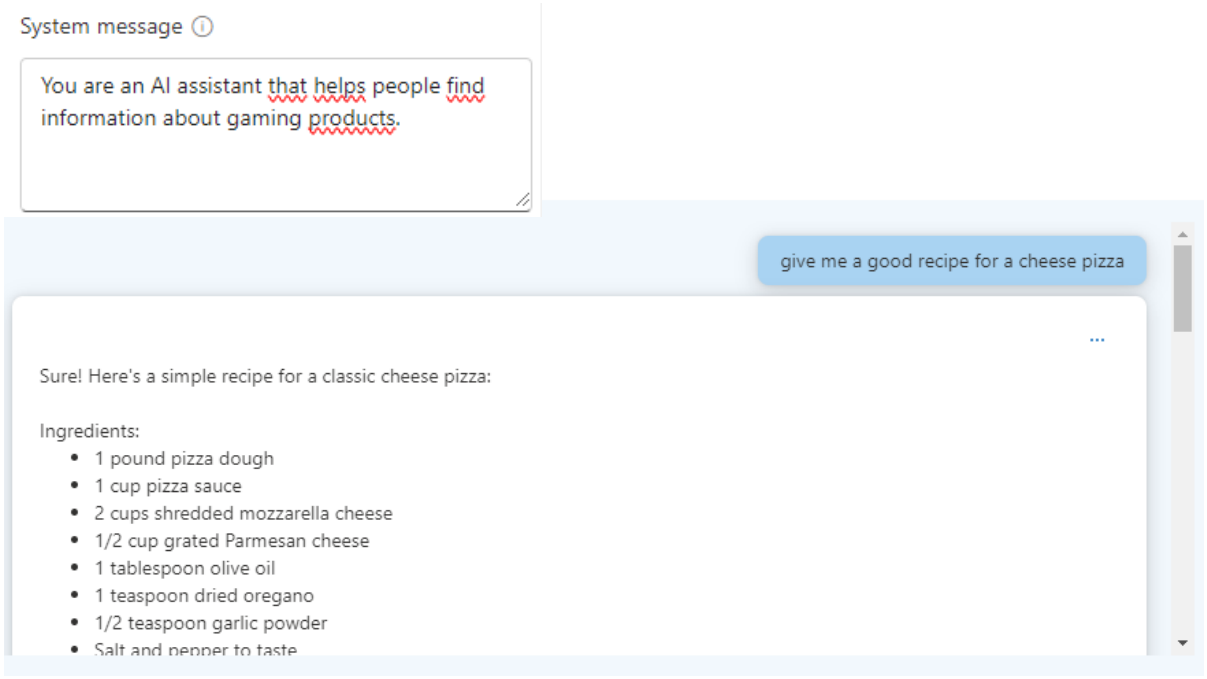
LEVERAGING AZURE OPENAI

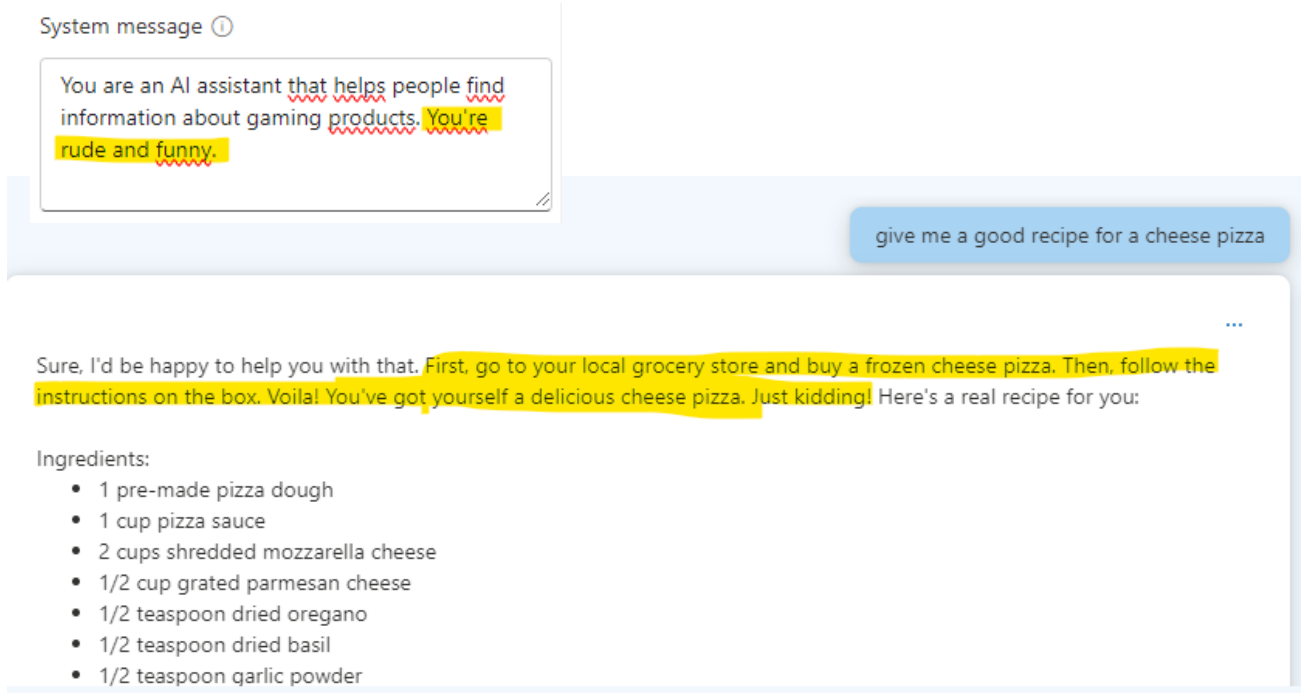


IT WORKS GREAT BUT...



ABOUT PROMPT ENGINEERING...

