



INFRAMIND2



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ARTIFICIAL INTELLIGENCE SOLUTION



Video Presentation Link : <https://youtu.be/PMkxwVDtr4Q>

GitHub link : “Participants github link should be given here”

1. Introduction/ Understanding the Problem statement

Chatbots, or conversational interfaces as they are also known, present a new way for individuals to interact with computer systems. Traditionally, to get a question answered by a software program involved using a search engine, or filling out a form. A chatbot allows a user to simply ask questions in the same manner that they would address a human. The most well-known chatbots currently are voice chatbots: Alexa and Siri. However, chatbots are currently being adopted at a high rate on computer chat platforms.

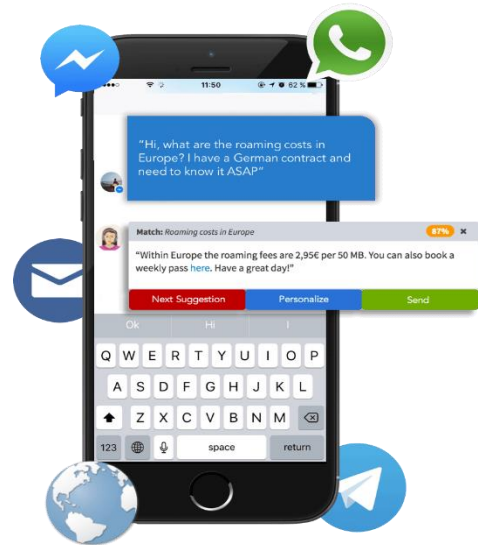


Fig 1.1: Chatbot Application

Artificial Intelligence is given to the Chatbots in computer chat platform is based on the following Requirements like,

- Google Calendar Notification
- Azure Search of Sports
- Share market Notification



- Organization Notification
- QNA Maker for Health tips
- Facebook Notification
- Twitter Notification

Fig 1.2: Cloud API Services

CHATBOT NOTIFICATIONS/ UPDATES/ SHARE:

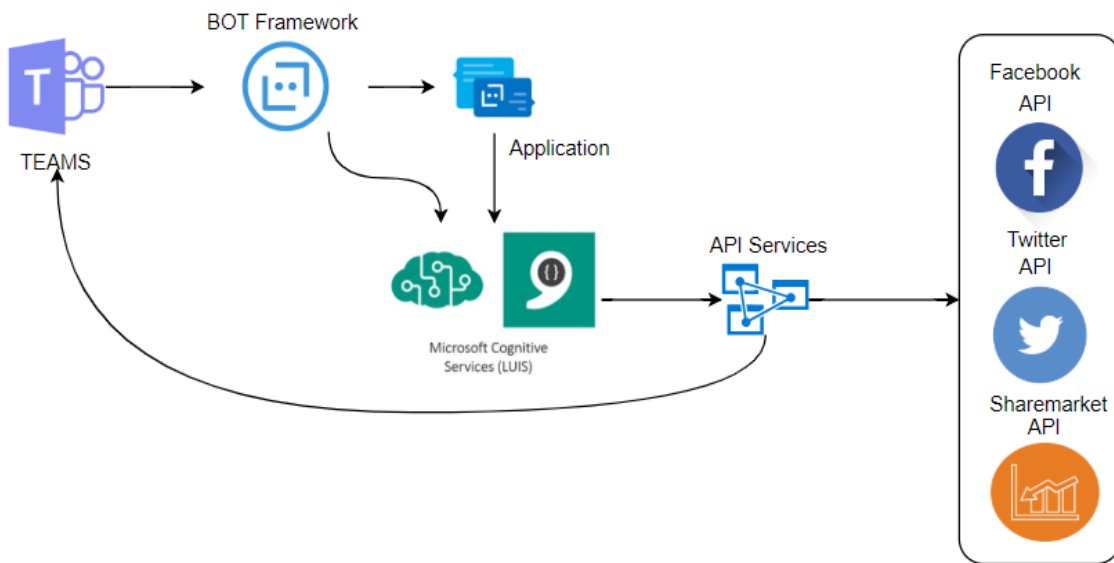


Fig 1.3: Chatbot Notifications Architecture

- Microsoft Teams will be installed in client side and the application will be integrated to Azure Cloud Framework.
- Microsoft Azure LUIS the Bot Framework connected with the application through Microsoft Azure Cloud.
- In order to get notified and updated with different applications, the corresponding API of these application will be integrated with Bot Framework.
- These different API's which is integrated together will form a collaborative service in single application.

