

BOOKLYN
BOOKING

BOOKLYN BOOKING

AN INTELLIGENT BOOKING ASSISTANT
FOR SMALL AND MEDIUM ENTERPRISES

"FORGET THE PAST, MONETISE
YOUR FUTURE"



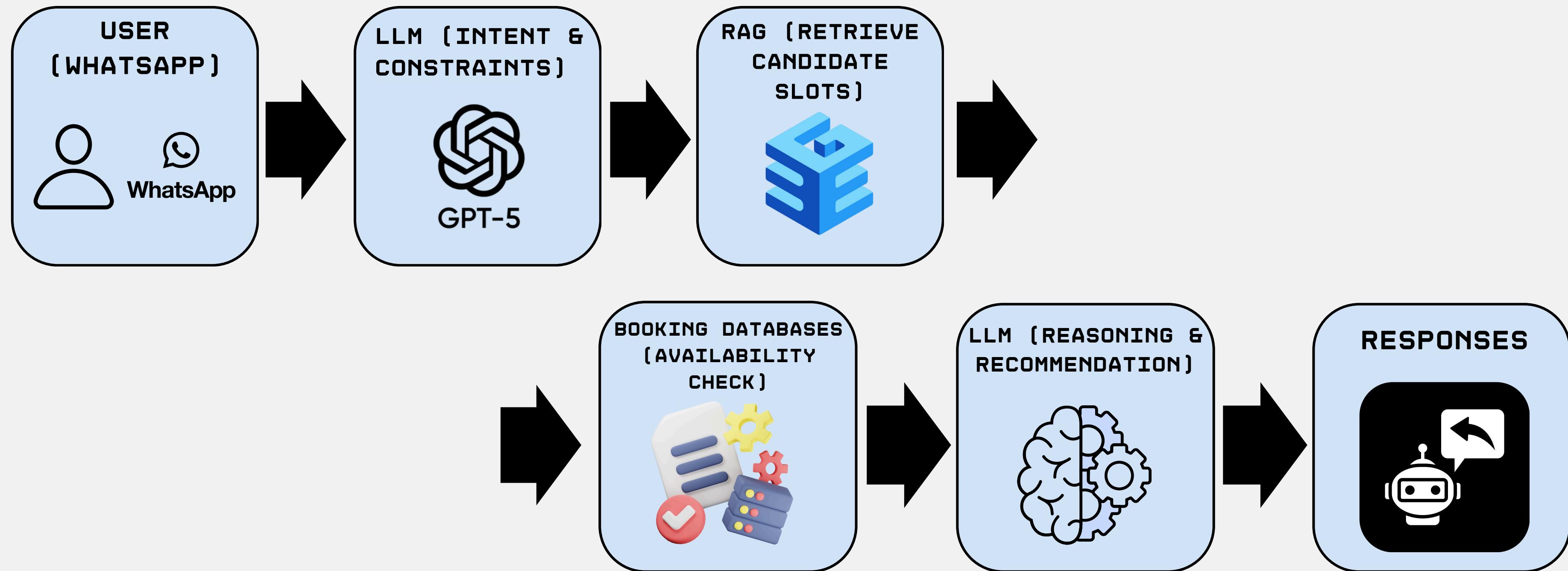
BY:
SUM FENG JIE
KIRAHN KUMAR
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YONG KOK JING

