**MINI PROJECT REPORT**

**On**

**Interviewer chat bot**

**Submitted by**

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**Declaration**

We hereby declare that the work which is being presented in the Mini Project Titled: **“Interviewer Chat Bot”,** in partial fulfillment of the requirements for Mini-Project LAB, is an authentic record of our own work carried under the supervision of **Mr. Piyush vashishtha.**

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**CERTIFICATE**

This is to certify that the project entitled **“Interviewer Chat Bot”** carried out in Mini Project – I Lab is a bonafide work done by **Akshat Goyal and Rohitash yadav** and is submitted in partial fulfillment of the requirements for the award of the degree Bachelor of Technology (Computer Science & Engineering).

**Signature of Supervisor:**

**Name of Supervisor: Mr.Piyush Vashishtha**

**Date: 20/11/2019**

# ACKNOWLEDGEMENT

It gives us a great sense of pleasure to present the report of the B. Tech Mini Project undertaken during B. Tech. Third Year. This project in itself is an acknowledgement to the inspiration, drive and technical assistance contributed to it by many individuals. This project would never have seen the light of the day without the help and guidance that we have received.

Our heartiest thanks to **Dr. (Prof). Anand Singh Jalal,** Head of Dept., Department of CEA for providing us with an encouraging platform to develop this project, which thus helped us in shaping our abilities towards a constructive goal.

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We also do not like to miss the opportunity to acknowledge the contribution of all faculty members of the department for their kind guidance and cooperation during the development of our project. Last but not the least, we acknowledge our friends for their contribution in the completion of the project.

Rohitash Yadav

Akshat Goyal

**ABSTRACT**

Chatbots, or conversational interfaces as they are also known, present a new way for individuals to interact with computer systems. Traditionally, to get a question answered by a software program involved using a search engine, or filling out a form. A chatbot allows a user to simply ask questions in the same manner that they would address a human. The most well known chatbots currently are voice chatbots: Alexa and Siri. However, chatbots are currently being adopted at a high rate on computer chat platforms.

The technology at the core of the rise of the chatbot is natural language processing (“NLP”). Recent advances in machine learning have greatly improved the accuracy and effectiveness of natural language processing, making chatbots a viable option for many organizations. This improvement in NLP is firing a great deal of additional research which should lead to continued improvement in the effectiveness of chatbots in the years to come.

A simple chatbot can be created by loading an FAQ (frequently asked questions) into chatbot software. The functionality of the chatbot can be improved by integrating it into the organization’s enterprise software, allowing more personal questions to be answered, like“What is my balance?”, or “What is the status of my order?”.

Most commercial chatbots are dependent on platforms created by the technology giants for their natural language processing. These include Amazon Lex, Microsoft Cognitive Services, Google Cloud Natural Language API, Facebook DeepText, and IBM Watson. Platforms where chatbots are deployed include Facebook Messenger, Skype, and Slack, among many others.

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**INTRODUCTION**

This section gives a scope of description and overview of everything included in this project report. Also, it includes the system overview with goal and vision.

* 1. **PURPOSE**

The purpose of this document is to give detailed information regarding this Mini Project labeled “Interviewer Chat Bot”. It will illustrate the complete declaration of the application developed. In addition to this, it gives detailed description of the implementation of the system along with system constraints. This document is primarily intended to give an overview to anyone of how this application works and is beneficial to colleges and companies HR team.

* 1. **SYSTEM OVERVIEW**

Interviewer Chat Bot is a system made for interview of students by various companies during the placement activity.by using this system the conversation between interview and interviewer becomes so easy.

And by using this setup we can save our time.

* 1. **MOTIVATION**

The main motivation of this project if solving problems faced by a person and hr during the interview.this setup is very useful for all those who want to apear two more than two interview in a single day.

The idea of this project is motivate the student for the job interview.

**SYSTEM REQUIREMENTS & ANALYSIS**

**2.1 Problem Definition**

**Scripted bots ask questions and record responses from a set list**

Scripted bots walk users through a decision tree and are effective ways to collect data for precisely defined situations. College degree? Check. Driver’s license? Check. Late-model car? Check. Willing to relocate? Check. Seventy-five percent travel? Check. Stand on head for hours? No check. Sorry, you don’t qualify. Having a machine work through the drudgery of qualifying 500 applicants on these knockout questions is a godsend.

