Chat Bot Project Plan

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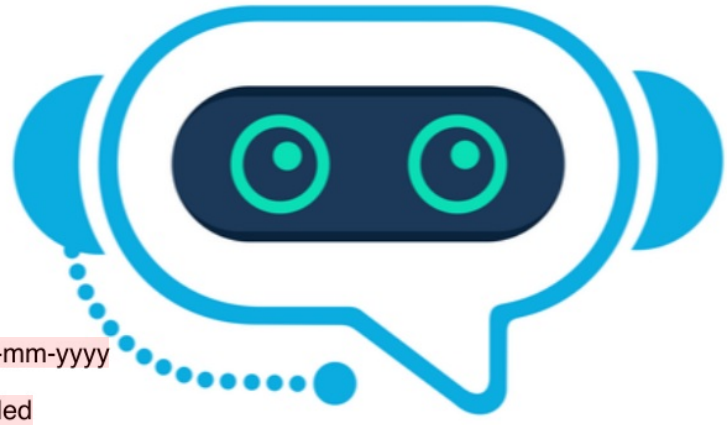
CHAT BOT

“A DIGITAL ASSISTANT”

Project Plan



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PREPARED: _____ Date: 04 / 09 / 2020

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ACCEPTED: _____ Date: ____ / ____ / ____

(for release) Dr Paul Darbyshire
Project Sponsor, VIT

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Introduction

As stated in our project proposal that this capstone project was developed keeping the current situation of Covid-19 in view. In this pandemic situation there is more and more emphasis on social distancing and people are normally advised to avoid social gatherings at large scale. The same applies to the students of VIT. Students of VIT were advised to stay home and online classes came in to existence for the first time at VIT. Students are preferably not allowed to come to the campus until and unless they have some major issues that cannot be avoided. In order to resolve their issues they either have to call or pay a visit to the campus. Keeping these circumstances and demand of the situation in view we came up with this project where students can interact directly with a virtual or digital assistant online which can direct them to the right person or serving them right information without wasting much of their time.

Objectives of the Project

The main objective of our project VOT – the VIT bot is to give students/mentors/visitors a complete new experience online. A chat bot to help gain desired information with few text messages from the chat window of university website. In order to achieve this objectives following are some of the minor goals:

- To interpret the meaning behind the text message of the user
- To infer the possible responses based on the requirement of the text message of the user

Scope

Areas to include/ Exclude

Include

- Machine learning to infer
- Dialog flow agent
- Webhook for to and response of APIs
- Mysql for database
- Node.js for JavaScript

Exclude

- Hardware deliverable

System Interface

In this project the end user will interact with dialogflow agent. User will express some sort intention by communicating with the agent through the chat window. To detect every single intention we'll provide vast number of similar phrases to dialogflow then dialogflow agent with its super strong and efficient Natural Language Understanding (NLU) algorithm will try to derive the intention of the user and respond by comparing it with the trained dataset. After a successful intention detection dialogflow looks for the response, the response may require data be from the database or need to connect with external API. In order to accomplish the API response we will be going for a WEBHOOK that receives request from dialogflow then call external API's , get data from database, perform some calculations depending on the user requirement and last generate response back to dialogflow and dialogflow will give respond back to the main end User. In our case we'll build our webhook in NODEJS environment. Alternatively, if response doesn't need to call external API or get data from database, we plan to define such responses in dialogflow platform all by itself.

