Institute of Future Learning
香港城市大學
City University of Hong Kong
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# Generative AI Multi-Agents Workflows for Education

Ir Prof Alan Lam, JP

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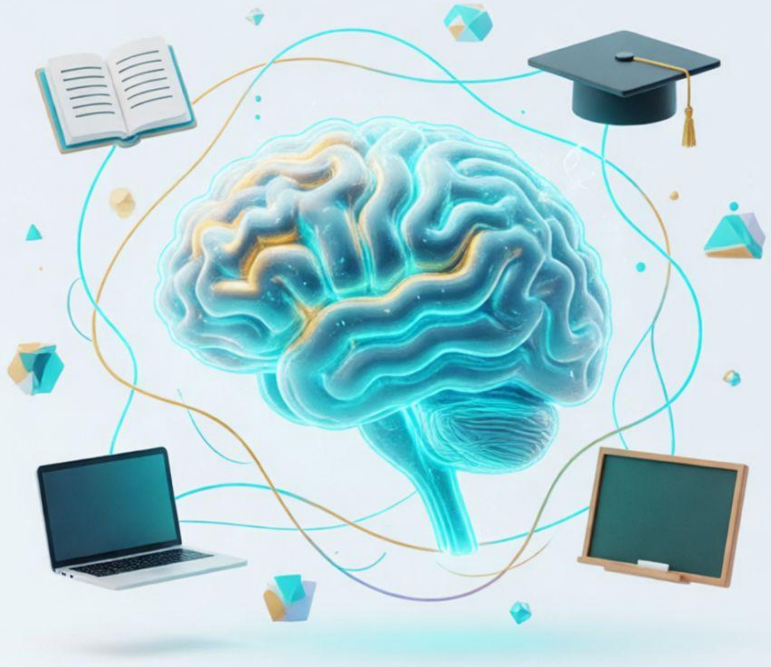
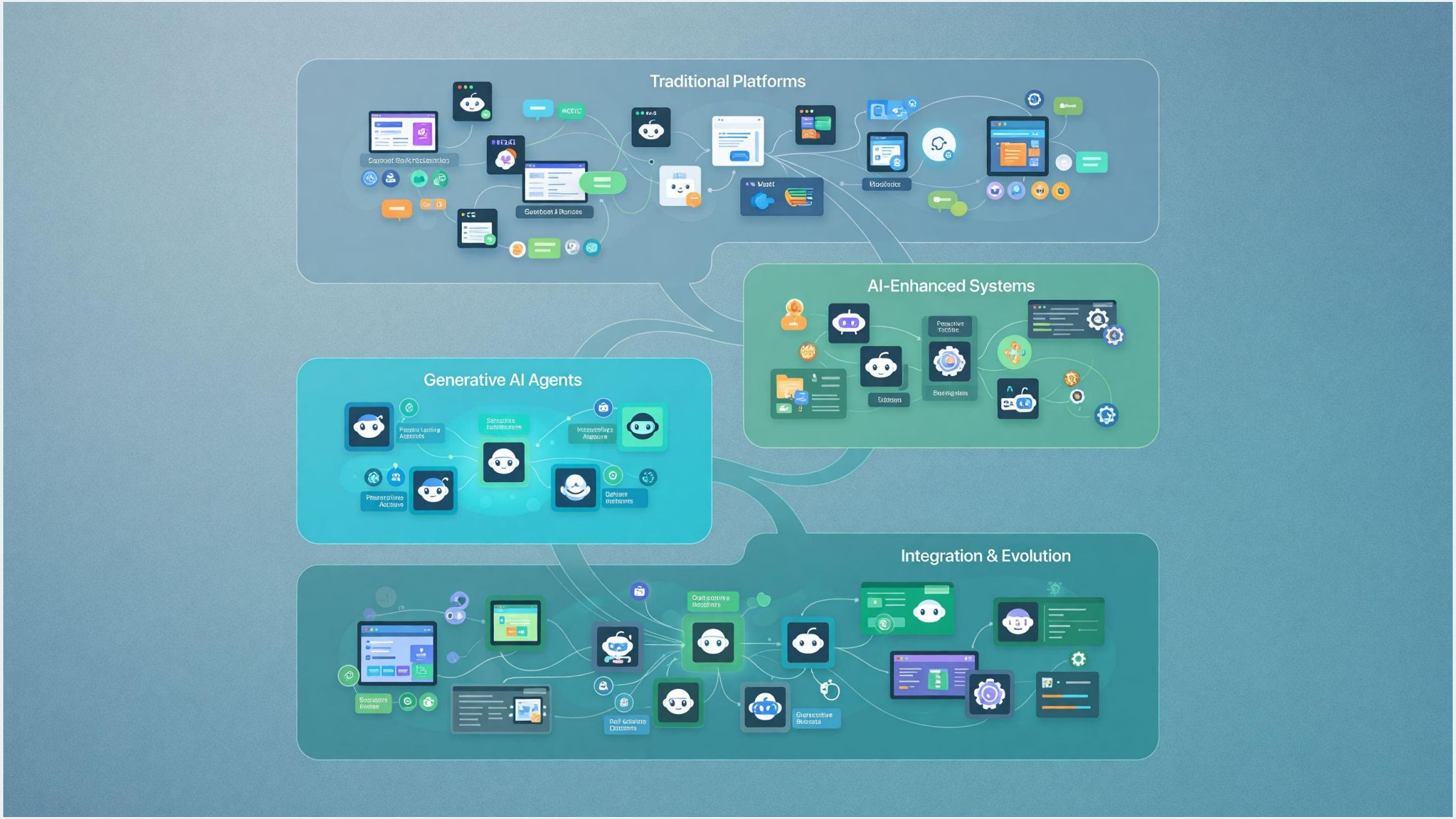
# Integration of GenAI Agents for Education Applications

Ir Prof Alan Lam, JP



# Existing Educational Technologies Overview





# Compatibility and Integration Strategies



# Objectives of GenAI Integrated Systems for Education

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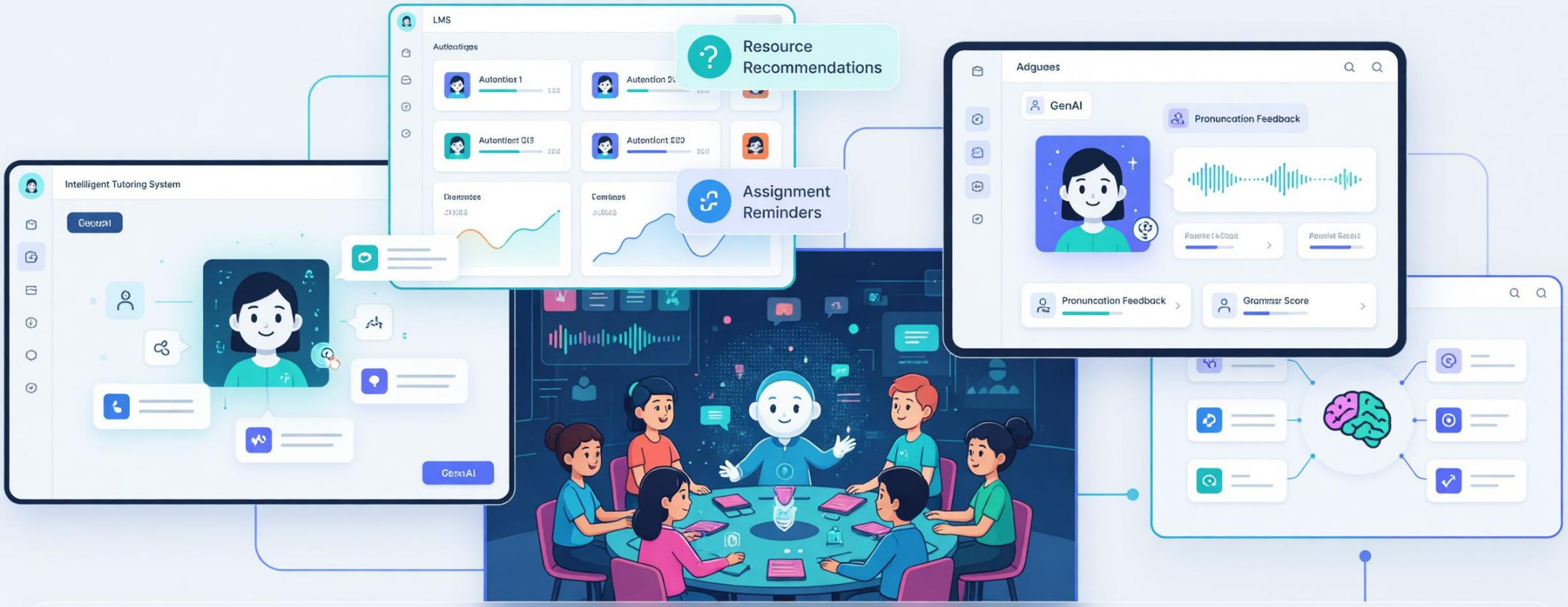



Reduced Educator Workload

Enhanced Learner Autonomy

Interactive Personalized Engagement

# Benefits and Limitations of Integration



## Benefits of GenAI Agent Integration

- Personalized Instruction
- Continuous Access
- Scalable Support
- Adaptive Delivery
- Actionable Analytics

## Limitations and Challenges

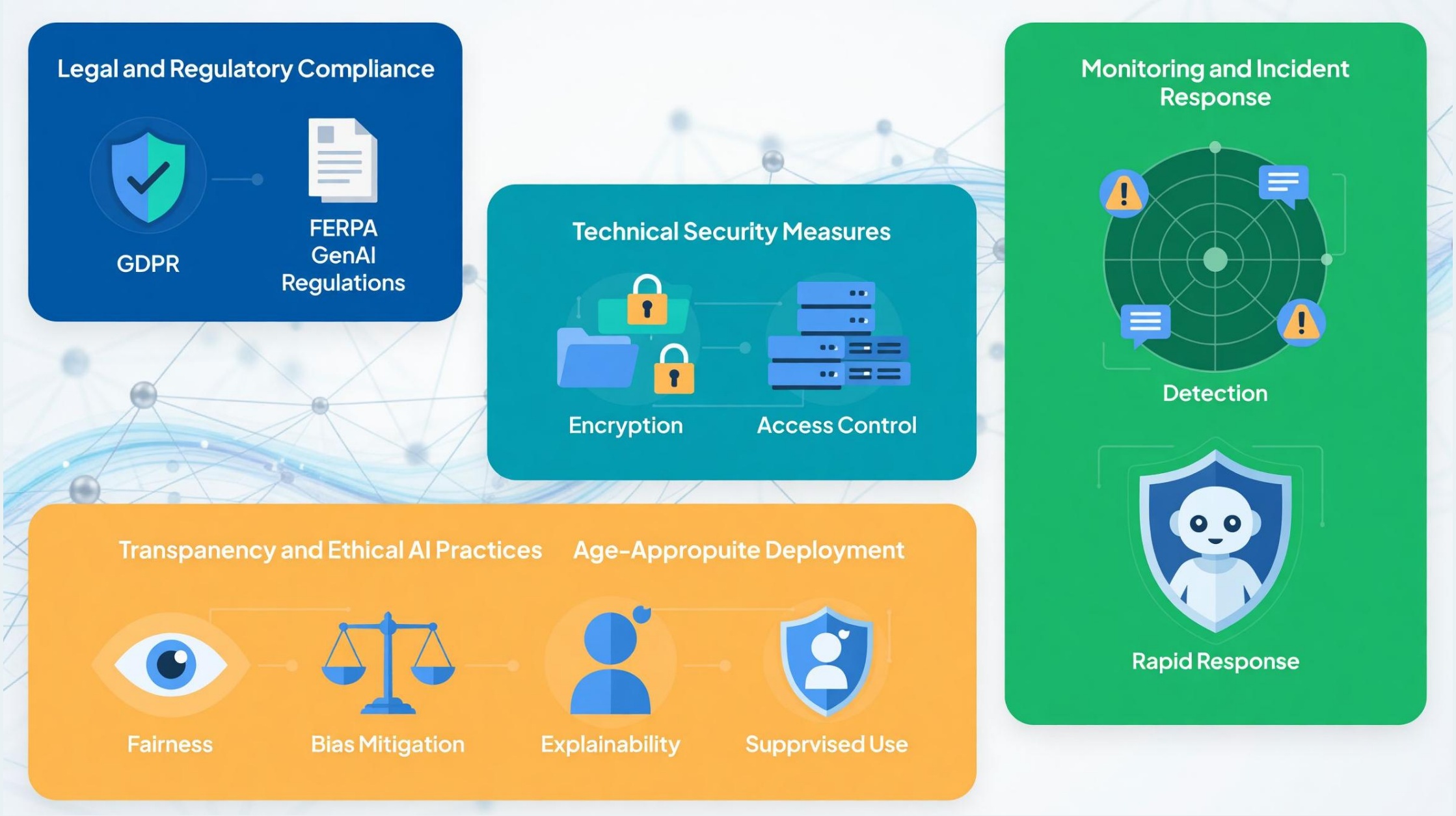
- Integration Complexity
- Data Quality Risks
- & Secacy
- Ethical Transparency
- Infrastructure Demand

