VIRTUAL ASSISTANT PLATFORM

Product Proposal

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Overview

Virtual Assistant is an application program that understands natural language voice commands or text commands and completes the tasks for users. Virtual Assistants features a human interface system, they can understand the language and meaning of what the user is saying and have built in replies. Learn from different instances so that they can have a long term human interaction. It uses artificial intelligence to learn things from different situations. Using AI they can recognize, predict and classify based on analysis.

Purpose

Virtual Assistant provides various services. It is ready to help wherever you are and can be deployed in your devices. Wider scope and perform users to get answers to their questions and perform tasks using voice or text commands, all in an interactive form. Precise voice and text recognition with the ability to have conversation with the users. In case of Google assistant, they recognize the voice of the user and perform the specific task.

Use case

Customer support: Rather of customers waiting for a long to solve an issue, the can get instant support from chatbot,

Banking Chatbots: Personalized banking with an aim to improve customer satisfaction and engagement.

Project support: Can send notifications for various tasks. Reminder to follow up with an action.

HR assistants: Can help employees register time off, retrieve company policies, and find answers to repetitive employment questions.

Teaching: Can helps teachers to create more detailed learning plans and materials.

Being full-blown health assistants: Virtual assistants can do so much more than giving tips, they can often help patients apply simple treatments, remind them to take medicine, and monitor their health.

Automating FAQs and administrative tasks: If there's a scenario where the customers have dozens of repetitive questions, virtual assistant is there 24/7 to answer questions from people who may be anxious to get answers.

Technical support: The customer has a product technical error, in this case, asks the customer to type the error they encounter, then it generates a dynamic link to search the customer input words in the technical knowledge repositories and guide the customer through his search.
Efficient Processes: Make processes more streamlined and transparent by synchronizing between functions, roles, and departments.

Booking: A virtual assistant can respond to a consumer through messages, web, SMS or email and update them on the status of their existing reservation, make changes to the reservation, process related payments or refunds, send proactive notifications and provide detailed information on their itinerary.

Features

a. NLP Text Search : Virtual assistant concentrates on NLP and NLU. Understands the slang that is used in everyday conversation and analyses the sentiments to enhance a better set of communication.

b. FAQ voice assistant : FAQ voice assistant is a voice assistant that provides a list of questions and answers relating to a particular subject.

c. Conversations voice assistant : Conversations voice assistant is a voice assistant that provides conversational services based on a subject.

d. **Speech conversations (STT,TTS) :** It provides conversational services such as speech to text and text to speech.

e. **Integration with Enterprise Systems :** It provides administrative service to clients. Such as scheduling appointments, making phone calls, making travel arrangements, managing email accounts etc.

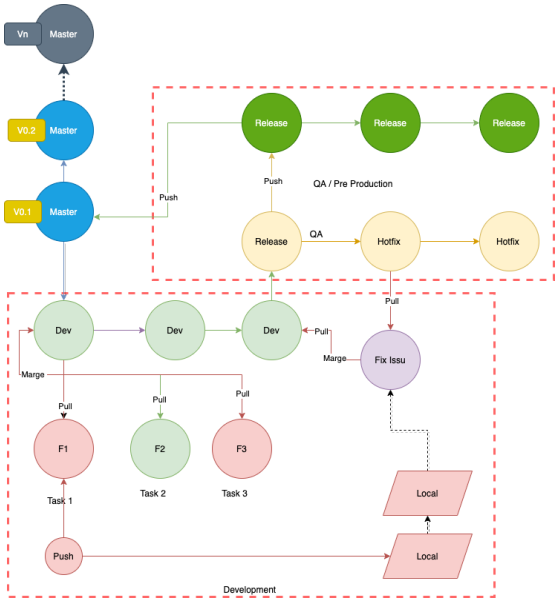
f. **Rich Conversations :** Rich conversation is a conversation that can use different features such as images, videos, buttons, forms etc.

a) **Images:** Images can be sent or received during conversations.
b) **Buttons:** Buttons can provide different functionalities as per the feature of the button.
c) **Videos:** Videos can be sent or received during conversations
d) **Forms:** Forms help to give visible shape or configuration of something.