Major Deliverable

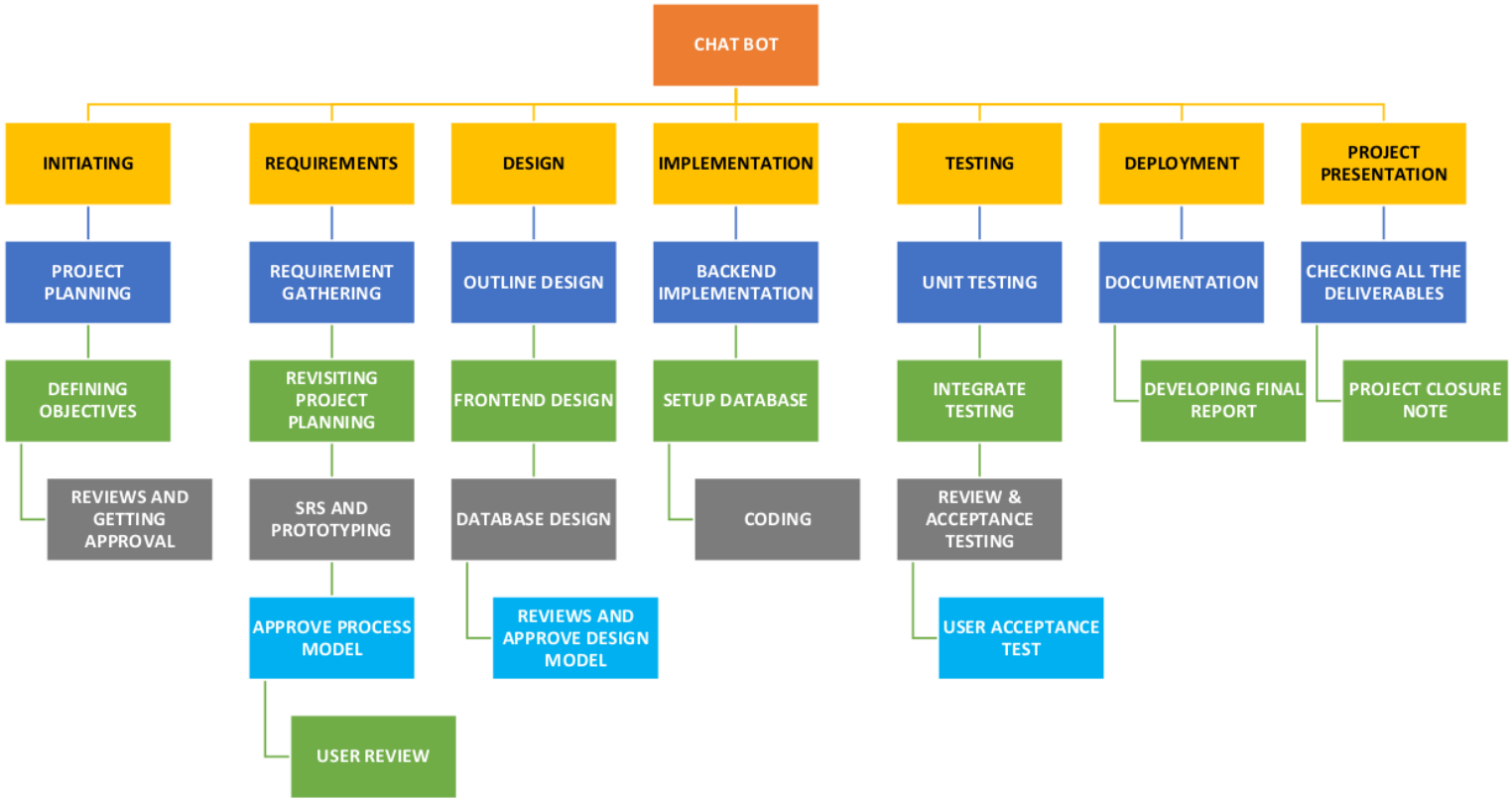
- VOT (the VIT Bot) as a digital assistant
- Final report with all the necessary guidelines

Assumptions

- The server of the university website is available (up and running) for indefinite period of time.
- There are unlimited values that can act as an input to our chat bot but based on the duration of our project we have restricted to very few possible inputs and its desired output.

Organization

Work breakdown Structure (WBS)



Roles and Responsibilities

Person1:
- Working on machine learning & Inference rules

Person2:
- Setting up database and developing necessary queries to link frontend and backend

