

# **AMAZON TRANSLATION BOT**

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**DEPARTMENT OF INFORMATION TECHNOLOGY**

**Chandubhai S. Patel Institute of Technology**

**At: Changa, Dist: Anand – 388421**

**October 2018-19**



## CERTIFICATE

This is to certify that the report entitled “**Amazon Translation Bot**” is a bonafied work carried out by **Mr. Ishan Trivedi (16IT140) & Ms. Yastee Shah (16IT148)** under the guidance and supervision of **Prof. Ravi Patel** for the subject **Software Group Project IV (IT350)** of 6<sup>th</sup> semester of Bachelor of Technology in **Information Technology** at Faculty of Technology & Engineering – CHARUSAT, Gujarat.

To the best of my knowledge and belief, this work embodies the work of candidate themselves, have duly been completed, and fulfills the requirement of the ordinance relating to the B.Tech. Degree of the University and is up to the standard in respect of content, presentation and language for being referred to the examiner.

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We also thank to all those who could not find a separate name but have helped directly and indirectly.

## **Abstract**

An internet bot, also known as web robot, WWW robot or simply bot, is a software application that runs automated tasks over the Internet. Amazon Lex is a service for building conversational interfaces into any application using voice and text. Amazon Lex provides the advanced deep learning functionalities of automatic speech recognition (ASR) for converting speech to text, and natural language understanding (NLU) to recognize the intent of the text, to enable you to build applications with highly engaging user experiences and lifelike conversational interactions.

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## **Chapter 1: Introduction**

### **1.1 Project Summary**

- In this application, we are translating the words inputted by text or voice to one language from another language with usage of AWS Cloud Services.

#### **1.1.1 Purpose**

- Our purpose is to provide easy and mobile translation to users who requires translation of languages.

### **1.2 Scope**

- In this application we have created only the web application. It can also be created as a mobile app.

### **1.3 Objective**

- Our objective is to learn about Cloud Services.

