

**MICHIGAN STATE**  

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**UNIVERSITY**

# Alpha Presentation Self-Improving Assistant

The Capstone Experience

Team Vectorform

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*From Students...  
...to Professionals*

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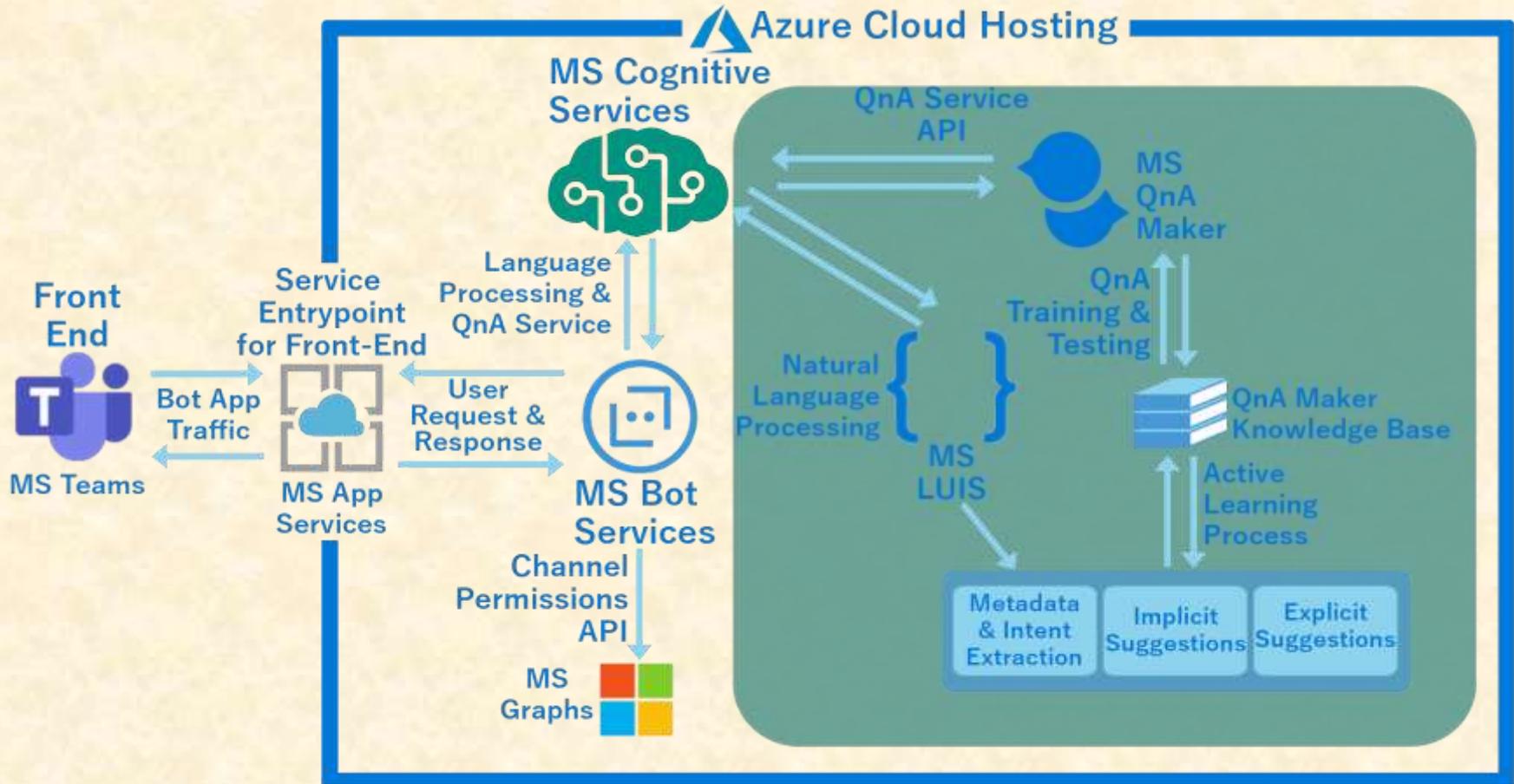
# Project Overview

