"AI CHATBOT to ANSWER FAQs for VISA Enquiries"

A Project Report Submitted to

Rajiv Gandhi Proudyogiki Vishwavidyalaya

Towards Partial Fulfilment for the Award of

Bachelor Of Technology in Computer Science and Engineering

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Jan- June 2022

EXAMINER APPROVAL

The Project entitled ***"AI Chatbot to Answer FAQs for Visa Enquiries"*** submitted by **Ayush Jain (0827CS201053), Ayushman Singh Chouhan(0827CS201056), Devesh Sharma (0827CS201068), Aman Kushwaha (0827CS213D02)** has been examined and is hereby approved towards partial fulfilment for the award of Bachelor of Technology degree in Computer Science and Engineering discipline, for which it has been submitted. It understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein, but approve the project only for the purpose for which it has been submitted.

(Internal Examiner) **(External Examiner)**

Date: **Date:**

GUIDE RECOMMENDATION

This is to certify that the work embodied in this project entitled **"AI Chatbot to Answer FAQs for Visa Enquiries"** submitted by **Ayush Jain (0827CS201053), Ayushman Singh Chouhan(0827CS201056), Devesh Sharma (0827CS201068), Aman Kushwaha (0827CS213D02)** is a satisfactory account of the bonafide work done under the supervision of **Prof. Ronak Jain** and **Prof. Narendra Pal Singh** are recommended towards partial fulfilment for the award of the Bachelor of Technology (Computer Science and Engineering) degree by Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal.

(Project Guide) **(Project Coordinator)**

STUDENTS UNDERTAKING

This is to certify that project entitled **"AI Chatbot to Answer FAQs for Visa Enquiries"** has developed by us under the supervision of Prof. Ronak Jain and Prof. Narendra Pal Singh Rathore. The whole responsibility of work done in this project is ours. The sole intension of this work is only for practical learning and research.

We further declare that to the best of our knowledge; this report does not contain any part of any work which has been submitted for the award of any degree either in this University or in any other University / Deemed University without proper citation and if the same work found then we are liable for explanation to this.

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Acknowledgement

We thank the almighty Lord for giving me the strength and courage to sail out through the tough and reach on shore safely.

There are number of people without whom this projects work would not have been feasible. Their high academic standards and personal integrity provided me with continuous guidance and support.

We owe a debt of sincere gratitude, deep sense of reverence and respect to our guide and mentors **Prof. Ronak Jain** and **Prof. Narendra Pal Singh Rathore**, Associate Professor, AITR, for their motivation, sagacious guidance, constant encouragement, vigilant supervision, and valuable critical appreciation throughout this project work, which helped us to successfully complete the project on time.

We express profound gratitude and heartfelt thanks to **Dr Kamal Kumar Sethi**, HOD CSE, AITR Indore for his support, suggestion, and inspiration for carrying out this project. I am very much thankful to other faculty and staff members of CSE Dept, AITR Indore for providing me all support, help and advice during the project. We would be failing in our duty if do not acknowledge the support and guidance received from **Dr S. C. Sharma**, Director, AITR, Indore whenever needed. We take opportunity to convey my regards to the management of Acropolis Institute, Indore for extending academic and administrative support and providing me all necessary facilities for project to achieve our objectives.

We are grateful to **our parent** and **family members** who have always loved and supported us unconditionally. To all of them, we want to say, “Thank you”, for being the best family that one could ever have and without whom none of this would have been possible.

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Executive Summary

AI Chatbot to Answer FAQs for Visa Enquiries

This project is submitted to Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal (MP), India for partial fulfilment of Bachelor of Technology in Computer Science & Engineering branch under the sagacious guidance and vigilant supervision of Prof. Ronak Jain and Prof. Narendra Pal Singh Rathore.

The project is based on Natural Language Processing which is a sub-field of Artificial Intelligence and Machine Learning. In the project Dialogflow is used, a natural language processing platform that makes it easy to design and integrate a conversational user interface into a mobile app, web application, device, bot, interactive voice response system, and so on.

Key words: Natural Language Processing, Artificial Intelligence, Machine Learning, Dialogflow

“Difficulties in your life do not come to destroy you…

But to help you realise your hidden potential and power,

Let difficulties know that you too are difficult!”

~A.P.J. Abdul Kalam

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Chapter 1: Introduction

Introduction

The computer has made everybody's life easier. The most important aspect of computer science today is having the ability of cognitive technologies and providing automation to save the time, an essential skill for life. A FAQ chatbot is a program designed to answer common questions people have in their mind. This paper is based on the text only chatbot. FAQ Chatbot recognize the user input and by using pattern matching technology, it answers user about similar matching questions.

1.1 Overview

The project is based on the use of Dialogflow to be integrated to a website to create an AI 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.

1.2 Background and Motivation

Chatbots boost operational efficiency and bring cost savings to businesses while offering convenience and added services to internal employees and external customers. They allow companies to easily resolve many types of customer queries and issues while reducing the need for human interaction.

With chatbots, a business can scale, personalize, and be proactive all at the same time—which is an important differentiator. For example, when relying solely on human power, a business can serve a limited number of people at one time. To be cost-effective, human-powered businesses are forced to focus on standardized models and are limited in their proactive and personalized outreach capabilities.

By contrast, chatbots allow businesses to engage with an unlimited number of customers in a personal way and can be scaled up or down according to demand and business needs. By using chatbots, a business can provide humanlike, personalized, proactive service to millions of people at the same time.

1.3 Problem Statements and Objectives

There have always been queries of people regarding various topics to which answers are provided manually by people. In order to make this process fast the FAQs can be answered using the latest AI technologies where answers can be automatically generated according to the questions. Also, for every question asked it can be stored and the list of questions can be increased to provide better mapping of question and can help in the better economical market growth.

Thus, the system implemented has the following **objective**:

Our **objective** is to design and prototype a smart FAQ chatbot which can response to all visa support related enquiries 24x7 based on the FAQ database effectively.

1.4 Scope of the Project

Chatbots are artificial intelligence systems that interact with users via messaging, text, or speech. Chatbots can work in segments such as marketing, payments and processing, and service. Today, consumers are demanding round-the-clock service for assistance in areas ranging from banking and finance, to health and wellness.

As a result, companies are rapidly looking to develop Chatbots and virtual assistants to answer questions customers may have at any time of day. But companies should take note that the more successful Chatbots are the ones that are able to drive a good conversational experience that mimics human agents – they should be able to effectively address customer requests.

1.5 Group Organization

- **Ayush Jain**

  Along with preliminary investigation and understanding the drawback of the current system, I studied about the topic and its scope. I surveyed various research papers related to chatbots and the technology to be used. I also contributed in documentation phase of the project.

- **Ayushman Singh Chouhan**

  I investigated, found the right technology, and studied it in depth. I also organized and debugged the code of the project. I also tested the overall functionality of the project.

- **Devesh Sharma**

  I worked on the overall documentation of the project. I also collected the object data and trained the model for it. Moreover, I managed the overall structure of the project, its design and working.

- **Aman Kushwaha**

  I investigated and found the right technology and studied in deep about it. For the implementation of the project. Implementation logic for the project objective and coding of internal functionalities is also done by me. I worked on the front-end, making the HTML.

1.6 Report Structure

The project "AI Chatbot to Answer FAQs for Visa Enquiries" is primarily concerned to provide support to tourists and all customers with the means of an AI Chatbot.

Chapter 1: Introduction- introduces the background of the problem followed by rationale for the project undertaken. The chapter describes the objectives, scope, and applications of the project. Further, the chapter gives the details of team members and their contribution in development of the project which is then subsequently ended with a report outline.

Chapter 2: Review of Literature- explores the work done in the area of Project undertaken and discusses the limitations of the existing system and highlights the issues and challenges of the project area. The chapter finally ends up with the requirement identification for present project work based on findings drawn from reviewed literature and end user interactions.

Chapter 3: Proposed System - starts with the project proposal based on requirement identified, followed by benefits of the project. The chapter also illustrate software engineering paradigm used along with different design representation. The chapter also includes block diagram and details of major modules of the project. Chapter also gives insights of different type of feasibility study carried out for the project undertaken. Later it gives details of the different deployment requirements for the developed project.

Chapter 4: Implementation - includes the details of different Technology/ Techniques/ Tools/ Programming Languages used in developing the Project. The chapter also includes the different user interface designed in project along with their functionality. Further it discusses the experiment results along with testing of the project. The chapter ends with evaluation of project on different parameters like accuracy and efficiency.

Chapter 5: Conclusion - Concludes with objective wise analysis of results and limitation of present work which is then followed by suggestions and recommendations for further improvement.

Chapter 2: Review of Literature

Review of Literature

In 1950, Alan Turing wondered if a computer program could talk to a group of people without realizing that their interlocutor was artificial. This question, named Turing test, is considered by many to be the generative idea of chatbots. The first chatbot with ELIZA name was developed in 1966. Its ability to communicate was limited, but it was a source of inspiration for the subsequent development of other chatbots. Since then, chatbots evolved to much better recognizing and responding application. Today's gen chatbots uses artificial intelligence and pattern matching technologies to make a smarter reply to users.

2.1 Preliminary Investigation

2.1.1 Current System

- Current system of chatbots uses pattern matching approaches i.e., rule-based chatbots match the user input to a rule pattern and select a predefined answer from a set of responses with the use of Pattern Matching algorithms.
- Other approaches of making chatbot is the use of Artificial Intelligence, to build the knowledge base of the chatbots that adopt the Pattern Matching approach.
- Further, Rivescript is also used as a method of developing chatbot which is a line-based scripting language implementing the knowledge base in rule-based chatbots.
- ChatScript is yet another way of for developing rule-based chatbot.
- Apart from Pattern Matching approaches, chatbots are also built using Machine Learning approaches which extract the content from the user input using Natural Language Processing, and dispose of the ability to learn from conversations. They consider the whole dialog context, not just the current term, and do not require a predefined response for each possible user input.
- Often, Artificial Neural Networks are used for the implementation of these chatbots.
- Retrieval-based models use a neural network to assign scores and select the most likely responses from a set of responses. In contrast, Generative models synthesize the reply, usually using deep learning techniques.

2.2 Limitations of Current System

The limitations of current system are as follows:

- Typically, Natural Language Processing needs and extensive training set, the finding of which may constitute a crucial difficulty as available datasets may be inadequate.
- Unclear scope of the chatbot and/or too broad purposes of its utilization. Despite the progress of the last few years, chatbots have not yet got the versatility and

capability of improvisation of human brains. Also, the problem of the scope of a chatbot is strictly connected with the purposes of the organization that is going to use the bot. In many cases, the goals are too vague or not well-defined, which answers the question why chatbots fail.

- Setting unrealistic expectation is often the reason why chatbot fails.
- Lack of customer perspective in building the chatbot.
- Ugly appearance is another major limitation of chatbots.
- Lack of extensibility and connectivity. Chatbots do not live in a world apart, they must be integrated with the marketing strategy of the organization and other platforms that are in use.
- Lack of maintenance is another reason why chatbots fail: chatbots need constant care and attention, like any other technology.