**Unscripted bots take user questions and offer answers from a data set**

Unscripted bots attempt to get answers for users from an archive of company information. They are like a search engine designed to provide answers to employee questions. When applied to HR, they tend to be tools that guide benefits choices, answer questions about policies, help employees use their benefits, provide intake for complaints or navigate administrative processes.

The knowledge-acquisition section of the bot consumes company policies, procedures, FAQs and other documentation to create a pool of indexed, searchable data. The translation function interprets user queries (in text or sometimes voice). The matching operation pairs the two to produce an answer.

Unscripted bots can be trained to deliver the right result approximately 80 percent of the time. If the company data are complete (and that’s often a big, expensive assumption), an unscripted bot can understand the question and deliver the correct answer four times out of five.

**Modules And Their Functionality**

Their are total 10 modules in this project.

* **Markovify:**Use for building Markov models of large corpora of text and generating random sentences from that.
* **MIMEText:**Use for email formatting.
* **Colored:**Used for coloring the text during the chat.
* **Datetime:**Tell about the time and date.
* **Random:**This Module is used for random question.
* **Json:**Use for storing and exchanging the data.
* **Sys:**It is used for gathering information of functions and constants
* **Os:**It provides the functionality for interacting with the operating system.

**Hardware Requirements**

* 2-GB Ram(recommended)
* 32-Bit Operating System
* Processor - Intel Dual and More

**Software Requirements**

* Jupyter Notebook
* Spyder
* Pychram
* Python 3

**Specific Requirements**

* Question data set
* Other data set
* Conversation should be in well defined manner.

**PROJECT IMPLEMENTATION**

**Code Of implemetation**

from email.mime.text import MIMEText

from termcolor import colored

import markovify

import datetime

import smtplib

import random

import time

import json

import sys

import os

# Get model for prompts

with open('./model.json') as data\_file:

model = json.load(data\_file)

# Get raw text as string.

with open("./words.txt") as f:

text = f.read()

index = 0

transcript = {}

interviewer = ''

email = ''

bot\_email = os.environ.get('INTERVIEW\_BOT\_EMAIL')

bot\_email\_password = os.environ.get('INTERVIEW\_BOT\_EMAIL\_PASSWORD')

interviewee = os.environ.get('INTERVIEWEE')

interviewee\_email = os.environ.get('INTERVIEWEE\_EMAIL')

def is\_common\_question(interview\_question):

q = interview\_question.lower()

answer = False

for j in model['common']:

hasQ = j in q

# question is within 10 characters of common question

closeEnough = len(q) <= (len(j) + 5) and len(q) >= (len(j) - 5)

if hasQ and closeEnough:

answer = str(model['common'][j])

return answer

def respond(interview\_question):

global index

global transcript

answer = ''

# get question words

wordlist = interview\_question.split()

# check if actually a question

if not wordlist[-1].endswith('') and wordlist[-1] != '':

return 'Please, let\'s stick to questions only.'

# check if already asked

if (len(transcript) >= 1):

for i in transcript:

if (transcript[i]['question'].lower() == interview\_question.lower()):

return interviewer + ', please. You already asked me that.'

# check if common question

common = is\_common\_question(interview\_question)

if (type(common) is str):

return common

# Build the model.

text\_model = markovify.Text(text)

# generate response

for i in range(random.randint(1, 5)):

answer += text\_model.make\_sentence()

# save question + response

# transcript[str(index)]['answer'] = nswer

transcript.update({index: {

'question': interview\_question,

'response': answer

}})

# increment index + return response

index += 1

return answer

def end\_interview():

print(colored('Ok, ', 'red') + colored(interviewer, 'magenta') + colored(', thats enough questions for today. Thank you.', 'red'))

print(colored('I\'ll send you an email of our result.', 'red'))

print('')

message = ''

for q in transcript:

message += ('Question #' + str(q) + ': ')

message += '\n'

message += ('You asked: ' + transcript[q]['question'])

message += '\n'

message += ('I answered: ' + transcript[q]['response'])

message += '\n'

message += '\n'

content = MIMEText(str(message))