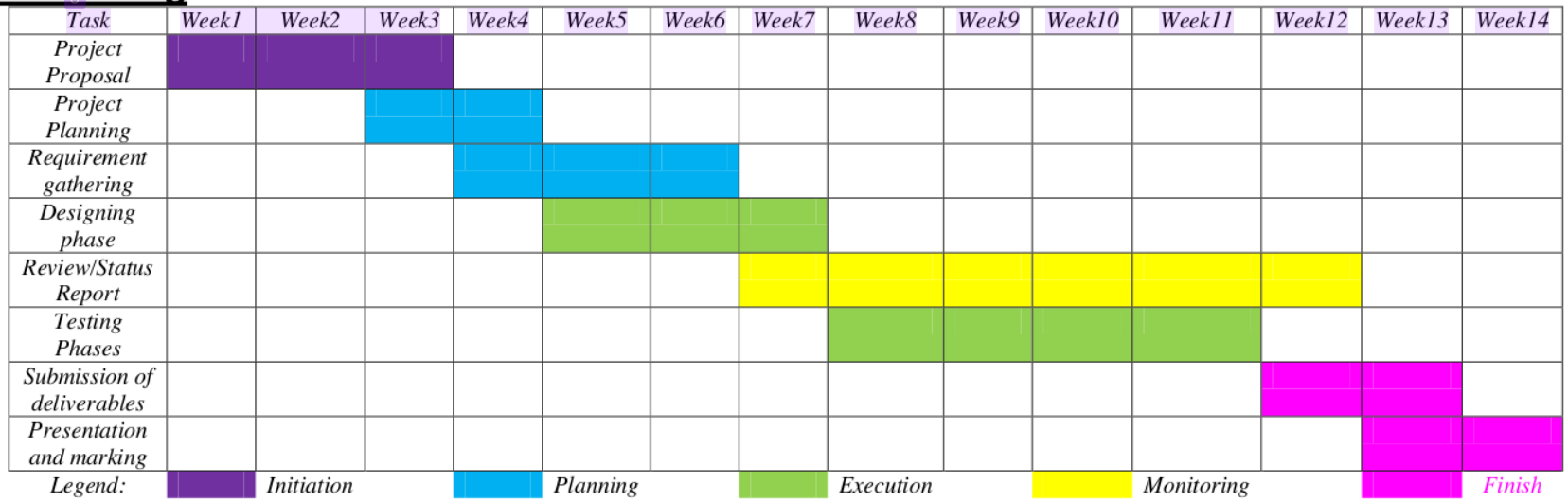
Person3:
- Webhook to interconnect APIs

Person4:
- Working on Node JS JavaScript

Person5:
- Gathering user specifications
- Documentation and status report

Finally all these modules will be integrated to accomplish our goal

Scheduling



Control and Reporting

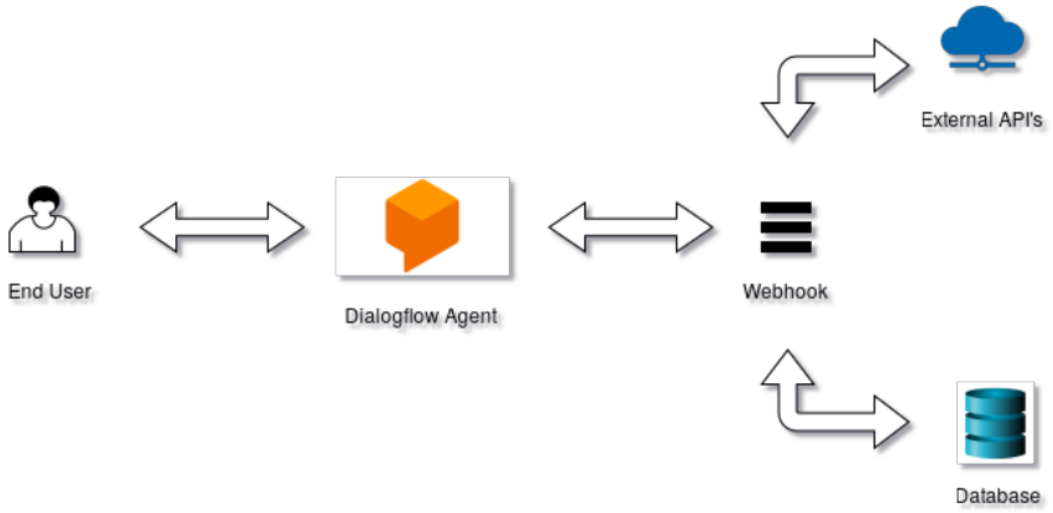
Due to current pandemic we are exercising social distancing. Instead of having in person meetings we are mostly replying on zoom meetups and communication via text messages. One person among us is dedicated to keep track of the deadlines and milestones. The major role of person5 is to keep all of us on track. So far the progress is up to the mark and we are moving ahead of the timeline. The critical part is to integrate all the modules. We are currently working on fixing that part and get everything synchronised by the mid of semester. We are pretty confident to finish our goal in/on time.