## Balancing Innovation and Practicality

Trust & Compliance Balance

# Security and Privacy Considerations





# Roadmap for Seamless Integration

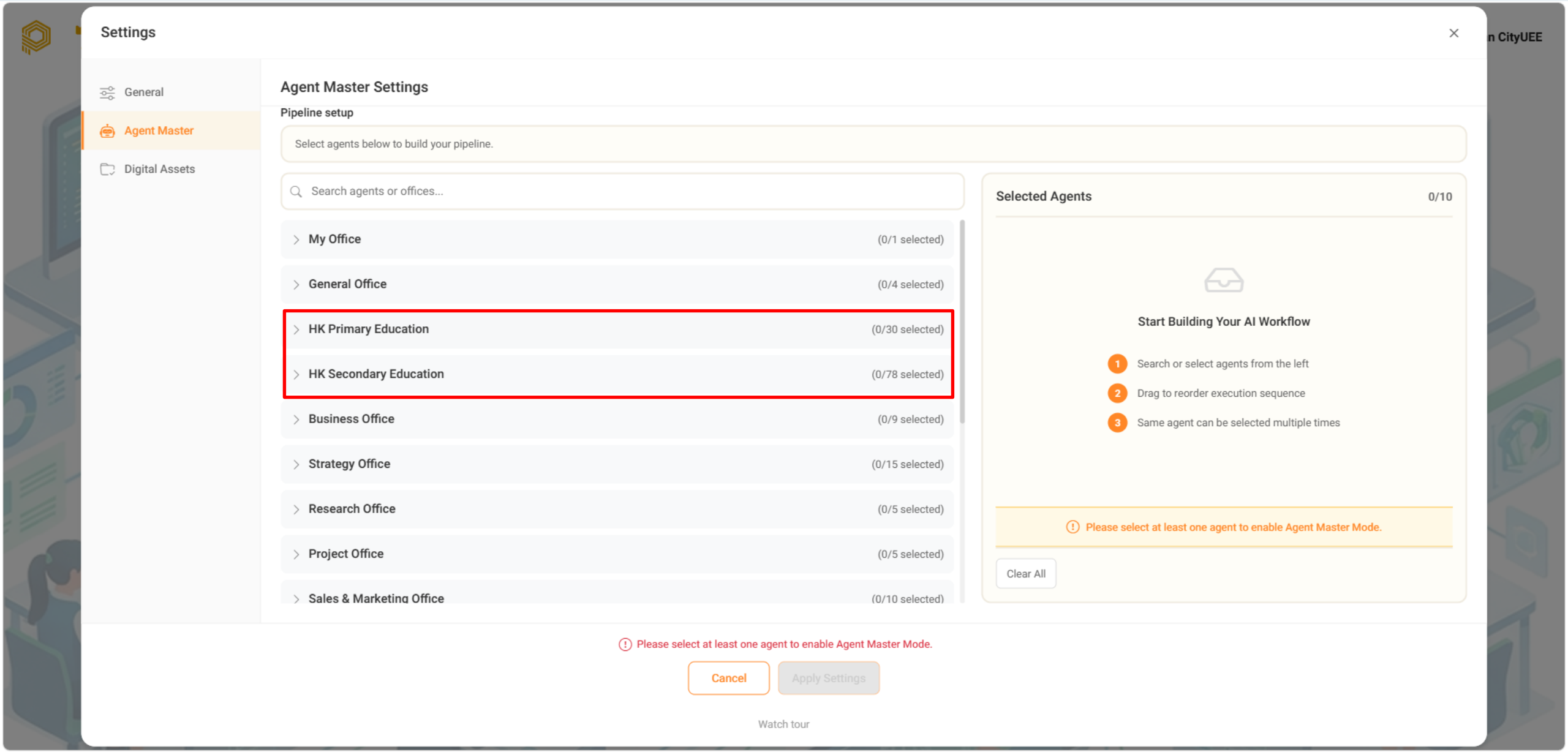


# Poffices.ai for Education Application



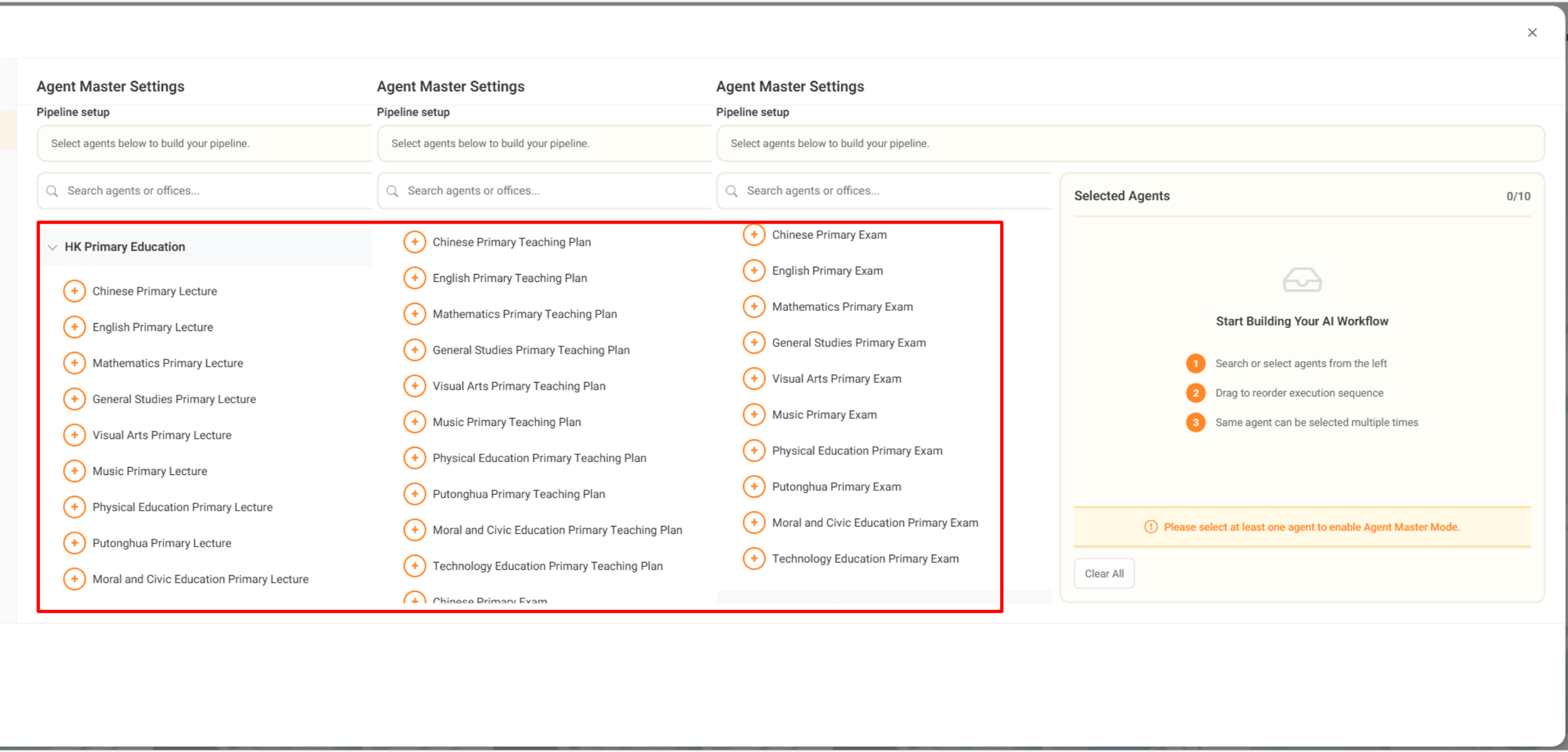
# Poffices.ai for Education Application





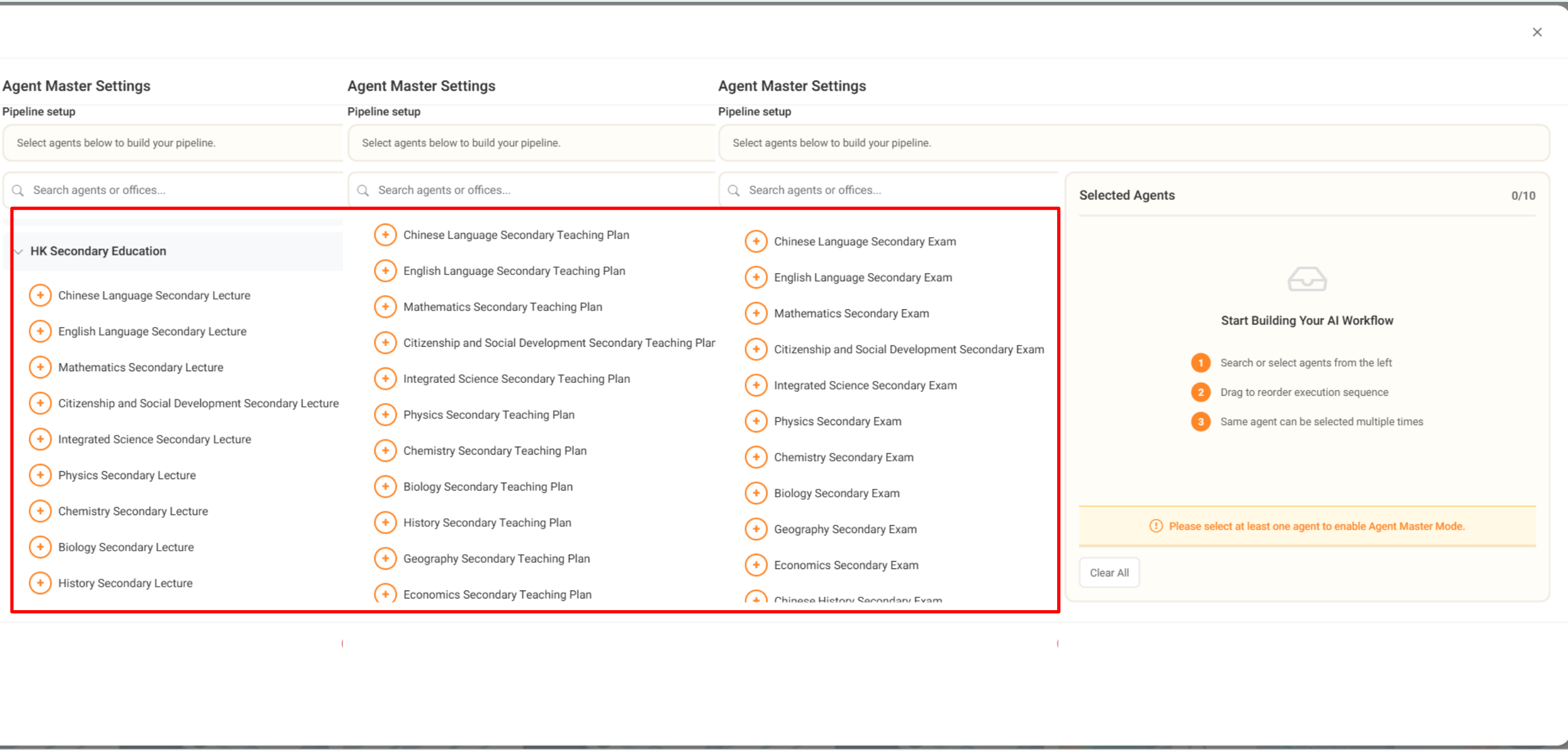
# 30 Primary Agents for Teaching Plan, Lecture Note, Exam





# 78 Secondary Agents for Teaching Plan, Lecture Note, Exam





# Practical Exercise

1. Keep this note confidential. You must NOT share to others or release to public.
2. Login https://poffices.ai/
3. Using Agent Master to choose the above education agent and input the prompt accordingly
4. Using General agent and input the same prompt
5. Review the results and compare education agent and general agent


(2) Enter your input with new prompt, then click generation.

(1) Click Agent Master to choose newly created agents

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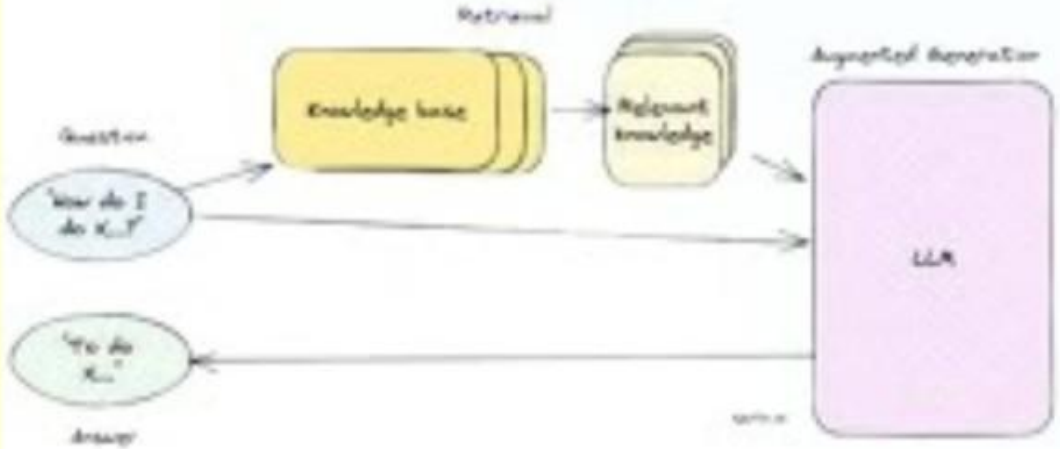
# Integrating RAG in GenAI Agent Development

Ir Prof Alan Lam, JP

# What is Retrieval-Augmented Generation?






What Is

Retrieval

Augmented

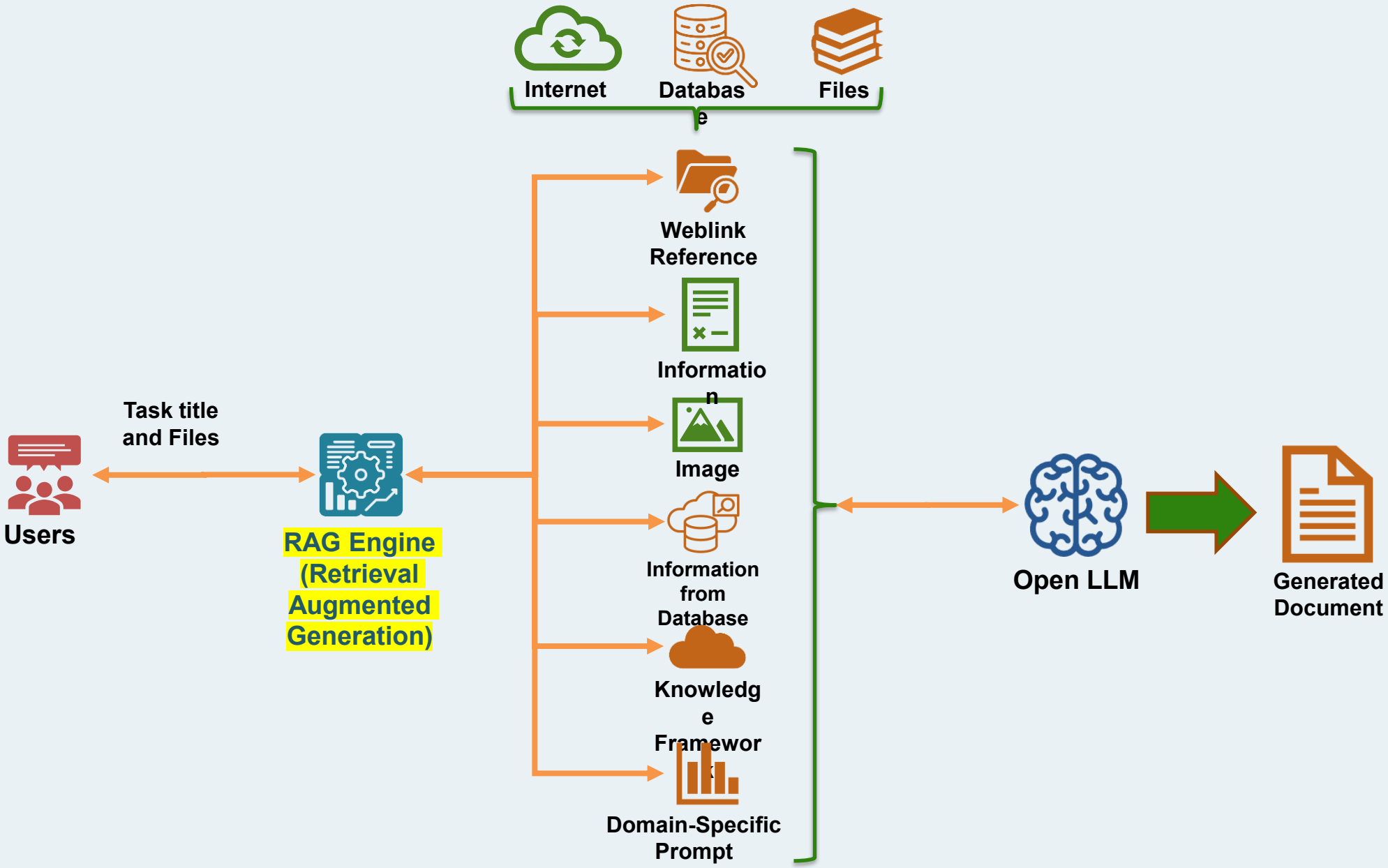
Generation

# Definition of RAG



# Architecture of RAG for Document Generation





# Web Search Principles



## Core Web Search Workflow

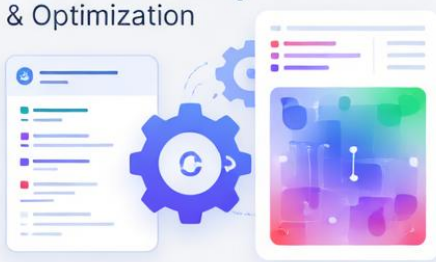
Crawler

### Indexing (Keywords & Embedmings)


### Ranking Optimization


## Hybrid Search

## Relevance Ranking & Optimization



## Keyword Search


Keyword Match

## Semantic Search

Vector Embedmings

Cosine Similarity

# LLM with Agent: Web-Search Engine

Poffices.AI

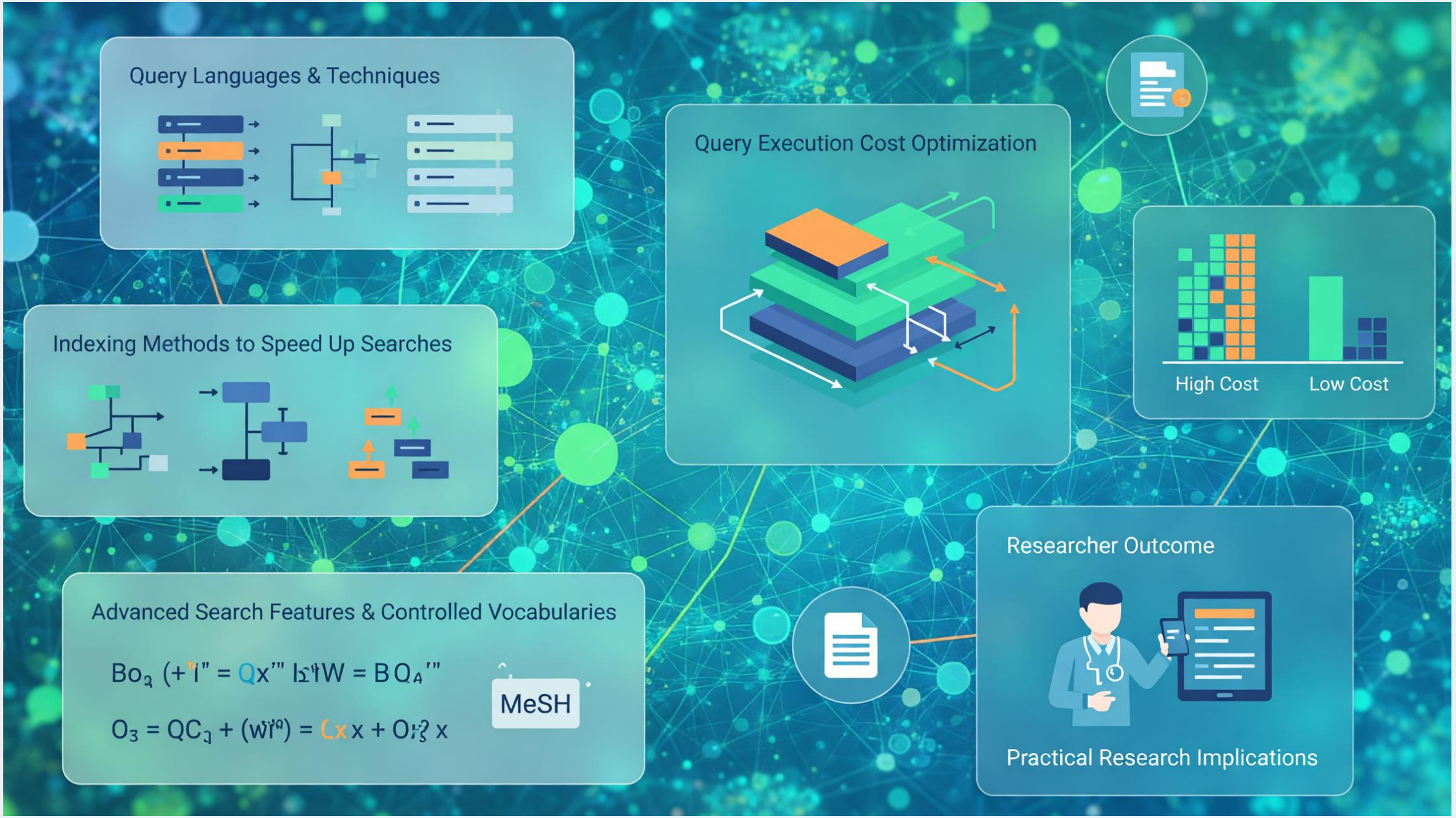
Poffices.AI Web-search Function

**General Agent**
- Limited knowledge base
- Static Responses
- Inability to adapt
- Risk of Errors
- Scalability issues

**Example: Poffices.AI**
- Real-time data retrieval
- Enhanced Personalization
- Improved Adaptability and Learning
- Error Reduction
- Better Handling of Complex Queries
- Significant Scalability
- Contextual Awareness
- Compliance Adherence

