



Business Process Automation

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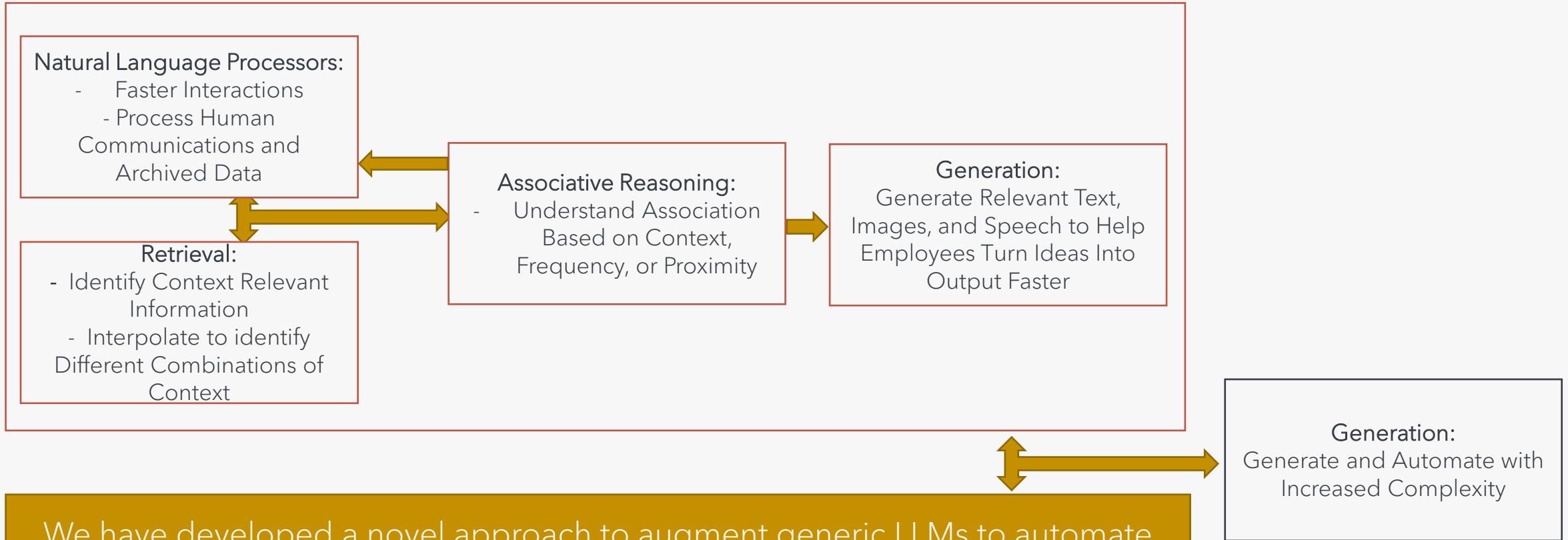
Automating Business Processes

- Large Language Models (LLMs) have added a completely new capability in computing;
- Several large companies have developed impressive models that can be used to automate complex business processes;
- The models are impressive, but using them to automate company specific tasks and processes require specialized and tailored solutions;
- The equivalent analogy here is electric generation versus consumer application:

	Electricity	Artificial Intelligence
Source	Generation and Distribution	Foundations Models
Application	TVs, Stoves, Lighting	Tailored Business Automation