2.3 Requirement Identification and Analysis for Project

- Chatbots rely on content, not just technology – Chatbots are like icebergs and attention to their hidden elements will determine whether businesses deploying them achieve their goals for customer experience quality and service staff reduction, or not. Without addressing below the surface components, the experience will be poor, complaints will rise and the number of contacts requiring human intervention will increase – costs will rise rather than fall and NPS will fall rather than rise.
- Required content is already being generated, it just need to be repurposed – Much of the content that chatbots need is already generated by customer service teams. It is easier to start off with translating what is already in digital form. For example, the content from every email sent to customers could be reviewed for inclusion in a knowledge base of answers that the chatbots can reference. The aim should be to create once and reuse thereafter.
- Develop served digital channels to support content creation and migration – Some customers are unlikely to switch from telephone channels to self-service or chatbots without an intermediate step - digital channels where assistance can be provided via an online text-based conversation. These channels can be both synchronous or asynchronous. An example of the former would be webchat where customers converse in real time with agents through the website. The latter would include messaging and social media. Synchronous is ideal if a customer is stuck trying to complete an online process. The advantages of asynchronous channels are that customers can leave a message and not have to waste time waiting for an answer, they know they will get one back within 20 minutes or 2 hours or whatever the service level is. These channels also offer benefits to the company – webchat channels typically enable an agent to handle two conversations at one time.
- Migration requires creating a channel pyramid and then flipping it – one way to think about this is to think of your contact profile to be a pyramid, then flip it, as per figure 2-1. At the top would be chatbots. Initially these would resolve only a small element of total queries, acting primarily as an online IVR and routing customers to the digital assistance team best qualified to handle the interaction.

These digital assistance teams – web chat and messaging (whether via social media or an owned platform) are the middle layer, supporting the migration to full digital interaction at a lower cost than voice. At the bottom of the pyramid is voice contact - the highest cost and highest volume channel. With root cause analysis and the creation of relevant online content, chatbots will resolve more and more queries - the aim being that eventually they handle the majority. Digital channels continue to play an important role in supporting traditional offline customers become digital. With the voice channel shrinking to just handling the 20% exception-type contacts outlined above – complex interactions or ones where empathy and reassurance are critical to the customer having a good experience.

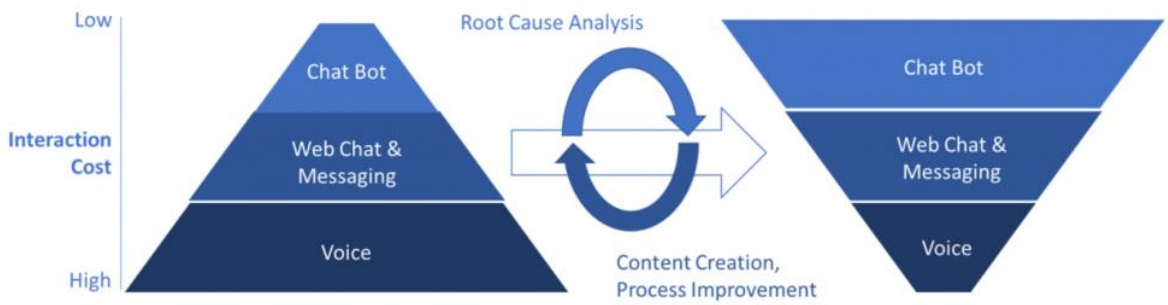


Figure 2-1: Chatbot Pyramid Diagram

- Reduce risks by piloting with close supervision of experienced agents – chatbots are an immature technology, so the risk of guinea pigs having a poor experience is high. Some forms of AI can be piloted internally, for example next best action engines can be trialled with agents rather than customers directly, this is not possible with chatbots, so a different strategy is required. The best place for locating such a trial is an innovation hub within the contact centre. This will typically have the right mix of skills and ethos to make it work.

2.3.1 Conclusion

Technology is not the only requirement to build a successful chatbot. This chapter reviews the literature surveys that have been done during the research work. The related work that has been proposed by many researchers has been discussed. All the necessary requirements to make a successful chatbot has been discussed in this chapter.

Chapter 3: Proposed System

Proposed System

3.1 The Proposal

The proposal is to build a FAQ chatbot using Dialogflow which can help interact with the users on the web. Dialogflow is Google's human-computer interaction tool which is based on natural language conversation. Dialogflow is our platform of choice for chatbot construction.

3.2 Benefits of the Proposed system

There are multiple benefits of using Dialogflow which are as follows:

- Flexible coding – Thanks to Dialogflow's in-line code editor, the time taken to complete code-related tasks is quicker than with other platforms. The prime benefit here is that we are then able to spend more time perfecting the conversational experience.
- Scalability – Whether you start 1,000 or 100,000 users, the platform can scale to your needs. As Dialogflow is hosted on the Google Cloud Platform, this allows the potential to support a user base of hundreds of millions, if required.
- Inbuilt machine learning – Arguably the biggest benefit of the platform in comparison to others is the availability of machine learning and natural language processing technologies. The access to these features allow us to create a richer and more natural conversational experience for your users. Dialogflow makes this possible by allowing us to extract data from a given conversation, in order to train our agents to understand user intents. Plus, as the technologies are built into the platform, we can construct application much faster.

3.3 Block Diagram

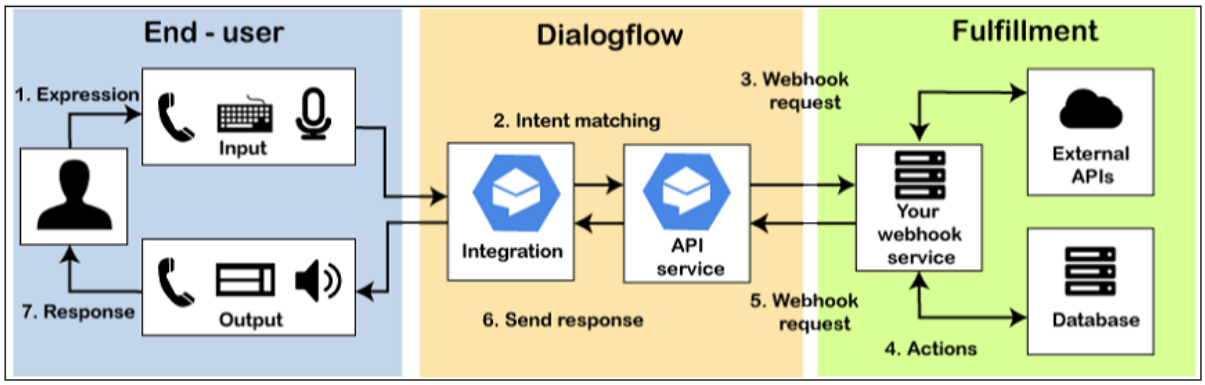


Figure 3-1: Block Diagram of Dialogflow Work Handling

3.4 Feasibility Study

3.4.1 Technical

Talking technically, it is easy to setup Dialogflow in order to get a chatbot fully functional on web. Anyone having basic knowledge of computer technology can easily get their hands-on Dialogflow.

3.4.1 Economical

As Dialogflow is not a complex or a tough tool to get started, any computer operator can work on this technology which reduces the cost of hiring highly skilled programmers required for making a conventional machine learning chatbot. Thus, making it super economical!

3.4.1 Operational

The main motto of our system is to reduce efforts of developing highly complex chatbots. Also, to spend more time on perfecting conversational experience with users.

3.5 Design Representation

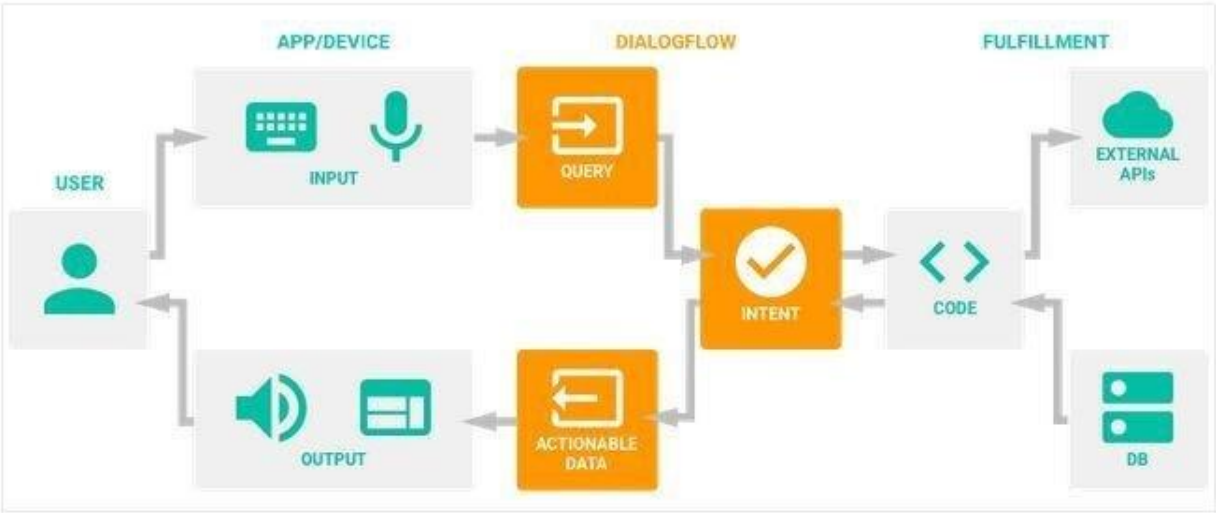


Figure 3-2: Dialogflow Agent Architecture

3.6 Deployment Requirements

3.6.1 Hardware

- x86 (32-bit) or x64 (64-bit) Processing System

3.6.2 Software

- Any operating system
- Any web browser

Chapter 4: Implementation

Implementation

For a better conversation between the system and user, chatbot is implemented using Dialogflow. What Dialogflow tries to, is understand the intent of the user based on training sentences that you give. Based on those training sentences, Dialogflow knows how to automatically respond to questions of your users.

4.1 Technique Used

4.1.1 Dialogflow

Dialogflow has two types of editions: Dialogflow Essentials (ES) and a Dialogflow Customer Experience (CX). Both types of editions come with different interfaces and can be used for different purposes. In our project, Dialogflow essentials has been used to implement the chatbot.

Dialogflow Essentials is the standard edition of Dialogflow and most people are familiar with this one.

Within Dialogflow ES, you can understand the intent of the user by providing training sentences to your agent. The agent is then trained to understand sentences and create a reply for it. Also, you can use Entities with Dialogflow. With entities, your chatbot can understand the difference between a “veggie pizza” and a “pizza.” In this example, the entity part is “veggie” that relate to a topping of a pizza.

4.2 Tools Used

4.2.1 Node.js

Node.js is a JavaScript runtime built on Chrome’s V8 JavaScript engine. Node.js serves as a medium between Dialogflow agent and our web page. It provides a connectivity between the stored questions database and front-end of website.

4.3 Language Used

In our project, JavaScript is used. JavaScript is a programming language that is one of the core technologies of the World Wide Web, alongside HTML and CSS. JavaScript is used in backend for creating all functionalities and behaviour essential for running Dialogflow in parallel with the website.