# Database Search Techniques





# LLM with Agent: Data-Search Engine

Poffices.AI

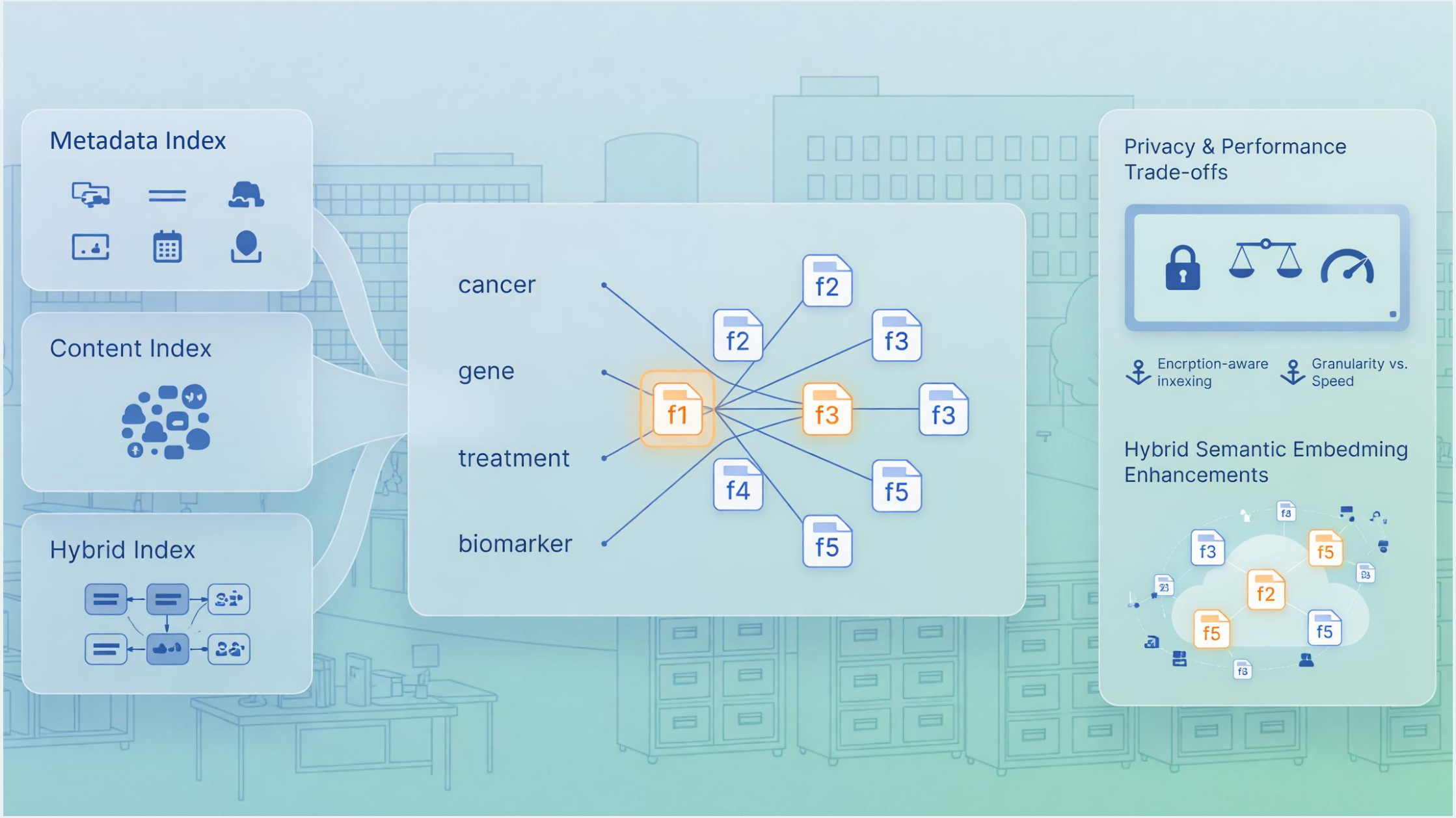
Poffices.AI Database Search Function

**General Agent**
- Limited Adaptability
- Dependency on Pre-trained Knowledge
- Inability to Understand Context
- Generation of Hallucinations
- Resource Intensive and High Maintenance Costs

**Example: Poffices.AI**
- Access to Real-time Data
- Reduction in Maintenance Costs
- Continuous Learning and Improvement
- Enhance Contextual Understanding
- Utilization of RAG\
- Higher Interaction Quality
- Scalability
- Resource Efficiency

# File Search Mechanisms





# LLM with Agent: File-Search Engine

Poffices.AI

Poffices.AI File Search Function

**General Agent**
- Static knowledge base
- Single-Turn Interactions
- Limited Goal-Oriented Behavior
- Inability to Access Unstructured Data Memory Limitations

**Poffices.AI**
- Dynamic Knowledge Integration
- Contextual Awareness
- Goal-Oriented Functionality
- Efficient Handling of Unstructured Data
- Enhanced Learning Capabilities

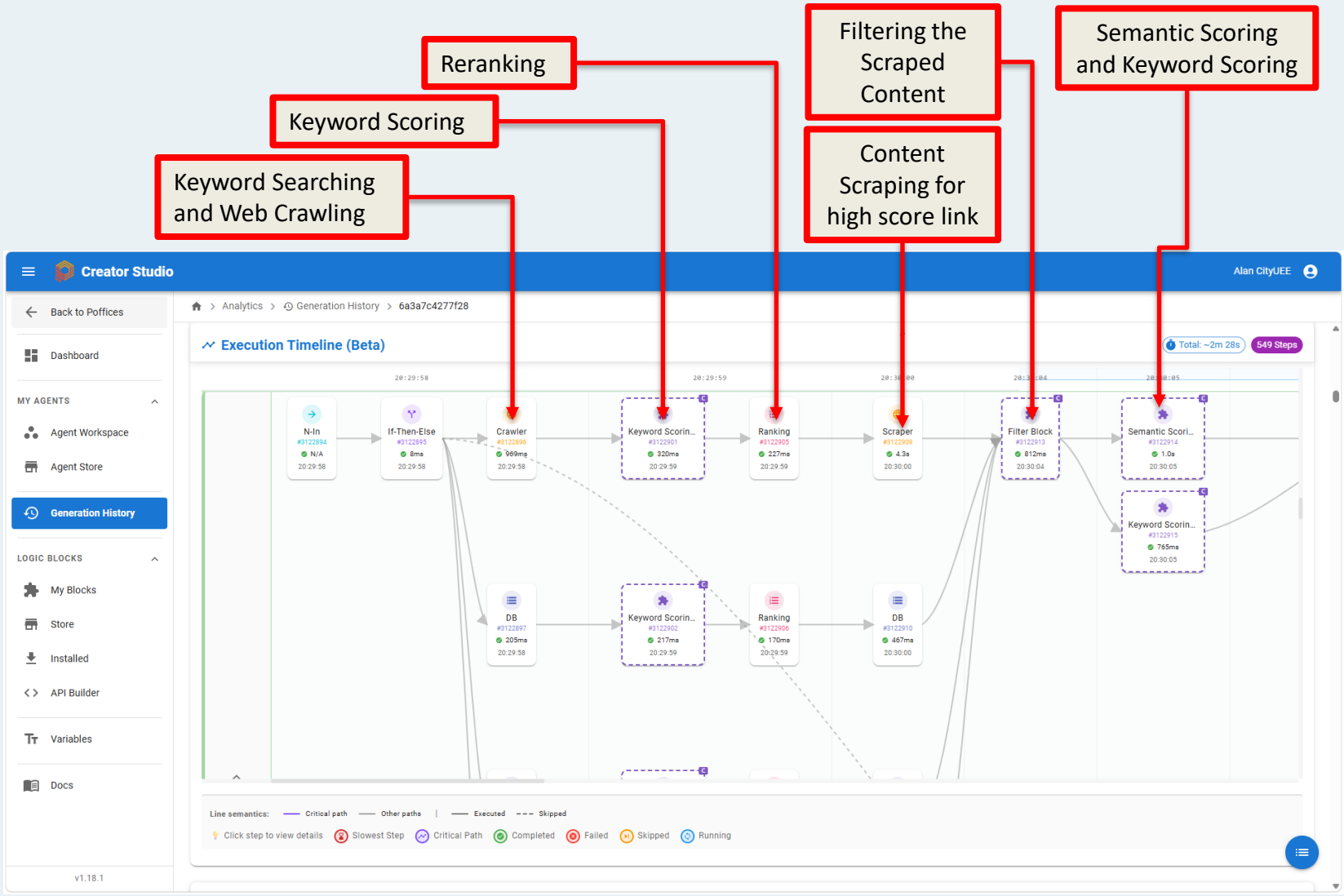
# Use Cases in Education




- AI chatbots automate student support, assisting specialized populations at scale with prompt engineering.
- Multi-agent automation of content creation, grading, and adaptive feedback.
- API integration allows curriculum customization and agent iterative improvement via analytics.
- Security enforcement prevents malicious input exploitation in sensitive education data.
- Integrated AI agents improve learning outcomes while reducing educator workload and boosting engagement.
- Market data confirms growing global investment in GenAI agents for next-gen educational technology.

# Practical Exercise

1. Keep this note confidential. You must NOT share to others or release to public.
2. Login https://poffices.ai/
3. Review the previous results in the Creator Studio Generation History about the web search results
4. Discuss your findings



# Testing of Web Links and Image Links Crawler



# Testing of Web Links and Image Links Crawler



Language  Alan_gravitycp

Using Web and Image link Searcher to do crawling

**Wed and Image link Searcher**

Good evening, **Alan_gravitycp!**

Quick status update on your request:

Request received: "**Web Links and Images Links about Market trends of GenAI Server**". Agent **Wed and Image link Searcher** (Agent **148 (Wed-Image-linker)**) is handling the execution.

Generate the keyword for web search

Output parameters: The document will be named "**Market Trends of GenAI Server**", it will be formatted as a **Professional Document**, written in **English**, following the **## Introduction, ## Current Market Trends, ## Future Predictions, ## Conclusion** structure.

Generate the document structure

Content themes: **GenAI Server market trends**. These topics will shape the output structure and content flow.

Processing has started with the given parameters, and the result will be available shortly.

**Time of preparation: *4.5*s  Time of completion: *181.2*s**

Generate the document title

# Market Trends of GenAI Server

## Web Links

1. **Webpage Title:** AI Servers Now One-third of Global Server Market
   **Short Description:** This article discusses the growth of the global server market focused on AI servers, emphasizing the impact of the GenAI boom on revenues.
   **Webpage Link:** AI Servers Now One-third of Global Server Market

2. **Webpage Title:** Data Center infrastructure market: AI-driven CapEx pushing IT and ...
   **Short Description:** An overview of the anticipated growth in the data center server market by the end of the decade, driven by AI investments.
   **Webpage Link:** Data Center infrastructure market: AI-driven CapEx pushing IT and ...

3. **Webpage Title:** AI Infrastructure – Another Growth Opportunity For Electronic ...

# Testing of Web Links and Image Links Crawler



10 webpages with title, description and link are crawled

## Webpage Links

1. **Title**: GPU Server Market Size, Share & Industry Trends 2030
   **Description**: Analyzes the GPU server market's growth trajectory, emphasizing GenAI's role in driving demand for high-performance hardware.
   **Link**: https://www.marketsandmarkets.com/Market-Reports/gpu-server-market-224437074.html

2. **Title**: Emerging Technology Trends
   **Description**: Highlights performance gains for GenAI models and market trends from 2023–2032, focusing on hardware and software integration.
   **Link**: https://www.jpmorgan.com/content/dam/jpmorgan/documents/technology/jpmc-emerging-technology-trends-report.pdf

3. **Title**: AI Servers Now One-third of Global Server Market
   **Description**: Reports that AI servers now constitute ~33% of the global server market, reflecting strong adoption across industries.
   **Link**: https://counterpointresearch.com/en/insights/post-insight-research-notes-blogs-ai-servers-are-now-one-third-of-the-global-server-market

4. **Title**: AI Server Supply Chain Market size, share and insights 2025–2029
   **Description**: Examines component costs, BOM analysis, and supply chain dynamics for AI servers supporting GenAI workloads.
   **Link**: https://reports.valuates.com/market-reports/MICR-Othe-1D11/unleashing-opportunities-in-the

5. **Title**: Generative AI to Become a $1.3 Trillion Market by 2032, Research Finds
   **Description**: Details how AI servers will fuel revenue growth in the generative AI sector, with hardware as a key driver.
   **Link**: https://www.bloomberg.com/company/press/generative-ai-to-become-a-1-3-trillion-market-by-2032-research-finds

6. **Title**: AI Server Market Size & Share, Statistics Report 2025–2034
   **Description**: Outlines market growth factors, including cross-sector adoption and infrastructure requirements for GenAI.
   **Link**: https://www.gminsights.com/industry-analysis/ai-server-market

7. **Title**: Server Market Analysis – 1H24 Omdia
   **Description**: Focuses on GenAI's impact on server usage for training and inferencing, with insights into LLMs and market segmentation.
   **Link**: https://omdia.tech.informa.com/om121647/server-market-analysis--1h24

8. **Title**: AI data center growth: Meeting the demand | McKinsey
   **Description**: Discusses strategies for scaling data centers to meet AI-driven power and computational demands.
   **Link**: https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/ai-power-expanding-data-center-capacity-to-meet-growing-demand

9. **Title**: Megatrends, PCs, Servers and Moore
   **Description**: Explores server market size ($120 billion) and growth cycles tied to GenAI and Moore's Law.
   **Link**: https://www.citigroup.com/global/insights/megatrends-pcs-servers-and-moore-

10. **Title**: AI Servers Now One-third of Global Server Market
    **Description**: Reiterates Counterpoint Research's findings on AI servers' dominance in the global market.
    **Link**: https://www.counterpointresearch.com/insight/post-insight-research-notes-blogs-ai-servers-are-now-one-third-of-the-global-server-market?listUrl=%2Finsights%2Finsight-category-research-notes-blogs%3Fpage%3D1

# Testing of Web Links and Image Links Crawler



10 images with title, description and link are crawled

Link: https://www.counterpointresearch.com/insight/post-insight-research-notes-blogs-ai-servers-are-now-one-third-of-the-global-server-market?listUrl=%2Finsights%2Finsight-category-research-notes-blogs%3Fpage%3D1

## Image Links

1. **Title**: Server Market Analysis – 1H24 Omdia
   **Description**: Visualizes market share and growth trends for GenAI servers in Q2 2024.
   **Link**: https://omdia.tech.informa.com/-/media/tech/omdia/assetfamily/2024/04/11/server-market-analysis--1h24/assetfamily004.png?rev=44be6cd993a8479f84cdaa95ec9ec362&hash=103B17B045666ED4D52886641BD4E798
2. **Title**: How Long Before AI Servers Take Over The Market?
   **Description**: Graphical projection of AI server market growth from 2021 to 2027.
   **Link**: http://www.nextplatform.com/wp-content/uploads/2023/10/idc-server-forecast-2021-2027-tnp.jpg
3. **Title**: 2024 GenAI Insurance Trends
   **Description**: Highlights GenAI's impact on insurance sectors through specialized server infrastructure.
   **Link**: https://www.limra.com/siteassets/research/research-abstracts-shared/2024/genai-insurance-trends/0373-2024_featureimage3_480x270.jpg
4. **Title**: AI Server Market Size & Share, Statistics Report 2025–2034
   **Description**: Infographic showing projected market size and share for AI servers up to 2034.
   **Link**: https://cdn.gminsights.com/image/rd/sustainable-and-smart-technologies/ai-server-markets-size-by-servers-2025-2034.webp
5. **Title**: Projections reveal AI server spending to shoot to $430B by 2033
   **Description**: Chart depicting exponential growth in AI server spending from 2024 to 2033.
   **Link**: https://futurecio.tech/wp-content/uploads/2024/09/Value-of-Worldwide-AI-Server-Market.png
6. **Title**: AI is poised to drive 160% increase in data center power demand
   **Description**: Illustration of power consumption trends in data centers due to AI workloads.
   **Link**: https://www.goldmansachs.com/images/migrated/insights/pages/articles/ai-is-poised-to-drive-160-increase-in-data-center-power-demand/800x450.jpg
7. **Title**: The Agentic AI Operational Intelligence Platform for ITOps, NOCOps
   **Description**: Visual representation of AI platforms optimizing data center operations.
   **Link**: https://www.fabrix.ai/images/media/fabrixai-named-in-the-gartner-market-trend-report.jpg
8. **Title**: Top Data Center Trends 2025: Global Overview
   **Description**: Summary of data center trends, including AI server integration and sustainability.
   **Link**: https://www.comarch.com/files-com/file_828/TOPDATACENTERTRENDS.jpg
9. **Title**: DeepSeek implications: Generative AI value chain winners & losers
   **Description**: Diagram analyzing GenAI's value chain and competitive landscape.
   **Link**: https://iot-analytics.com/wp-content/uploads/2025/02/Deepseek-implications-winners-and-losers-in-the-genai-value-chain-vfeatured-image.png
10. **Title**: The Generative AI Market
    **Description**: Image showcasing the generative AI market's expansion and server dependencies.
    **Link**: https://www.berginsight.com/static/4c76659271b51b0facef489ce68bdeb2/d4ac7/Generative-AI-1.jpg

# Practical Exercise

1. Login https://Poffices.ai
2. In Agent Master to select “Web Link Searcher”, getting more web links and input your instruction to get the web links.
3. In Agent Master to select “Image Link Searcher”, getting more web links and input your instruction to get the web links.
4. In Agent Master to select “Web Links and Image Links Crawler ” and Input your instruction in Poffices.ai to generate web links and image links based on your topic in instruction.
5. Compare all results above

Note: The web information can be supplied to RAG engine and be embedded to the Prompt to provide to LLM for content generation.