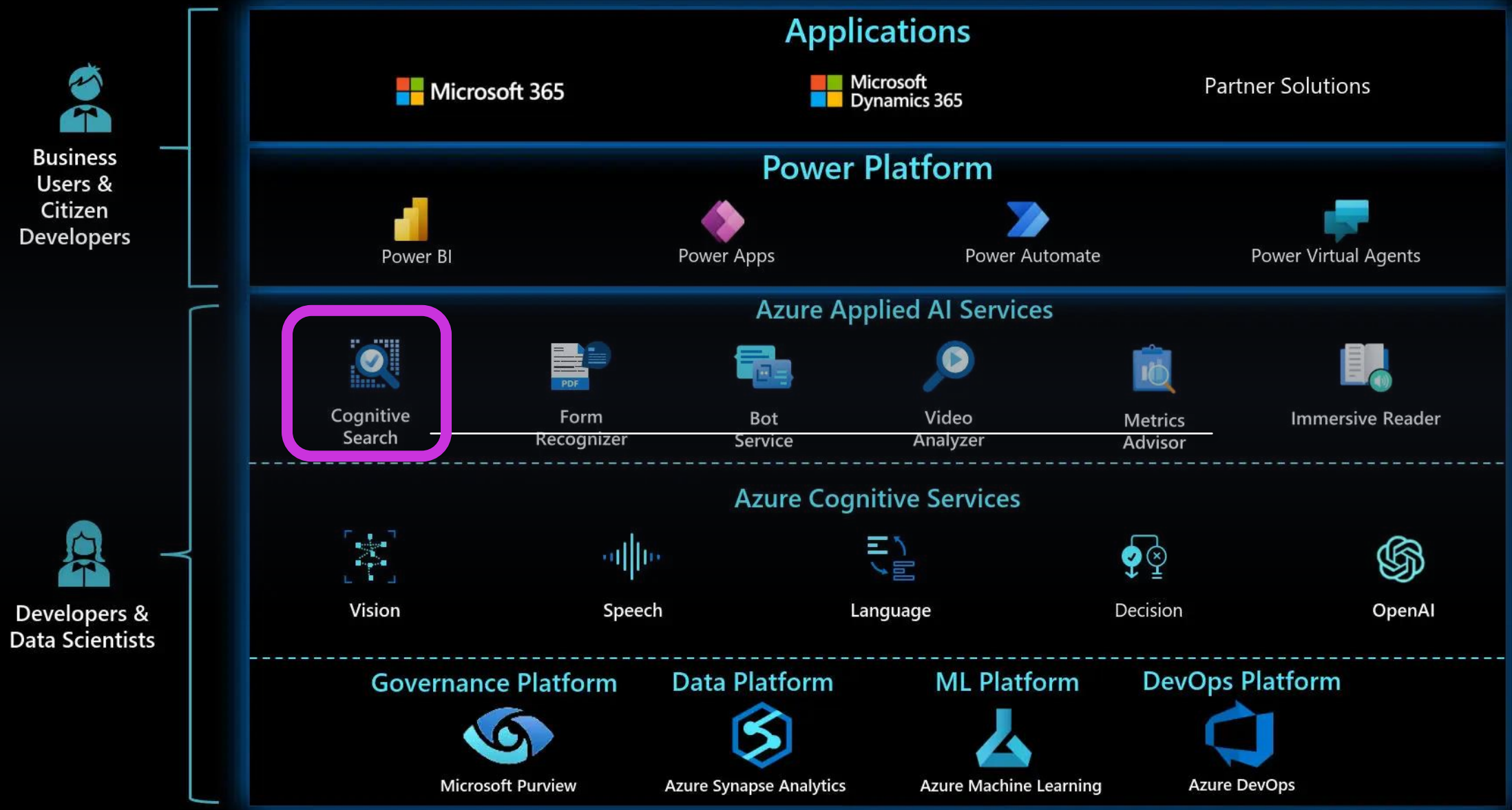