4.4 Screenshots

Level 1 – Getting Started

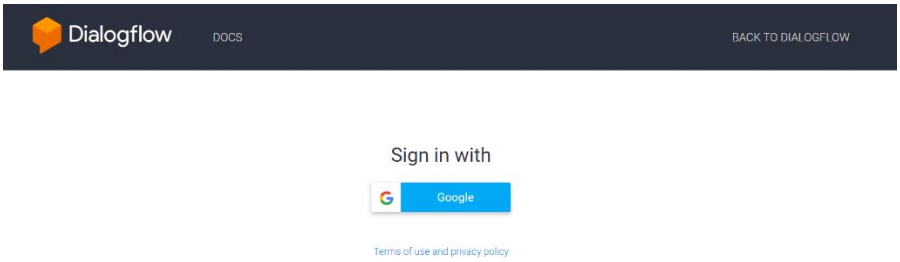


Figure 4-1: Getting setup with a Dialogflow account

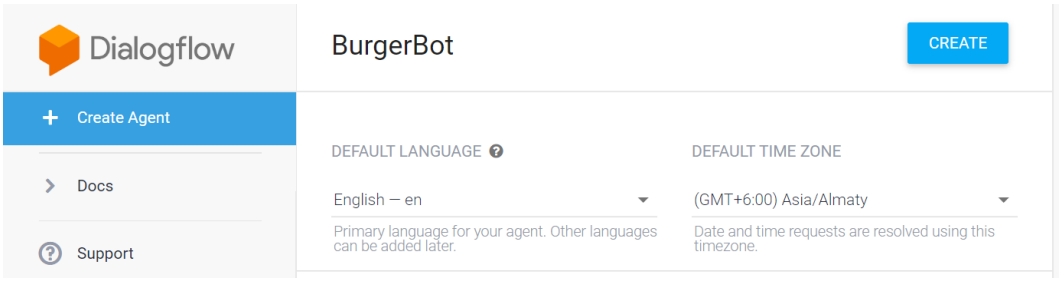
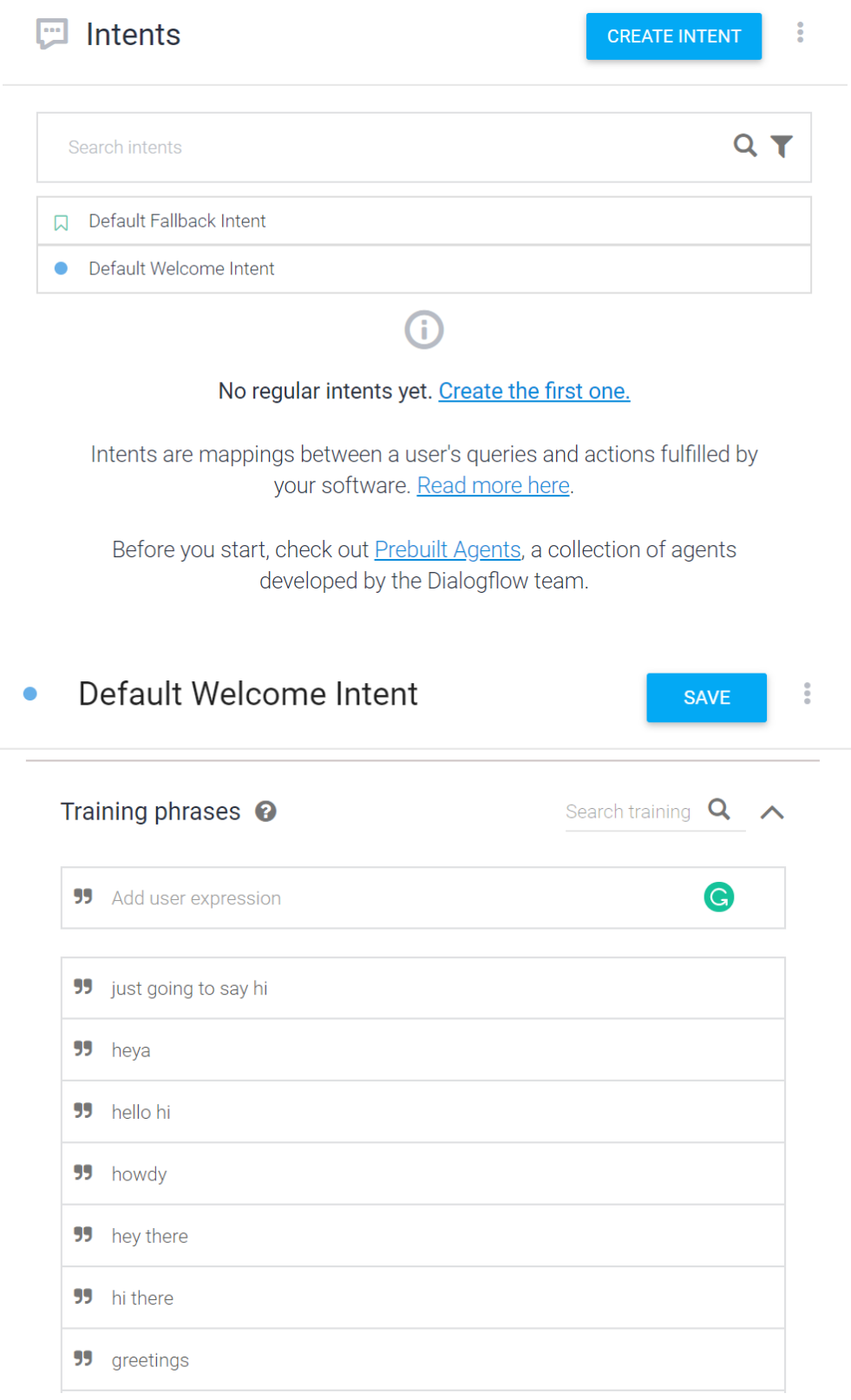


Figure 4-2: Creating an Agent

Level 2 – Bot Development



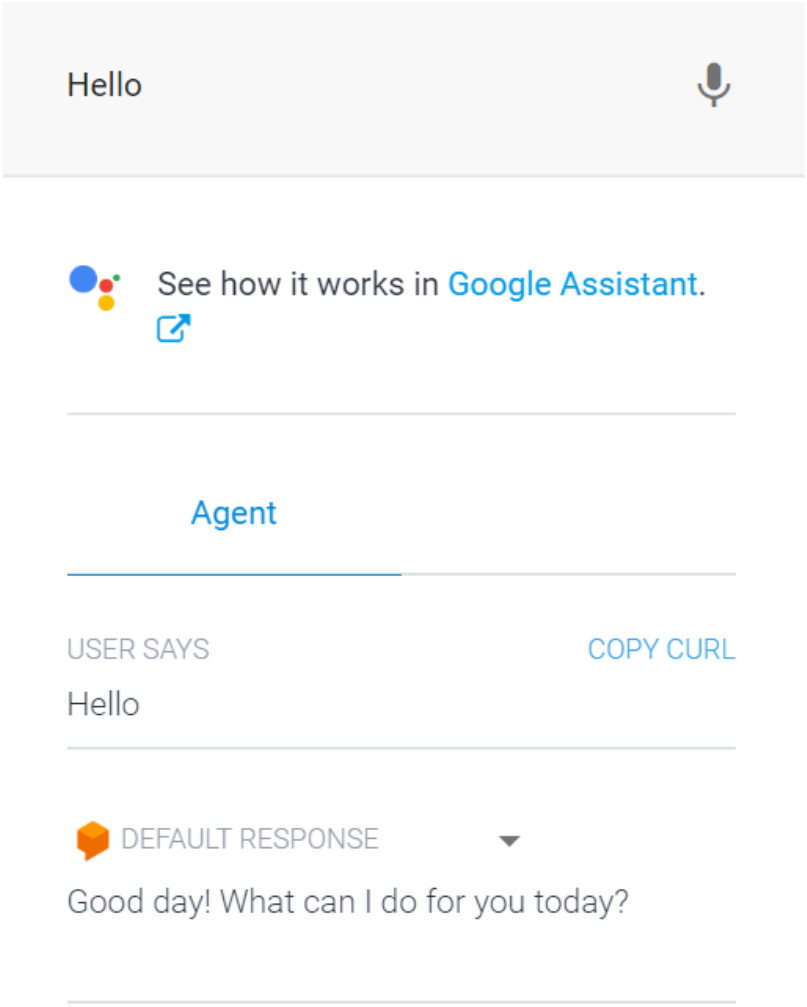
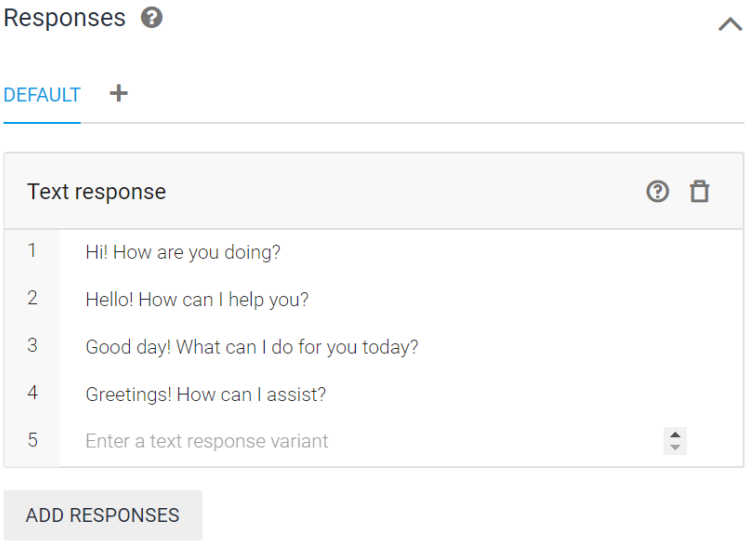


