

# Institutions in the Age of AI Agents

## An Interactive Workshop

# Agenda

16:30 - 16:35	Welcome
16:35 - 17:00	Presentation and Live Demo
17:00 - 17:55	Institutional Redesign Exercise
17:55 - 18:00	Closing

# Agentic AI: Presentation and Live Demo

**AI agents** are (semi-)autonomous software systems that can make decisions, and interact with their environments..

...what sets them apart from other such systems is that they  
do so very flexibly much like we humans

# Agentic AI: Presentation and Live Demo

**What are large language models?** (for the purpose of understanding agents)

- statistical models, that convert text to other text
- functions for transforming:  
 $f(\text{context} + \text{instructions}) = f(\text{prompt}) = \text{output}$
- machines that 'speak' our language;  
take instructions in our language;  
provide intelligible output.



ChatGPT 4o ▾

↑ Share



what color are roses

Roses come in many colors. The most common are:

- **Red** – often linked to love
- **White** – symbolizes purity or remembrance
- **Pink** – can suggest admiration or gratitude
- **Yellow** – usually associated with friendship
- **Orange** – often seen as a sign of enthusiasm
- **Lavender** – sometimes tied to mystery or enchantment

There are also multicolored and specially dyed roses, like blue or black, though those don't occur naturally.





ChatGPT 4o ▾

Share



what color are roses, in French

Roses can be different colors in French, just like in English. Here are a few examples:

- Red rose — *rose rouge*
- White rose — *rose blanche*
- Pink rose — *rose rose*
- Yellow rose — *rose jaune*
- Orange rose — *rose orange*

Note: *rose* is also the word for "pink," so context matters.



Is this conversation helpful so far?





ChatGPT 4o ▾

↑ Share



what color are roses, answer in French

Les roses sont rouges, roses, blanches, jaunes, orange ou même violettes.



Is this conversation helpful so far?





ChatGPT 4o ▾

↑ Share



what color are roses, answer in JSON

json

Copy

Edit

```
{  
  "roses": [  
    "red",  
    "white",  
    "pink",  
    "yellow",  
    "orange",  
    "purple",  
    "blue",  
    "black",  
    "green",  
    "peach"  
  ]  
}
```





# Agentic AI: Presentation and Live Demo

If LLMs can understand our language, while speak the language of other machines...

...why don't we give them instructions on what to do, and let them translate to machines?

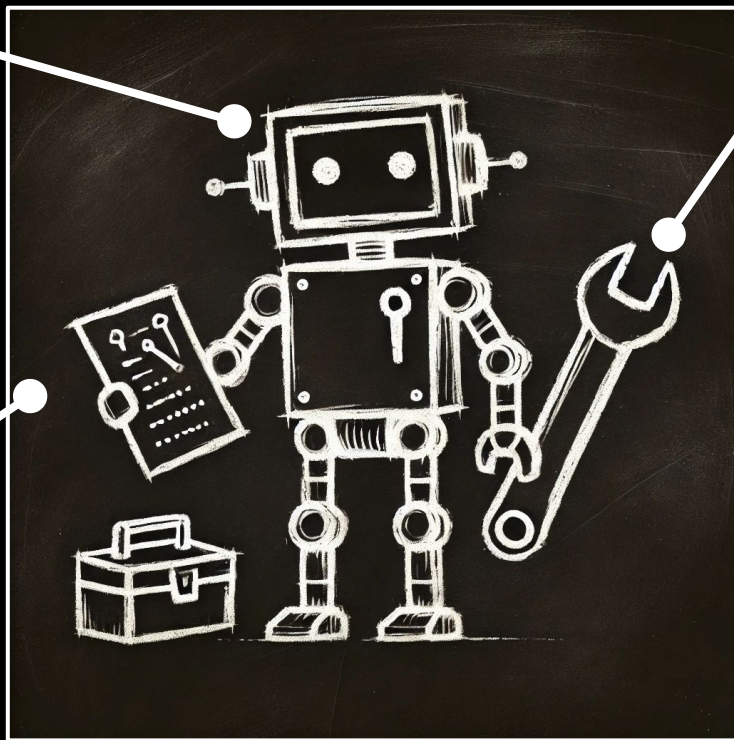
# Anatomy of an AI Agent

## LLM Brain

The model that processes inputs and generates outputs (GPT-4o, Claude 3.5 Sonet, Gemini Flash 1.5, etc), often with additional reasoning instructions

## Instructions

Specific for the task at hand, to be resolved by agent



## Tools

Interfaces with other systems that take text as inputs, do something, and return text.