## **Chapter 2: System Requirements Study**

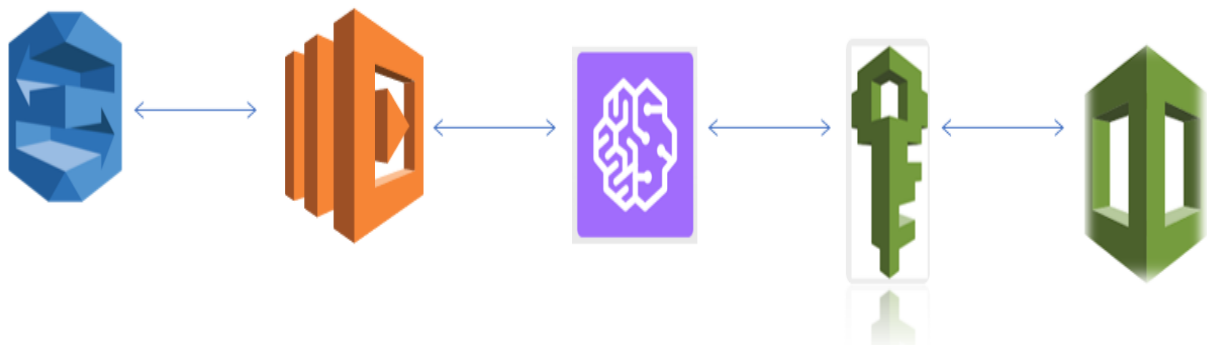
### **2.2 Tools & Technology Used**

- AWS Lex
- Amazon Translate
- AWS CloudFormation
- AWS Lambda
- AWS IAM



## Chapter 3: System Design

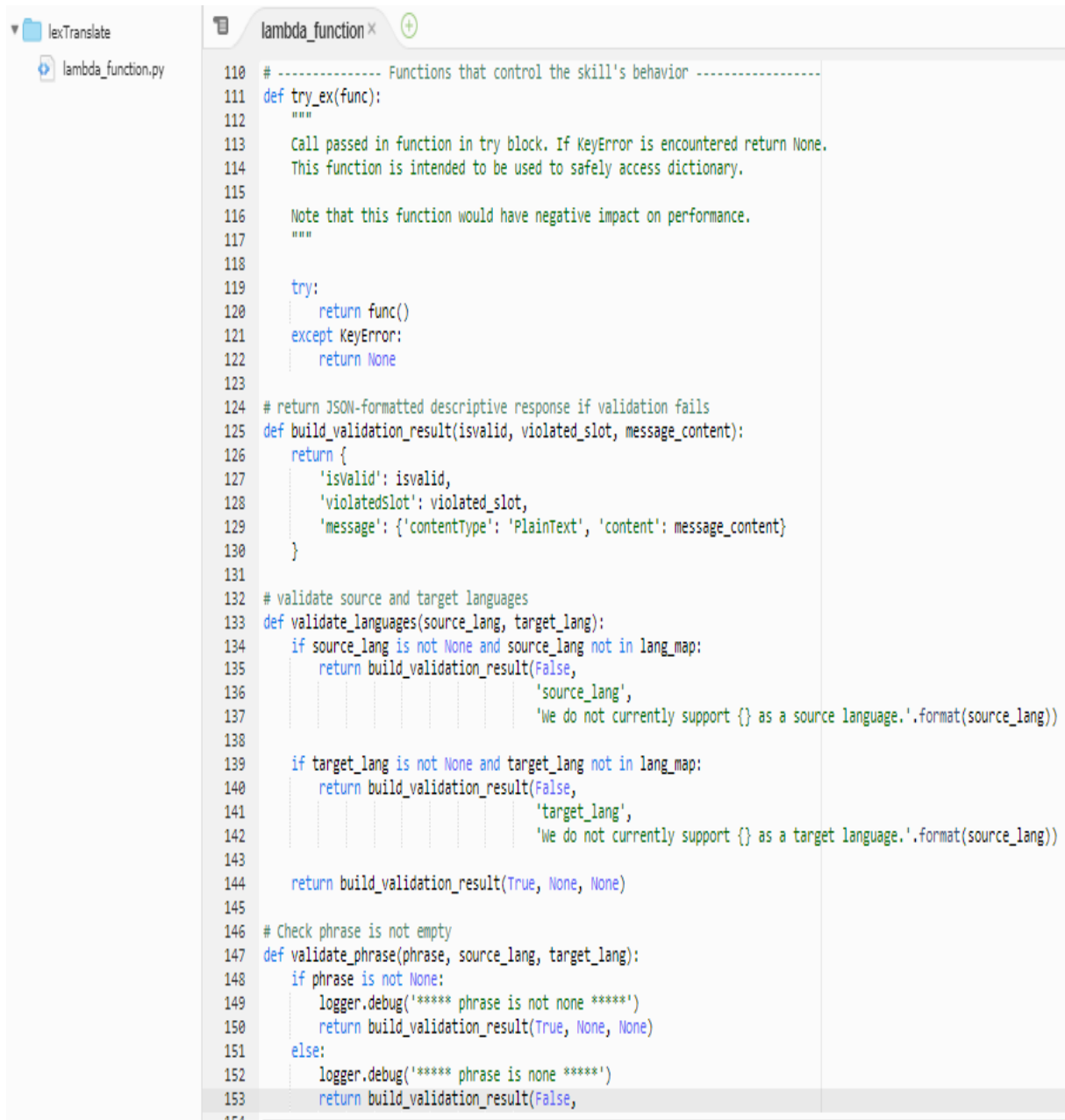
### 3.1 Project Flow



1. AWS Lex
2. AWS Lambda
3. Amazon Translate
4. AWS IAM
5. AWS CloudFormation

## Chapter 4 Implementation Planning

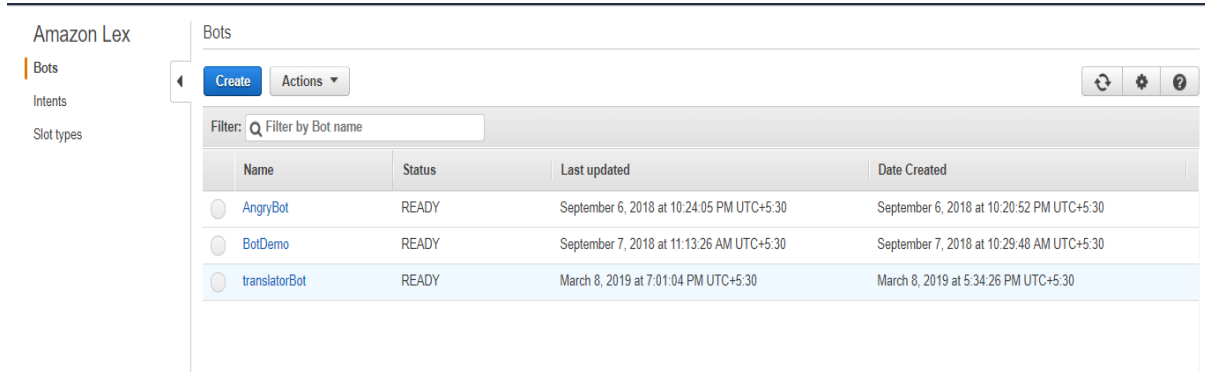
### 4.1 Code



```

110 # ----- Functions that control the skill's behavior -----
111 def try_ex(func):
112     """
113     Call passed in function in try block. If KeyError is encountered return None.
114     This function is intended to be used to safely access dictionary.
115
116     Note that this function would have negative impact on performance.
117     """
118
119     try:
120         return func()
121     except KeyError:
122         return None
123
124 # return JSON-formatted descriptive response if validation fails
125 def build_validation_result(isvalid, violated_slot, message_content):
126     return {
127         'isValid': isvalid,
128         'violatedSlot': violated_slot,
129         'message': {'contentType': 'PlainText', 'content': message_content}
130     }
131
132 # validate source and target languages
133 def validate_languages(source_lang, target_lang):
134     if source_lang is not None and source_lang not in lang_map:
135         return build_validation_result(False,
136                                     'source_lang',
137                                     'We do not currently support {} as a source language.'.format(source_lang))
138
139     if target_lang is not None and target_lang not in lang_map:
140         return build_validation_result(False,
141                                     'target_lang',
142                                     'We do not currently support {} as a target language.'.format(source_lang))
143
144     return build_validation_result(True, None, None)
145
146 # Check phrase is not empty
147 def validate_phrase(phrase, source_lang, target_lang):
148     if phrase is not None:
149         logger.debug('***** phrase is not none *****')
150         return build_validation_result(True, None, None)
151     else:
152         logger.debug('***** phrase is none *****')
153         return build_validation_result(False,
154 
```