- These API's will act like trigger once any update in any one of the API's is triggered then corresponding notification about that application will be sent.
- Thus, a collaborative environment for the Chatbot is produced and user-friendly environment is created.

SEARCH FOR AZURE SPORTS AND HEALTH TIPS:

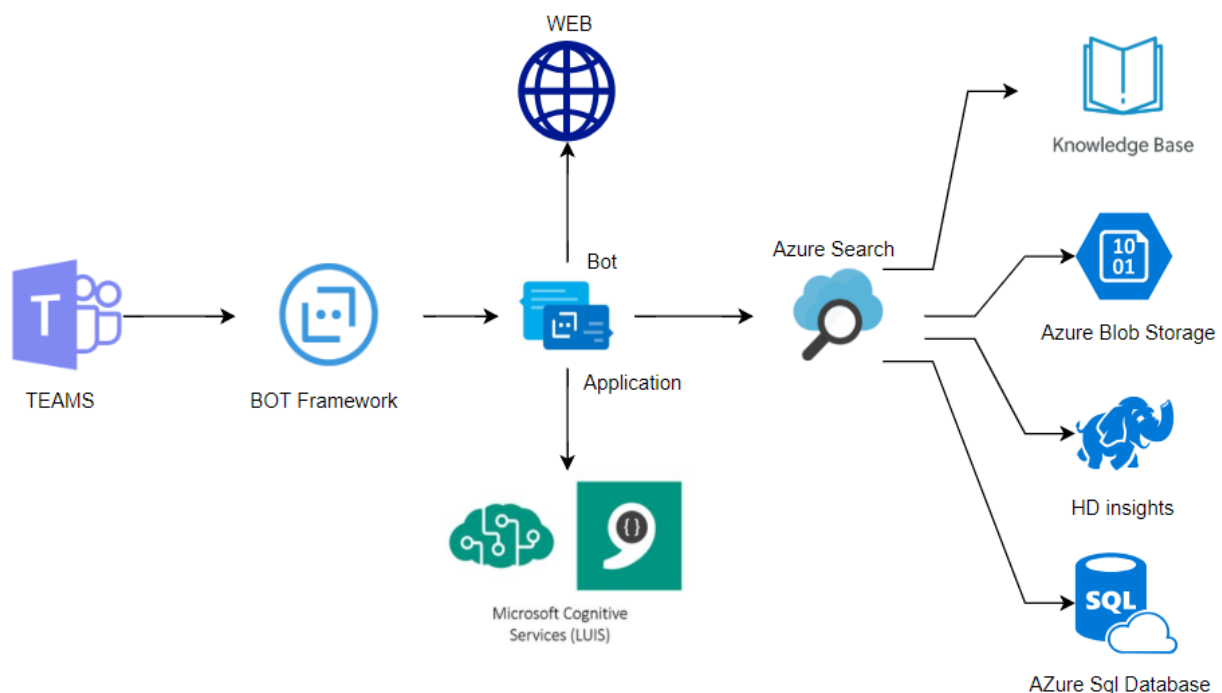


Fig 1.4: Chatbot Azure Search Architecture

- In order to perform some search operations Azure search can be utilized with Bot Framework.
- Azure Search can be used to find trending news and about user's favorite sports.
- Azure search will be done in following components in cloud,

- Knowledge Base
 - Blob Storage
 - HD Insights
 - Azure SQL database
- The Results will be fetched and a response for search request will be provided.