(2) Enter your input with new prompt, check click generation.

(1) Click Agent Master to choose “Web Link Searcher” or “Image Link Searcher” or “Web Links and Images Links Crawler”

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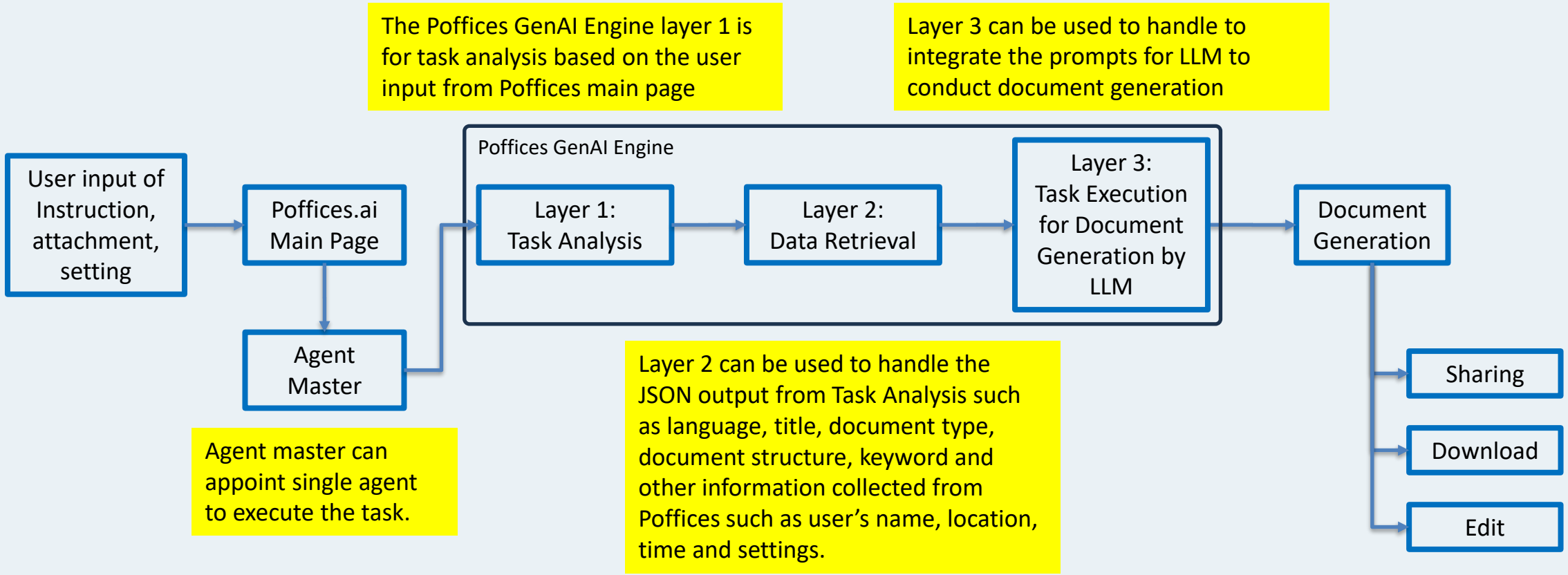
# GenAI Agent with RAG for Educational Domain

Ir Prof Alan Lam, JP

# RAG for Poffices.ai

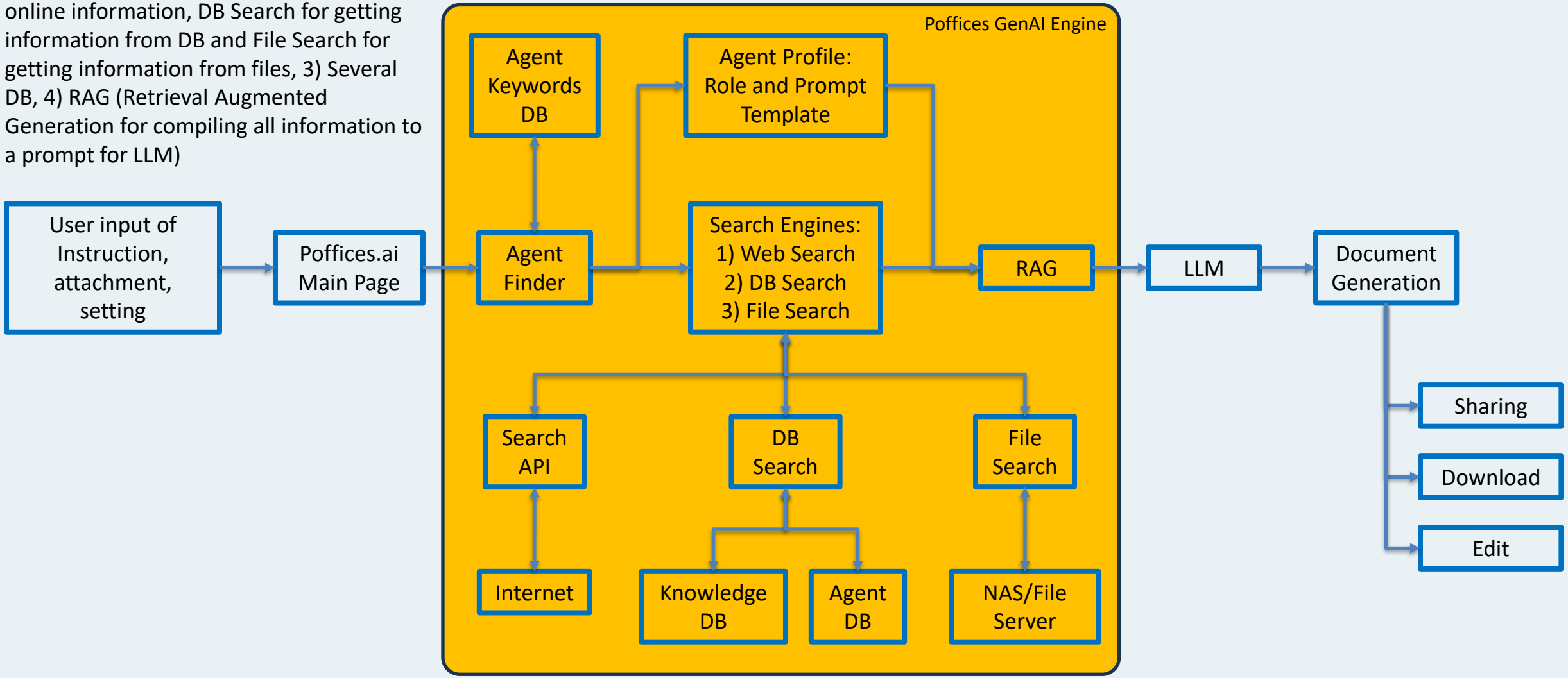
## Block Diagram of Basic GenAI Agents in Poffices.ai



# RAG for Poffices.ai



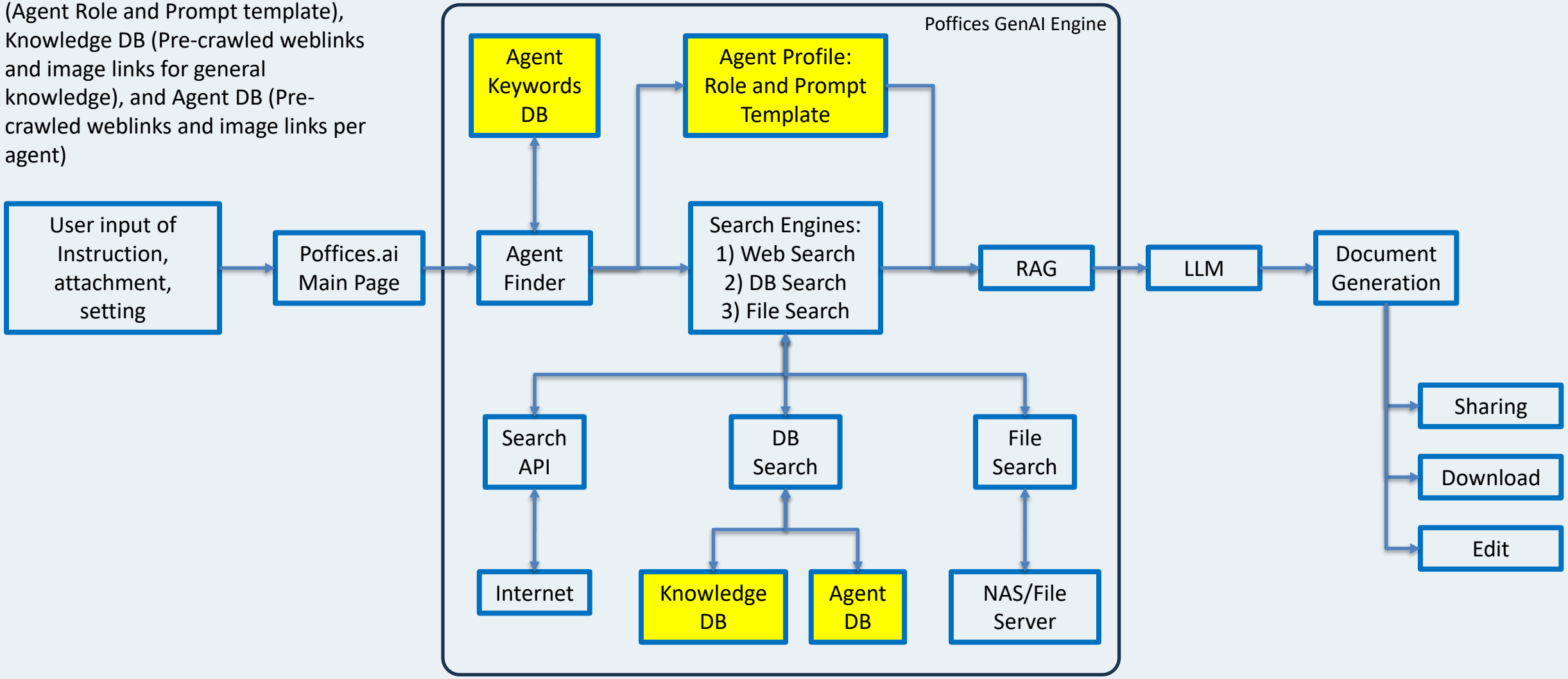
Poffices.ai Engine includes several major components: 1) Agent Finder, 2) Search Engines including Web Search for getting online information, DB Search for getting information from DB and File Search for getting information from files, 3) Several DB, 4) RAG (Retrieval Augmented Generation for compiling all information to a prompt for LLM)



# RAG for Poffices.ai



There are 4 database equipped in the Poffices.ai including Agent keywords DB (classification), Agent Profile (Agent Role and Prompt template), Knowledge DB (Pre-crawled weblinks and image links for general knowledge), and Agent DB (Pre-crawled weblinks and image links per agent)