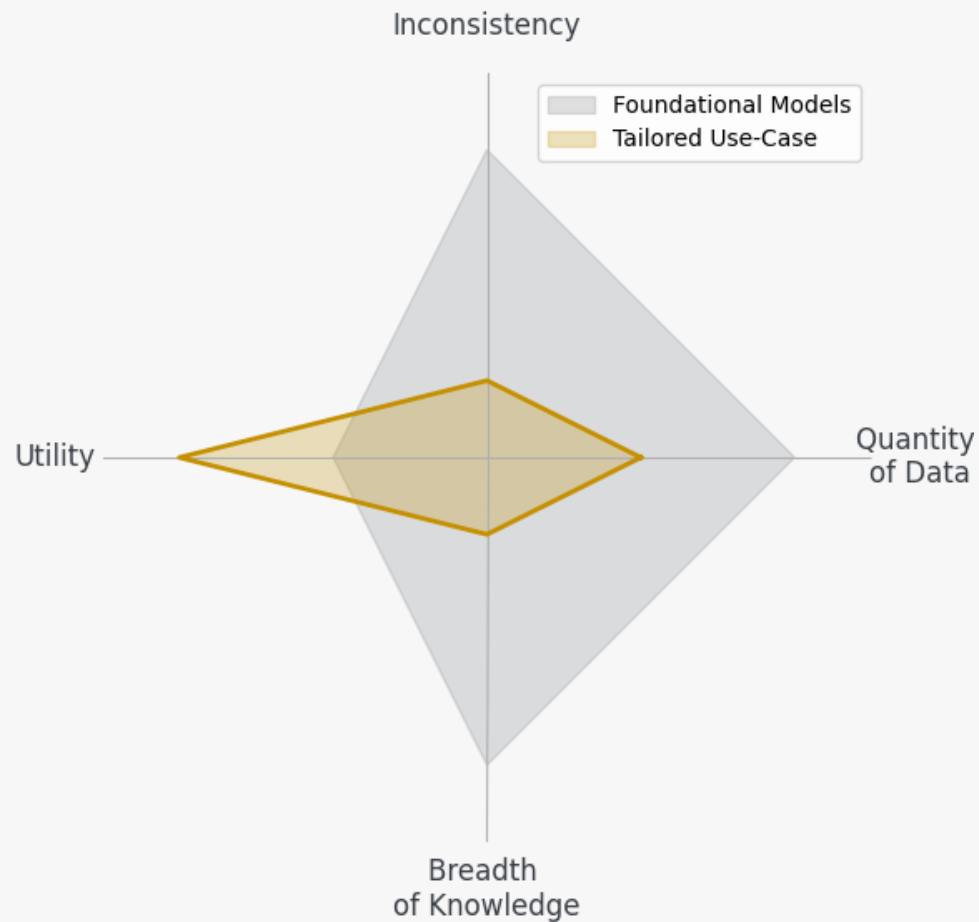
The Foundational Capabilities - LLMs



We have developed a novel approach to augment generic LLMs to automate specialized tasks using a company's private and public data and capturing that company's knowledge and expertise



Increasing Capability – A Balancing Act



In order to utilize these models for automations of complex tasks, we need to improve the feasibility by:

- Increasing Capability
- Reducing Inconsistency
- Reducing Quantity of Data Required