Technical Requirement

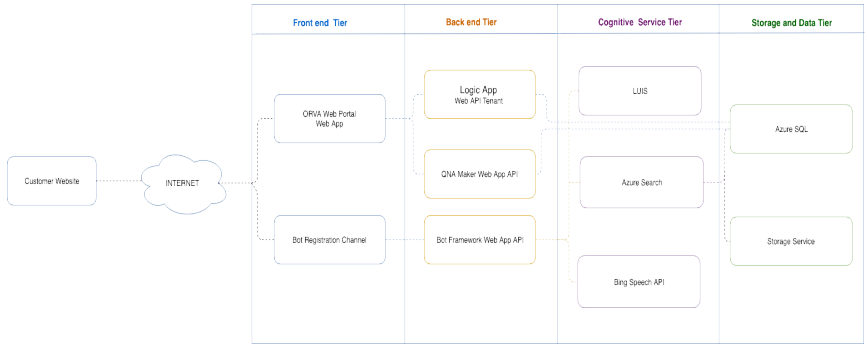
g. HTML5
h. JavaScript
i. Python (Flask API, NLP Packages)
j. MySQL
k. Docker
l. Git

Branching and Versioning

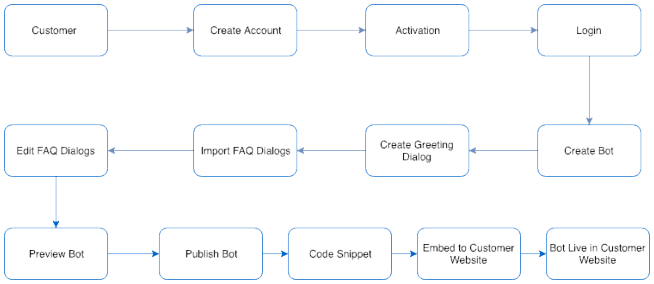


Using semantic versioning alongside with Git flow makes it easy to maintain a software project. Remember you can also add a readable change log to your project to track what has been done.

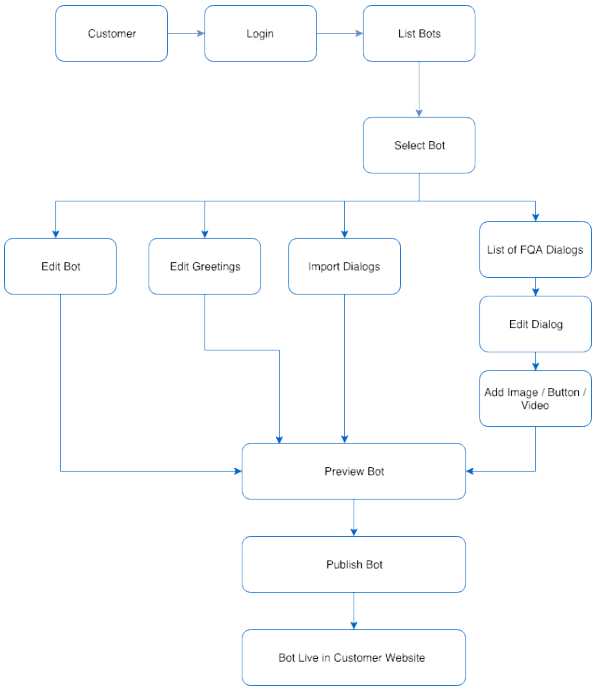
System Overview



Functional Process Flow For New User



Functional Process Flow For Existing User



VAAAS (Virtual Assistant) Online Portal:

In this VAAAS Online Portal is the Front-End to manage the customer and bots. So, Portal will be having following the user experience in Angular framework with logic app web APIs. Based on the web portal following the components and model going to use

1. Log In and create account management
    a. login component for handling the login user validation to communicate the Logic App API.
    b. Registration component for handling the post form data to API and as well as check the username validation
    c. Forget Password will be having forgot component to send the password like
    d. Account activation and email will be handled by logic app

2. Bots
    a. Create bot component will get the bot details and collect the bot name with naming conventions.
    b. When creating a bot following the actions need to be done
    c. Create the staging table
    d. Update the stage table name and live table name, azure index name, Web API, channel
    e. After creating the stage table greeting message data will store into the store into the stage table.
    f. Import FQA will be collect the URL from the import screen and request asynchronous call to QNA maker API Request. And QNA Maker will following the activities
        i. In QNA Maker validate the Subscription and create the Knowledge Base (KB) and import all the FAQ in temp memory.
        ii. Import success sate response contain process state, knowledge Base ID (KB id).
        iii. After getting the Knowledge base id will import the imported questions and answers will be migrated to customer bot stage table. Staging table contain the bot name as naming convention.
        iv. Dialogs will get the details for FAQ dialog component. And edit and delete the dialogs and add the images and buttons in edit view in the dialog edit component.
        v. All the FAQ dialogs will be instant update into preview and reflected into bot staging table using Logic App API.
    g. Publish the Bot will Trigger the azure search index creation and migrate the updated dialogs from staging table to live table and create index based on below:
        i. Id (Retrievable)
        ii. Question (Searchable, Retrievable)
        iii. Answer (Retrievable)
        iv. Images, videos, buttons (Retrievable)
    h. Bot framework Web App API, Bot registration channel will be assigned to the bot.
    i. Using embedded JavaScript will contains the iframe for Bo framework bot window with channel key, speech key.
    j. Following the publisher script will be integrated to customer website.