### 4.3 Snapshots of project



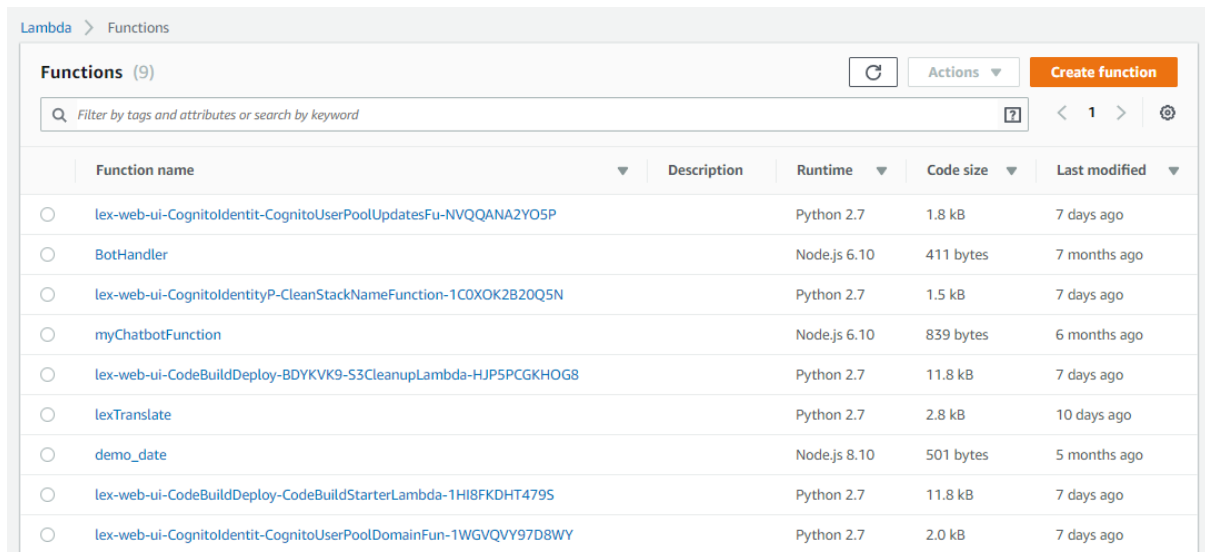
Amazon Lex Bots

Create Actions

Filter: Filter by Bot name

Name	Status	Last updated	Date Created
AngryBot	READY	September 6, 2018 at 10:24:05 PM UTC+5:30	September 6, 2018 at 10:20:52 PM UTC+5:30
BotDemo	READY	September 7, 2018 at 11:13:26 AM UTC+5:30	September 7, 2018 at 10:29:48 AM UTC+5:30
translatorBot	READY	March 8, 2019 at 7:01:04 PM UTC+5:30	March 8, 2019 at 5:34:26 PM UTC+5:30

**Fig 2-AWS Lex**



Lambda > Functions

Functions (9)

Filter by tags and attributes or search by keyword

Function name	Description	Runtime	Code size	Last modified
lex-web-ui-Cognitoidentit-CognitoUserPoolUpdatesFu-NVQQANA2YOS5P		Python 2.7	1.8 kB	7 days ago
BotHandler		Node.js 6.10	411 bytes	7 months ago
lex-web-ui-CognitoidentitP-CleanStackNameFunction-1C0XOK2B20Q5N		Python 2.7	1.5 kB	7 days ago
myChatbotFunction		Node.js 6.10	839 bytes	6 months ago
lex-web-ui-CodeBuildDeploy-BDYKV9-S3CleanupLambda-HJP5PCGKHOG8		Python 2.7	11.8 kB	7 days ago
lexTranslate		Python 2.7	2.8 kB	10 days ago
demo_date		Node.js 8.10	501 bytes	5 months ago
lex-web-ui-CodeBuildDeploy-CodeBuildStarterLambda-1HI8FKDHT479S		Python 2.7	11.8 kB	7 days ago
lex-web-ui-Cognitoidentit-CognitoUserPoolDomainFun-1WGVQVY97D8WY		Python 2.7	2.0 kB	7 days ago