Risk/ Constraints Management

- Bot may not respond for some queries, if the question comes out of the untrained dataset.
- Bot may respond abnormally for queries which sound similar. In order to respond such situation we are seeking more information from user to get to the actual scenario.
- Dialogflow service have downtime
- Webhook deployed Heroku also may face downtime
- For every question that bot can't entertain and shows fallback message, we will manage history of all sessions especially where our bot showed fallback message
- Whenever Heroku had downtime we'll use its logs to explore why it had the downtime.
- Immediate support available for both Heroku and dialogflow.
- On call service during office hours can be kept as a backup plan in case the bot fails to respond to the queries.

Delivery Strategy

Approach/ Methodology

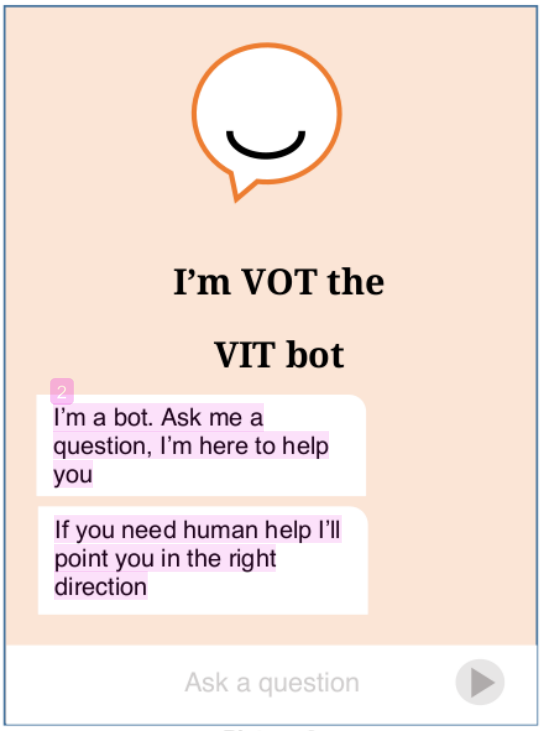


Picture 1

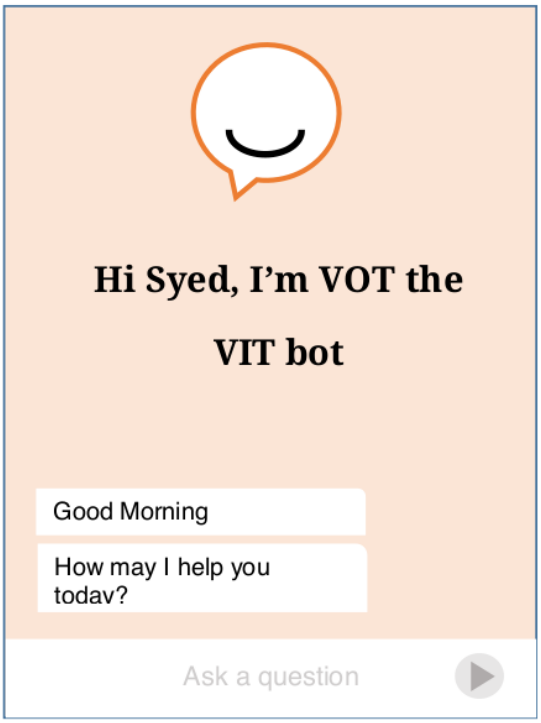
Standards and Procedures

In order to complete our project we are continuously following all the standards and procedures that are usually followed to plan, design, develop and deploy a software in real time. For example in order to facilitate and keep a track of all the steps SRS, status review report, waterfall software development model, standard procedures of testing (Unit testing, system testing) are adopted

Expected Layout of Chat Bot



Picture 3



Picture 4

Chat Bot Project Plan

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