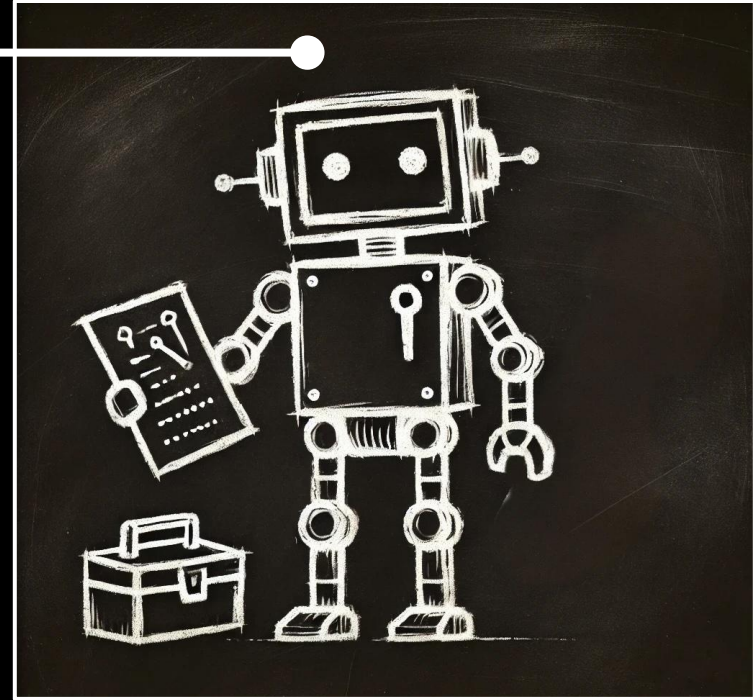
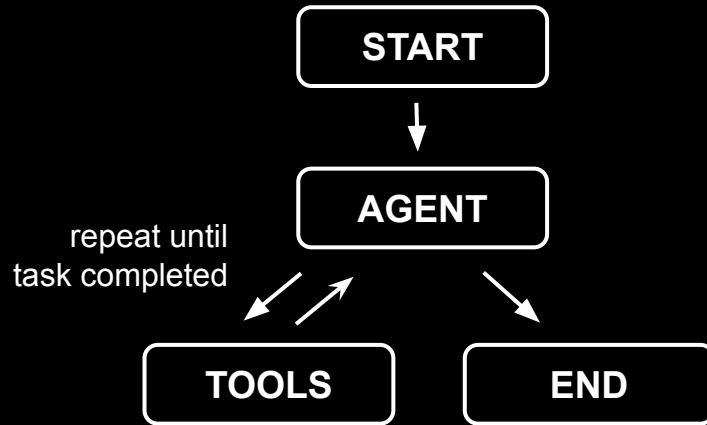
## Examples:

- Web search
- Folder navigation
- Code execution
- Image generation
- etc.

# Anatomy of an AI Agent | Basic Clerical Agent

## LLM Brain | GPT-4o

We use OpenAI's GPT-4o for processing, and implement a simple reasoning chain:



# Anatomy of an AI Agent | Basic Clerical Agent

## Explore Folder:

The agent can request to see the contents of the folder,

**inputs:** path, **returns:** folder contents

## Read Text File:

The agent can read the contents of a text file

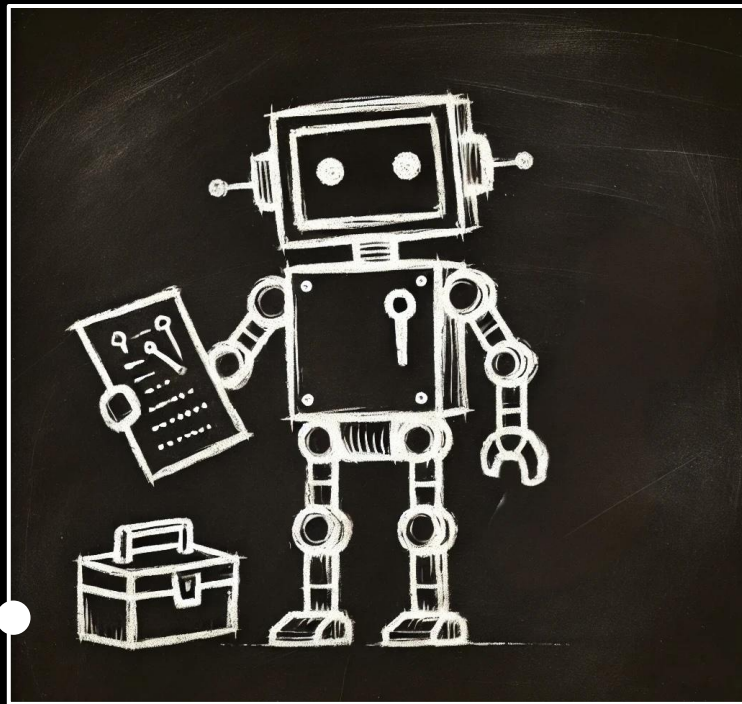
**inputs:** path to file, **returns:** file contents

## Write Text File:

The agent can write output to a text file on disk

**inputs:** content, path, **output:** confirmed save

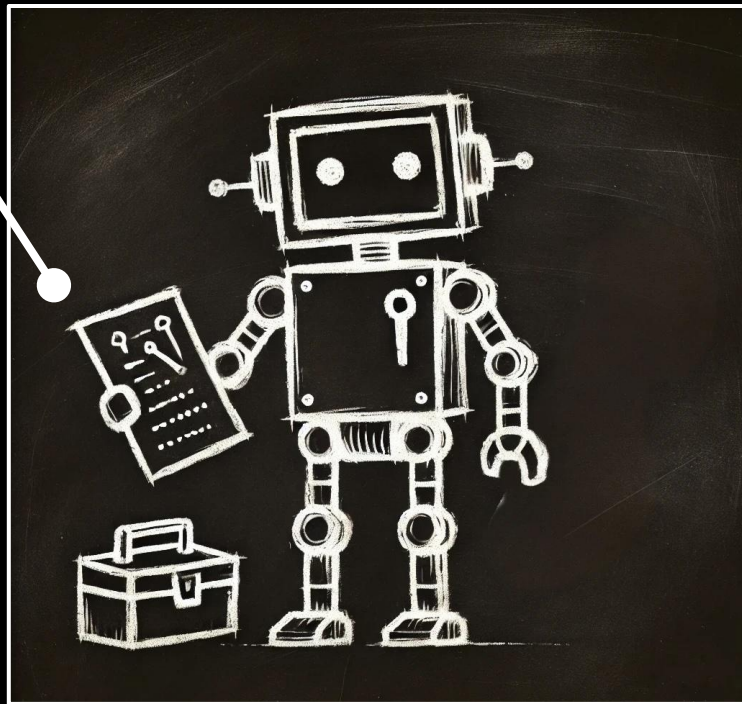
Tools



# Demo Basic Clerical Agent

## Instructions

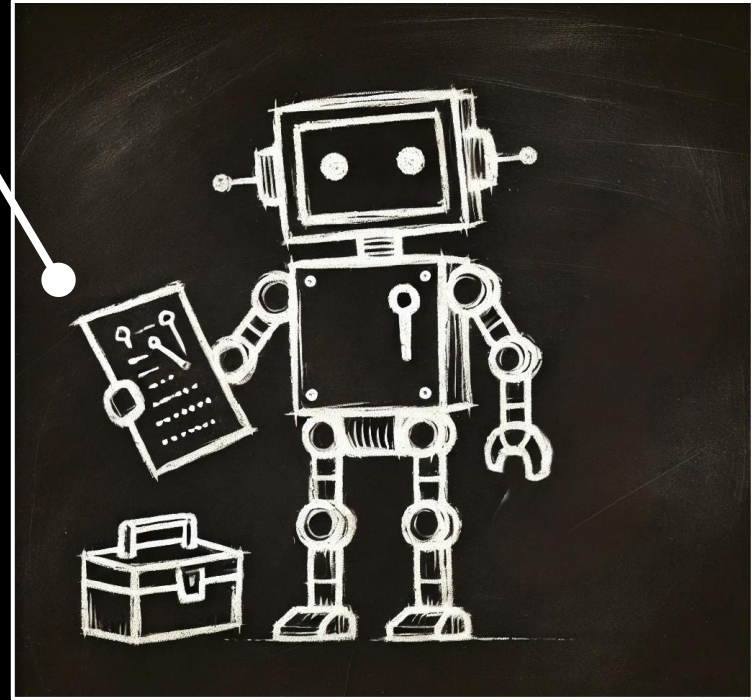
Go to './data/', read all the documents, provide a three sentence summary of the contents of each and group them to articles or evaluations