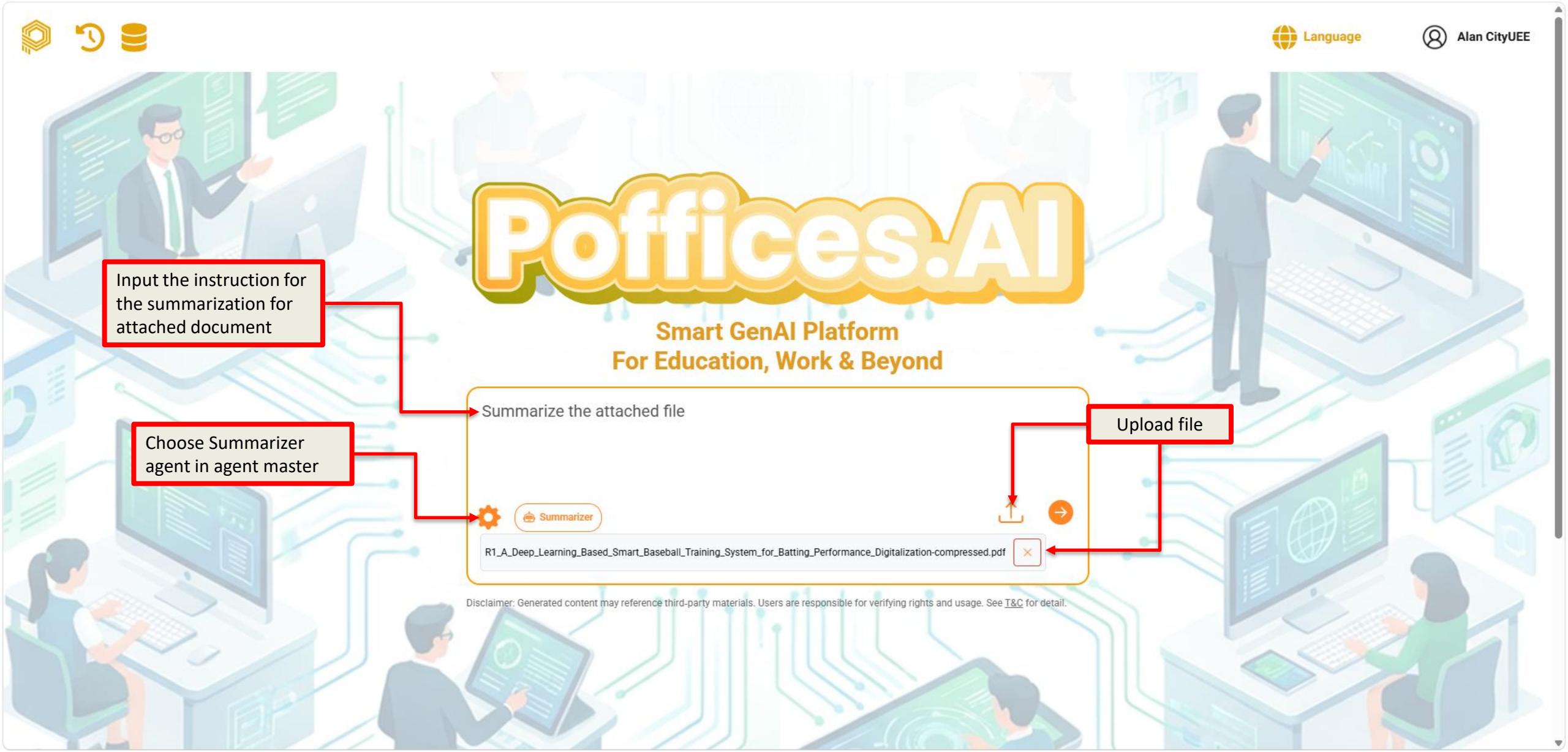


# RAG based on Digital Assets for Poffices.ai



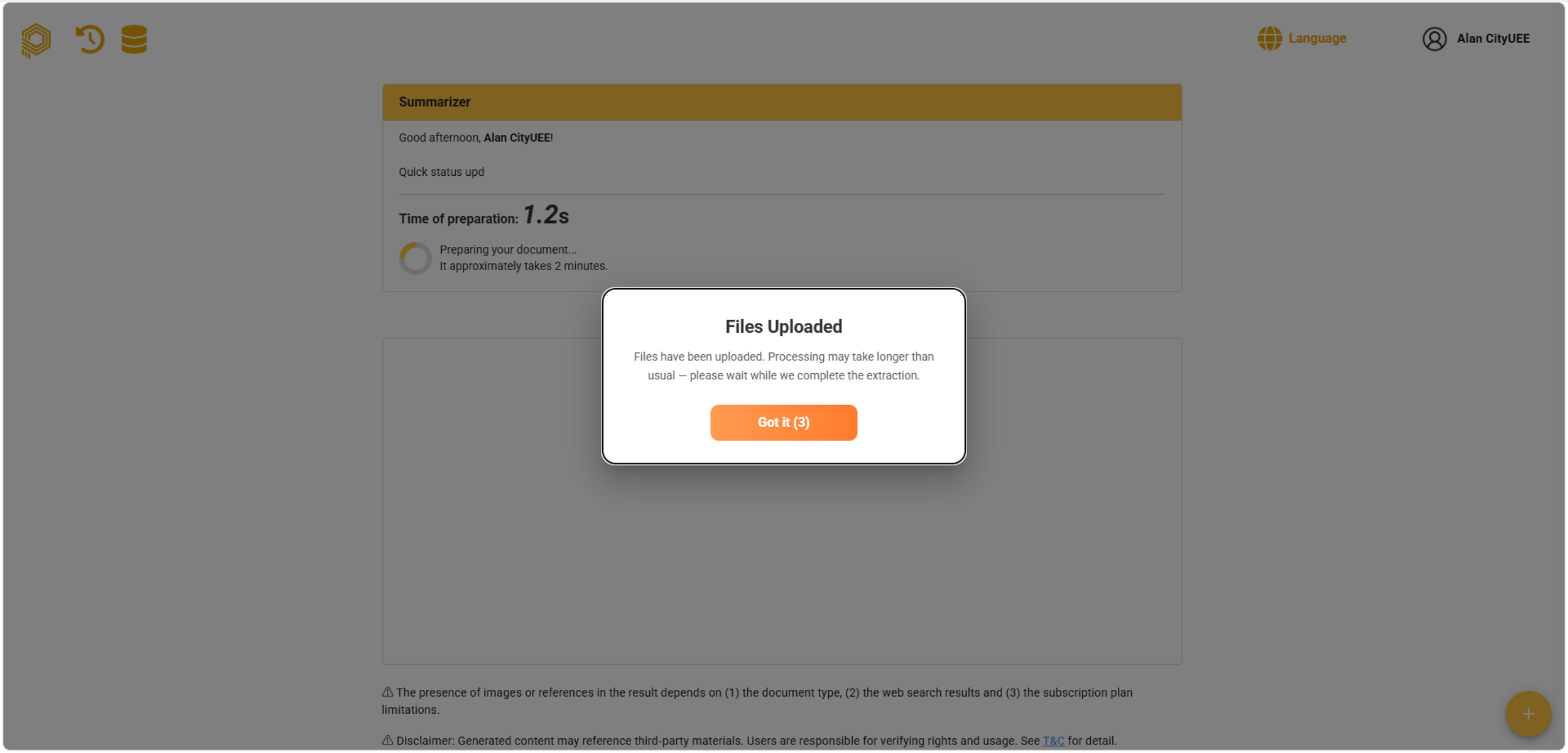
# File Handling by Metadata Extractor and Metadata Builder





# File uploaded in Poffices.ai





# File has been summarized in Poffices.ai



Language  Alan CityUEE

**Summarizer**

Good afternoon, **Alan CityUEE**!

Quick status update on your request:

Request received: "**Summarize the attached file**". Agent **Summarizer** (Agent **190 (summarizer)**) is handling the execution.

Processing has started with the given parameters, and the result will be available shortly.

**R1_A_Deep_Learning_Based_Smar... compressed.pdf**
7.6 MB

**Time of preparation:** ***1.2s*** **Time of completion:** ***118.5s***

## A Deep-Learning Based Consumer Grade Smart Baseball Training System for Batting Performance Digitalization

### I. INTRODUCTION

- Rising demand for scientific sports training with consumer-friendly digitalization.
- Traditional methods limited by high cost and lack of real-time feedback.
- AIoT technologies enable fast, accurate, affordable sports digitalization.
- Baseball system uses camera-based IoT node with smartphone for 3D batting capture.
- Proposes SimRepYOLOv4 model integrating RepVGG, CBAM, and NAM for lightweight detection.
- System achieves over 99.14% AP and 96.9% accuracy in distance calculation.

# Text has been summarized and image database was built



## A Deep-Learning Based Consumer Grade Smart Baseball Training System for Batting Performance Digitalization

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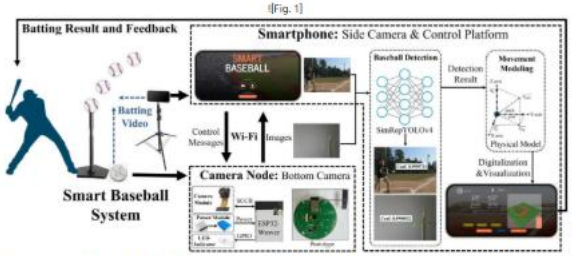
- Proposes SimRepYOLOv4 model integrating RepVGG, CBAM, and NAM for lightweight detection.
- System achieves over 99.14% AP and 96.9% accuracy in distance calculation.

### II. RELATED WORK

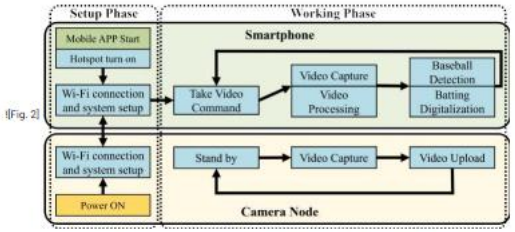
- Prior sports digitalization used multi-exposure and stereo vision for ball trajectory.
- Baseball systems rely on expensive multi-sensor setups or slow, impractical methods.
- Proposed system focuses on low-cost, consumer-grade vision-based digitalization.
- Uses deep learning and physical models to analyze baseball motion efficiently.

[Fig. 1]




### III. SYSTEM ARCHITECTURE DESIGN

- System includes ESP32-Wrover camera node (bottom-view) and smartphone (side-view & control).
- Camera node captures batting video, transmits via Wi-Fi to smartphone for processing.
- Smartphone visualizes speed, angles, distance, and 3D trajectory in real-time.
- Architecture optimized for low compute load and battery efficiency.
- Workflow phases: setup (Wi-Fi config) and working (video capture, detection, digitalization).



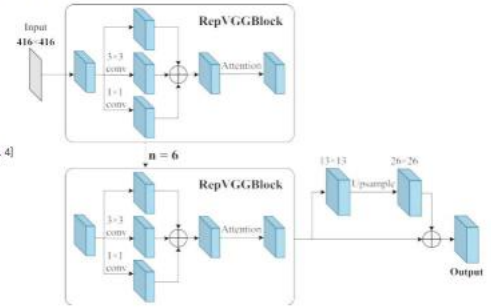

[Fig. 2]

[Fig. 3]

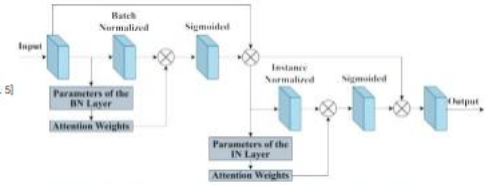
### IV. METHODOLOGY

- Vision-based system uses lightweight YOLOv4 with RepVGG backbone and CBAM/NAM attention modules for baseball detection.
- Model optimized for small, fast-moving objects under various lighting and blur conditions.
- Mosaic and exposure augmentations improve robustness and generalization.
- Physical model decomposes velocity in 3D, calculates flight distance, yaw, and pitch angles from multi-angle video.
- Velocity and trajectory derived from pixel displacement and known baseball diameter.

[Fig. 4]




[Fig. 5]




[Fig. 6]

(a) (b) (c)

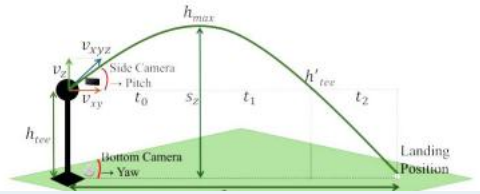
$$S_{xy} = v_{xy}(t) \times t_{total}$$

$$v_{xy}(t) = \sqrt{v_x(t)^2 + v_y(t)^2}$$

$$\angle yaw = \tan^{-1}\left(\frac{bottom\_y_2 - bottom\_y_1}{bottom\_x_2 - bottom\_x_1}\right)$$

$$\angle pitch = \tan^{-1}\left(\frac{side\_y_2 - side\_y_1}{side\_x_2 - side\_x_1}\right)$$

$$V_{total} = \sqrt{V_x^2 + V_y^2 + V_z^2}$$



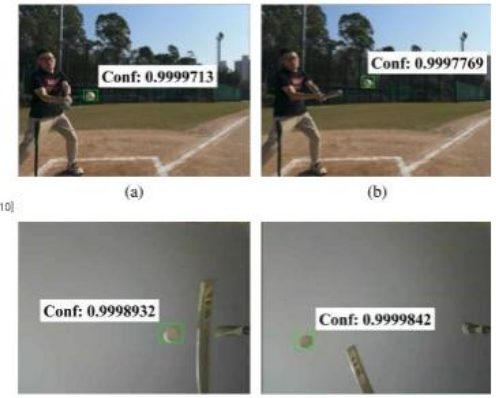

- Field test setup with one camera node and smartphone validates system in real baseball field.

[Fig. 9]


(a) (b)

- Baseball detected in both views with high confidence confirms system function.

[Fig. 10]



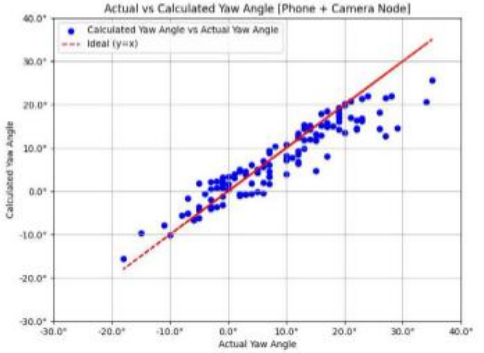

(a) (b) (c) (d)

- Calculated batting parameters closely match actual measurements; simulated trajectory visualized accurately.

[Fig. 11]


| Date | Number | Distance (m) | Speed (m/s) | Pitch (°) | Yaw (°) |
|---|---|---|---|---|---|
| 2024-Nov-29 | 25 | 12.77 | 13.22 | 16.95 | 1.86 |
| 2024-Dec-10 | 45 | 14.16 | 13.48 | 24.11 | 8.99 |
| 2024-Dec-19 | 30 | 18.00 | 14.80 | 25.84 | 11.45 |
| 2025-Apr-15 | 26 | 19.75 | 16.03 | 24.14 | 4.49 |
| Metric | Result | | | | |
| --- | --- | | | | |
| Average Actual Dist. | 15.83 m | | | | |
| Average Calculated Dist. | 15.96 m | | | | |
| Average Actual Yaw | 8.71° | | | | |

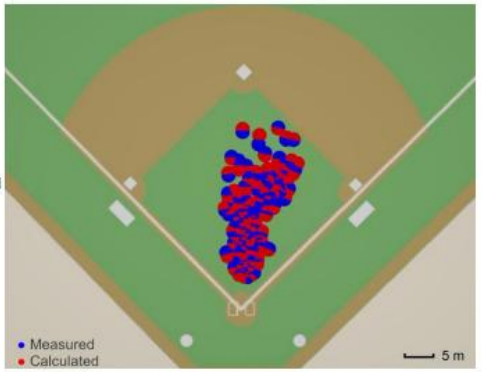
[Fig. 12]




(b)

- Lighting tests (507 trials) confirm stable system accuracy across ambient brightness variations.
- Distance accuracy exceeds 94% under all lighting; pitch error slightly rises in twilight.
- System visualizes landing points on a real baseball field with strong consistency.

[Fig. 13]




| Subject | Practice 1 Speed (m/s) | Angle (°) | Distance (m) | Practice 2 Speed (m/s) | Angle (°) | Distance (m) | Improvement |
|---|---|---|---|---|---|---|---|
| Beginner 1 | 14.63 | 18.16 | 14.62 | 14.01 | 28.21 | 17.48 | +2.86 m (19.6%) |
| Beginner 2 | 13.89 | 30.17 | 14.75 | 15.40 | 24.03 | 17.99 | +3.24 m (22.0%) |

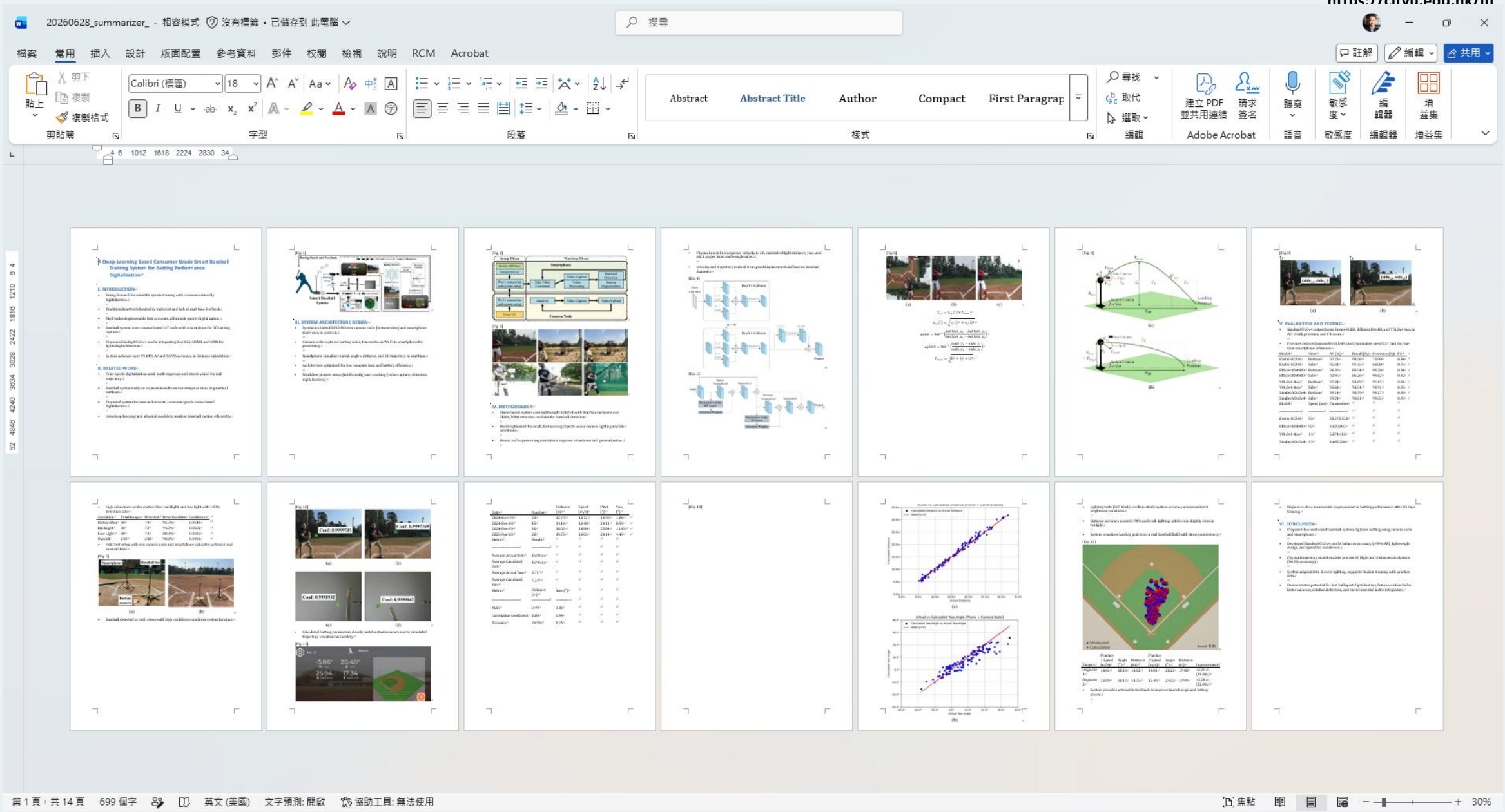
- System provides actionable feedback to improve launch angle and hitting power.
- Beginners show measurable improvement in batting performance after 10 days training.

### VI. CONCLUSION

- Proposed low-cost smart baseball system digitizes batting using camera node and smartphone.
- Developed SimRepYOLOv4 model balances accuracy (>99% AP), lightweight design, and speed for mobile use.
- Physical trajectory model enables precise 3D flight and distance calculations (96.9% accuracy).
- System adaptable to diverse lighting, supports flexible training with practice nets.
- Demonstrates potential for fast ball sport digitalization; future work includes faster cameras, rotation detection, and environmental factor integration.