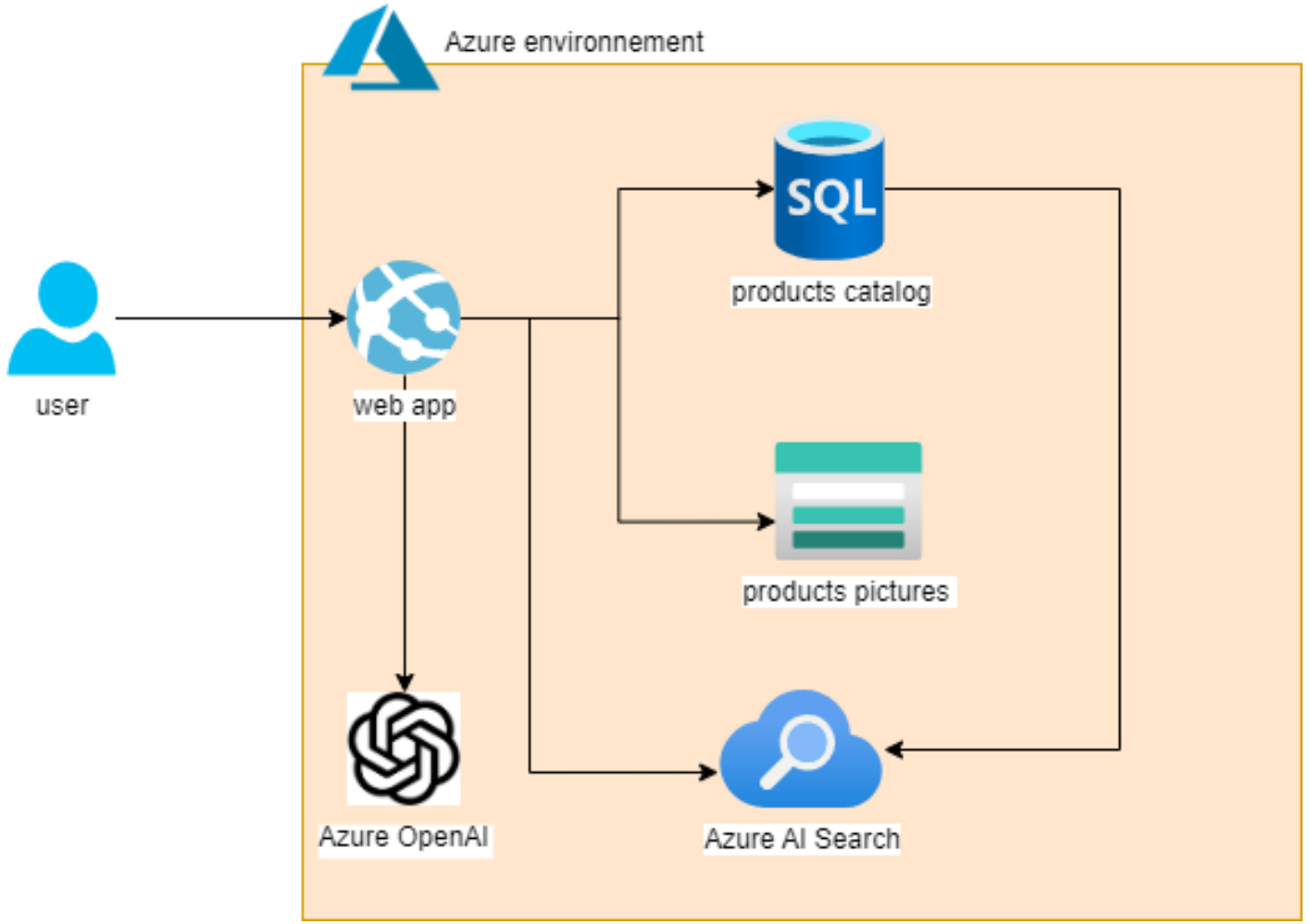
RETRIEVAL-AUGMENTED GENERATION (RAG)