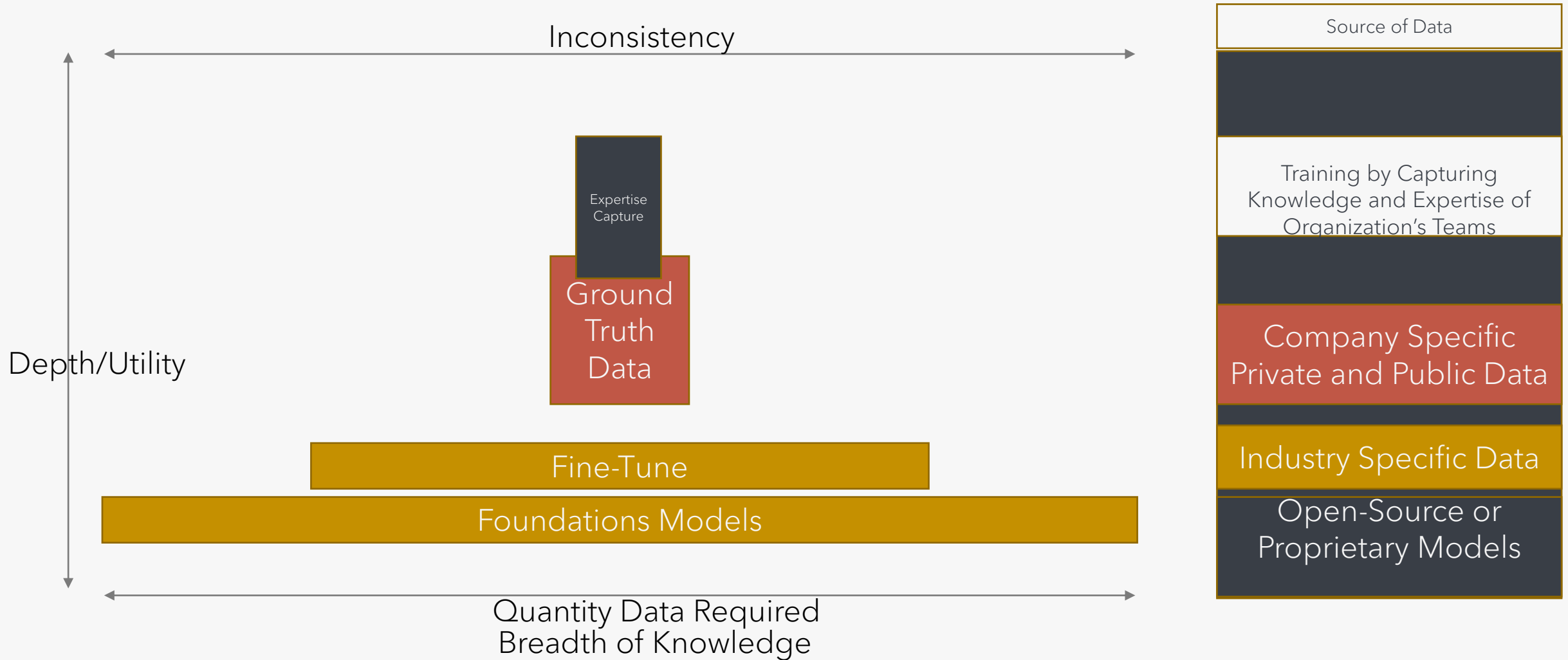
The cost of achieving these desired outcomes is **reduction in breadth of knowledge;**

Which means each use-case needs to be a tailored solution;



Increasing Capability

- Feasible Automation of Business Processes



Limitations

- The most complex processes will not be automated, and there are definable limitations on capability;
- We are able to capture only the portion of teams' expertise and knowledge that intersects with the organization's private and public data;

Your Teams' Past Work		Feasible Automation	
Task: - Requirement 1 - Requirement 2 - Requirement 3	Solution	New Task: - Requirement 1 - Requirement E - Requirement D	Automate
Task: - Requirement D - Requirement E - Requirement F	Solution	New Task: - Requirement D - Requirement E - Requirement X	DO NOT Automate

As a rule of thumb, expect the automation capability to only handle combinations that the model has already seen;



Example Use-Case and Limitations

Automating First-Draft Proposals

DO NOT Automate
- Expect inconsistent results

~~A technology company is contracted to develop a bespoke software solution for a client's specific business processes, along with providing ongoing support and maintenance services.~~

A manufacturing company is contracted to produce a line of specialized medical devices with unique combination of features tailored to a particular healthcare facility.

A consulting firm is contracted to provide customized training sessions on software usage for a specific industry.

A company is contracted to provide a set of standard office furniture and equipment for a new office space.

Automate
- Expect consistent and feasible

Source of Data

Training by Capturing Knowledge and Expertise of Organization's Teams

Company Specific Private and Public Data

Industry Specific Data

Open-Source or Proprietary Models



Capturing Expert Knowledge – User Interface

- Proprietary user interface allows teams to transfer knowledge to models,
- Point-and-click interface by use of a computer mouse only,
- Fully traceable data processing in the backend,
- Knowledge capture adjustments can be made whenever necessary,
- Use original documents and layout as it improves user experience,

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31 October 2018

MEMORANDUM FOR PRATT & WHITNEY
 ATTENTION: BAMB PORTER
 400 MAIN STREET
 EAST HARTFORD, CT 06108

FROM: DLA Aviation/AOAA (Kevin Howe)
 SUBJECT: Request for Quote SPRTA1-19-R-0200

This solicitation is issued for acquiring supplies identified on Page 2. Please provide your best price and delivery proposal for the part numbers based on quantities listed. Price and delivery proposals may be negotiated upon closing of this solicitation. The inspection and acceptance point will be at origin with FOB origin. Electronic submission is acceptable.