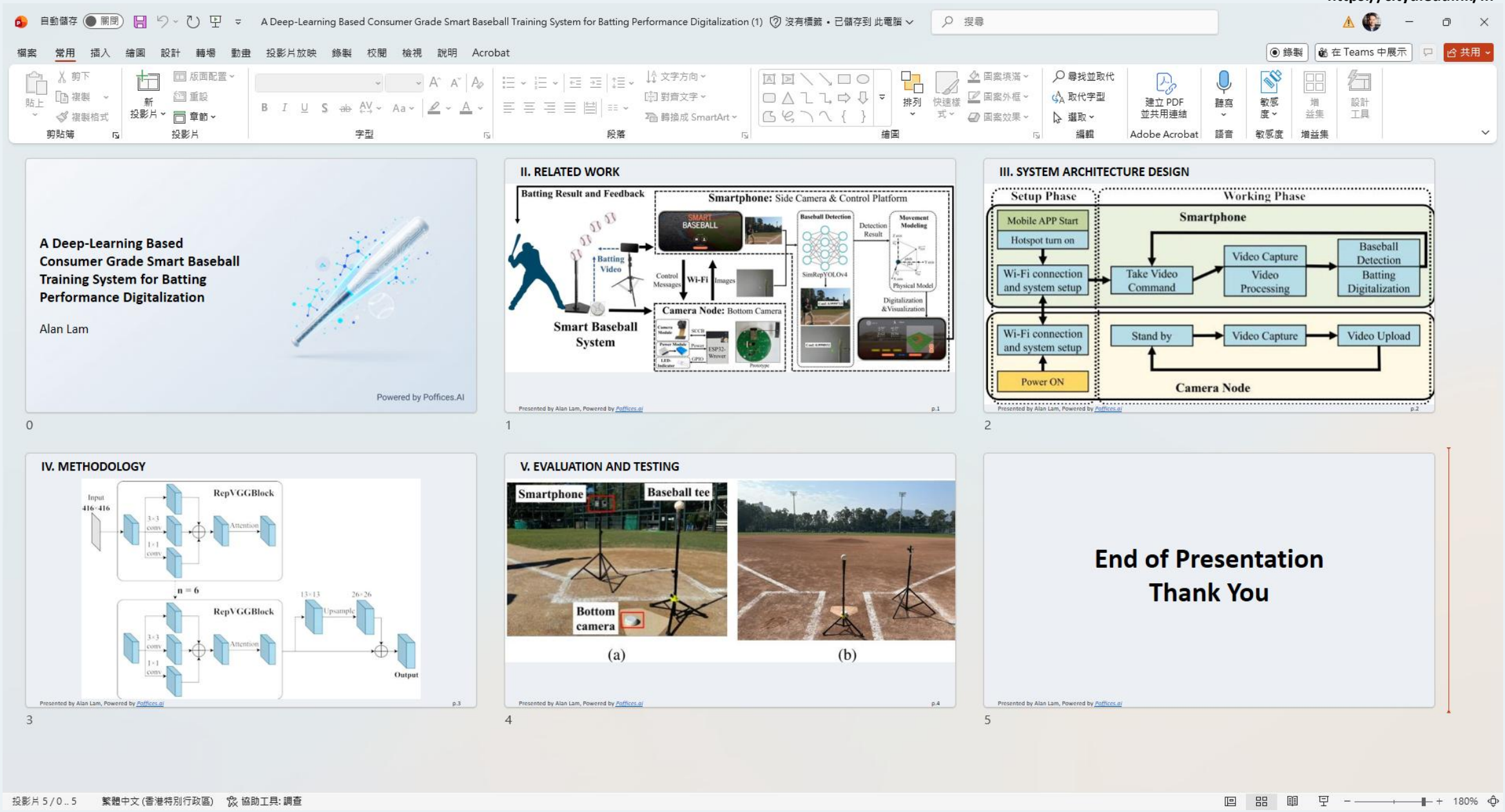
# The summarized output can be saved as docx source file





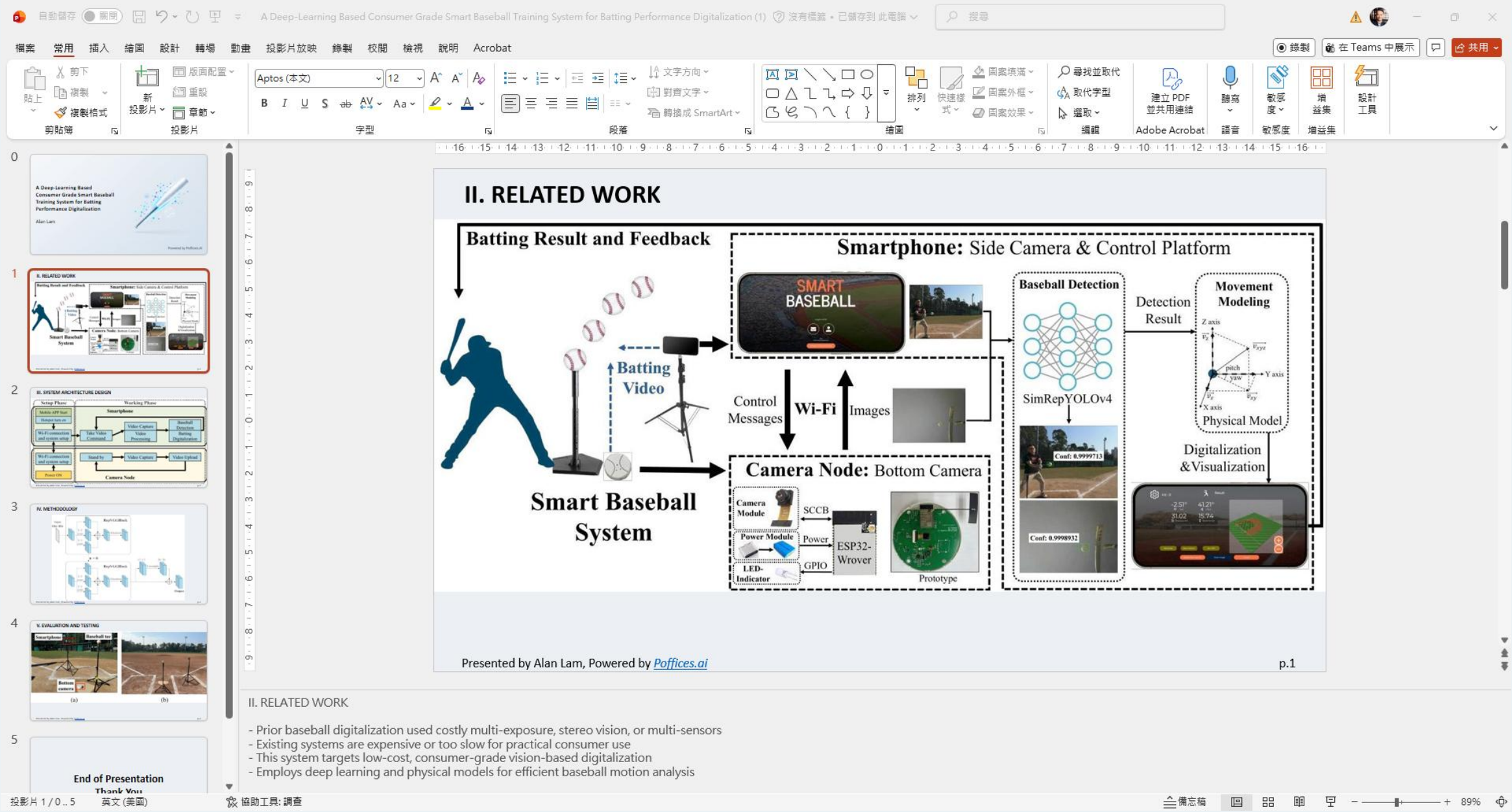
# The summarized output can be saved as pptx source file





# The pptx source file includes image and text as note

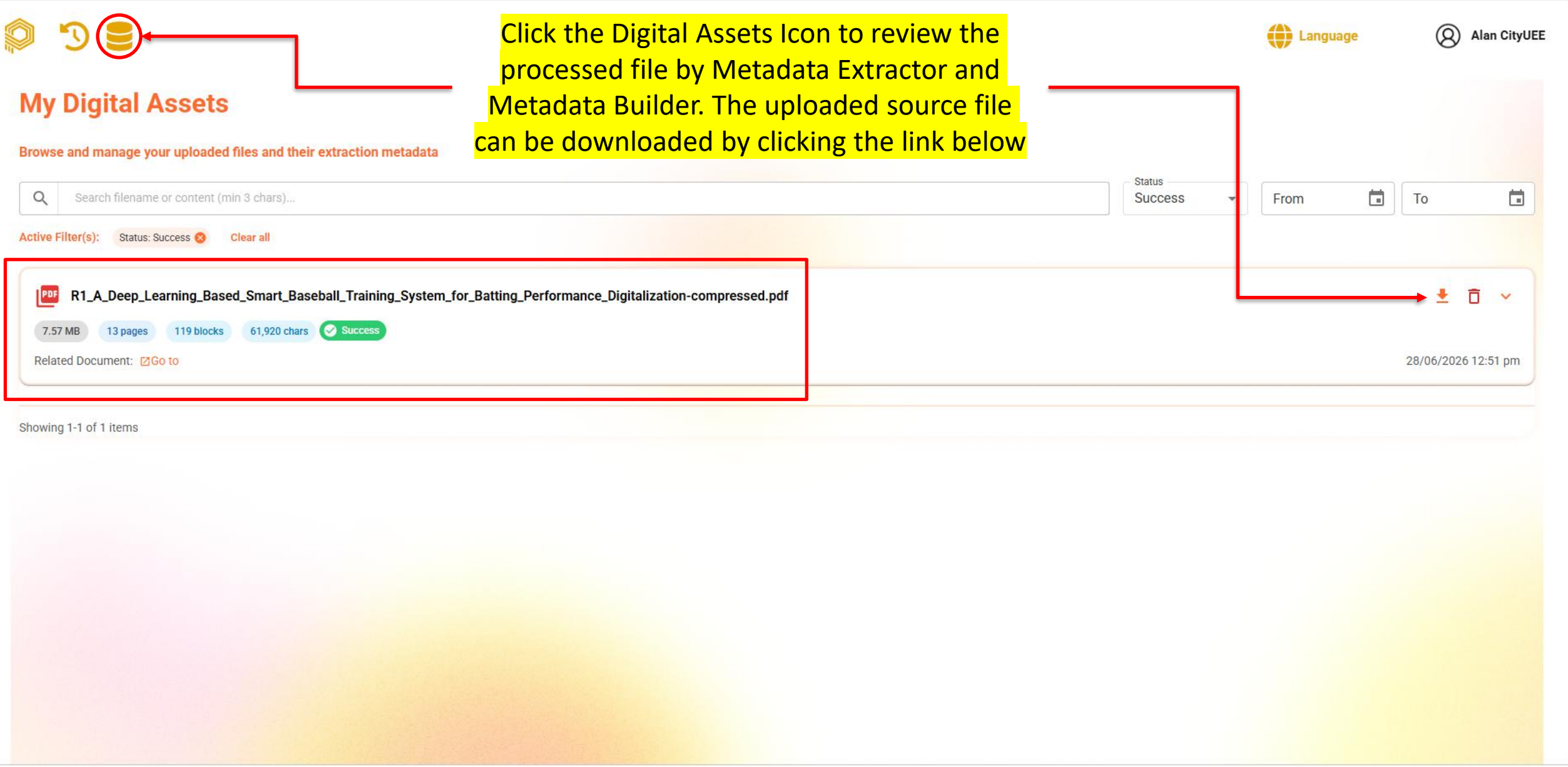




# The uploaded file has been stored in Digital Assets page

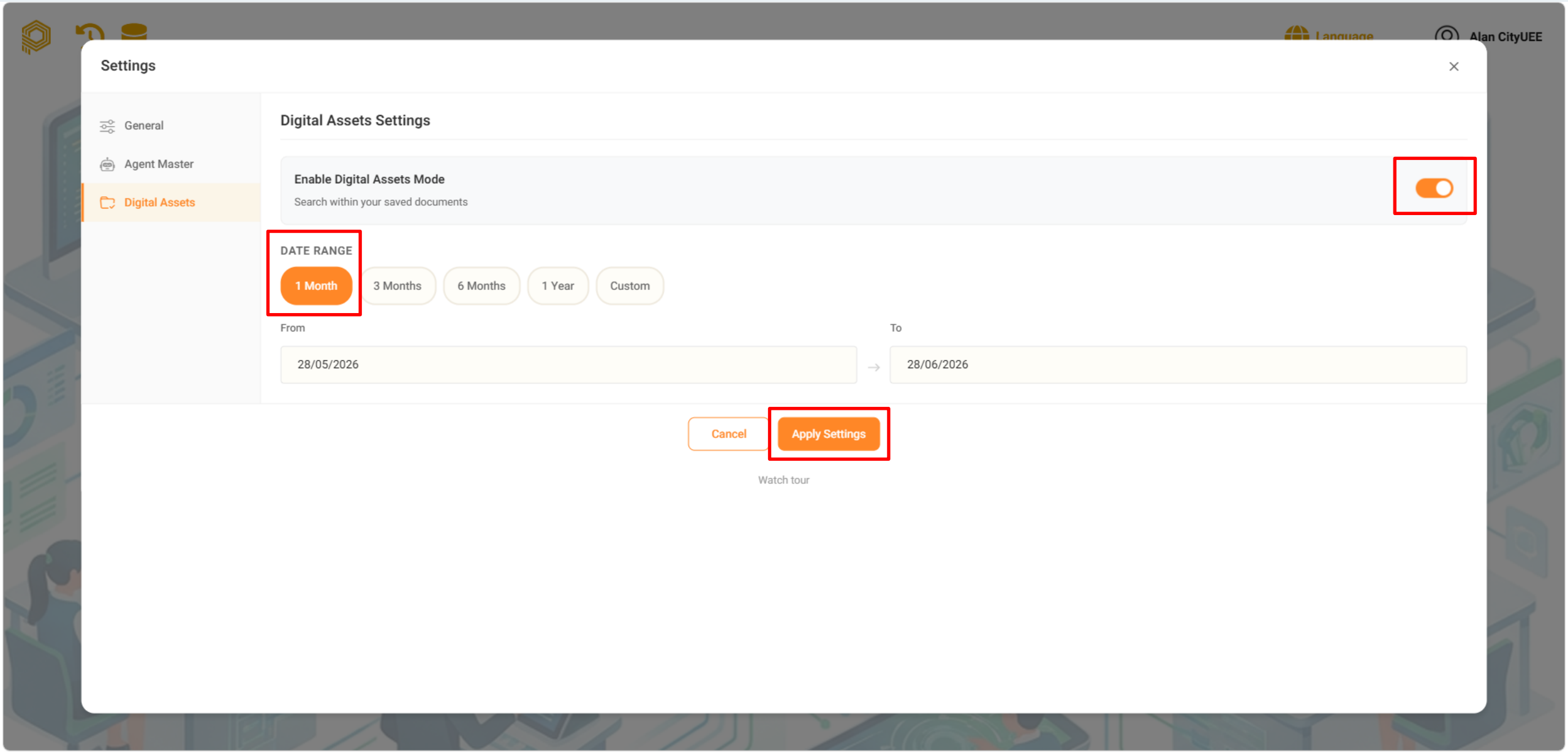


Click the Digital Assets Icon to review the processed file by Metadata Extractor and Metadata Builder. The uploaded source file can be downloaded by clicking the link below



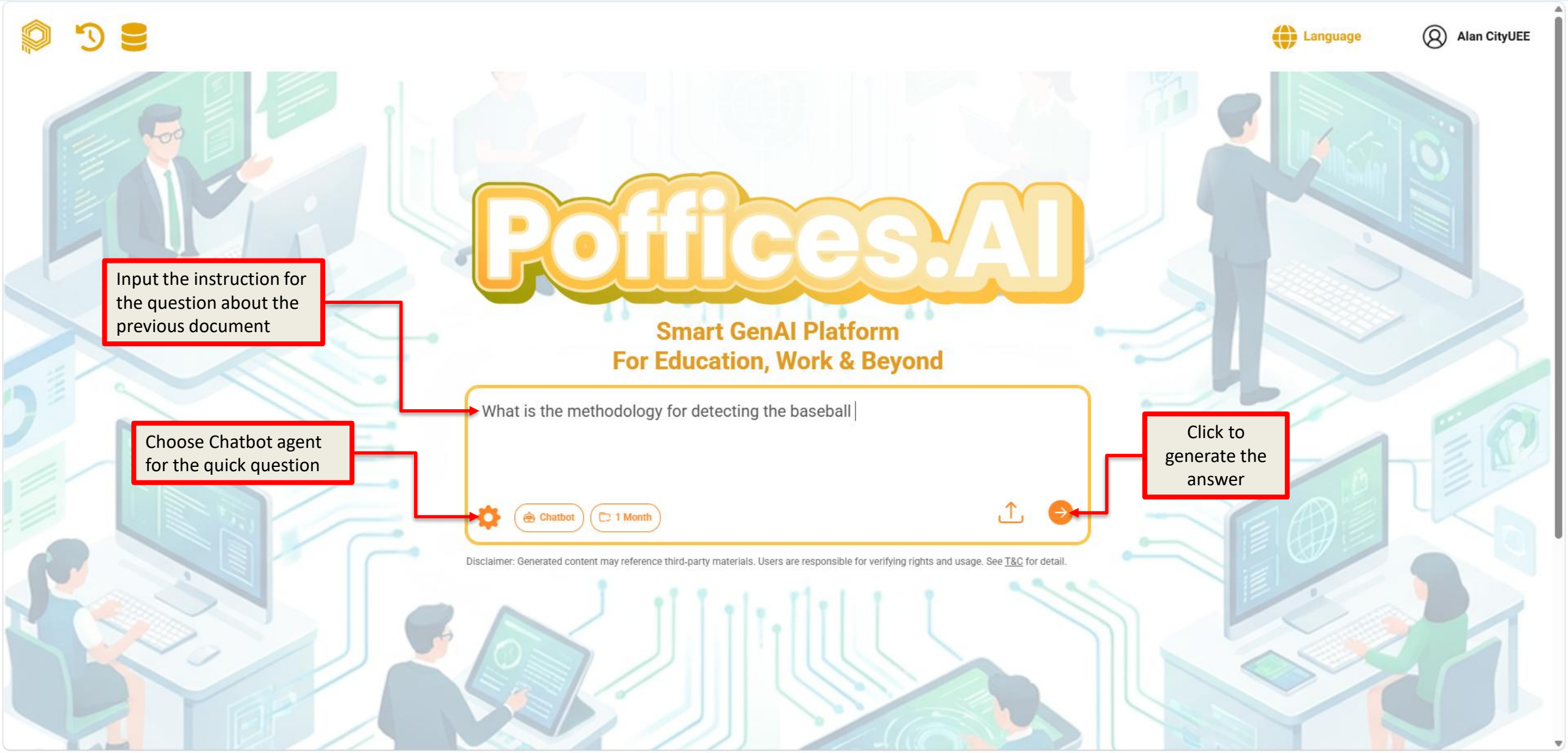
# Enable the Digital Assets mode by Digital Assets





# Using Chatbot to ask quick questions about digital assets





# Quick and accurate answer to be obtained



**chatbot**

Good afternoon, **Alan CityUEE**!