#content['Subject'] = interviewer + ', here\'s the ' + interviewee + ' Interview from ' + str(datetime.date.today()) + ' | ' + time.strftime("%H:%M:%S")

# s = smtplib.SMTP('smtp.gmail.com', 587)

#s.ehlo()

#s.starttls()

#s.login(bot\_email, bot\_email\_password)

#s.sendmail(bot\_email, email, content.as\_string())

#s.sendmail(interviewee\_email, email, content.as\_string())

#s.close()

#sys.exit()

def question\_loop():

global index

if index > len(model['prompts']) - 1:

end\_interview()

return

question\_str = model['prompts'][index]

interview\_question =input(colored(question\_str, 'yellow'))

response = respond(interview\_question)

print(colored('-----------------------------', 'yellow'))

# print (colored(response, 'white'))

print('Ok,lets move towards next question.........')

time.sleep(1)

question\_loop()

def start\_interview():

global interviewer

global email

interviewer =input(colored('Hey there! What\'s your name? => ', 'yellow'))

print('')

email =input(colored(interviewer, 'magenta') + colored(', What\'s your email? I\'ll send a transcript of our interview => ', 'yellow'))

print('')

question\_loop()

**Data Set**

{

"prompts": [

"Please introduce yourself?=> ",

"In Which Subject You Are Interested? => ",

"Why are you intrested in this perticular subjext? => ",

"Why you Persue Btech ? => ",

"Tell Me about Technical Skills?=> ",

"What is your weakness? => ",

"Which language you prefer for programing? => ",

"you want to ask any question? => "

],

"common": {

"where am i": "You're logged into a Raspberry Pi running Linux somewhere in NYC.",

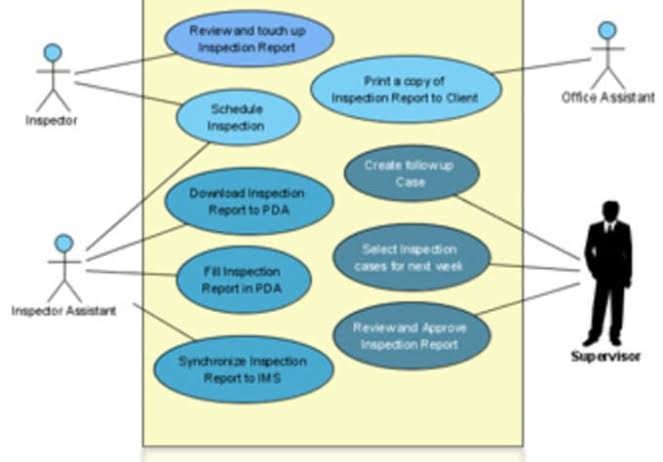
"who are you": "I'm an automated interview bot created by Manny404.",

"a/s/l": "46/binary/nyc"

}

}

**USE Case Diagram**

****

**PROJECT SCOPE**

Chatbots work on a version of artificial intelligence, some are simple and binary, some work from advanced machine learning. Don’t panic though, this isn’t to say that you’ll be replaced in the next five years. We strongly believe this tech has its place in the world, but ultimately recruitment is a human-led industry and the need to deal with a real person at some point in the cycle is not going anywhere. Chatbots are designed to take over the repetitive tasks and leave the recruiter with the qualified candidates.