This correspondence constitutes a letter solicitation as these items are intended to be ordered as firm, fixed price, against the Basic Ordering Agreement, SPE4A1-15-G-0006. Be advised, that this requirement has been advertised in the Federal Business Opportunities (FedBizOpps) for viewing by the general public.

Please provide your proposal no later than 3:00 PM CST, 07 Jan 2019. Please forward your proposal and direct all questions via email to Kevin Howe at kevin.howe.1@us.af.mil.

Sincerely,
HOWE, KEVIN
 A.1367110623
 Kevin Howe
 DLA Aviation-AOAA
 Contract Negotiator

Attachments
 AFMC 158 (Packaging Report)
 DD FORM 1653 (Transportation Report)

CONTRACT IS A RATED ORDER	RATING	PAGE	OF	PAGES
8 (FAR 48.101-7)	DD-CB	1	1	86
5. DATE ISSUED	6. REQUEST FOR PURCHASE NO.			
05 Jul 2018				
6. ADDRESS OFFER TO (if other than item 7)	CODE			
See Item 7				
TEL:				
FAX:				
CITATION				
Copies in the Schedule will be received at the place specified in Item 8, or if				
SECTION 1 (Date) (Date) (Date) (Date) (Date) (Date)				
1. Provision No. 52.214-7 or 52.215-1. All offers are subject to all terms and				
conditions of the contract.				
2. (Include area code) (NO COLLECT CALLS) C. E. MAIL ADDRESS				
0629 (include area code)				
TABLE OF CONTENTS				
SECTION	DESCRIPTION	PAGES		
C. 1	PART II - CONTRACT CLAUSES	29 - 45		
C. 2	PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS	46		
C. 3	PART IV - REPRESENTATIONS AND INSTRUCTIONS	47 - 61		
C. 4	OTHER STATEMENTS OF OFFERORS	62 - 77		
C. 5	INSURANCE, CONDITIONS AND NOTICES TO OFFERORS	78 - 86		
C. 6	EVALUATION FACTORS FOR AWARD			
14-16. Minimum Bid Acceptance Period				
of within _____ 260 _____ calendar days (60 calendar days unless a different period				
is stated, any or all items upon which prices are offered at the price set opposite				
schedule.				
17. SIGNATURE	18. OFFER DATE			
19. ADDRESS ABOVE ENTER HERE				
to be completed by Government				
21. ACCOUNTING AND APPROPRIATION				
23. SUBMIT INVOICES TO ADDRESS SHOWN IN	ITEM			
24. (Specify unless otherwise specified)				
25. PAYMENT WILL BE MADE BY	CODE			
26. NAME OF CONTRACTING OFFICER (Type or print)	27. UNITED STATES OF AMERICA	28. AWARD DATE		
29. (Print)	(Signature of Contracting Officer)			

IMPORTANT - Award will be made on this Form, or on Standard Form 26, or by other authorized official system notice.
 Previous Edition is Unusable. FAR 48 CFR 53.214(c) STANDARD FORM 33 (REV. 8-87)



Compute Infrastructure

Choosing the type of infrastructure depends on data security requirements and monthly volume,

	Third Party Infrastructure	Cloud-Based Computing	In-House Computing
Foundations Models	Third Party Models (OpenAI, PaLM, etc.)	Open-Source Models (Llama, Falcon, Claude, etc.)	
Model Capability	The Fourth-Generation Models have over 1.7 trillion Parameters	The Largest Open-source Model has 180 billion Parameters, this is Equivalent to Third Generation OpenAI Models.	
Model Costs	Pay per Usage	No Fees for Model Usage	
Infrastructure	Basic Computing	Cloud-Based GPUs	In-House GPUs
Infrastructure Costs	No Additional Costs	Usage per Hour	Maintenance Costs, Initial Setup Costs
Security Risks	Potential Third-Party Access to Data	Possible to Prevent Third-Party Access to Data	No Third-Party Access to Data
Volume to Cost Equivalency	1 to 100 Pages/Month	101 to 200 Pages/Month	Above 201Pages/Month