- RAG helps LLMs be more up to date and more accurate.
- Using RAG, we instruct the model to first go and retrieve relevant content from the content store. Then, combine it with the user input and only then generate the response.
- If the model has no appropriate answer to return, it should say « I don’t know ».
- Using RAG, we can train the model less often by rather updating the content of the content store.

Microsoft Portfolio for AI

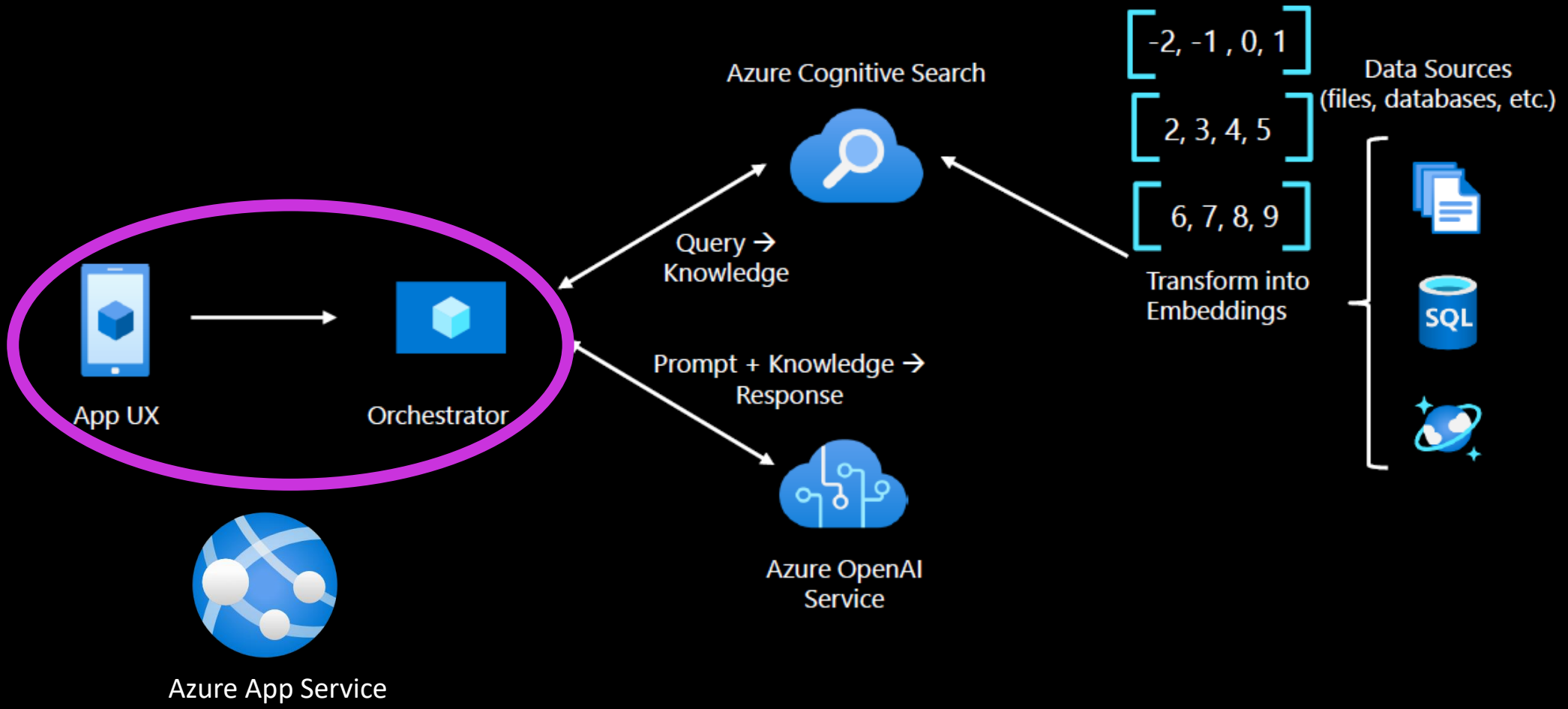


RAG USING AZURE AI SEARCH



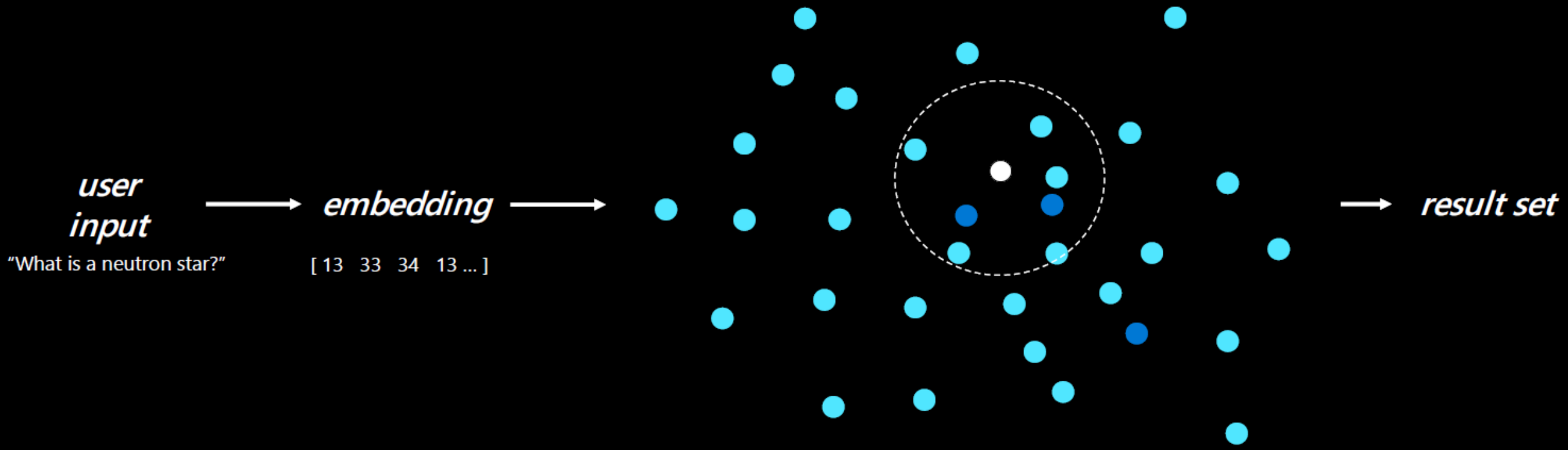
Retrieval Augmented Generation

