

# Pinterest Content Sharing Customer Support Chatbot

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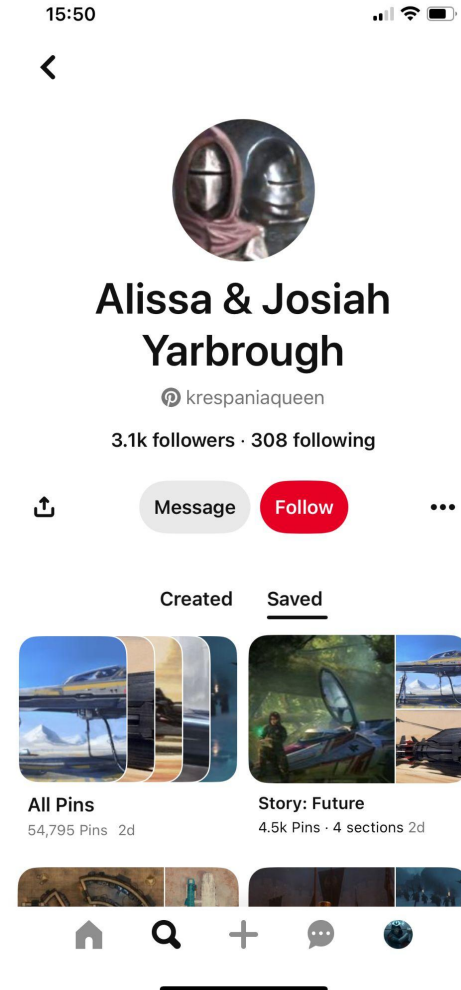


# Domain & Motivation

Pinterest is a social media platform that allows users to discover, save, and share visual content.

Users can easily lose track of who they've shared content with.

My app seeks to keep users more informed about their privacy by answer questions about content sharing.