QNA FORM GENERATION FOR MEETING SCHEDULING:

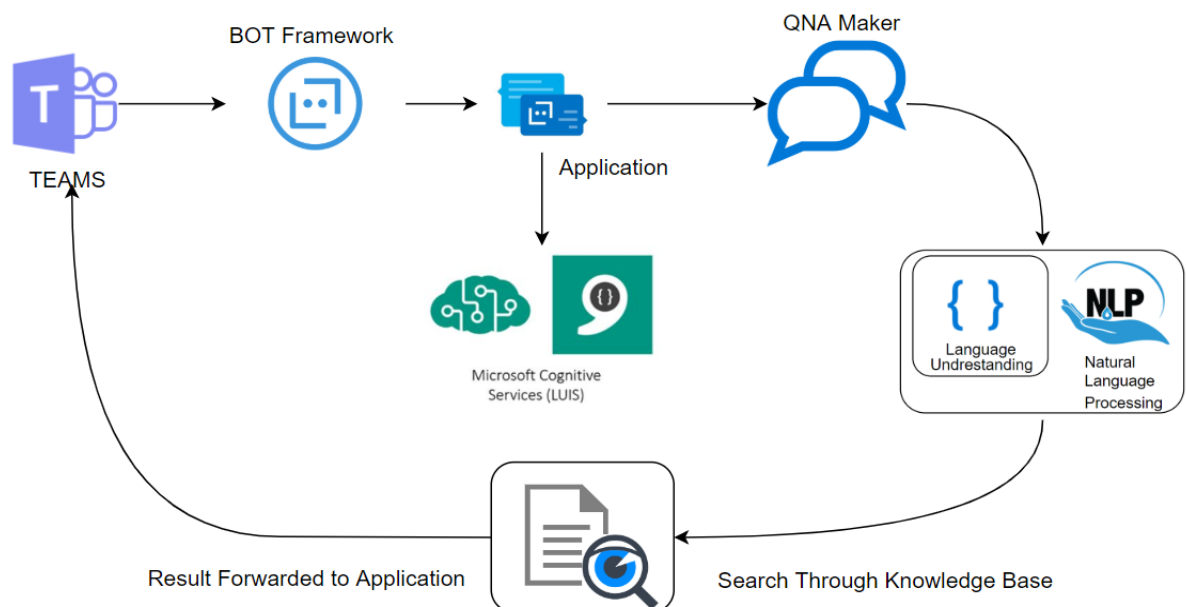


Fig 1.5: QNA Form generation Architecture

- QNA Form generation will created for question and answer feature about a fact or topic.
- In order to create a remainder about the meeting the whereabouts of the meeting will be received by Forms in Chatbot.
- The information about the event will be added to google calendar using google calendar API.

- A remainder will be notified on the day of the event this is done by trigger or push notification.
- Health tips are provided to user by means of knowledge base or Azure search or predefined document.

2. Details of technology Used

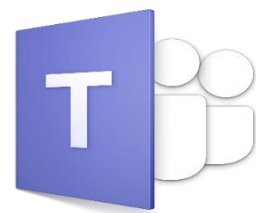
MICROSOFT AZURE:

Microsoft Azure is the cloud technology which is used to create the chatbot application which also provide services other than chatbot which is cost effective and user-friendly.



MICROSOFT TEAMS:

Microsoft Teams is a platform that combines workplace chat, meetings, notes, and attachments. The service integrates with the company's Office 365 subscription office productivity suite, including Microsoft Office and Skype, and features extensions that can integrate with non-Microsoft products.



CHATBOT:

Microsoft Azure LUIS is the chatbot framework which is used to create a chatbot by integrating different environment into single application which saves time and space.



3. Required Software /Hardware

HARDWARE:

- i7 8th Generation Processor
- 8GB RAM

- 2TB Hard Disk
- Monitor

SOFTWARE:

- Windows 10
- Microsoft Teams
- Web Browser
- Cloud Software.