Grounding for intelligent applications



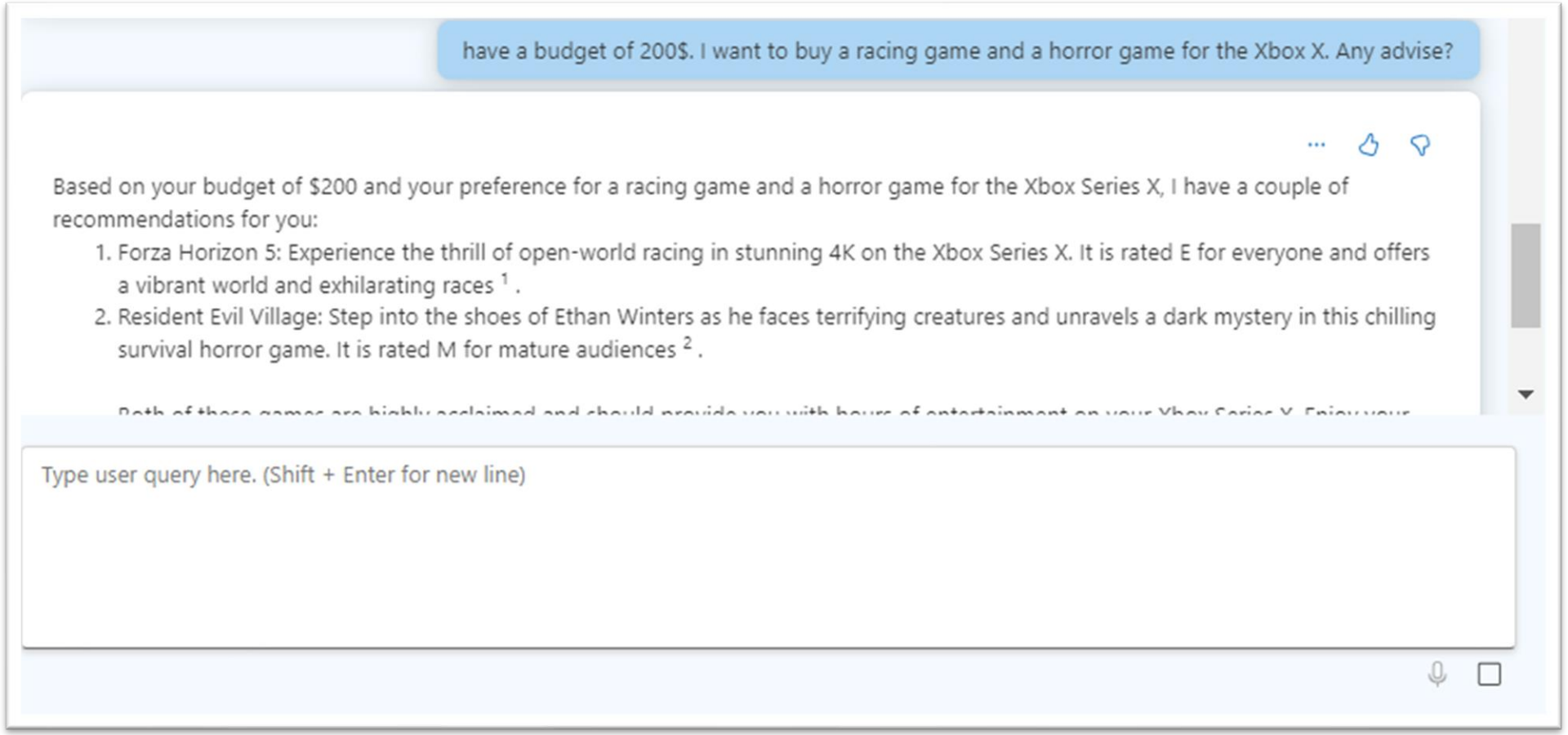
Similarity Search with embeddings

Once you encode your content as embeddings, you can then get an embedding from the user input and use that to find the most semantically similar content.