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- Chatbot available in Microsoft Teams
- Initialized and tuned inside of Teams
- Generates responses from documents
  - Question and Answer documents
  - Product Manuals
- Various methods of self-improvement
  - Active Learning
  - User Feedback after questions



# System Architecture



# User Feedback Functionality

The screenshot displays a Microsoft Teams chat interface. On the left is a navigation pane with icons for Activity, Chat, Teams, Assignments, Calendar, Calls, and Help. The main chat area shows a conversation with 'msucapstone-bot'. The bot's message reads: "The regular rate of pay which is used to calculate an employee's paid leave under FFCRA is the average of his or her regular rate over a period of up to six months prior to the date on which the employee takes leave." Below this message is a feedback prompt: "Was this helpful?" with thumbs up and thumbs down icons, and a "Dismiss" button. A thumbs down icon is shown as selected. A second bot message follows: "I'm sorry this wasn't the optimal answer you were seeking. Please tell us what went wrong so we can do better. Thank you!" with a "Dismiss" button. At the bottom, there is a text input field with the placeholder "Type your questions here" and a row of icons for emojis, GIFs, voice, and other features.

# Administrator Commands

The screenshot shows a Microsoft Teams chat window with the following content:

- Header:** Search bar, Michigan State Univer..., CP profile icon, and window controls.
- Left Panel:** Activity, Chat, Teams, Assignments, Calendar, Calls, Apps, and Help.
- Chat List:** Recent chat with msucapstone-bot, timestamp 9:28 PM, and status "You: Dismiss".
- Main Chat Area:**
  - Header: msucapstone-bot Chat
  - Message (Right): Yesterday 1:59 PM @ help
  - Message (Bot): msucapstone-bot Yesterday 1:59 PM No QnAMaker answers found.
  - Message (Bot): **Configure the QnABot!**  
@ Administrator Commands:
    - create [link] (new data knowledge base)
    - add [link] (add a QnA pair)
    - delete (remove data from knowledge base)
  - Message (Bot): Bot command executed sucessfully!
  - Separator: Today
  - Message (User): 2:00 PM hello
  - Input Field: Type your questions here
  - Footer: Rich text editor icons (bold, italic, link, image, video, list, help, etc.) and a send button.

# Connect Bot to Human Agent

The screenshot displays a Microsoft Teams chat interface. On the left is a navigation pane with icons for Activity, Chat, Teams, Assignments, Calendar, Calls, and Help. The main chat area shows a conversation with 'msucapstone-bot'. The bot's messages include: 'Who is vice presidential approval required for?' (highlighted), 'Did you mean;' (10:32 PM), a list of three options in buttons: 'Is vice president approval required f...', 'We have a position posted and we ar...', and 'None of the above.', and 'Please wait while I transfer you to a human agent.' (10:32 PM). A human agent's response '10:32 PM agent' is also visible. The chat input field at the bottom contains the text 'Type your questions here'.



# Active Learning Prompt

The screenshot shows a Microsoft Teams chat window with the following elements:

- Header:** Search bar, "Michigan State Univer..." dropdown, and user profile "CP".
- Left Sidebar:** Activity, Chat, Teams, Assignments, Calendar, Calls, and Help icons.
- Chat List:** A recent chat with "msucapstone-bot" at 10:42 PM, labeled "Sent a card".
- Chat Content:**
  - A card from "msucapstone-bot" with the text "Was this helpful:" and buttons for thumbs up, thumbs down, and "Dismiss".
  - A user message: "Who is vice presidential approval required for?"
  - A response from "msucapstone-bot" at 10:42 PM: "Did you mean:" followed by three buttons: "Is vice president approval required f...", "We have a position posted and we ar...", and "None of the above.".
- Input Area:** A text box with the placeholder "Type your questions here" and a send button.

# What's left to do?

- **Implement full Graph API permissions**
  - Give audio, visual, and private channel support from support staff to users.
- **Handling of Customer Support queue**
  - Forms and logic to add new question-answer pairs directly from queue.
- **Blob Storage for more flexible source uploads**
  - Directly dropping of files into Teams chat to initialize or update a bot.
- **LUIS Sentiment analysis**
  - Add a further case under which human support is offered, triggered by negative sentiment.



# Questions?

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