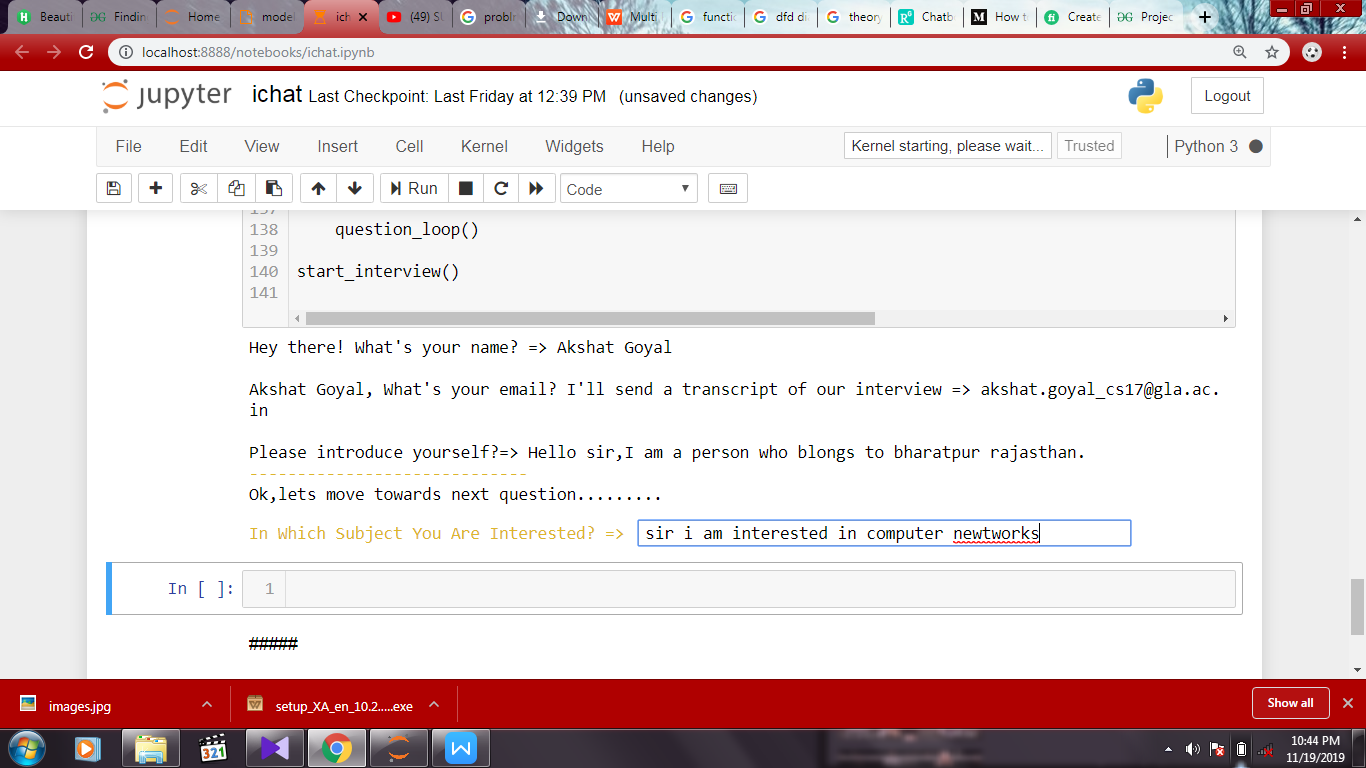
An effective chatbot is here to make your life easier and speed up your hiring process, like stripping out bad candidates or fact-finding to help report building. Chatbots are the dream assistant for the busy recruiter, taking on all the heavy-lifting and boring jobs and doing them in an efficient manner, in bulk!