# Demo Basic Clerical Agent

## Instructions

go to './cvs/markdown',  
read in the CVs, write a  
short three sentence  
profile of each candidate  
write a short overview of  
their experience with AI  
list each candidate's  
explicit backend  
development experience  
write it all up in  
'profiles.txt'





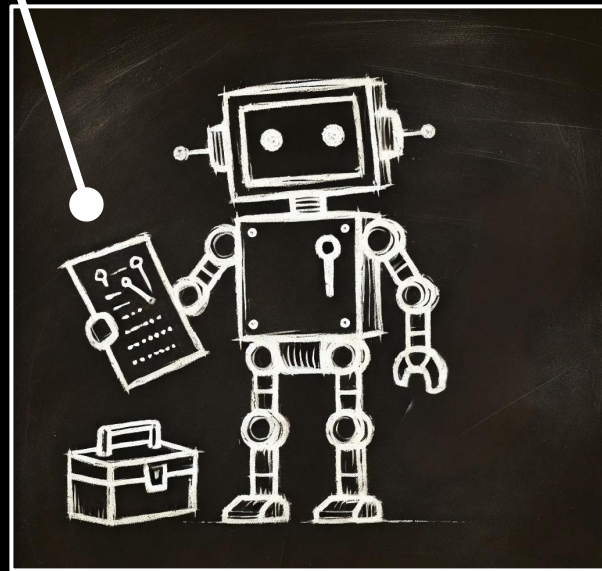
# Demo Basic Clerical Agent

## Instructions

Go to './cvs/markdown' and read each CV. Evaluate candidates for the longlist using these criteria:

- 1) Bachelor's degree in Computer Science, Information Technology, Software Engineering, or a related field (note if advanced degrees are present).
- 2) At least 10 years of progressively responsible experience in software development (covering front-end and back-end).
- 3) Experience leading development projects and teams, emphasizing front-end technology.
- 4) Involvement in any of these domains: energy, airline, payment platforms, or entertainment.
- 5) Strong English and Serbian language skills.

For each candidate argue the extent to which these requirements are met. Finally, save the longlisting report to 'longlisting\_report.txt'.



# Beyond “Basic” Agents:

## **Multimodal Inputs**

Agents can use AI to process not only textual data, but also other unstructured data such as images, video, sound.

## **Agent Orchestration**

Just like humans, specialized agents can be combined to work (asynchronously) together to overcome larger tasks; hierarchies where agents running on more powerful models can coordinate fleets of much cheaper agent 'minions'

## **Chains of Thought/ Processing Chains**

In real life complex tasks often demand sophisticated process and mental maps; agents workflows can be as sophisticated as needed (graphs)

## **Model Context Protocol (MCP)**

A standardized and safe way to expose your system or software to agents (or humans using chatbots); creating service desks where people can 'send' their agents to complete tasks.



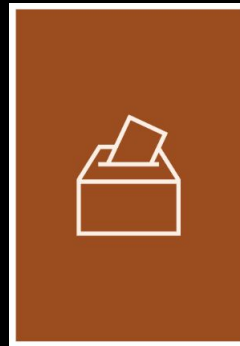
**Questions?**

# Institutional Redesign Exercise

## Step 1 - Find Your Group

(2 mins)

Take a look at the card you received when you entered. Find and join the group with others who have the same card.



# Institutional Redesign Exercise

## Step 2 - Understand Your Institution (3 mins)

Review your assigned institutional description.