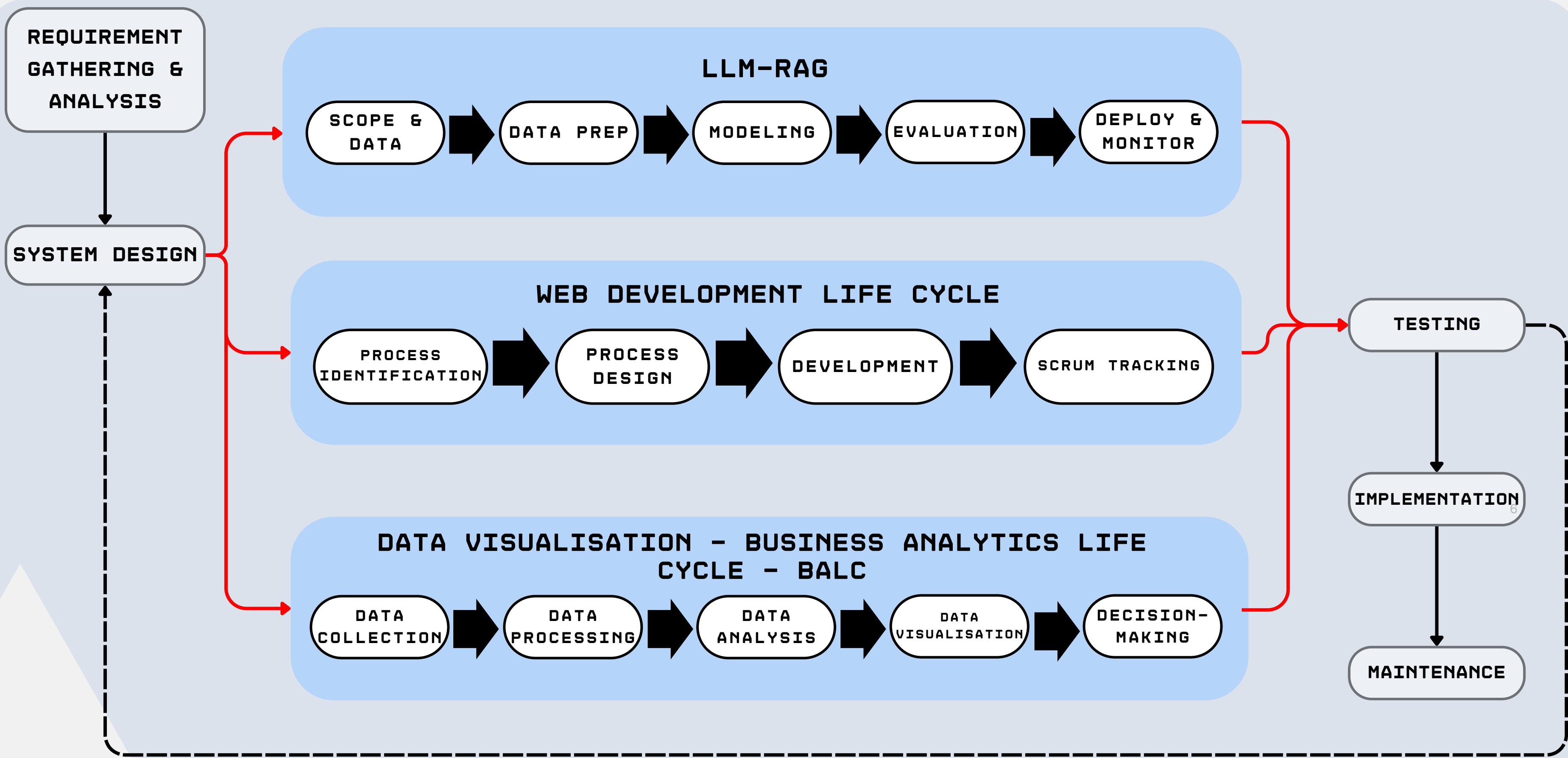
WHATSAPP DEMO

WHAT JUST HAPPENED

HOW THE SYSTEM WORKS

DATA FLOW





WHAT IS LLM + RAG



GPT-50 MINI

- UNDERSTANDS BOOKING REQUESTS
- EXTRACTS INTENT AND CONSTRAINTS.
- DATE, TIME, DURATION, SERVICE TYPE.
- REASONS OVER AVAILABILITY AND RULES.
- GENERATES CLEAR WHATSAPP REPLIES.



BGEM3 EMBEDDINGS

- RETRIEVES RELEVANT BOOKING RECORDS
- USES SEMANTIC SIMILARITY INSTEAD OF KEYWORD MATCHING
- TOP-K RETRIEVAL ($K = 3$)
- RECORD-LEVEL ACCURACY PRESERVED

HOW RAG WORKS IN OUR SYSTEM

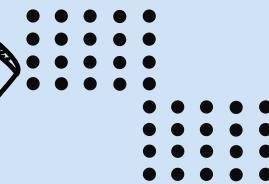
RAG – KNOWLEDGE PREPARATION

MERCHANT DATA



TEXTS → VECTORS

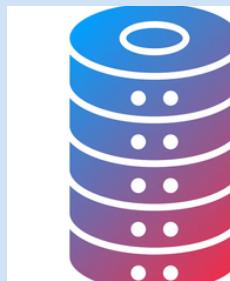
I strongly believe that the moment you decide to better at your chosen path, you'll become more motivated to learn. My job is to inspire and motivate you.