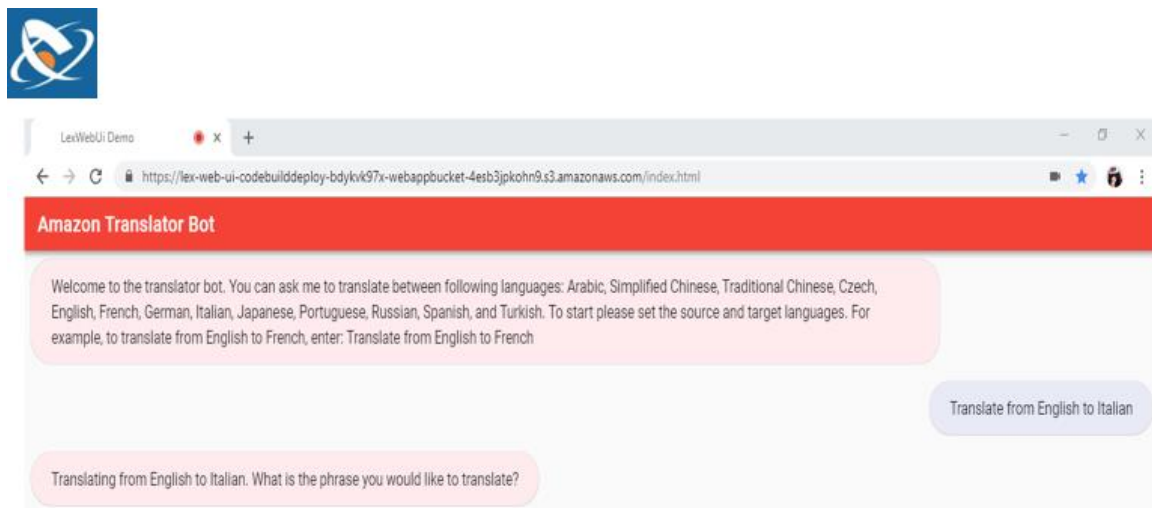
**Fig 3-AWS Lambda**

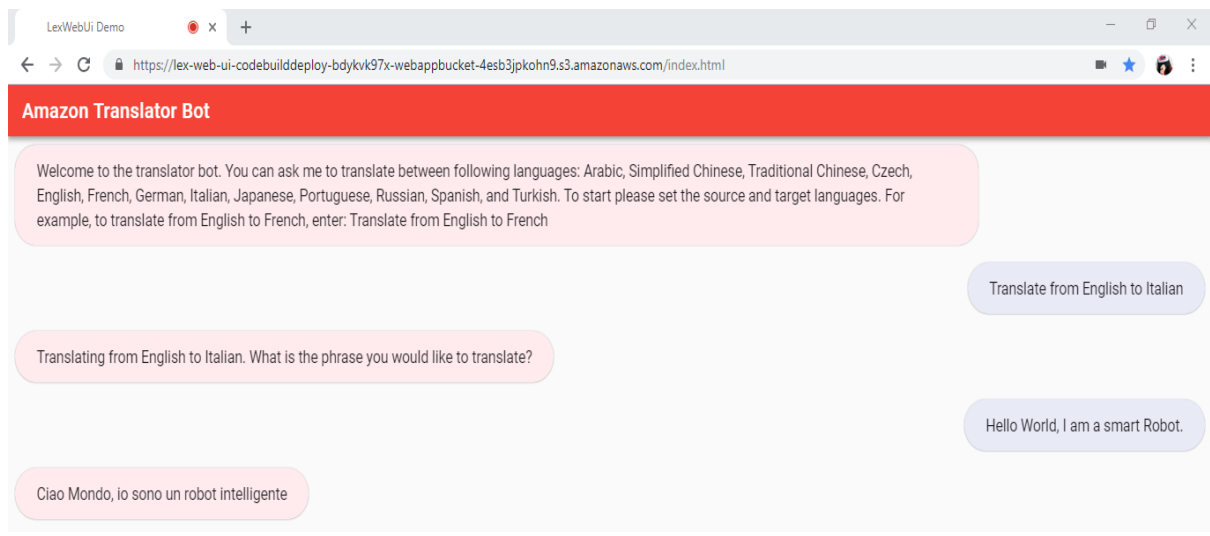
CloudFormation > Stacks

Stacks (4) 🔄 At

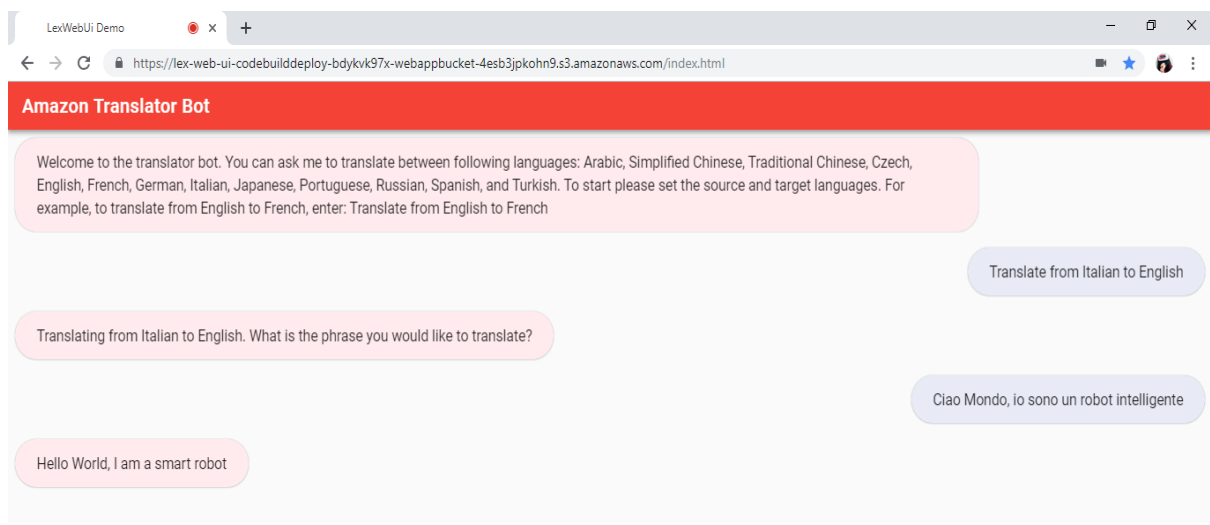
Active ▼

	Stack name	Status	Created time
<input type="radio"/>	lex-web-ui-CognitoIdentityPoolConfig-1OEEBFYAPLI0U <b>NESTED</b>	✔ CREATE_COMPLETE	Mon, 11 Mar 2019 14:32:30 GMT
<input type="radio"/>	lex-web-ui-CodeBuildDeploy-BDYKVK97X23R <b>NESTED</b>	✔ CREATE_COMPLETE	Mon, 11 Mar 2019 14:30:49 GMT
<input type="radio"/>	lex-web-ui-CognitoIdentityPool-1IC0BJGLVH48S <b>NESTED</b>	✔ CREATE_COMPLETE	Mon, 11 Mar 2019 14:29:41 GMT
<input type="radio"/>	lex-web-ui	✔ CREATE_COMPLETE	Mon, 11 Mar 2019 14:29:35 GMT

**Fig 4-AWS Cloudformation****Fig 5-Bot demo**



**Fig 6-Bot demo**



**Fig 7-Bot demo**

## **Chapter 5: Limitations and Future Enhancement**

### **5.1 Limitations**

- The accuracy of the words in the translated language.
- Limit in number of languages in service.
- Internet connection is required for its use.
- Cannot be accessed through cell phones.

### **5.2 Future Enhancement**

- This application is currently not currently available for mobile devices, we will expand this to a mobile application.
- We will make this bot available to more languages for translation.
- We will make the GUI more user-friendly.

## **Chapter 6: Conclusion**

Translation bots simply obtain the information needed to be fed into the actual machine translation platform. Bots relegate the actual job of converting messages from one language to another to established machine translation platforms. There are also bots that don't have to be installed as an add-on but added as contacts in a messaging service.

### References: -

- <https://www.daytranslations.com/blog/2018/11/how-translation-bots-work-12433/>
- <https://chatbotsmagazine.com/how-to-make-a-voice-translation-bot-5cdfd36cadba>