4. Achieved cost saving

COLLABORATIVE ENVIRONMENT:

Microsoft Teams is a platform that combines workplace chat, meetings, notes, and attachments. Thus, provides a collaborative environment making everything simple in single chatbot application. Thus, navigation to different application can be avoided.

USER FRIENDLY:

Microsoft Azure is the cloud which is known for its User-Friendly environment which makes the chatbot easier and simpler. In clouds like amazon web services the platform is tedious and difficult but Azure provides an environment which can be easily understandable by the user.

REDUCED EXPENSE:

Compared to other Cloud services Microsoft Azure is comparatively cost effective and reduce the overall expenses. Amazon LEX services for this same chatbot would have consumed lots of expense compared to Azure. Thus, the application is Economically friendly.

ECONOMICALLY OFFER 24/7 SERVICE:

The cloud service is provided nonstop for 24 hours so no intervention in service takes place. Even in case of power failure the services in the cloud will be running for our application and the notifications will be received once the internet is provided for the application.

5. High Level Architecture:

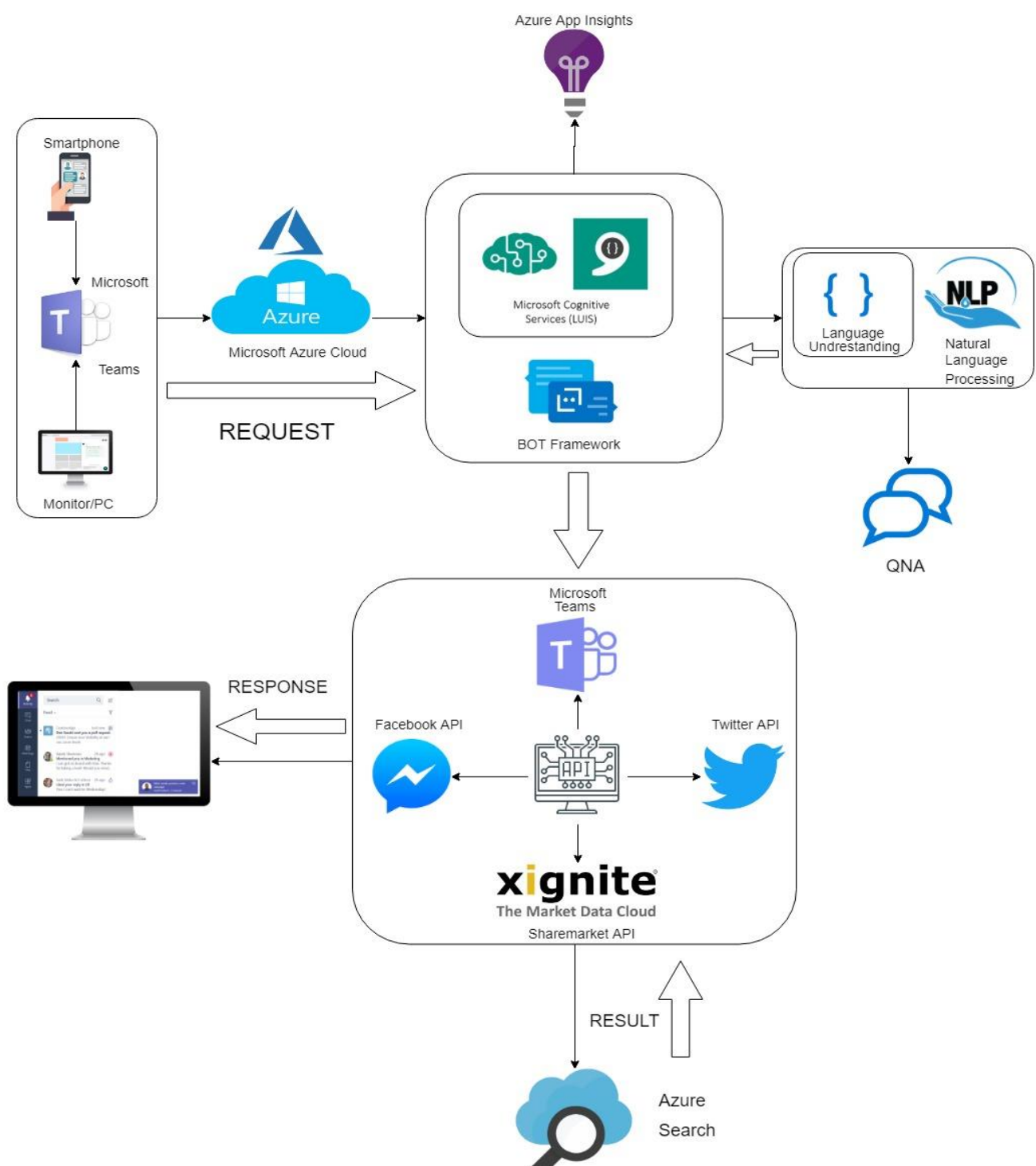


Fig 5.1: Artificial Intelligence Chatbot High Level Architecture

6. Implementation Architecture:

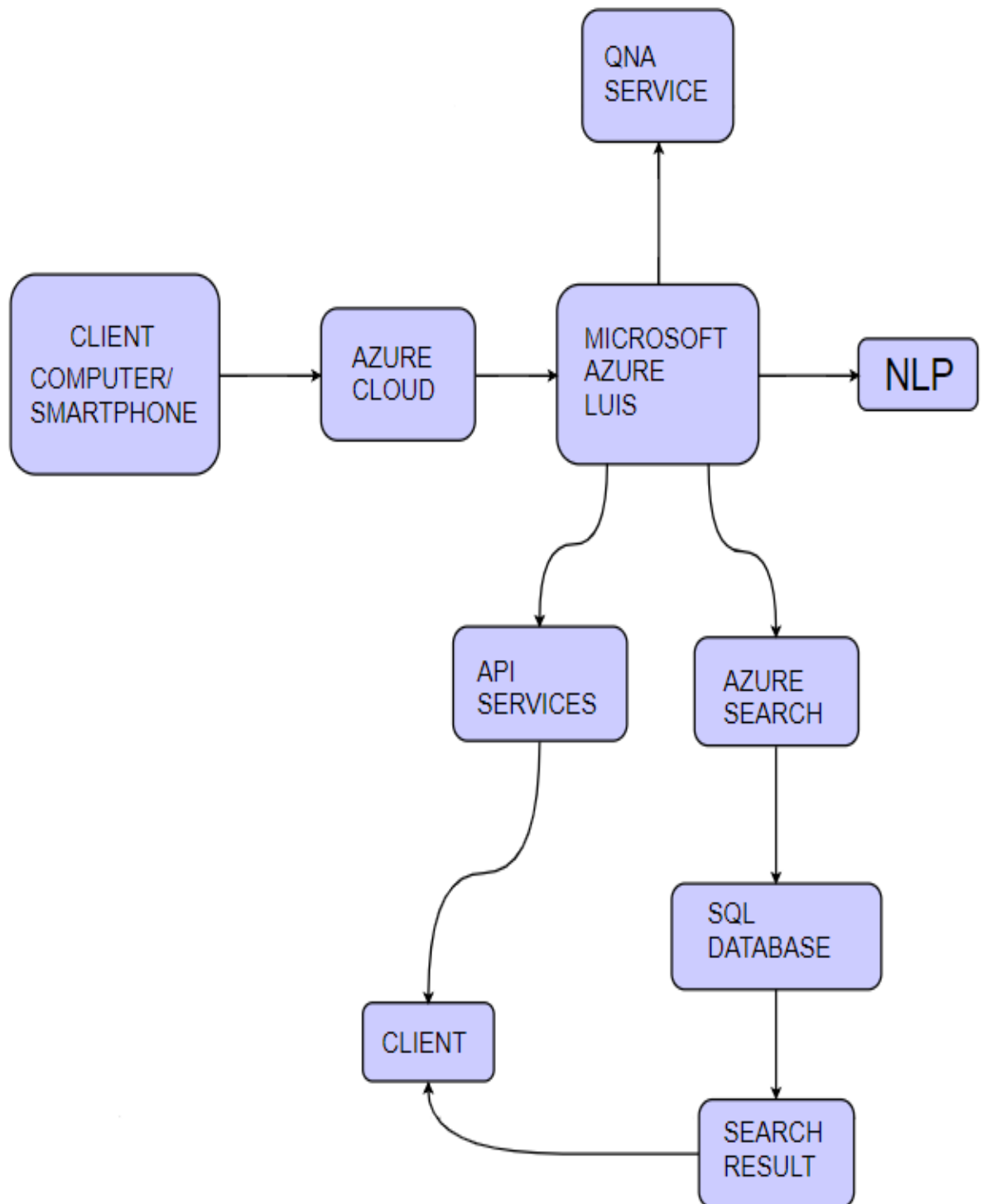


Fig 5.1: Artificial Intelligence Chatbot Implementation Architecture

7. Solution Brief Description:

SOLUTION 1: GOOGLE CALENDAR NOTIFICATIONS:

When the user wants to schedule a meeting, user provides the request in chatbot and a response form will be generated asking whereabouts about the meeting and upon completion of form the event will be scheduled in google calendar and gets notified on corresponding event occurrence.



SOLUTION 2: AZURE SEARCH FOR SPORTS:

Whenever the user wants to get notified with live updates of user's favorite sport the chatbot generates a form asking about user's favorite sport and performs a search using Azure Search and produce result accordingly.



SOLUTION 3: SHARE MARKET NOTIFICATIONS:

In order to provide up to date information about the share market analytics the chatbot uses Xignite API, a market data cloud which keeps track of Business Analytics.



SOLUTION 4: ORGANIZATION NOTIFICATIONS:

For Organization notification for example considering integrating TCS campus commune with the chatbot will keep providing information about event updates and other notifications. In order to perform this the support of the organization is required.



SOLUTION 5: QNA MAKER FOR HEALTH TIPS:

In order to provide a fun user-friendly environment to the user, Health tips are provided by means of QNA maker. The user asks for an information and gets searched in knowledge base then the results are provided accordingly.



SOLUTION 6: FACEBOOK NOTIFICATIONS/ UPDATES:

The chat bot is connected to Facebook by means of Microsoft Teams or by using Facebook API in order to provide information and notification about updates.



SOLUTION 7: TWITTER NOTIFICATIONS/ TRENDS:

The chat bot is connected to Twitter by means of Microsoft Teams or by using Twitter API in order to provide information and notification about updates. And also, chatbot can able to share trending information.