Implementation Team

Sheraz Waise
BS in Engineering, MBA

- 15 years of experience in analytics in engineering and transitioned to financial and business analytics
- Implemented Machine Learning Solutions trained on numeric data and natural language
- Provide cloud based web applications to utilize AI automations

Phone: 2026442027
Email: sheraz.waise@plumgenai.com

Mahir Ayhan
PhD in Data Science

- Over 10 years implementing, leading and deploying end-to-end AI/ML projects in industry and academia;
- PhD thesis in utilizing geometric mean algorithms to balance telecommunications loading and service;
- Developed algorithms to track and forecast customer demand for large consumer goods sellers;

Phone: 2024608023
Email: mahir.ayhan@plumgenai.com





AI-Assisted Request for Proposal (RFP) Response Generation



AI Assisted RFP Response



Time-Saving

- Crafting a comprehensive RFP response can be time-consuming
- Automating process by generating high-quality, relevant content based on input parameters

Cost-Effective

- Streamline operations and allocate resources more efficiently



Fast Response

- Generate a first draft standard response to commonly issued RFPs within minutes
- Full-fledged first draft with specific RFP requirements within hours

Enhanced Competitive Edge

- The creative insights and alternative approaches suggested by the generative AI can help differentiate the company's proposals

User Interface

1

- Provide RFP

2

- Feed to AI Assistant

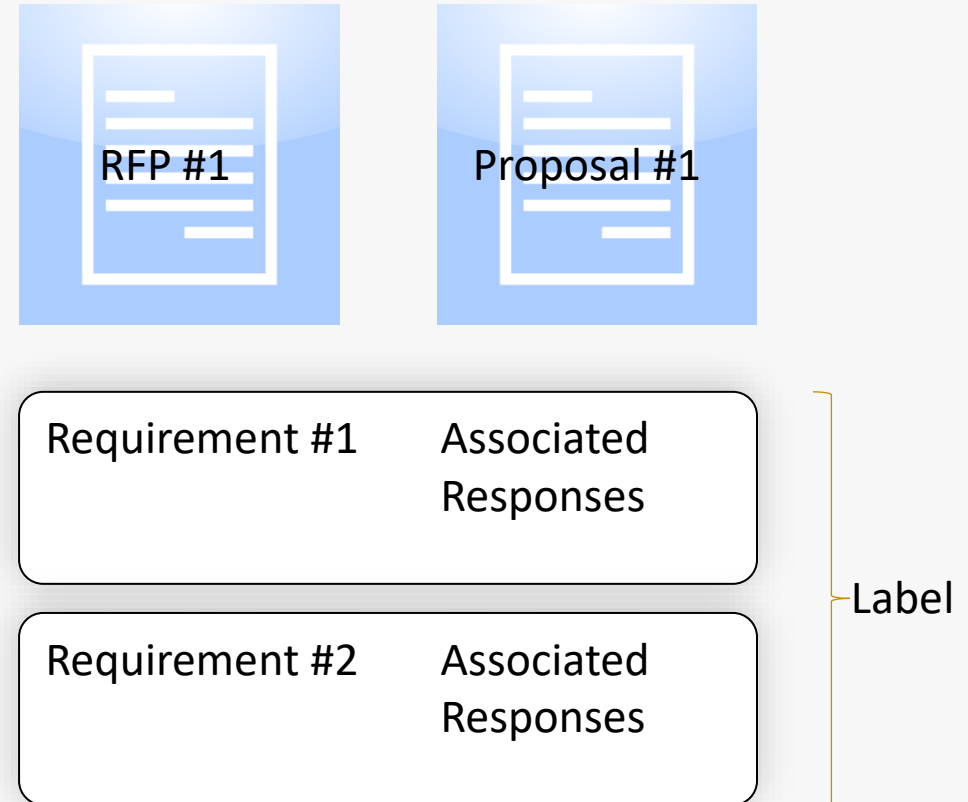
3

- Obtain Response



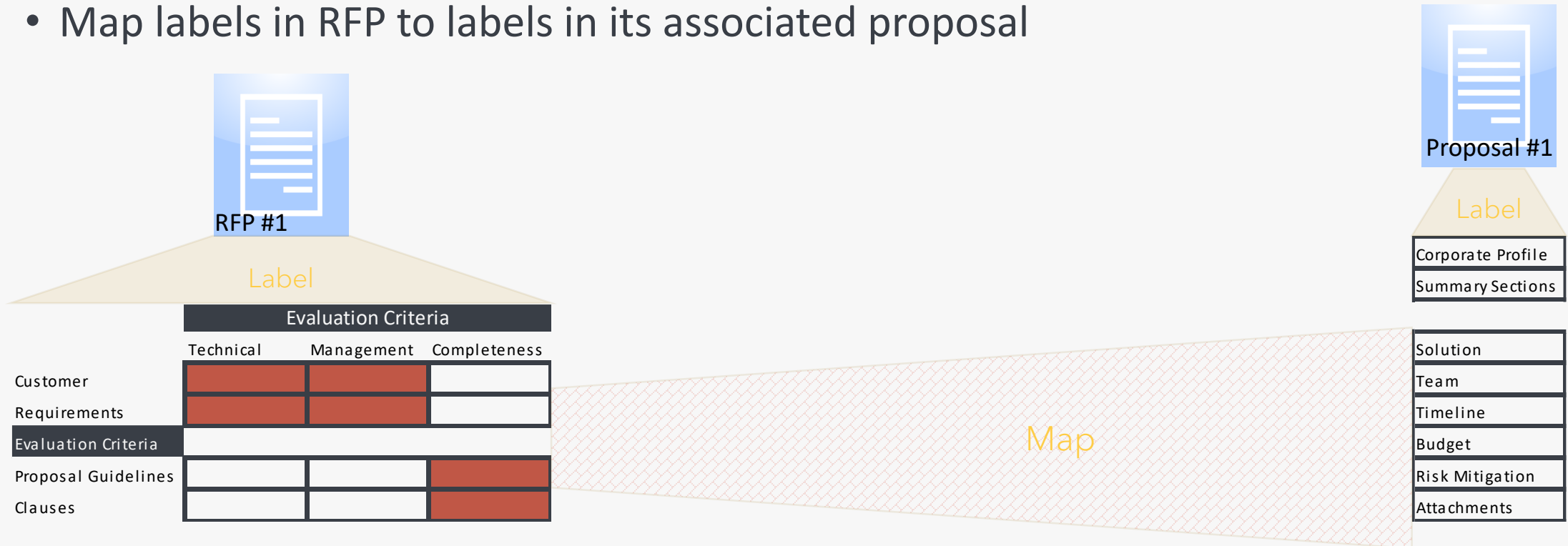
Data Requirements

- Previous proposals and associated RFPs
- A minimum of 10 sets required, a higher number of previous documents would further enhance the AI Assistant
- Once the data is made available, the RFP and proposal sets are preprocessed and labeled



Data Labeling Procedure – Expert Knowledge Transfer

- Organize a database of 10 to 100 RFPs and associated Proposals
- Determine a minimum set of labels that can uniquely and exclusively categorize the sections and topics within all documents in the database
- Map labels in RFP to labels in its associated proposal