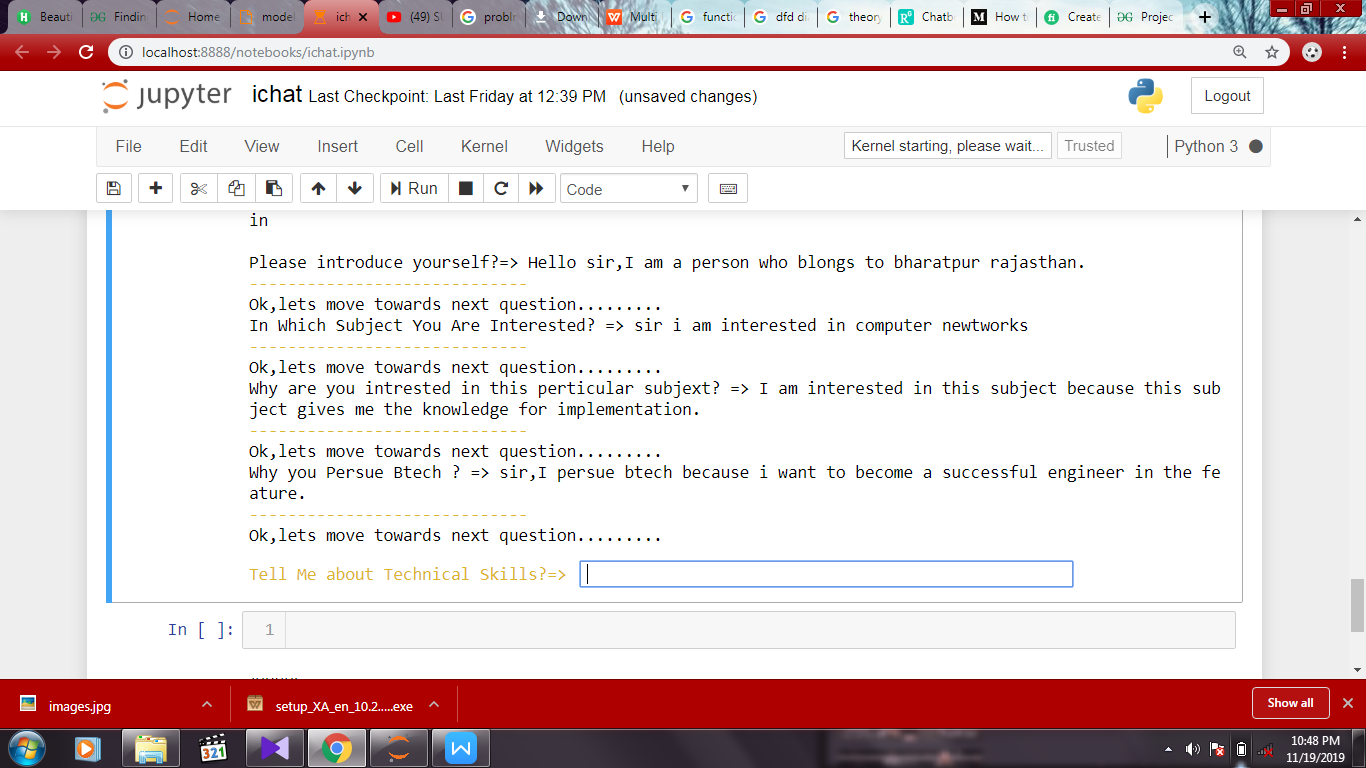
Providing a great experience to your candidates is absolutely vital and is one of the biggest trends we’re seeing adopted by recruitment agencies. When you want to stand out from the noise, one of the most effective ways is to offer an experience better than your competition.