Allow me to present the details regarding your request:

The request states: "**What is the methodology for detecting the baseball**". I have the honor to serve as **chatbot**, Agent **5 (chatbot)**, in handling this request.

The output requirements encompass: The document will be named "**Methodology for Detecting the Baseball**", it will be formatted as a/an **Chat**, written in **English**, following the **##Methodology for Detecting the Baseball** structure.

The thematic elements to be addressed are: **Baseball Detection Methodology**. These components will ensure the output meets all specified objectives.

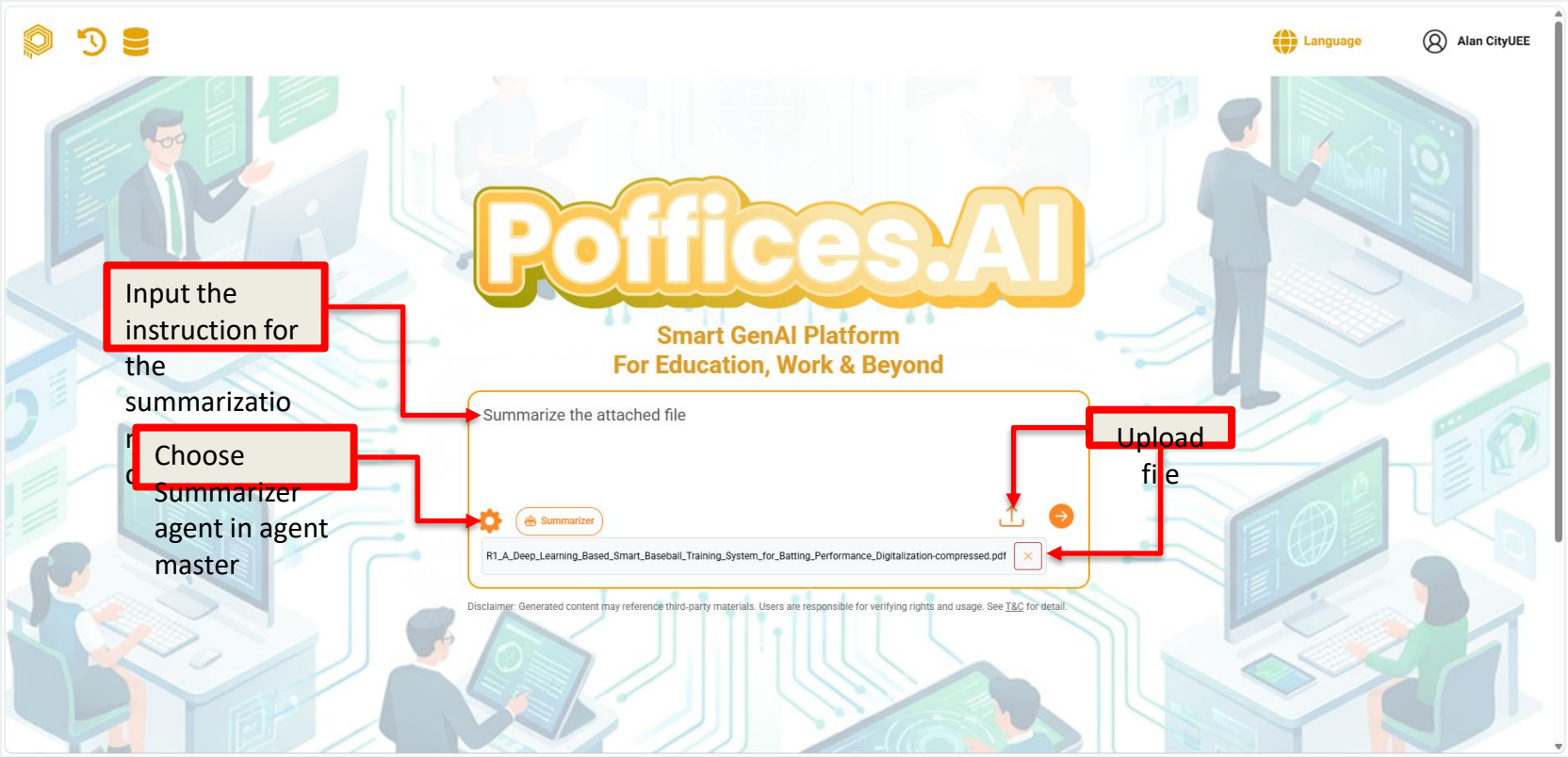
Handling of this request has started, and the result will follow shortly after completion.

**Time of preparation: 1s** **Time of completion: 18.1s**

The methodology for detecting the baseball in the proposed system employs a vision-based approach utilizing a lightweight deep learning model designed to accurately and efficiently detect and locate the baseball within images, despite challenges such as fast movement, varying environmental brightness, and potential image blurring. The detection model, named simpler-RepVGG-YOLOv4 (SimRepYOLOv4), is based on the YOLOv4 architecture with RepVGG as the backbone. It integrates advanced attention mechanisms, specifically the Convolutional Block Attention Module (CBAM) and Normalization Attention Mechanism (NAM), to enhance feature learning by focusing on relevant baseball features while suppressing environmental noise and uninformative data. Although the anchor mechanism is computationally costlier than anchor-free alternatives, it is employed here to simplify regression tasks, with customized anchor sizes derived by clustering bounding boxes to improve detection performance, considering the relatively fixed distance between the baseball and camera. Data augmentation techniques are utilized during model training to enhance robustness against different environmental conditions and object scales, ensuring the detector performs consistently under diverse and unpredictable settings. The model outputs a single detection head after the Feature Pyramid Network (FPN) to reduce post-processing time and improve efficiency since the baseball is a small target within the image. This approach achieves high detection accuracy and is fundamental for subsequent physical modeling and digitalization of the baseball's motion.

# Practical Exercise

1. Keep this note confidential. You must NOT share to others or release to public.
2. Login https://poffices.ai/
3. Follow the above steps to try the digital assets mode using summarizer to summarize the attached file
4. Try to access the digital assets by asking quick question to Chatbot agent
5. Discuss your findings



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香港城市大學
City University of Hong Kong
https://cityu.edu.hk/ifl

# Enhancement Techniques by using Education Agents

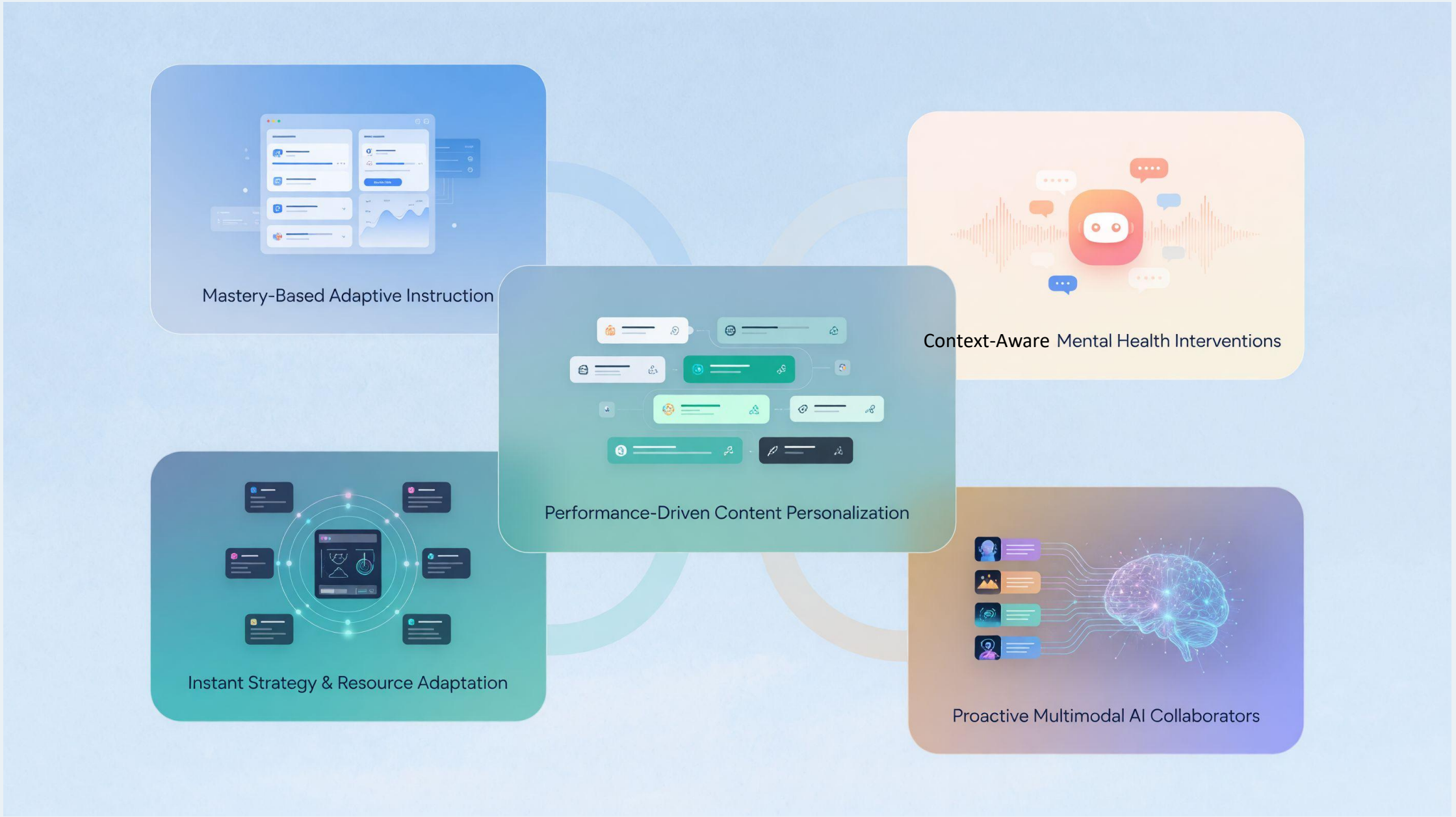
Ir Prof Alan Lam, JP

# Personalization Techniques in AI



# Personalized Learning Agents



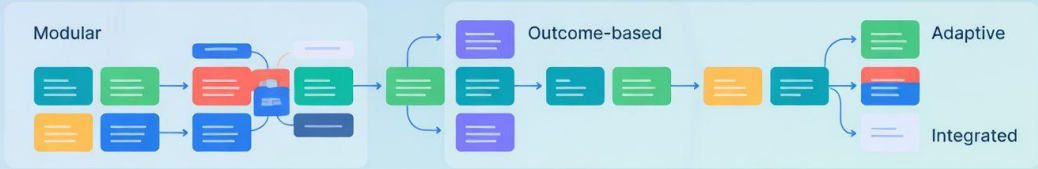


# Adaptive Learning Models



Cognitive Foundations for Adaptive Learning


Dynamic Curriculum Architecture (MOSAIC Model)