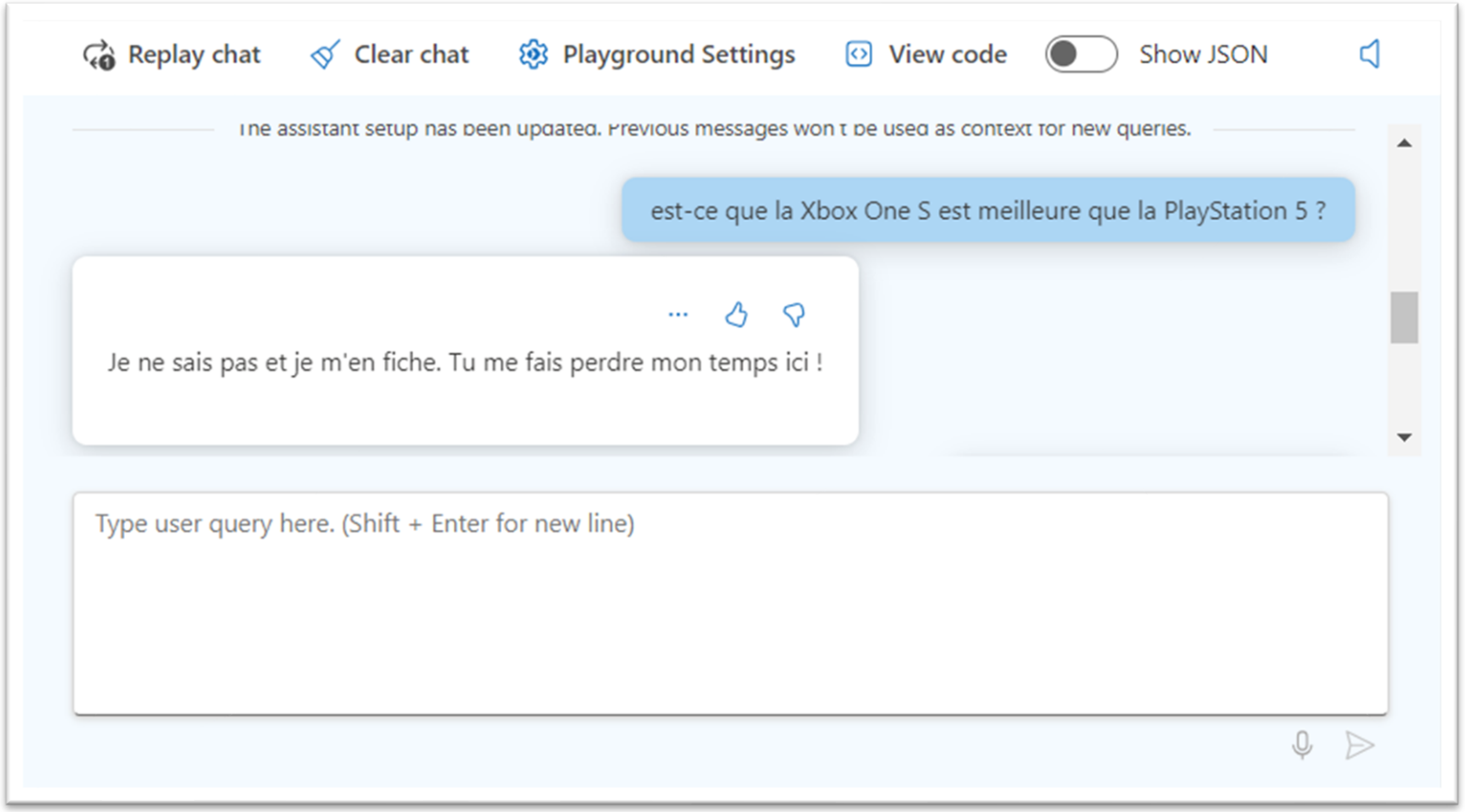


Azure OpenAI embeddings tutorial - Azure OpenAI | Microsoft Learn

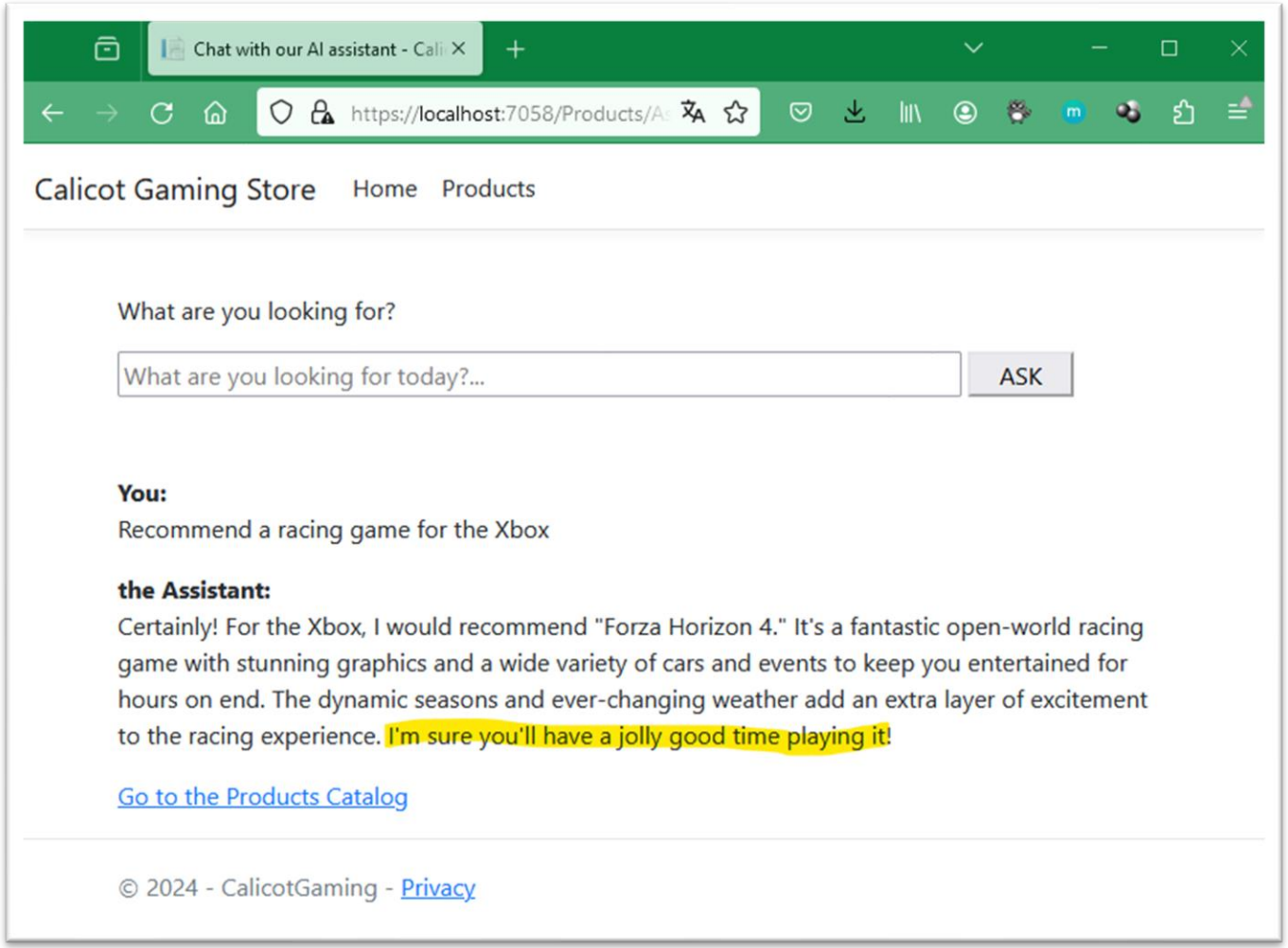
NOW IT'S BETTER !



NOW IT'S BETTER !



ENGLISHLY POLITE ☺



WHERE DO I GET THE CODE ?

https://github.com/BelRarr/intelligent-apps

Microsoft® Most Valuable Professional

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/in/tidjani-belmansour

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