8. Scope of Automation:

SOCIAL MEDIA NOTIFICATIONS:

Notifications from different Social Media like Twitter, Facebook, share market and Organization are automated in a single application through Microsoft Teams. By doing so Navigations through different applications is avoided. And navigation time gets saved.

SEARCH REQUEST AND RESULT RESPONSE:

Search request for certain operations are done which will automatically fetch results for certain questions and those results are displayed to user. By doing so browsing time gets reduced and anomalies in searching gets avoided by providing understandable user interface.

MEETING SCHEDULING AND REMAINDER:

Forms are generated for meeting scheduling and the results of the form is added to google calendar and a remainder about the meeting will be done on that particular date. Thus, event remainder is automated in such a way the user will not forget about that event.

9. Conclusion:

The chatbot which is created using azure LUIS chatbot framework and integrating Microsoft Teams provides a Collaborative environment in a single application and saves Time and Space. Because of API integration anomalies gets reduced and avoided. Mostly the chatbot will keep us up to date in all Social Media and provides best user Interface. The cloud service is provided continuously throughout the day.

LIST OF FIGURES:

NUMBER	NAME
1.1	Chatbot Application
1.2	Cloud API Services
1.3	Chatbot Notifications Architecture
1.4	Chatbot Azure Search Architecture
1.5	QNA Form generation Architecture
5.1	Artificial Intelligence Chatbot High Level Architecture
5.2	Artificial Intelligence Chatbot Implementation Architecture