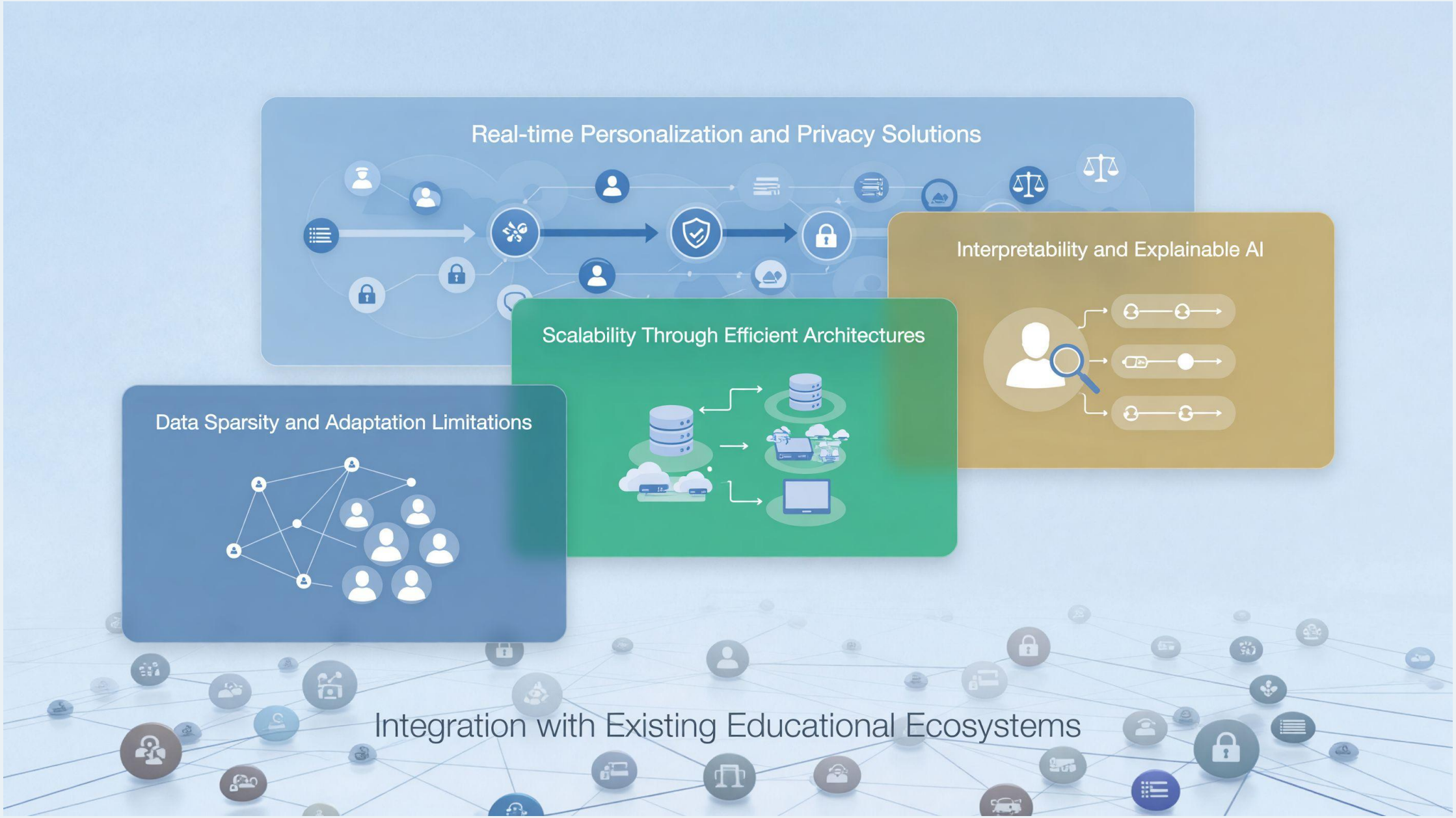

Intelligent Tutoring Systems with Real-Time Feedback


Reinforcement Learning Framework for Adaptation


Motivational Personalization through ARCS Model

# Technical Challenges and Solutions



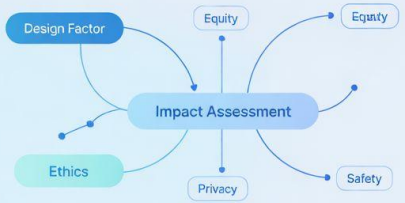


# Future Directions in Personalization

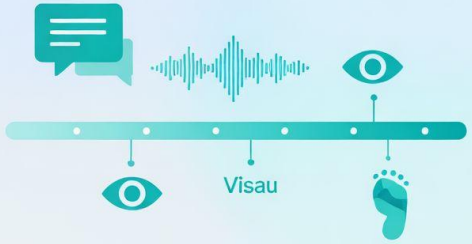


## Advances in AI Technology

## Formalizing Personalization Design and Evaluation




## Multimodal and Real-Time Personalization

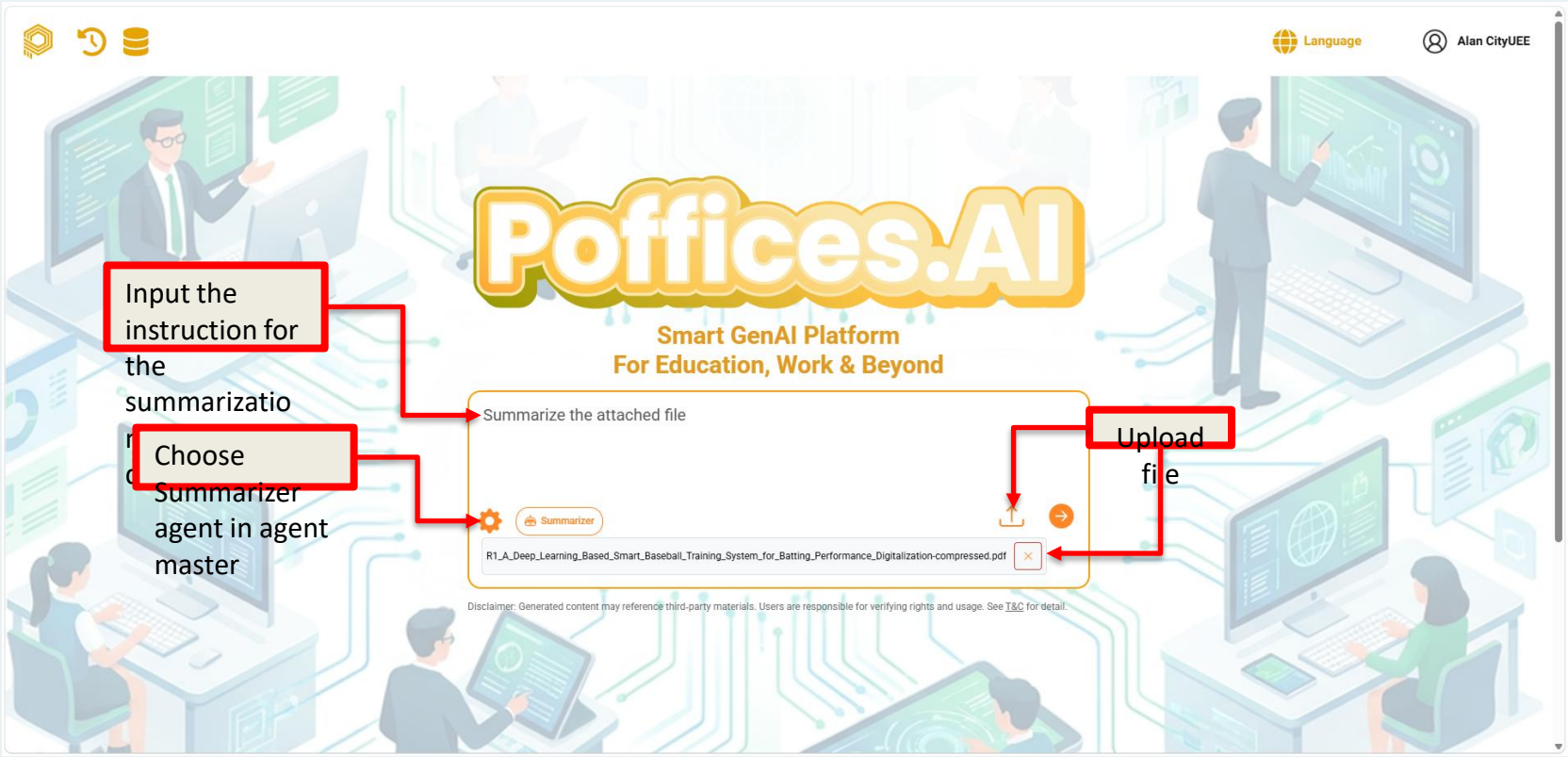



## Human-AI Co-Agency in Learning


## Ethics, Standardization, and Accountability

# Practical Exercise

1. Keep this note confidential. You must NOT share to others or release to public.
2. Login https://poffices.ai/
3. Follow the above steps to build the digital assets based on your education database
4. Try to use your education agent to access the digital assets and input query
5. Discuss your findings



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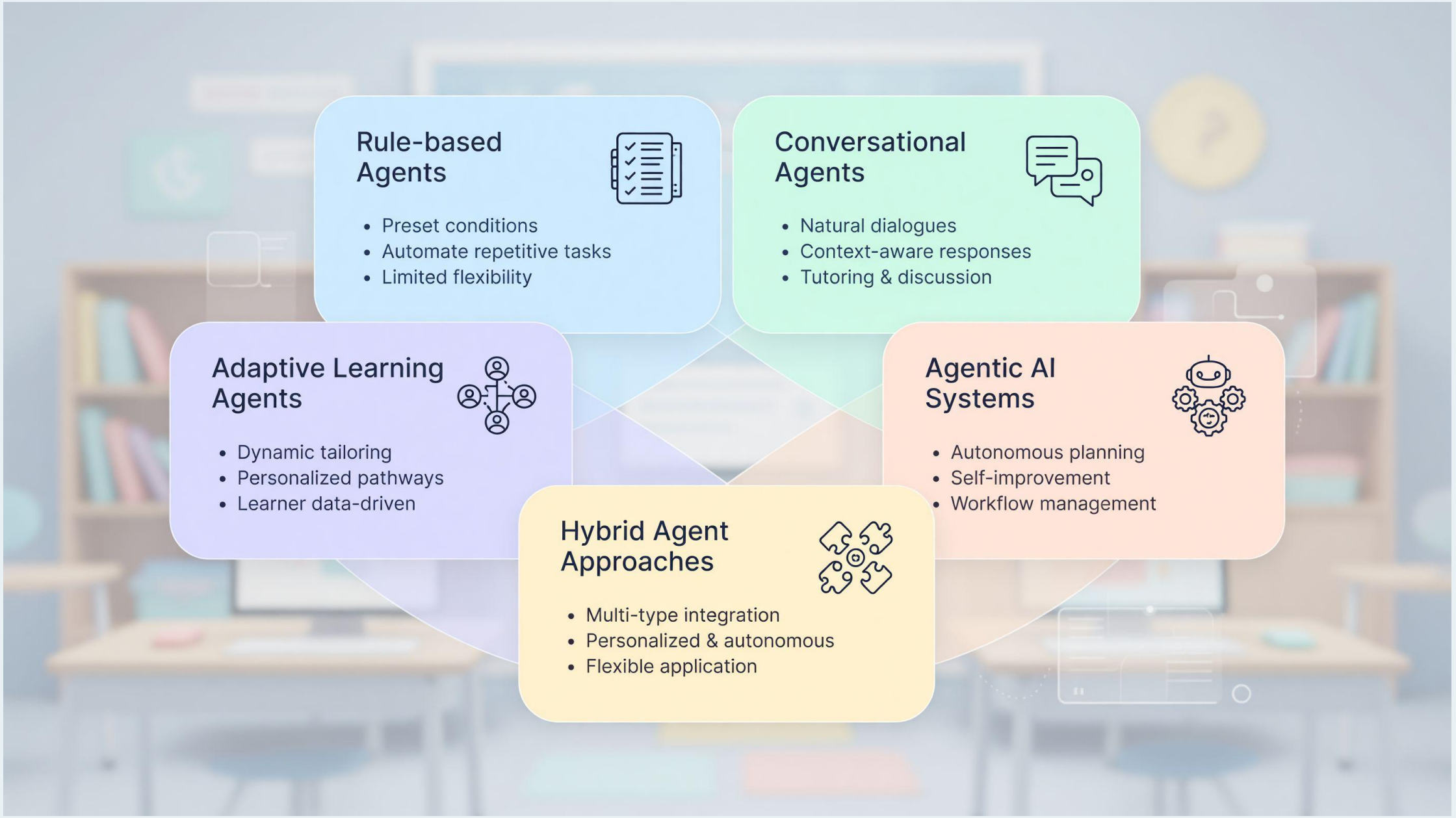
# Building Interactive AI Agents for Education Applications

Ir Prof Alan Lam, JP

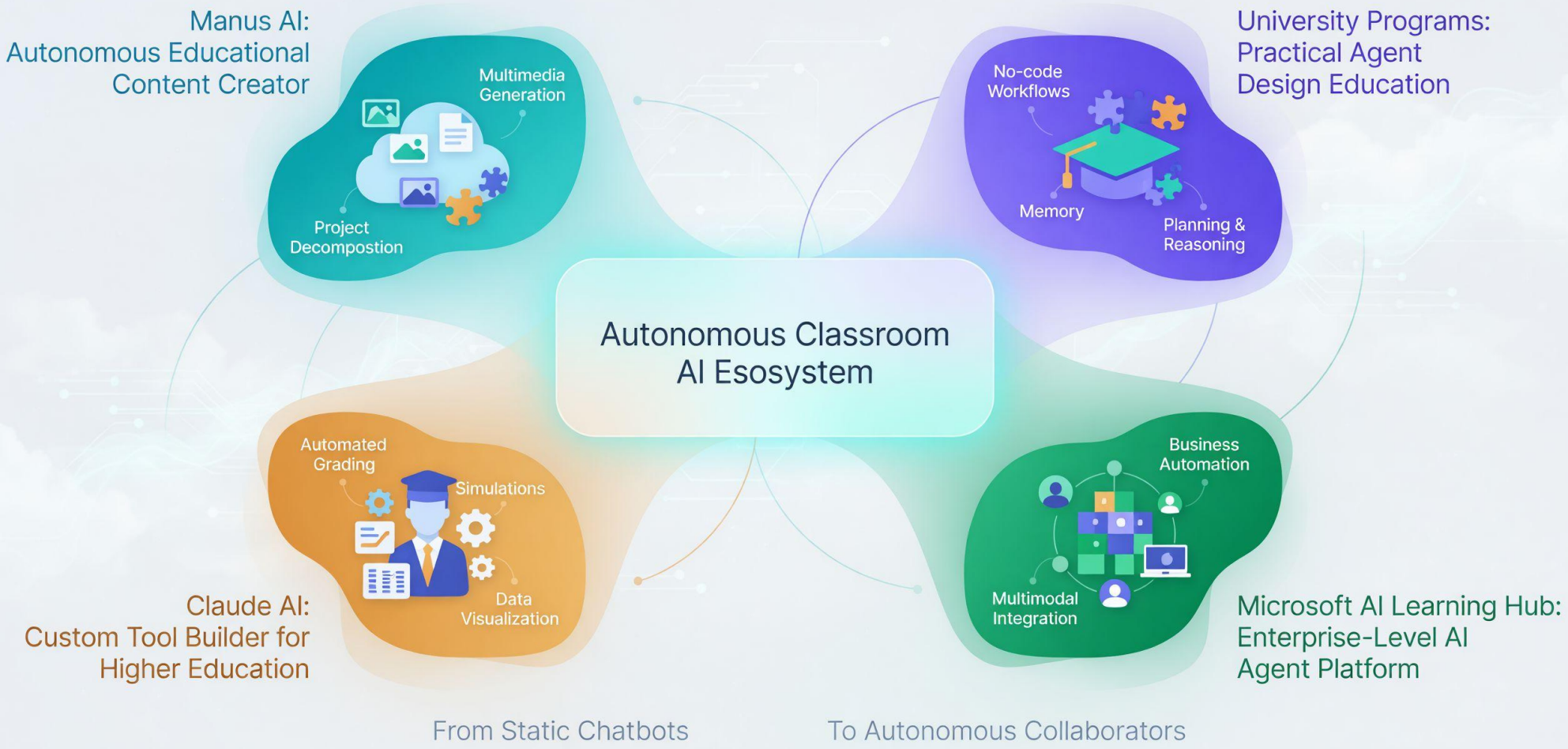
# Types of Interactive AI Agents





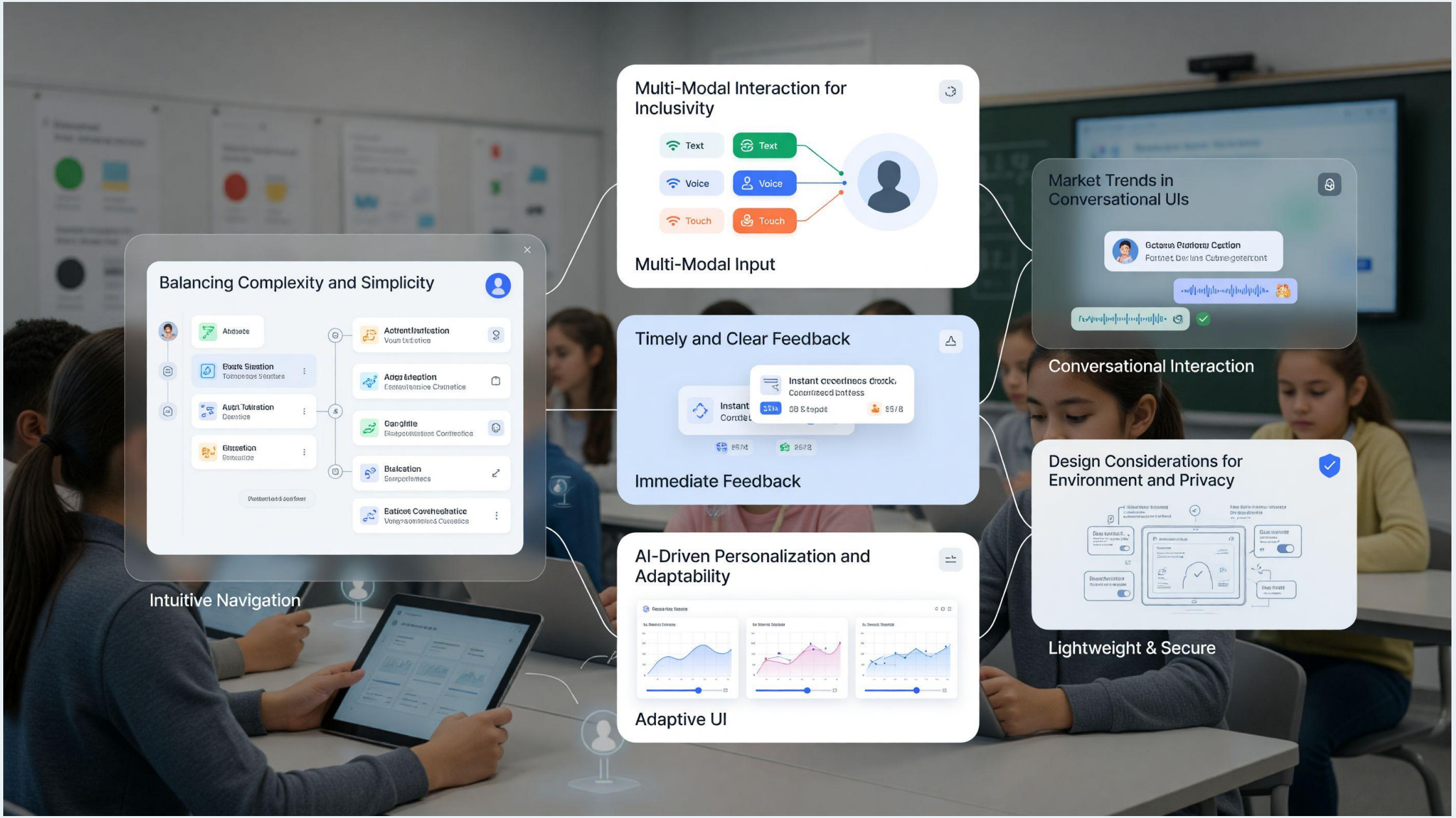
# Examples of Classroom AI Agents





# Designing User Interfaces for Engagement





# Incorporating Feedback Mechanisms



# Real-world Application Examples



# Step-by-step Agent Building Process



Needs Analysis

Content & UI

Adaptive Feedback

Testing & Deployment

Collaboration & Context

# Evaluation Metrics for Education Agents

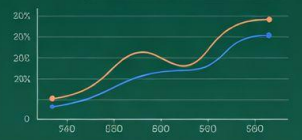


## Engagement and Learning Effectiveness

Interaction Frequency

Session Duration

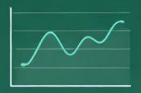
Learning Progress



## Accuracy and Responsiveness

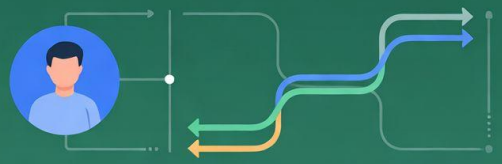
Error Rates

Correctness



Response Time

## Personalization and User Experience



Adaptation Quality

User Feedback

## Operational Efficiency and Ethical Compliance

Workload Reduction

Automation

Data Privacy

Fairness

## Integrated Evaluation for Continuous Improvement

## Real-World Impact: Time Savings & Resource Quality

# Practical Exercise



1. Keep this note confidential. You must NOT share to others or release to public.
2. Login https://poffices.ai/
3. Based on your idea and follow the whole course technique to develop multi-agent education Agent with digital assets for domain specific GenAI Agent system
4. Test the overall system and prepare the demo and presentation for demo day


(2) Enter your input with new prompt, check click generation.

(1) Click Agent Master to choose your domain-specific multi-agents education system

# End of Presentation
# Thank You