KNOWLEDGE ENTRIES



VECTOR DATABASE



User Query



K = 3 Retrieval

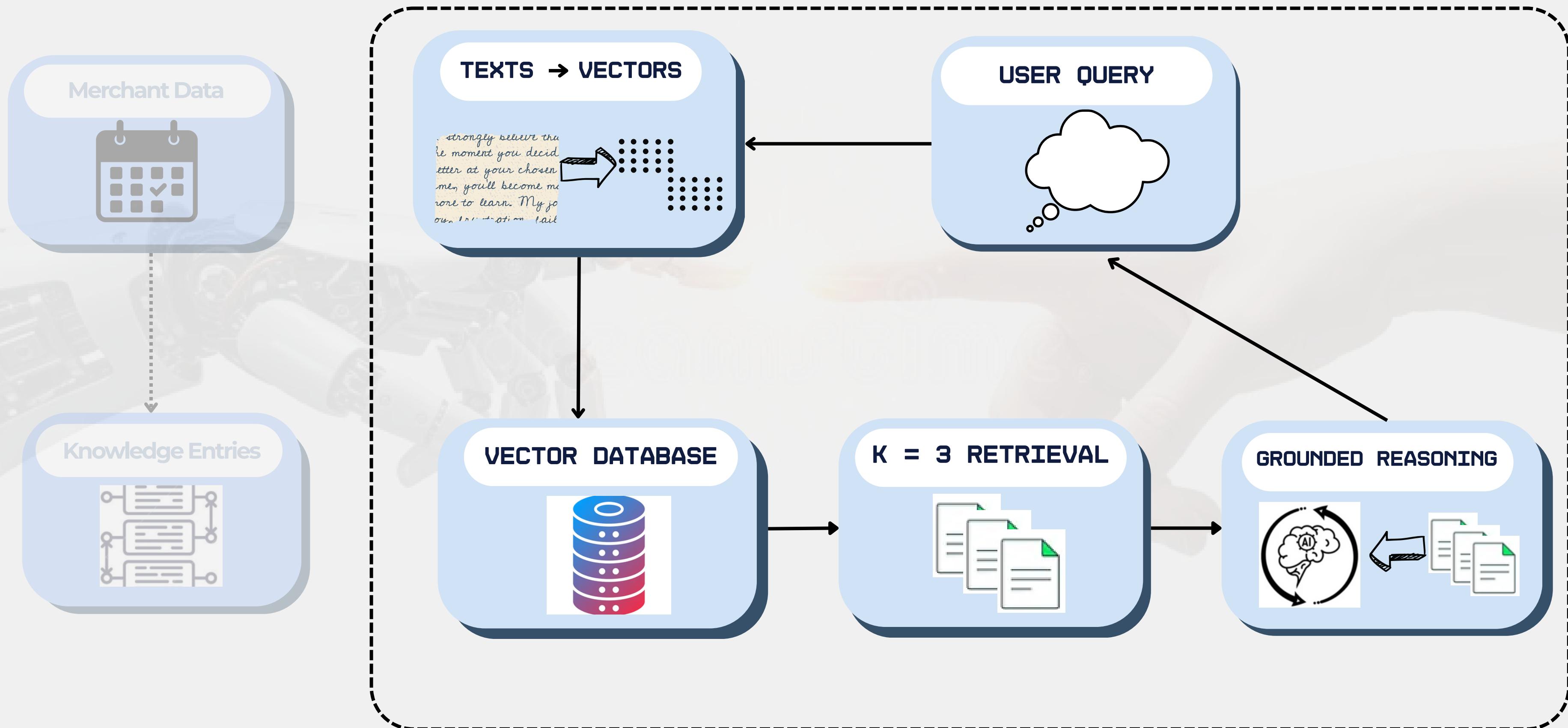


Grounded Reasoning



HOW RAG WORKS IN OUR SYSTEM

RAG – ON RUN TIME



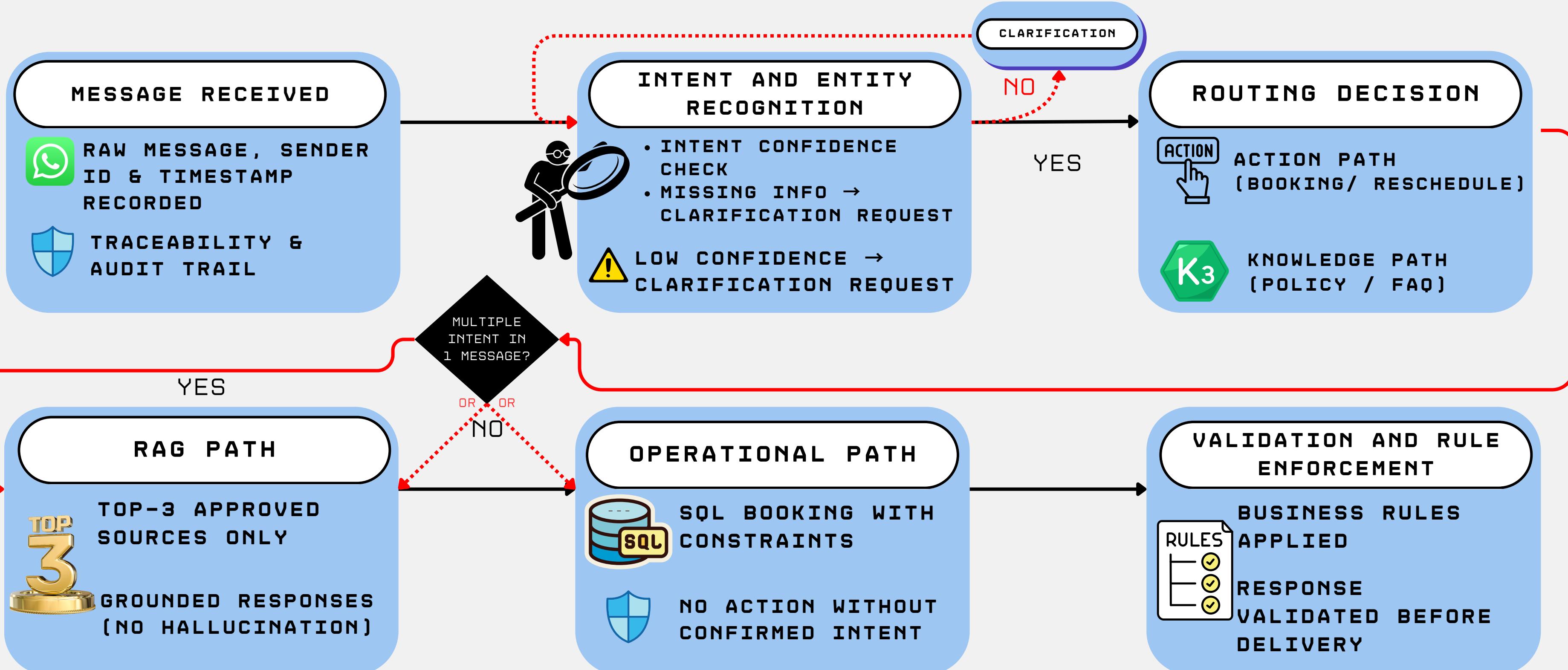
RAG RETRIEVAL EXAMPLE

TOP - K KNOWLEDGE MATCHING

```
Enter a user query (type 'exit' to quit): can i bring my pet? I love them so much i have to bring them with me
Encoding query...
TOP-K RAG RETRIEVAL RESULTS
+-----+-----+-----+-----+-----+-----+
| Rank | Source | ID | Name | Category | Price (RM) | Duration (min) | Cosine Distance |
+-----+-----+-----+-----+-----+-----+
| 1 | FAQ | faq_pets | - | - | - | - | 0.3824 |
| 2 | Policy | pol_pets | - | facility | - | - | 0.4449 |
| 3 | FAQ | faq_use_own_products | - | - | - | - | 0.4807 |
+-----+-----+-----+-----+-----+-----+
Retrieved text (first result only):
AQ]
Are pets allowed?
Only service animals are allowed for hygiene and safety. ...