Figure 4-3: Checking Out the Pre-set Inputs



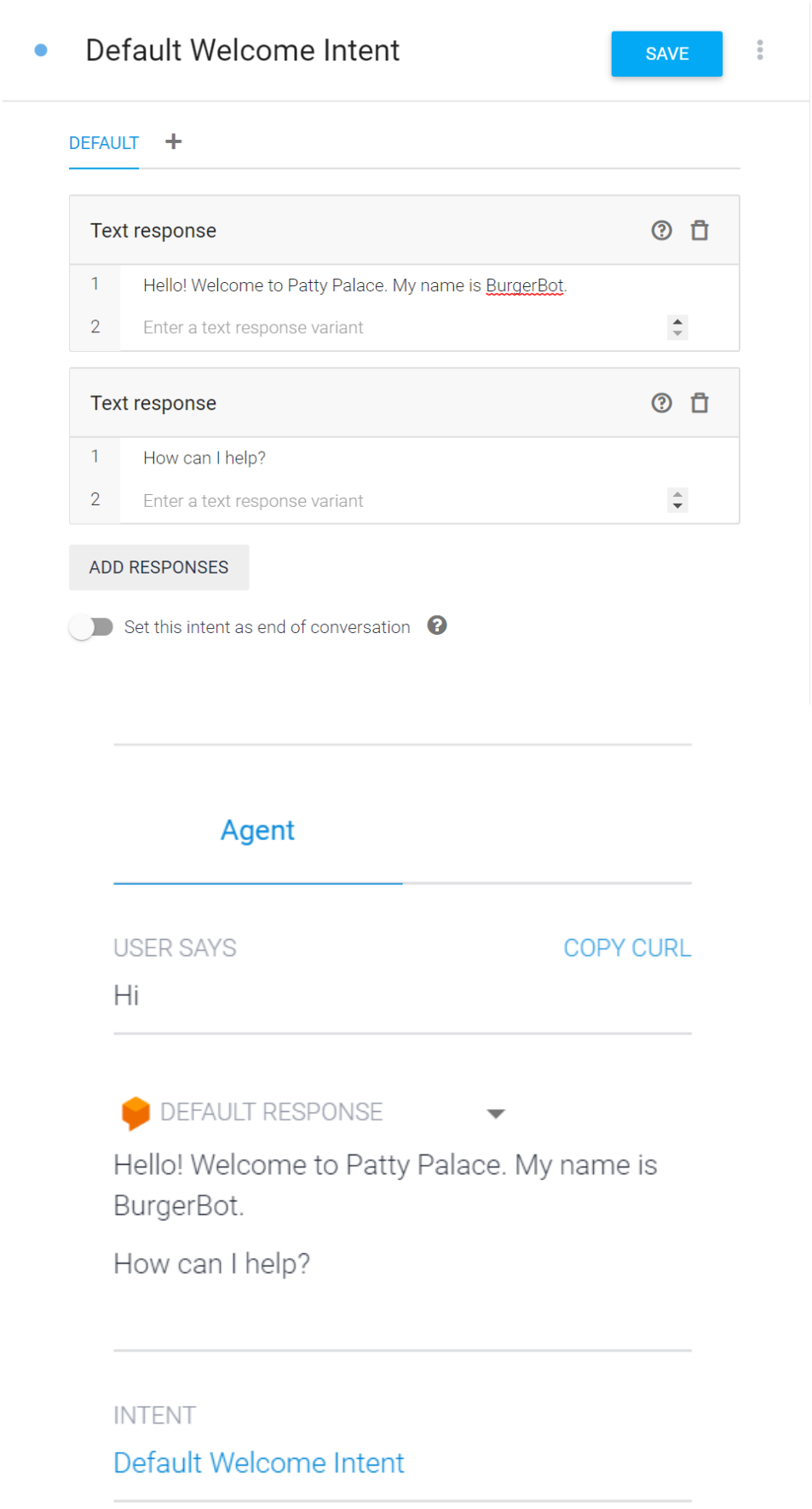
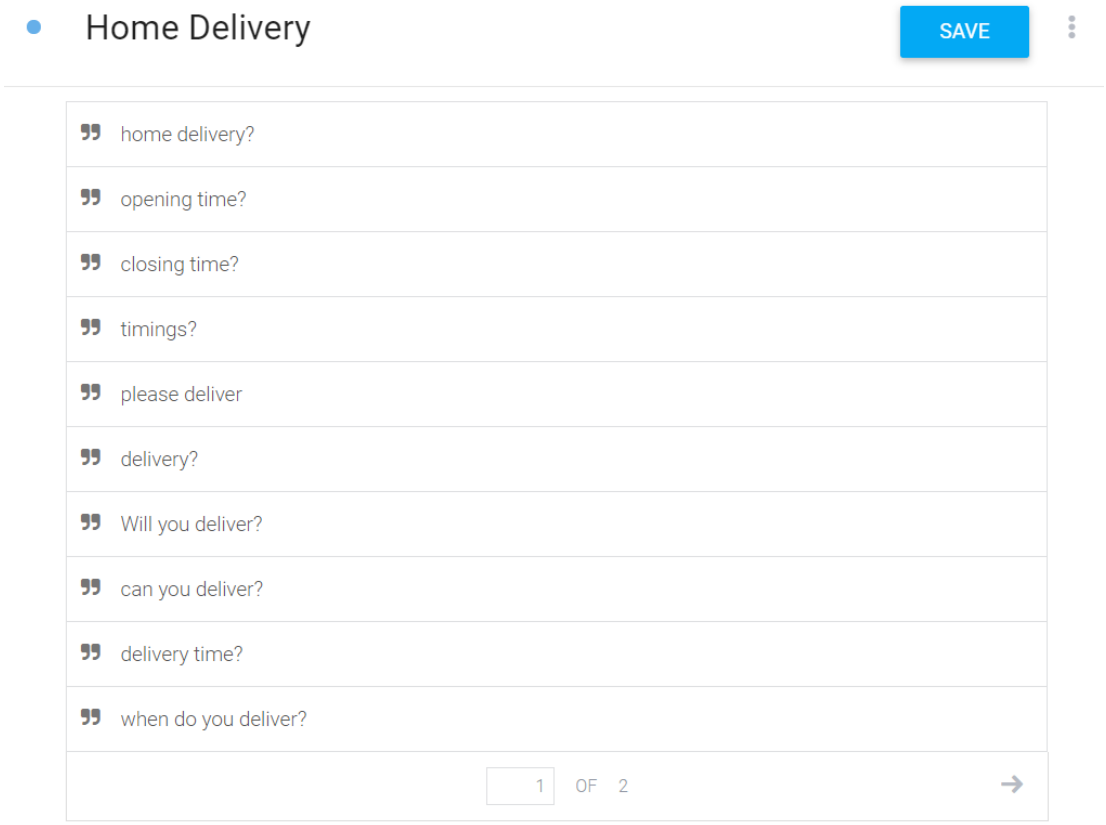
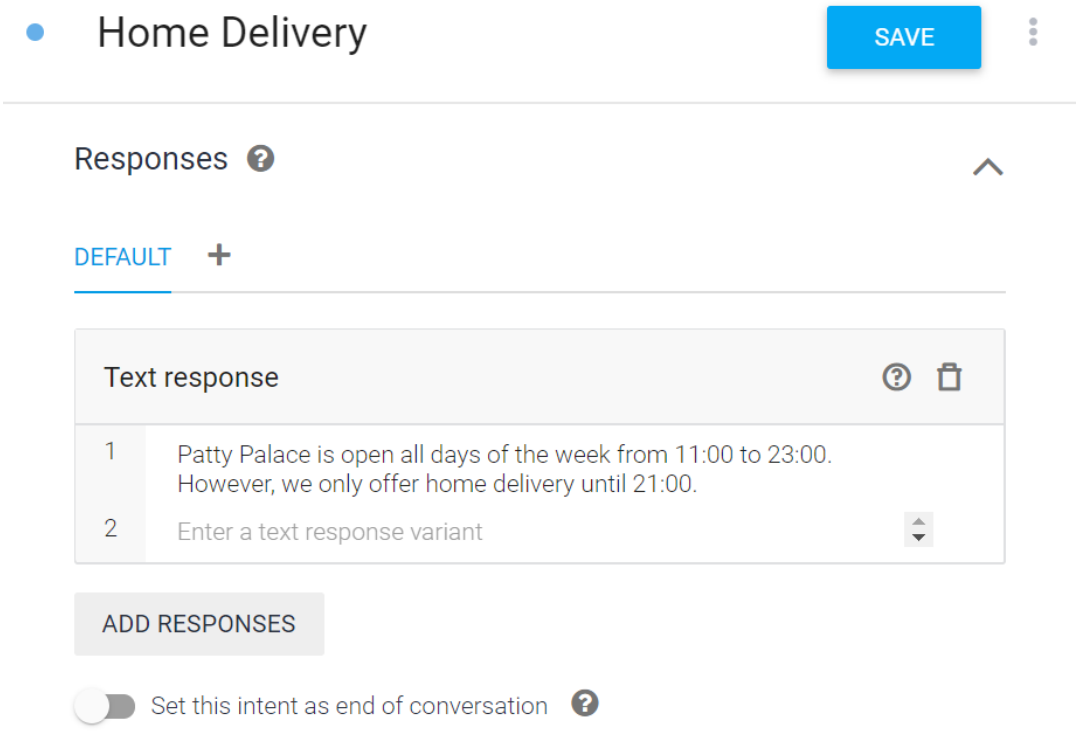


Figure 4-4: Creating a custom response


Home Delivery
SAVE
home delivery?
opening time?
closing time?
timings?
please deliver
delivery?
Will you deliver?
can you deliver?
delivery time?
when do you deliver?
1
OF
2


Home Delivery
SAVE
Responses
DEFAULT
Text response
1
Patty Palace is open all days of the week from 11:00 to 23:00.
However, we only offer home delivery until 21:00.
2
Enter a text response variant
ADD RESPONSES
Set this intent as end of conversation