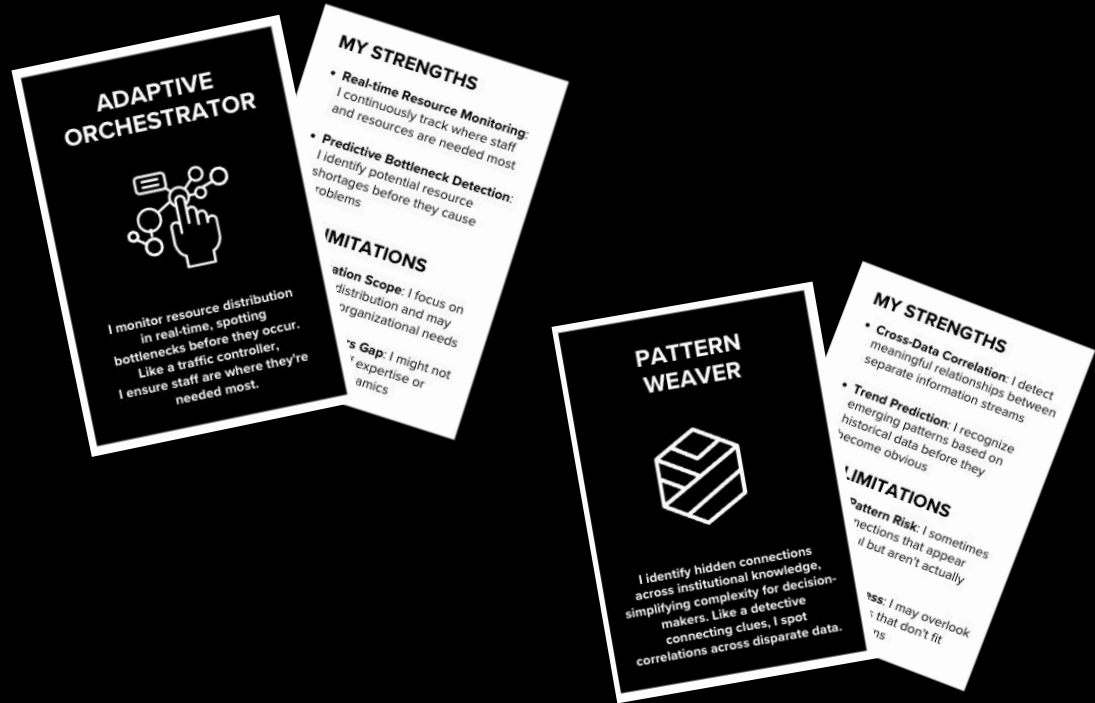


# Institutional Redesign Exercise

## Step 3 - Explore the AI Agent Cards (10 mins)

Explore and discuss all the 20 AI Agent Cards collectively.

Think about which ones are the most relevant for your institution.