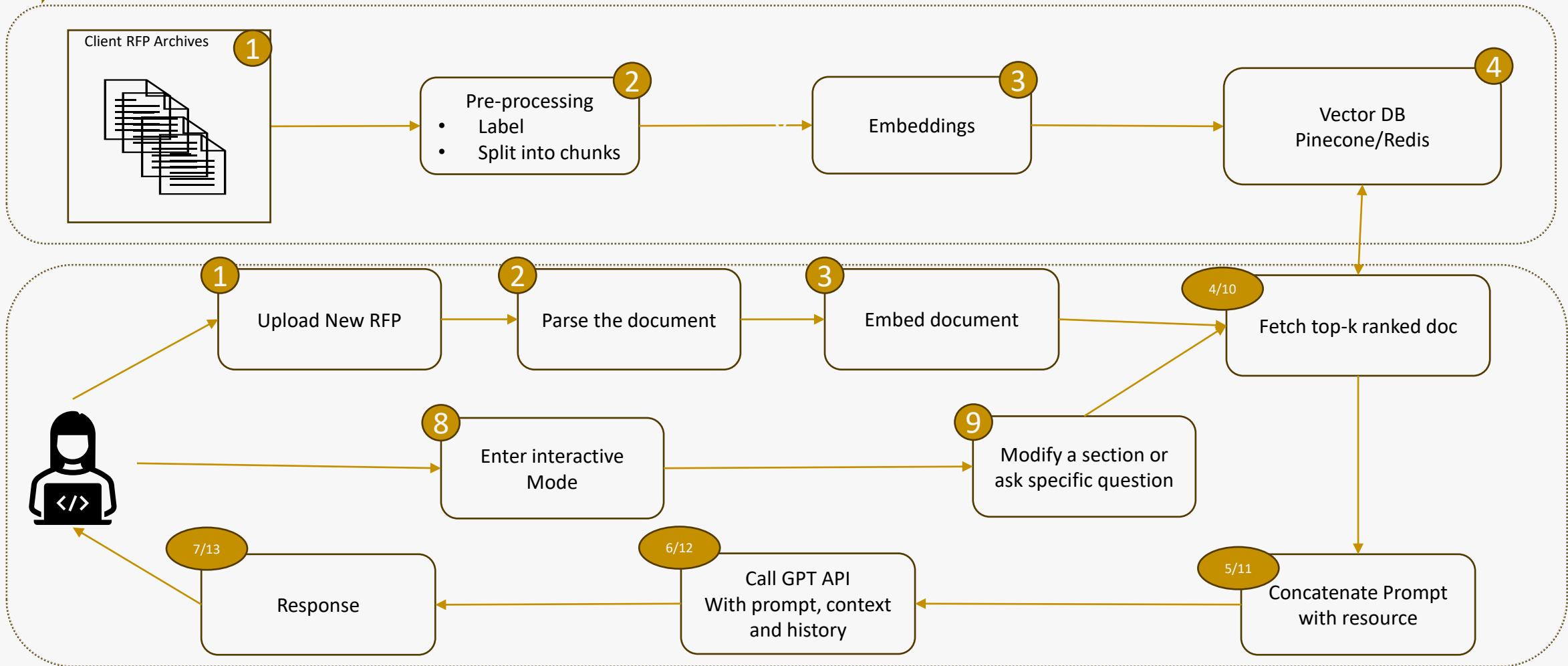


System Capability

- Generate first draft proposals for new RFPs that are for similar customers or similar services.
- Synthesize and generate proposal sections accounting for different combinations of RFP requirements, customer, evaluation criteria, etc.
- The integration of GPT models, with labeled database and fine-tuned models, will allow the system to distinguish differences between very closely worded concepts and contexts:
- For example, the system can identify the differences between:
 - a) **Evaluation Procedures** used by RFP writer to evaluate proposals to select source or contractor,
 - b) **Evaluation Procedures** used by the RFP writer to evaluate the performance of the services or products offered by contractor,
 - c) **Evaluation Procedures** that should be conducted by the contractor as part of the performance or delivery of services,



System Architecture



Successful Implementation

- This system has been developed for Deloitte, currently in use for:
 - Commercial: Clients that request SAP Transformations
 - Public: Federal and local government RFPs
- The feedback has been positive from all users at Deloitte, it is being utilized extensively and has replaced any other tool that was previously adopted to automate or facilitate proposal generation.
- The users are able to generate proposals in response to RFPs within days, a process that previously took weeks.