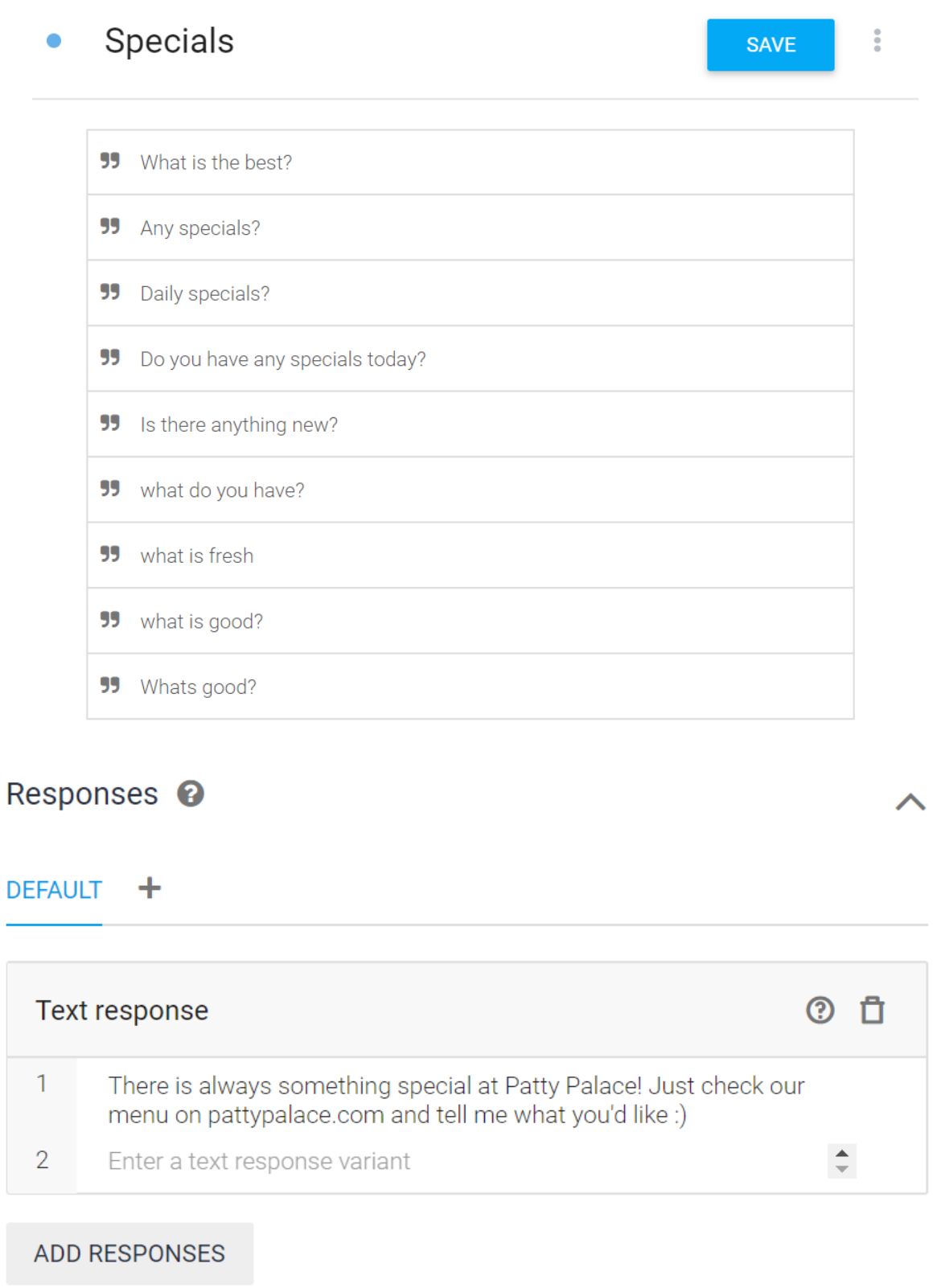


Figure 4-5: Creating new Intents

Level 3 – Entities, Actions and Parameters

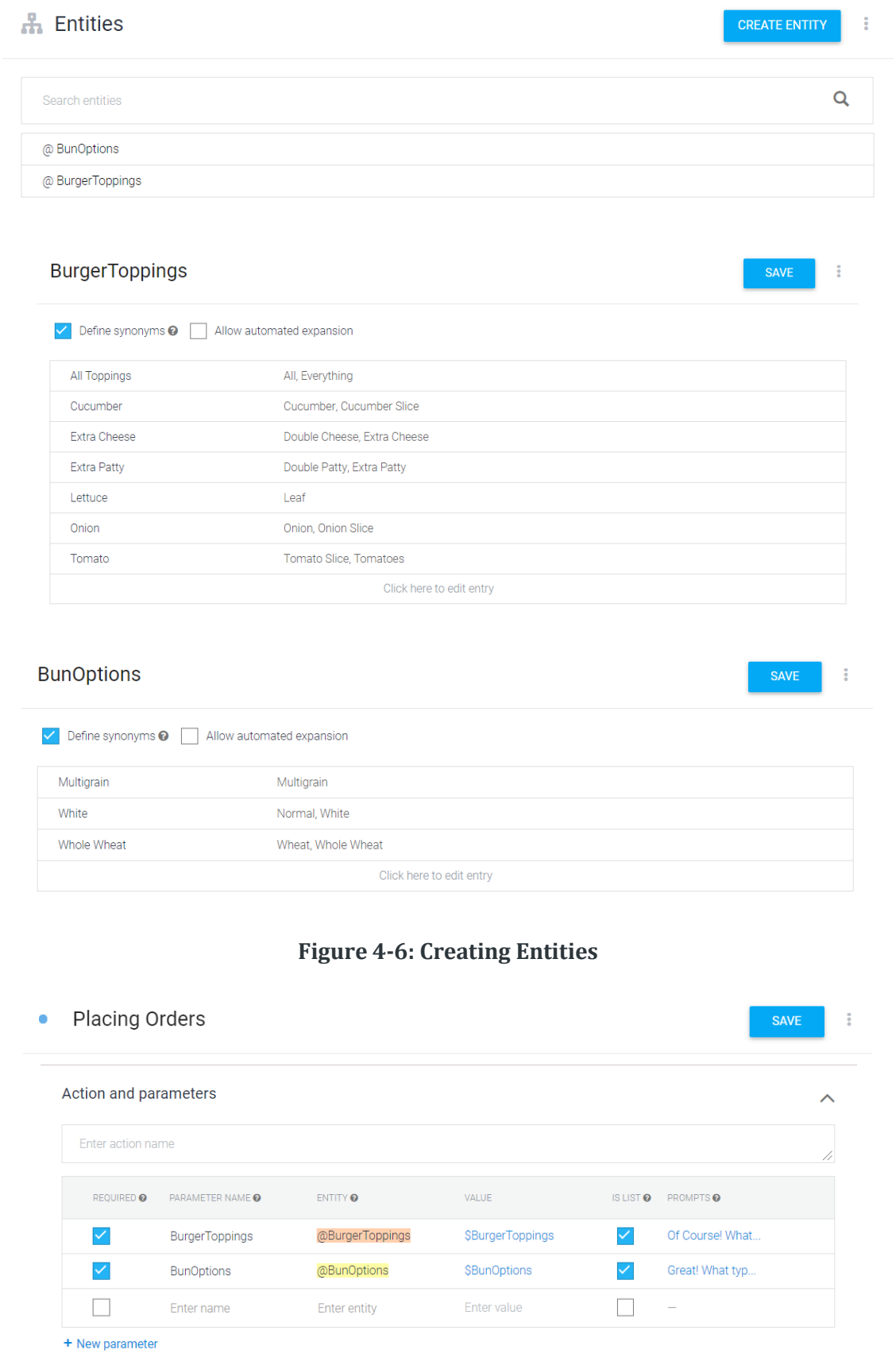


Figure 4-6: Creating Entities

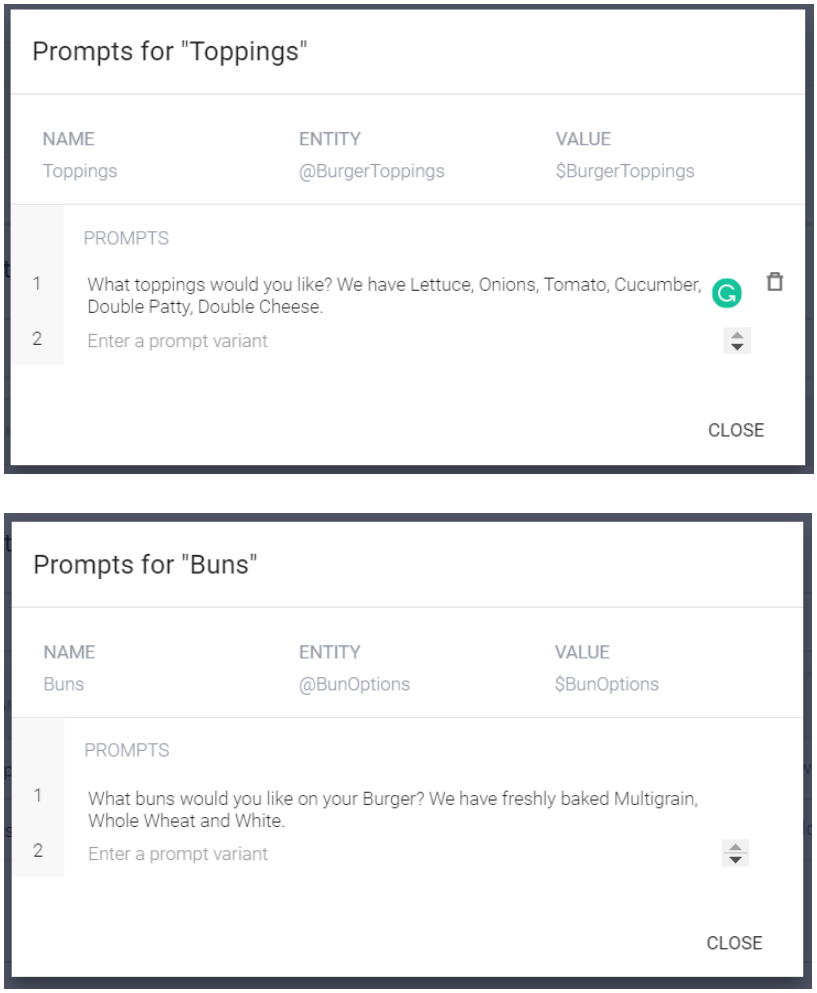


Figure 4-7: Actions and Parameters

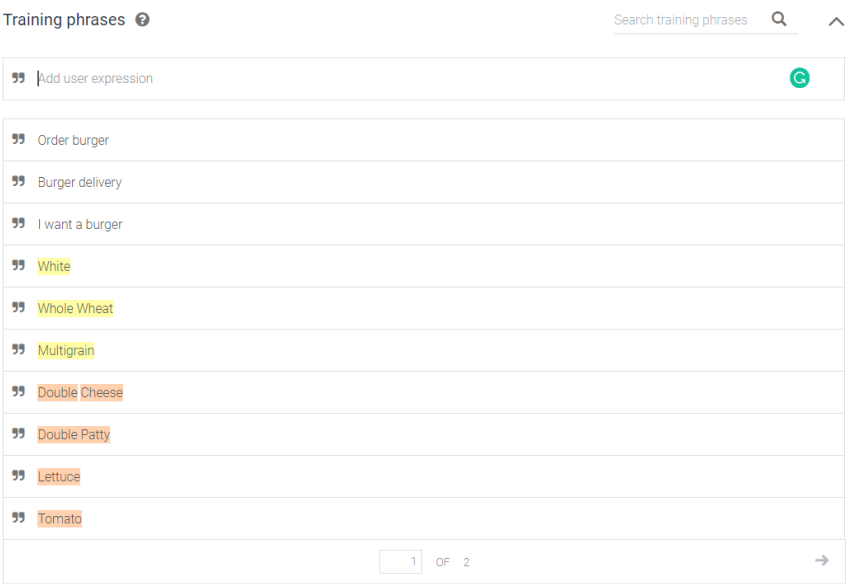


Figure 4-8: Adding Expressions

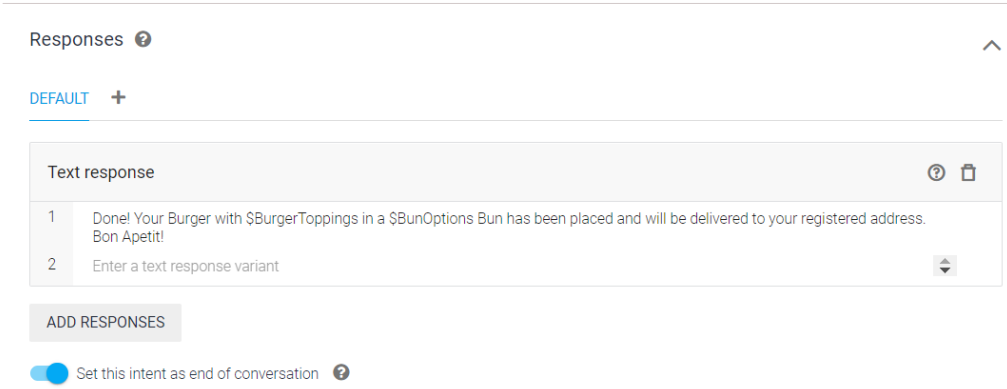
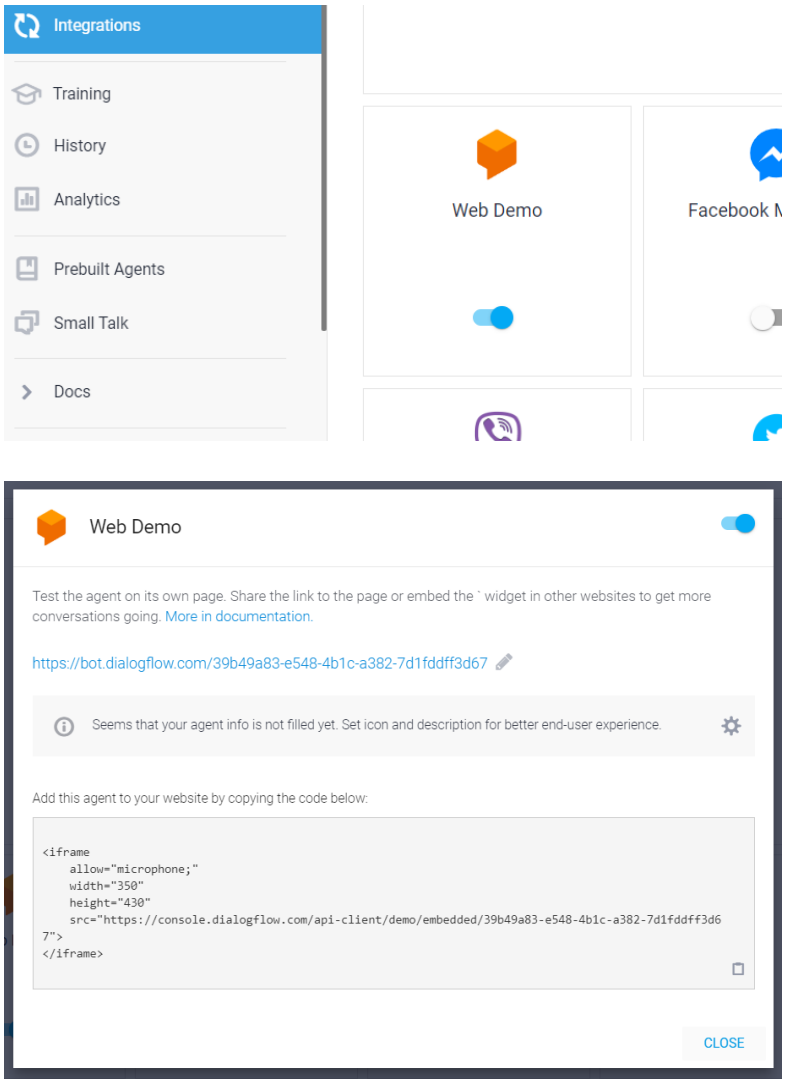
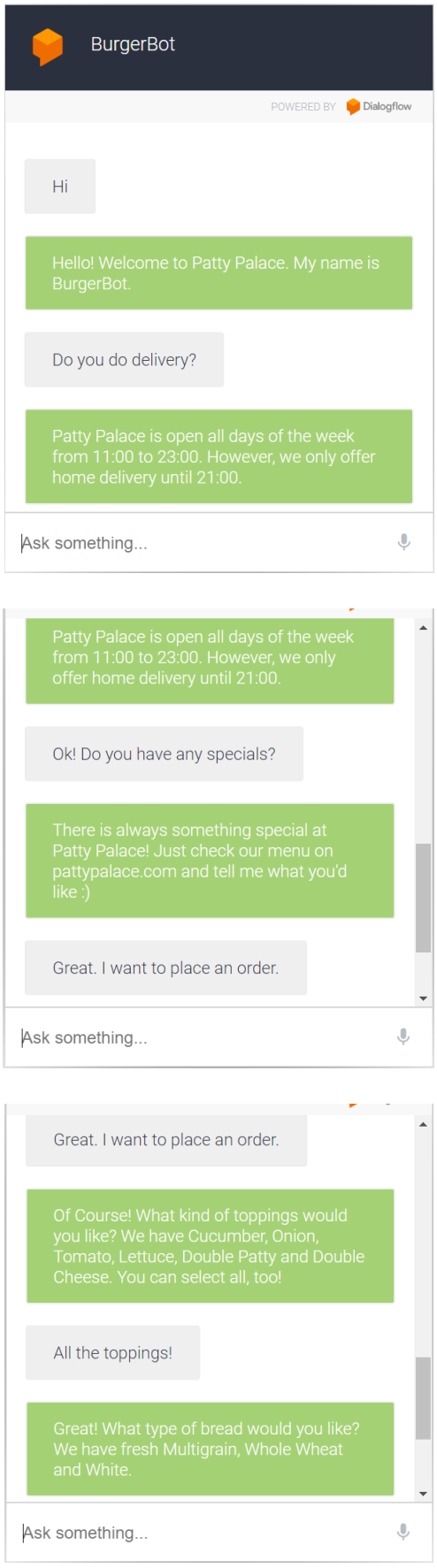