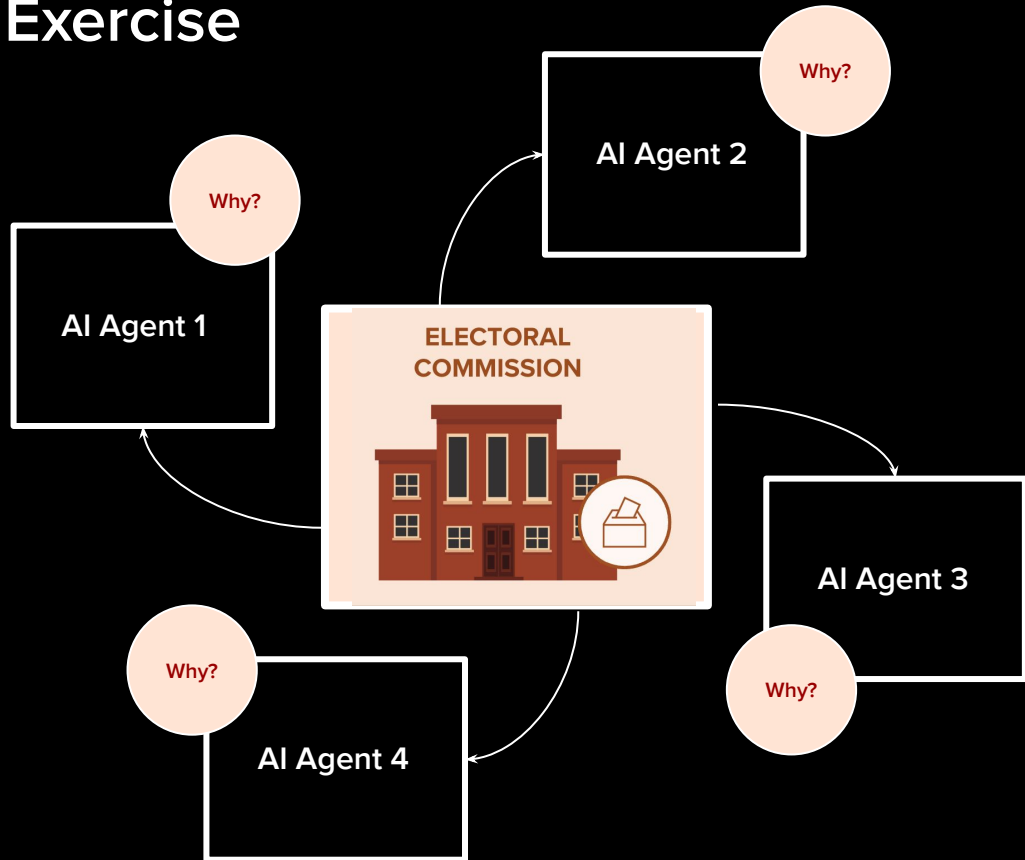


# Institutional Redesign Exercise

## Step 4 - Select the Most Relevant Cards (10 mins)

Select 4 AI capabilities that your group believes will significantly enhance your institution. Explicitly discuss and note:

- Anticipated benefits
- Potential challenges

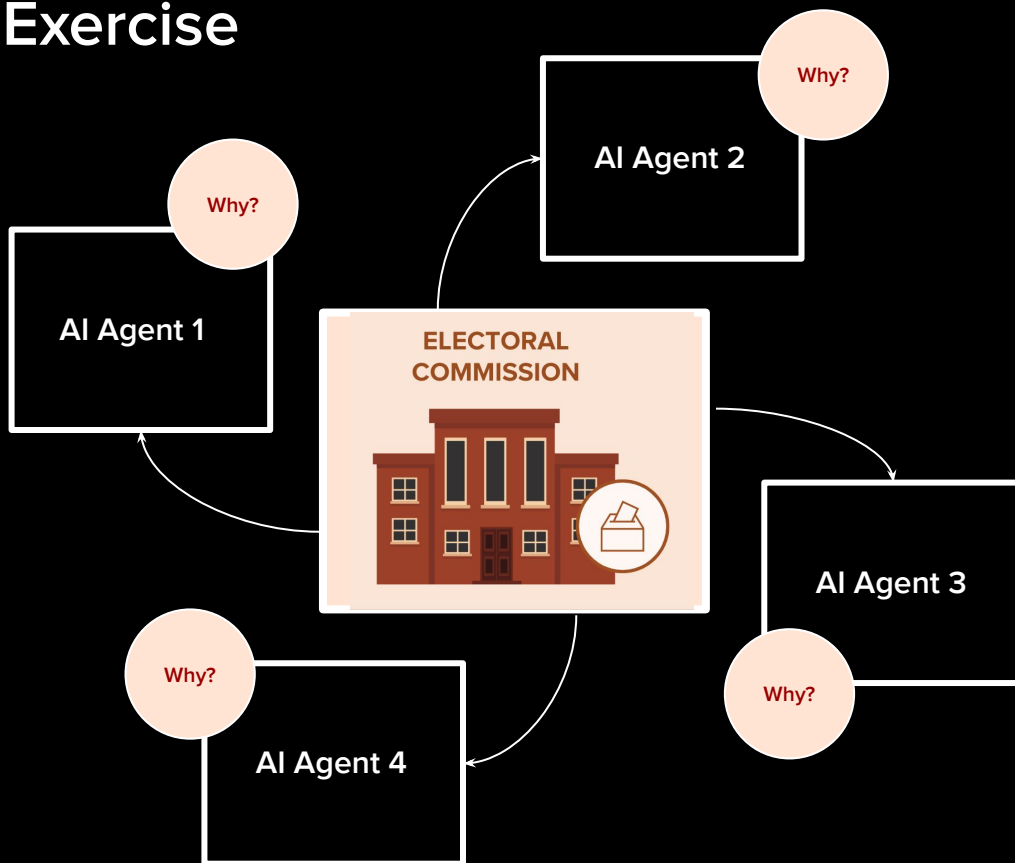


# Institutional Redesign Exercise

## Step 5 - Share Back

(10 mins)

Team up with another group and explain your chosen AI agent cards and reasons to one another.



# Closing Reflections

**What does this all mean for our institutions today?**

# Closing Reflections

What are common opportunities we've identified today?

What shared challenges emerged in today's exercise?

How can these insights inform our strategic planning moving forward?

What does it mean for our institutions today?