

CLOUD APPLICATION DEVELOPMENT PROJECT

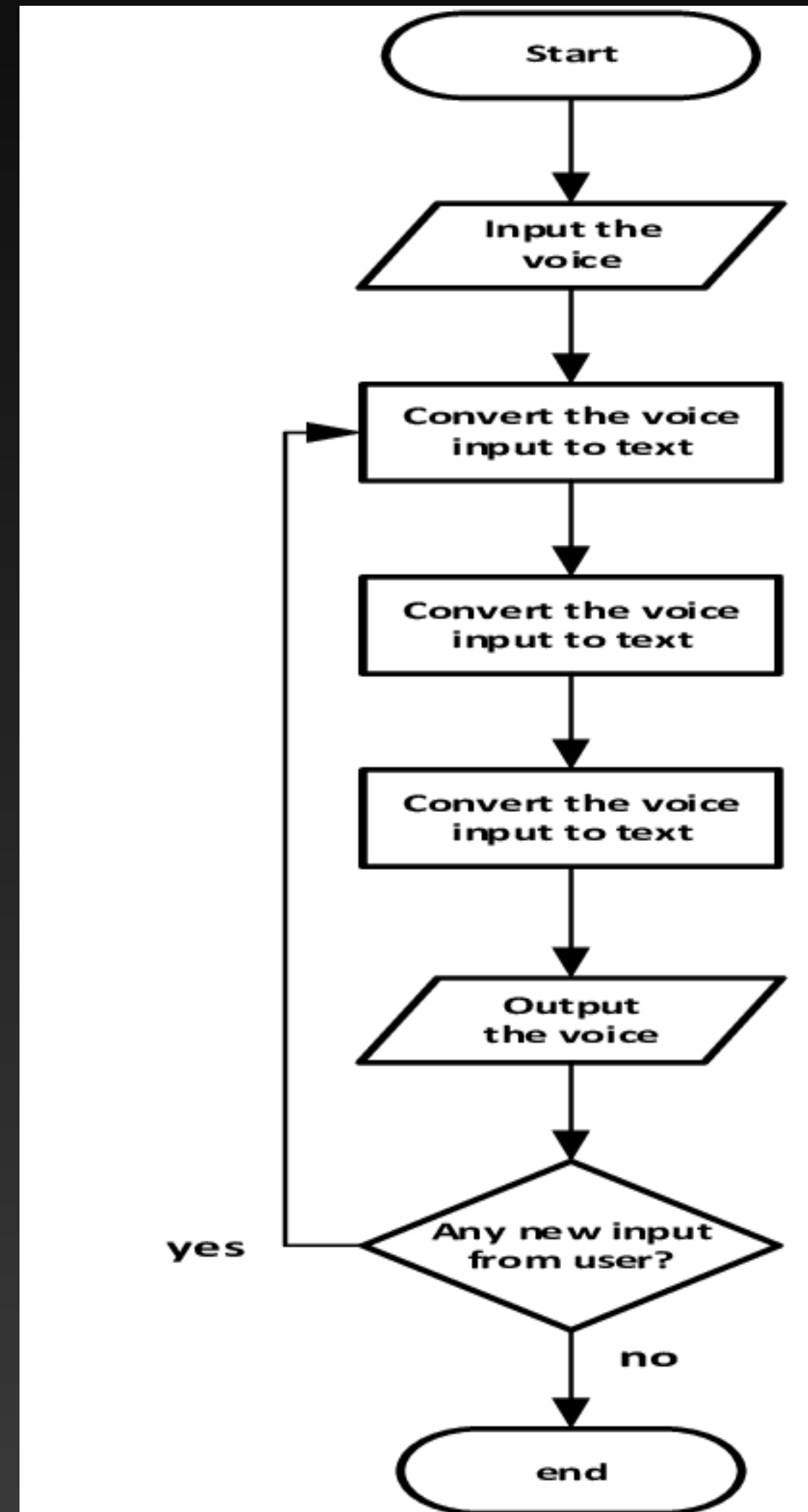
CHATBOT

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What is chatbot?

- At the most basic level, a chatbot is a computer program that simulates and processes human conversation (either written or spoken), allowing humans to interact with digital devices as if they were communicating with a real person.
- Chatbots can be as simple as rudimentary programs that answer a simple query with a single-line response, or as sophisticated as digital assistants that learn and evolve to deliver increasing levels of personalization as they gather and process information.

FLOWCHART



Advantages of Chatbot

1. **24/7 availability:** Chatbots are available to answer customer questions at any hour, day or night. Now, the customer can ask a query to the chatbot and get an instant reply or get sent to the page with the right product.
2. **Easy checkout :** Chatbots can take orders straight from the chat or send the client directly to the checkout page to complete the purchase. This will minimize the effort a potential customer has to go through during a checkout. In turn, this reduces friction points before the sale and improves the user experience.
3. **Decrease bounce rate:** Your website's bounce rate largely depends on how absorbed the users are in browsing your content. It is the percentage of visitors who stop browsing your site after opening the first page.

Advantages of Chatbot

4. **Faster response time:** chatbots provide instant responses to help customers with simple questions right there and then. This helps to decrease the waiting time for your customer support down to a couple of seconds.
5. **Lower the number of requests for the human agents:** Over 87% of customers report that chatbots are effective in resolving their issues. This is one of the advantages of chatbots in customer service—They can significantly reduce the requests going to your human representatives.

Chatbot challenges

- Even though it might seem like it, chatbots are not all rainbows and unicorns. There are some downsides to them. And you should be aware of those when thinking about implementing bots into your business.
- The three common disadvantages of chatbots are:
 1. Setup and maintenance
 2. Emotionless support
 3. Limited functionality

USE OF THREADS IN CHATBOT

- Identify the parts of your chatbot that can benefit from multi-threading. This might include tasks like processing incoming messages, performing database queries, or running computationally intensive algorithms.
- Decide on a threading model that best fits your chatbot's architecture. There are several threading models to choose from, such as the producer-consumer model or the master-worker model. The specific model you choose will depend on the specific needs of your chatbot.
- Implement the threading model in your code. This will involve creating and managing threads, and coordinating their communication with each other. For example, you might use a queue to pass messages between threads, or use synchronization primitives like locks to ensure that multiple threads don't access the same data simultaneously.

USE OF THREADS IN CHATBOT

- Test your threaded chatbot to make sure it's working as expected. You'll want to test it under various loads and stress test scenarios to make sure that it's responding correctly and efficiently.
- Here are a few additional tips to keep in mind when using threads in a chatbot:
- Make sure that you're using a thread-safe language or library to avoid race conditions and other concurrency issues.
- Keep the number of threads to a reasonable level. Too many threads can lead to contention and slow down your chatbot.
- Monitor your chatbot's resource usage, including CPU and memory, to ensure that it's not using up too much of your system's resources.
- Consider using a thread pool to manage your chatbot's threads, rather than creating and destroying them dynamically. This can help reduce overhead and improve performance.

THANKYOU