Figure 4-9: Adding Response

Level 4 – Integration




BurgerBot
POWERED BY Dialogflow
Hi
Hello! Welcome to Patty Palace. My name is BurgerBot.
Do you do delivery?
Patty Palace is open all days of the week from 11:00 to 23:00. However, we only offer home delivery until 21:00.
Ask something...
Patty Palace is open all days of the week from 11:00 to 23:00. However, we only offer home delivery until 21:00.
Ok! Do you have any specials?
There is always something special at Patty Palace! Just check our menu on pattypalace.com and tell me what you'd like :)
Great. I want to place an order.
Ask something...
Great. I want to place an order.
Of Course! What kind of toppings would you like? We have Cucumber, Onion, Tomato, Lettuce, Double Patty and Double Cheese. You can select all, too!
All the toppings!
Great! What type of bread would you like? We have fresh Multigrain, Whole Wheat and White.
Ask something...

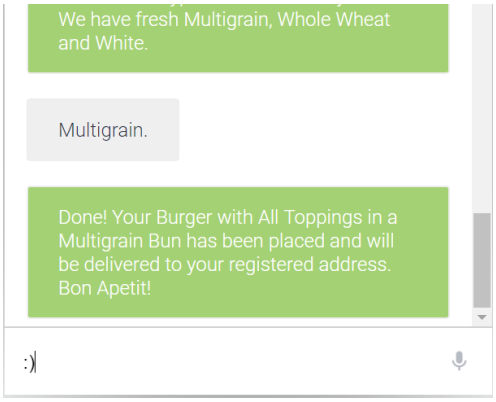
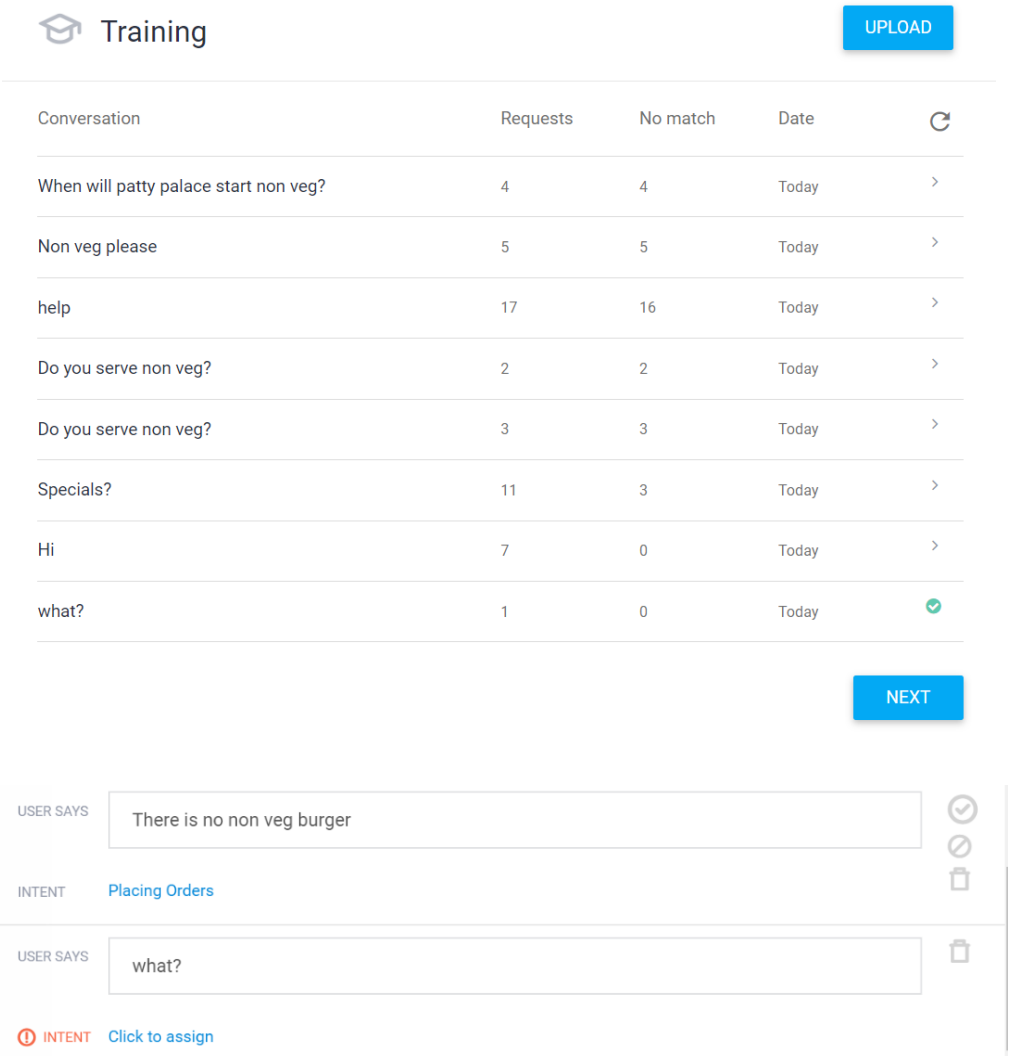


Figure 4-10: Integration

Level 5 – Training and Fallbacks



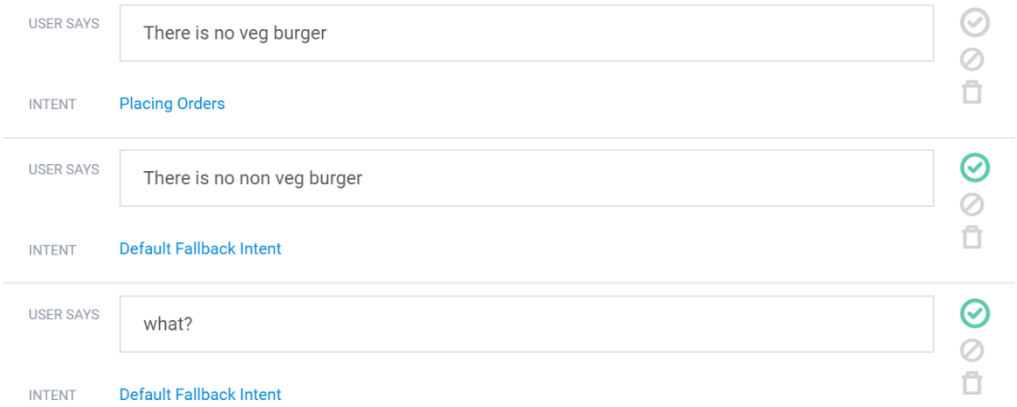


Figure 4-11: Training

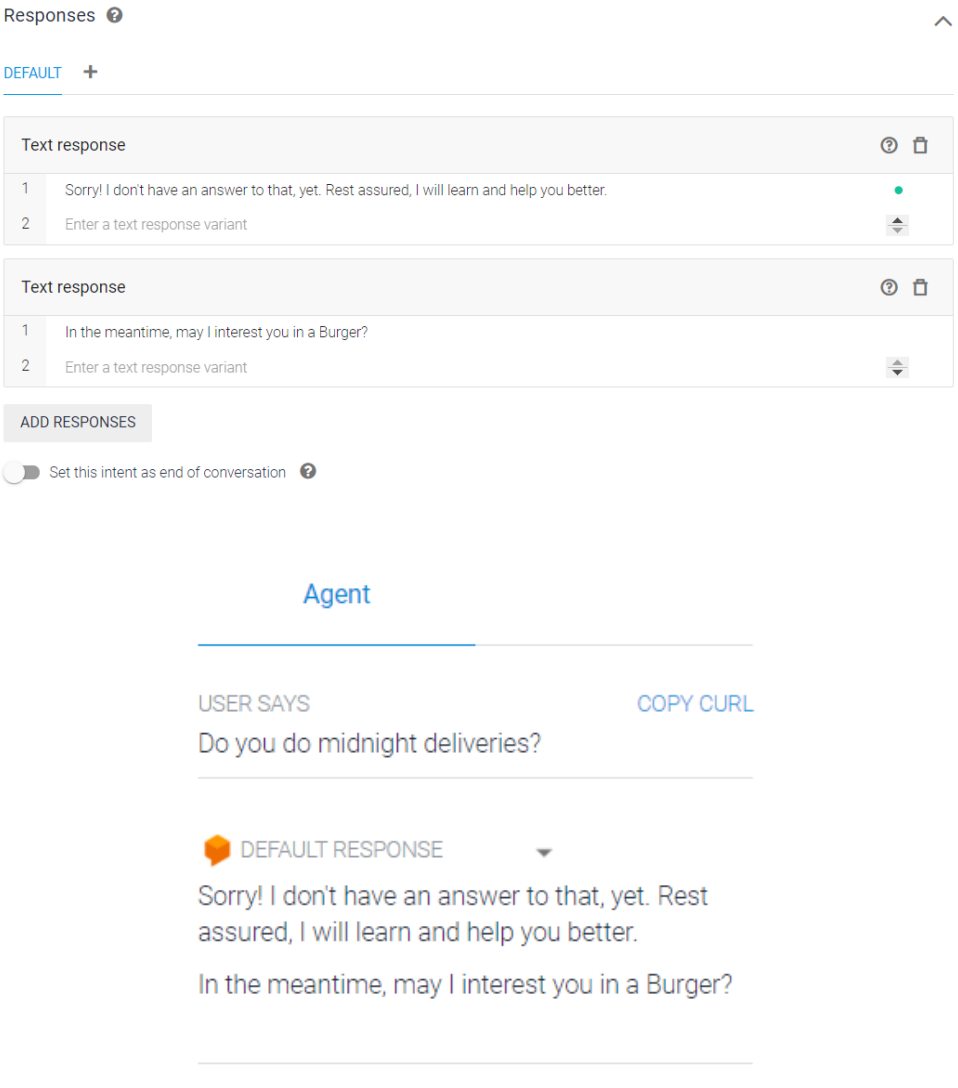


Figure 4-12: Fallback

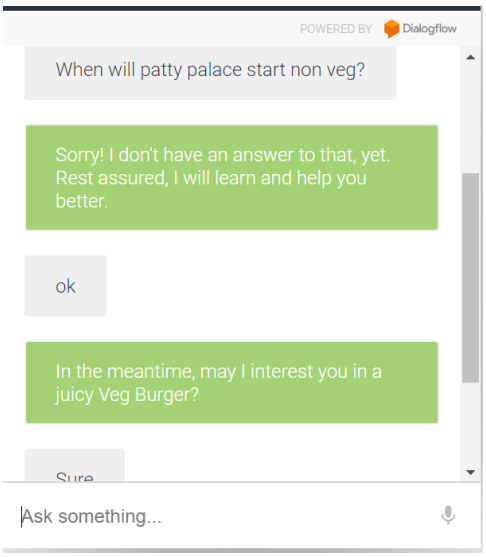


Figure 4-13: Building new Skills

4.5 Testing

Tests can be conducted based on two approaches –

- Functionality testing
- Implementation testing

The texting method used here is Black Box Testing. It is carried out to test functionality of the program. It is also called 'Behavioural' testing.