Enter a user query (type 'exit' to quit):
```



BOOKING FLOW WITH SAFETY CONTROLS



EVALUATION & RESULTS

EMBEDDING MODEL	TOP 1 - ACCURACY	TOP 3 - ACCURACY	TOP 5 - ACCURACY	ADDITIONAL NOTES
MULTILINGUAL MODEL (BASE)	55.96%	75.56%	80.90%	ACTS AS BASELINE, WEAKER SEMANTIC ALIGNMENT
MPNET	61%	86.93%	91%	IMPROVED SEMANTIC MATCHING
E5 - BASE	69.10%	86.92%	91.10%	STRONG GENERAL-PURPOSE RETRIEVAL
E5 - LARGE	69.20%	86.60%	90.83%	LARGER MODEL, BUT HIGHER COST
BGEM3 (CHOSEN)	72.00%	89.95%	93.42%	BEST BALANCE OF ACCURACY AND STABILITY

EVALUATION CONDUCTED USING A LARGE AUGMENTED QUERY DATASET (~108K QUERIES).

WHY BGEM3?

- ✓ HIGHEST TOP-3 ACCURACY
- ✓ STABLE ACROSS K VALUES
- ✓ BETTER COST-PERFORMANCE TRADE-OFF

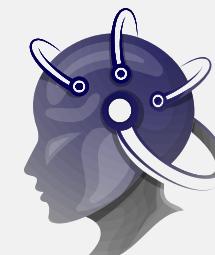
WEBSITE DEMO

SCALABILITY & FUTURE DEVELOPMENT



1

**SCALABLE
MARKETPLACE EXPANSION**



2

**AGENTIC AI
AUTOMATION**



3

CLOUD DEPLOYMENT



4

**PAYMENT
INTEGRATION**