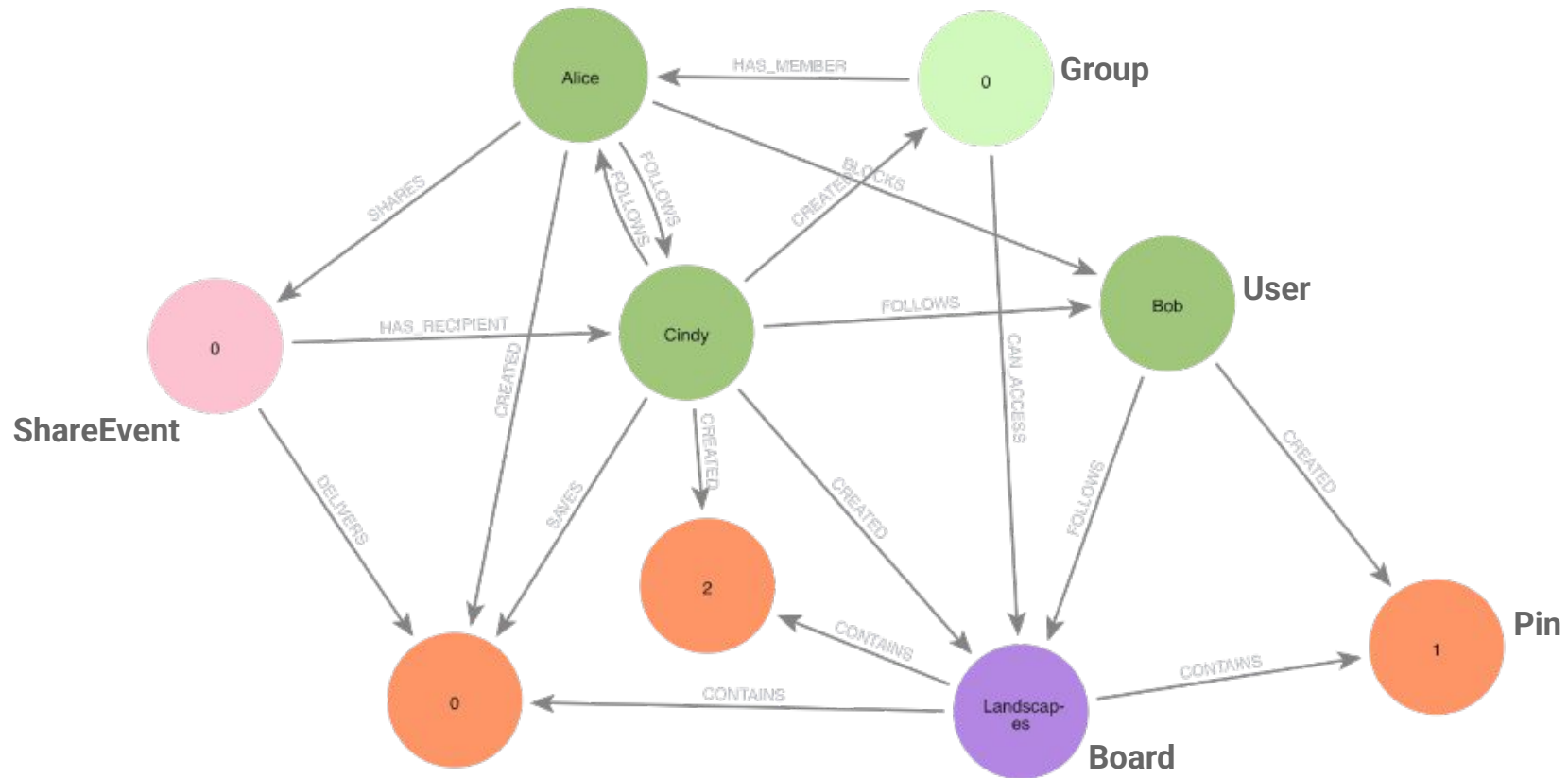
# Graph Schema

## Entities

- **User:** Individuals with Pinterest accounts
  - Properties: username, is\_private
- **Pin:** Posts uploaded to Pinterest by users
  - Properties: pin\_id, caption, url
- **Board:** Collections of pins created by users
  - Properties: board\_id, board\_name, is\_private
- **ShareEvent:** Instances when users share pins with each other
  - Properties: share\_id, content\_type, timestamp
- **Group:** Users who can collaborate on a board
  - Properties: group\_id, permissions

## Relationships

- **Core**
  - User -[CREATED]-> (Pin | Board | Group)
  - User -[FOLLOWS]-> (User | Board)
  - User -[BLOCKS]-> User
  - User -[SAVES]-> Pin
  - Board -[CONTAINS]-> Pin
- **Sharing**
  - User -[SHARES]-> ShareEvent
  - ShareEvent -[DELIVERS]-> Pin
  - ShareEvent -[HAS\_RECIPIENT]-> User
- **Groups**
  - Group -[CAN\_ACESSE]-> Board
  - Group -[HAS\_MEMBER]-> User



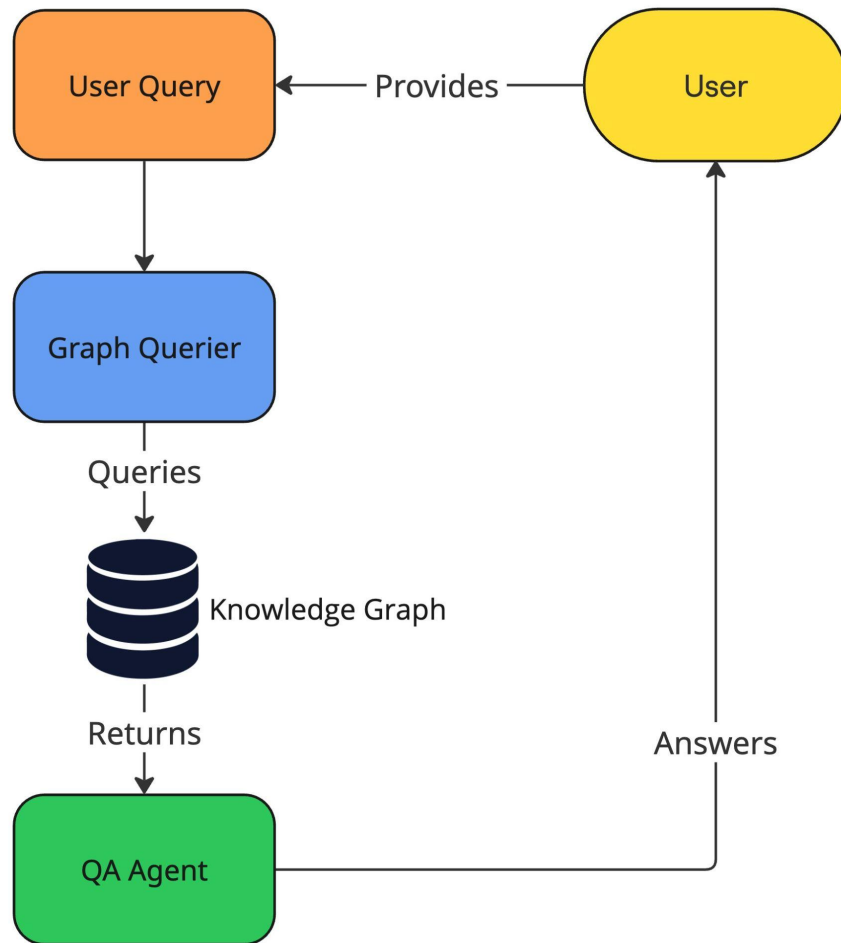
Graph Schema Visualization

# Architecture Summary

LangChain's GraphCypherQAChain was used to generate graph queries. An LLM was then prompted separately with the graph query output.

Both Cypher query and QA used llama3.2 3.2B.

Flask connected Python backend to React frontend.



Demonstration

# Challenges and Future Work

## Functionality

- Limited computation resources limited the performance of LLMs.
- Careful prompt engineering was needed to ensure queries were processed accurately.
- Measures were taken to recover from faulty Cypher queries.

## Security & Privacy

- In its current form, any user can query the model for any information, even information that should be private.
- Later iterations of this app should seek to limit graph outputs to information that the querying user has permission to access.

Thank you for listening!