4.5.1 Strategy Used

We have used the built-in test feature to uncover bugs and prevent regressions. To test our agent, we created test cases using the simulator to define test cases, then executed test cases as needed. A test execution verifies that agent responses have not changed for end-user inputs defined in the test case.

4.5.2 Analysis

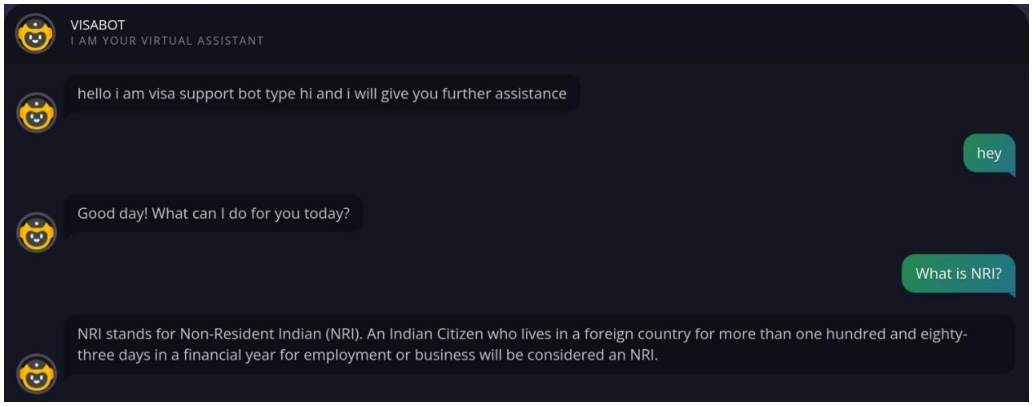


Figure 4-14: Test Case 1

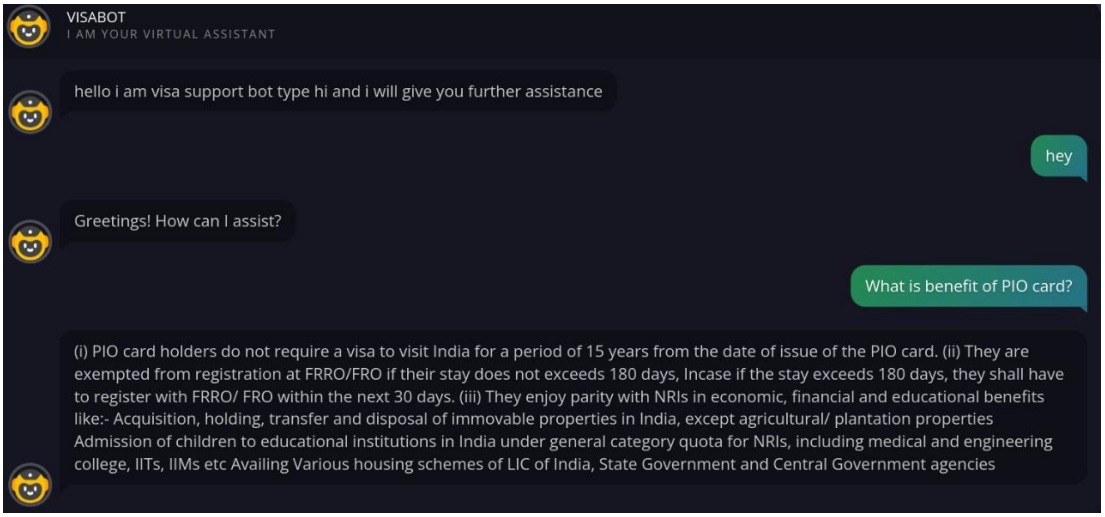


Figure 4-15: Test Case 2

Chapter 5: Conclusion

Conclusion

5.1 Conclusion

Chatbot are programs that mimic human conversation. It is designed to be the ultimate virtual assistant. Chatbot and specifically FAQ Chatbot has become more popular in business groups right now as they can reduce customer service cost and handles multiple users at a time. In this paper we provide the design of a FAQ chatbot, which provides an efficient and accurate answer for any query based on visa related searches. We investigated the best approach to develop a simple Chatbot. The proposed method is one of the simple and automated solutions to transport data from a computer without having to think for proper keywords to look up in a search or browse several web pages to collect information, it allows us to handle many customers at once, and simultaneously. By "employing" Chatbots that complements human agents, we saved time and problems caused by human errors. Users can easily type their query in natural language and retrieve information. In this paper, information about the design, implementation of the FAQ chatbot has been presented that is simple, friendly, and conversational.

5.2 Limitations of the Work

As we have used Dialogflow in backend, there are notable limitations of the chatbot:

- Flexibility and developer experience: Although Dialogflow is intuitive on the surface, you will find that it is not as flexible a platform as you would have hoped for. For example, if you decide that I want to move a follow-up response under a different Intent, you cannot simply drag that under the desired Intent. Instead, you will need to delete the existing Intent, create a new Intent in a different location, and re-type all the training phrases you have already created. This poses a problem because it results in a lot of tedious repetitions which are quite frankly a waste of time and it forces developers to think well in advance about the hierarchical dialog flow (no pun intended) of their conversation. This means there's limited flexibility to change things you create in the future, which is a major issue.
- Limited webhooks and integrations available: You can only provide one webhook for each project. This essentially means that the entire chatbot must have exactly one webhook instead of choosing multiple webhooks on an intent-by-intent basis.
- Customer support: Google is not too big on live customer support, nor is Dialogflow a very notable customer support chatbot option. The only support you will get from Dialogflow is from filling out a support ticket online and waiting to hear back. Even on the Enterprise version of the platform, the only additional support you will receive is a guaranteed support ticket response time.

- Lots of manual work, time, and training: In many instances, Dialogflow makes it harder than it should be to automate processes and expand your conversational agent's learning. This can get annoying because you must input many things manually, especially when you consider the need to train your bot over time. Therefore, the ability to even make your chatbot better is hindered, which unfortunately defeats one of the platform's main purposes.

5.3 Suggestion and Recommendations for Future Work

- The dataset of questions will be increased.
- Dialogflow Customer Experience will be integrated replacing Dialogflow Essentials.

Bibliography

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[5] Roberto Reyes, David Garza, Leonardo Garrido, Víctor De la Cueva, Jorge Ramirez, "Methodology for the Implementation of Virtual Assistants for Education Using Google Dialogflow."

[6] Tubagus Prasetio Anwarulloh, Richi Dwi Agustia, "Development of the Chatbot Einstein Application as a virtual teacher of physical learning in the house using Android based Google Dialogflow API."

SOURCE CODE

1. Index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
<title>VisaGuru</title>

<!-- for-mobile-apps -->
<meta name="viewport" content="width=device-width, initial-scale=1">
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<script type="application/x-javascript"> addEventListener("load", function() {
setTimeout(hideURLbar, 0); }, false);
                function hideURLbar(){ window.scrollTo(0,1); } </script>

<!-- //for-mobile-apps -->
<link href="css/bootstrap.css" rel="stylesheet" type="text/css" media="all" />
<link href="css/font-awesome.css" rel="stylesheet" type="text/css" media="all" />
<link rel="stylesheet" href="css/chocolat.css" type="text/css" media="screen"><!-- chocolate css
for gallery light box-->
<!-- animation -->
<link href="css/animate.css" rel="stylesheet" type="text/css" media="all">
<!-- //animation -->
<link href="css/style.css" rel="stylesheet" type="text/css" media="all" />
<script src="js/jquery-1.11.1.min.js"></script>
<script src="js/bootstrap.js"></script>
<script type="text/javascript">
        jQuery(document).ready(function($) {
                $(".scroll").click(function(event){
                        event.preventDefault();
                        $('html,body').animate({scrollTop:$(this.hash).offset().top},1000);
                });
        });
</script>
<!-- onlinefonts -->
<link href="//fonts.googleapis.com/css?family=Dancing+Script:400,700" rel="stylesheet">
<link href="//fonts.googleapis.com/css?family=Yanone+Kaffeesatz:200,300,400,700"
rel="stylesheet">
<!-- //onlinefonts -->
</head>
<body id="page-top" data-spy="scroll" data-target=".navbar-fixed-top">
                <!-- header -->
                <div class="header-w3layouts">
                        <!-- Navigation -->
                        <nav class="navbar navbar-default navbar-fixed-top">
                                <div class="container">
                                        <div class="navbar-header page-scroll">
                                                <button type="button" class="navbar-toggle"
data-toggle="collapse" data-target=".navbar-ex1-collapse">
                                                        <span class="sr-
only">VisaGuru</span>
                                                        <span class="icon-bar"></span>
```

```
                                        <span class="icon-bar"></span>
                                        <span class="icon-bar"></span>
                                    </button>
                                    <h1><a class="navbar-brand"
href="index.html">VisaGuru</a></h1>
                                </div>
                                <!-- Collect the nav links, forms, and other content for
toggling -->
                                <div class="collapse navbar-collapse navbar-ex1-
collapse">
                                    <ul class="nav navbar-nav navbar-right">
                                        <!-- Hidden li included to remove
active class from about link when scrolled up past about section -->
                                        <li class="hidden"><a class="page-
scroll" href="#page-top"></a></li>
                                        <li><a class="page-scroll scroll
active" href="#home">Home</a></li>
                                        <li><a class="page-scroll scroll"
href="#port">Explore</a></li>
                                        <li><a class="page-scroll scroll"
href="#about">About</a></li>
                                        <li><a class="page-scroll scroll"
href="#contact">Contact</a></li>
                                    </ul>
                                </div>
                                <!-- /.navbar-collapse -->
                            </div>
                            <!-- /.container -->
                        </nav>
                    </div>
                    <!-- //header -->
                    <div class="header jarallax" id="home">
                        <div class="container">
                            <div class="banner-text text-center">
                                <h2>Get Your Visa With Us</h2>
                                <h3> The world is yours to explore </h3>
                                <div class="w3l-button banner-btn">
                                    <a href="bot/index.html">Ask your
query</a>
                                </div>
                            </div>
                            <div class="w3-arrow bounce animated">
                            <a href="#about" class="scroll"><i class="fa fa-angle-down"
aria-hidden="true"></i></a>
                        </div>
                        </div>

                    </div>

        <!-- modal -->
        <div class="modal about-modal fade" id="myModal" tabindex="-1" role="dialog">
                <div class="modal-dialog" role="document">
                    <div class="modal-content">
                        <div class="modal-header">
```

```
                                        <button type="button" class="close" data-
dismiss="modal" aria-label="Close"><span aria-hidden="true">&times;</span></button>

                                            <h4 class="modal-title">Vitae</h4>
                                    </div>
                                    <div class="modal-body">
                                        <div class="about">
                                            <div class="col-md-4 col-sm-4  col-xs-4 about-
left ">
                                                <img src="images/3.jpg" class="img-
responsive" alt=""/>
                                            </div>
                                            <div class="col-md-8 col-sm-8 col-xs-8 about-
right wthree">
                                                <h3>Hi, i'm <span>John M. Rich
</span></h3>
                                                <h4>Web Designer & Developer
</h4>
                                                <ul class="address">
                                                    <li>
                                                        <ul class="agileits-
address-text ">

        <li><b>D.O.B</b></li>
                                                            <li>23-06-
1980</li>
                                                        </ul>
                                                    </li>
                                                    <li>
                                                        <ul class="agileits-
address-text">

        <li><b>PHONE </b></li>
                                                            <li>+00 111
222 3333</li>
                                                        </ul>
                                                    </li>
                                                    <li>
                                                        <ul class="agileits-
address-text">

        <li><b>ADDRESS </b></li>
                                                            <li>756
global Place, North Sydney, Canada.</li>
                                                        </ul>
                                                    </li>
                                                    <li>
                                                        <ul class="agileits-
address-text">
                                                            <li><b>E-
MAIL </b></li>
                                                            <li><a
href="mailto:example@mail.com"> mail@example.com</a></li>
                                                        </ul>
                                                    </li>
```

```
                                                                    <li>
                                                                        <ul class="agileits-
address-text">

            <li><b>WEBSITE </b></li>
                                                                                <li><a
href="http://random.com">www.VisaGuru.com</a></li>
                                                                        </ul>
                                                                    </li>
                                                                </ul>
                                                            </div>
                                                            <div class="clearfix"> </div>
                                                </div>
                                            </div>
                                        </div>
            </div>
            </div>
            <!-- //modal -->

            <!--Explore-->
    <div class="portfolio" id="port">
                        <div class="port-head">
                                                                <h3 class="w3l-
heading">Explore</h3>
                                                            </div>
        <div class="filtr-container" id ="pic-container">
          <div class="  filtr-item gallery-t" data-category="1, 3" data-sort="Busy streets">
                                        <a href="images/b.jpg" class="b-link-stripe b-animate-go
thickbox">

                                                <figure class="w3ls-gallery">
                                                 <img src="images/b.jpg" class="img-responsive" alt="
" />       <figcaption class="w3layouts-caption">
                                                                <h3>Canada</h3>

                                                            </figcaption>
                                                </figure>
                                    </a>
            </div>
                                    <div class=" filtr-item" data-category="1, 3" data-sort="City
wonders">
              <a href="images/d.jpg" class="b-link-stripe b-animate-go  thickbox">

                                                <figure class="w3ls-gallery">
                                                 <img src="images/d.jpg" class="img-responsive" alt="
" />       <figcaption class="w3layouts-caption">
                                                                <h3>USA</h3>

                                                            </figcaption>
                                                </figure>
                                    </a>

            </div>
                                    <div class=" filtr-item" data-category="2" data-sort="Luminous
night">
```

```
            <a href="images/c.jpg" class="b-link-stripe b-animate-go  thickbox">

                                                <figure class="w3ls-gallery">
                                                 <img src="images/c.jpg" class="img-responsive" alt="
" />       <figcaption class="w3layouts-caption">
                                                                        <h3>Italy</h3>

                                                        </figcaption>
                                                </figure>
                                        </a>
                </div>
                <div class="  filtr-item gallery-t" data-category="1, 3" data-sort="Busy streets">
                                         <a href="images/a.jpg" class="b-link-stripe b-animate-go
thickbox">

                                                <figure class="w3ls-gallery">
                                                 <img src="images/a.jpg" class="img-responsive" alt="
" />       <figcaption class="w3layouts-caption">
                                                                        <h3>Germany</h3>

                                                        </figcaption>
                                                </figure>
                                        </a>
                </div>
                <div class="  filtr-item" data-category="3" data-sort="In production">
                  <a href="images/e.jpg" class="b-link-stripe b-animate-go  thickbox">

                                                <figure class="w3ls-gallery">
                                                 <img src="images/e.jpg" class="img-responsive" alt="
" />       <figcaption class="w3layouts-caption">
                                                                        <h3>Australia</h3>

                                                        </figcaption>
                                                </figure>
                                        </a>

                </div>
                <div class=" filtr-item" data-category="3, 2" data-sort="Industrial site">
                 <a href="images/g.jpg" class="b-link-stripe b-animate-go  thickbox">

                                                <figure class="w3ls-gallery">
                                                 <img src="images/g.jpg" class="img-responsive" alt="
" />       <figcaption class="w3layouts-caption">
                                                                        <h3>Thailand</h3>

                                                        </figcaption>
                                                </figure>
                                        </a>
                </div>
                <div class=" filtr-item" data-category="2, 3" data-sort="Peaceful lake">
                   <a href="images/f.jpg" class="b-link-stripe b-animate-go  thickbox">

                                                <figure class="w3ls-gallery">
                                                 <img src="images/f.jpg" class="img-responsive" alt="
" />       <figcaption class="w3layouts-caption">
```

```
                                                    <h3>England</h3>

                                                </figcaption>
                                            </figure>
                                            </a>
        </div>
         <div class="  filtr-item gallery-t" data-category="1, 3" data-sort="Busy streets">
                                    <a href="images/h.jpg" class="b-link-stripe b-animate-go
thickbox">

                                            <figure class="w3ls-gallery">
                                             <img src="images/h.jpg" class="img-responsive" alt="
" />       <figcaption class="w3layouts-caption">
                                                    <h3>France</h3>

                                                </figcaption>
                                            </figure>
                                    </a>
        </div>
        <div class="clearfix"> </div>
            </div>
                </div>

<!-- //Explore-->
<div class="agile-border">
        <span></span>
</div>

        <div class="about" id="about">
                <div class="container">
                                <h3 class="w3l-heading">About us</h3>
                        <div class="col-md-4 w3-about-top">
                                <img src="images/3.jpg" class="img-responsive" alt="about-
img"/>
                        </div>
                        <div class="col-md-8 w3l-about">
                                        <div class="w3ls-heading">
                                                <h2>We Will help you to get your Visa</h2>
                                        </div>
                                        <div class="w3ls-about-info">
                                                <p>Immigration is not about visa numbers or
building a fence. It is about reclaiming our roots as a nation of immigrants and a refuge for those
who have been cast aside. It has been said that a pretty face is a passport. But it's not, it's a visa,
and it runs out fast.</p>
                                        </div>
                        </div>
                        <div class="clearfix"></div>
                </div>
        </div>

<!-- contact -->
<div id="contact" class="w3_agileits-contact">
                <div class="container">
                                <h3 class="w3l-heading">contact</h3>
                                <div class="w3_agile-contact  jarallax text-center">
```

```
                                        <form action="#" method="get">
                                                <input type="text" placeholder="Name"
name="name" class="name" required>
                                                <input type="text" placeholder="Phone
Number" name="phone" class="name" required>
                                                <input type="email" placeholder="Email"
name="email" class="email" required>
                                                <textarea name="message"
placeholder="Message"></textarea>
                                                <input type="submit" value="send">
                                        </form>
                                        <a
href="mailto:info@example.com">visaguru@gmail.com</a>
                                        <h5>+91 2454 749393</h5>
                                        <ul class="social-icons-w3_agile">
                                                <li><a href="#" class="fa fa-facebook icon
icon-border facebook"> </a></li>
                                                <li><a href="#" class="fa fa-twitter icon icon-
border twitter"> </a></li>
                                                <li><a href="#" class="fa fa-google-plus icon
icon-border googleplus"> </a></li>
                                        </ul>
                                </div>
                        </div>
</div>
<!-- footer -->
<div class="agileits_w3layouts-footer text-center">
        <div class="container">
        </div>
</div>
<!-- //footer -->
<!-- //contact -->
<!-- PopUp-Box-JavaScript -->
                        <script src="js/jquery.chocolat.js"></script>
                        <script type="text/javascript">
                                $(function() {
                                        $('.filtr-item a').Chocolat();
                                });
                        </script>
        <!-- //PopUp-Box-JavaScript -->
        <!-- fliter-JavaScript -->
                        <script src="js/jquery.filterizr.js"></script>
                        <script src="js/controls.js"></script>
                        <script type="text/javascript">
                                $(function() {
                                        $('.filtr-container').filterizr();
                                });
                        </script>
        <!-- //fliter-JavaScript -->
<script src="js/jarallax.js"></script>
<script src="js/SmoothScroll.min.js"></script>
<script type="text/javascript">
        /* init Jarallax */
        $('.jarallax').jarallax({
                speed: 0.5,
```

```
                imgWidth: 1366,
                imgHeight: 768
            })
</script>
<!-- start-smoth-scrolling -->
        <script type="text/javascript" src="js/easing.js"></script>
<!-- //here ends scrolling icon -->


</body>
</html>
```

2. Bot Index.html

```
<!DOCTYPE html>
<html lang="en" >
<head>
 <meta charset="UTF-8">
 <meta http-equiv="Content-Type" content="text/html; charset=utf-8"/>
 <title>Visaguru chatbot</title>
  <link rel="stylesheet"
href="https://cdnjs.cloudflare.com/ajax/libs/normalize/5.0.0/normalize.min.css">
  <link rel='stylesheet' href='https://fonts.googleapis.com/css?family=Open+Sans'>
 <link rel='stylesheet' href='https://cdnjs.cloudflare.com/ajax/libs/malihu-custom-scrollbar-
plugin/3.1.3/jquery.mCustomScrollbar.min.css'>
 <link rel="stylesheet" href="https://use.fontawesome.com/releases/v5.7.2/css/all.css"
integrity="sha384-
fnmOCqbTlWIlj8LyTjo7mOUStjsKC4pOpQbqyi7RrhN7udi9RwhKkMHpvLbHG9Sr"
crossorigin="anonymous">
   <link rel="stylesheet" href="css/style.css">
</head>
<body>
<div class="chat">
 <div class="chat-title">
  <h1>VisaBot</h1>
  <h2>I am your virtual assistant</h2>
  <figure class="avatar">
   <img src="css/bot.png"/></figure>
 </div>
 <div class="messages">
  <div class="messages-content"></div>
 </div>
 <form class="message-box" id="mymsg" method="POST">
  <input type="text" id="MSG" name="MSG" class="message-input" placeholder="Type
message..." >
  <i class="fas fa-microphone" id="start-record-btn"></i>
  <button type="submit" class="message-submit">Send</button>
 </form>
 <h3 class="no-browser-support" hidden>Sorry, Your Browser Doesn't Support the Web Speech
API. Try Opening This Demo In Google Chrome.</h3>
</div>
<div class="bg"></div>
 <script src='http://cdnjs.cloudflare.com/ajax/libs/jquery/2.1.3/jquery.min.js'></script>
 <script src='https://cdnjs.cloudflare.com/ajax/libs/malihu-custom-scrollbar-
plugin/3.1.3/jquery.mCustomScrollbar.concat.min.js'></script>
 <script  src="js/index.js"></script></body></html>
```