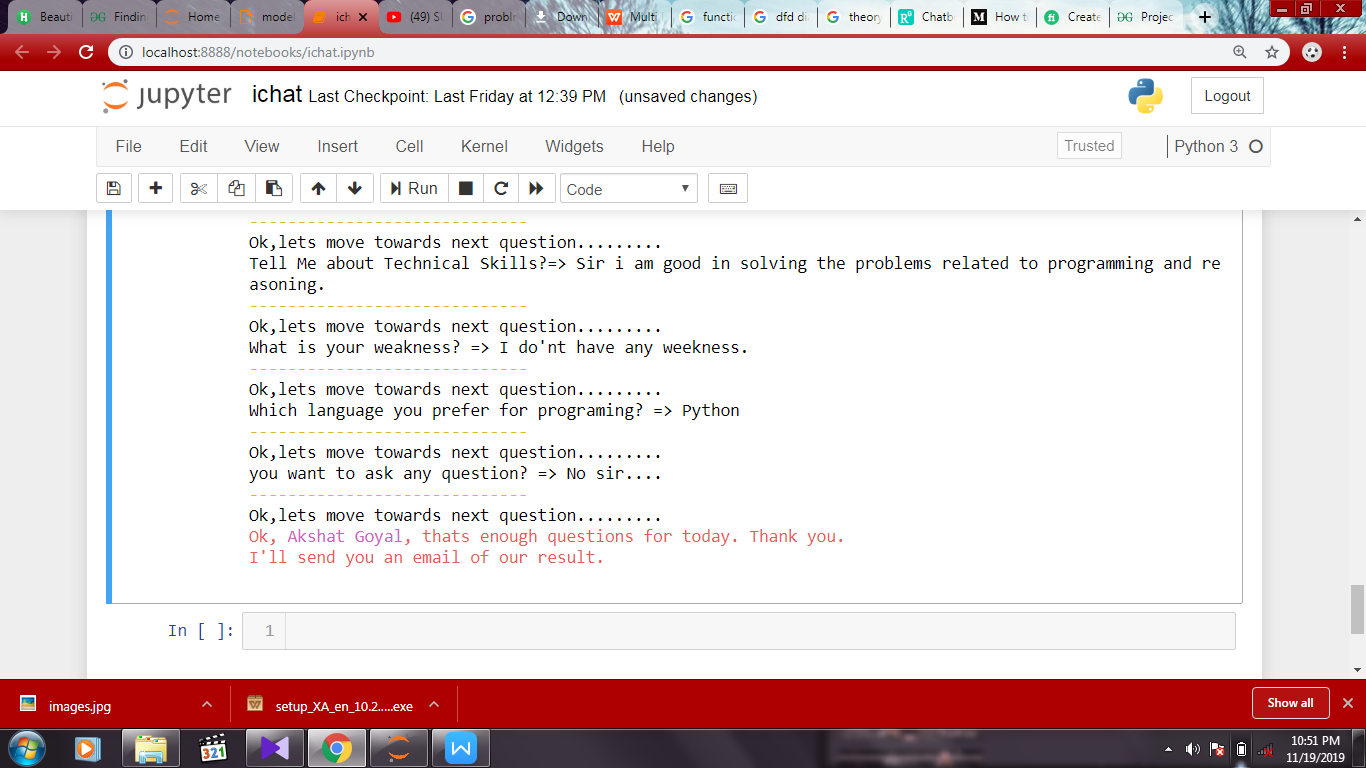
The most obvious quick win with great experience is to eliminate the ‘Downtime’ between a candidate submitting a CV and the recruiter getting back to them. With some roles, the volume of candidates can be huge and it can be a taxing task to individually message every candidate.

Chat bots can make this process almost instantaneous for the candidates, pushing them along the hiring cycle quicker, making both the candidate and client happy. A quick turnaround when finding a job, and a high volume of qualified candidates to interview is a positive result for both parties.

**SNAPSHOTS**







**Contributing summary**

There are total two members in the team;

**Akshat Goyal**:-He design the methods Question\_loop and Response and also design the data set.

**Rohitash yadav**:-He design methods like Start\_interview and Stop\_interview.

**Area of Uses Of Chat bots**

**1. Order Pizza**

It’s ridiculously easy to order pizza with the help of chatbots. You can order by texting, tweeting, voice, or even from your car.

Domino’s was one of the early adopters of chatbots. Today, Domino’s lets you easily build a new pizza (or reorder your favorite pizza) and track your order all from Facebook Messenger.

**2. Product Suggestions**

Many consumers know they want to buy some shoes, but might not have a particular item in mind. You can use chatbots to offer product suggestions based on what they want (color, style, brand, etc.)

It’s not just shoes. You can replace “shoes” with any other item. It could be clothes, groceries, flowers, a book, or a movie. Basically, any product you can think of.

For example, tell H&M’s Kick chatbot about a piece of clothing you have and they’ll build an outfit for you.

**3. Customer Support**

Last year, brands including AirBnB, Evernote, and Spotify started using chatbots on Twitter to provide 24/7 customer service.

The goal of these customer support chatbots is to quickly provide answers and address customer complaints, or simply track the status of an order.

**4. Weather**

There are numerous weather bots to choose from. Most are pretty basic, though a few are designed to be a bit more fun.

You can use these to ask about the current conditions in your area and find out whether you should bring the umbrella before you leave for work. Some bots allow you to set regular reminders for a certain time of day.

**5. Personal Finance Assistance**

Chatbots make it easy to make trades, get notifications about stock market trends, track your personal finances, or even get help finding a mortgage.

Banks have created chatbots to let you check in on your account, such as your current balance and most recent transactions. And there are tax bots that help you track your business and deductible expenses.

**6. Schedule a Meeting**

With so many schedules to juggle, setting up meetings can be a pain. Unless you let a chatbot do the work for you.

Meekan is one such example. Simpy request a new meeting and this Slack chatbot will look at everyone’s calendars to find times when everyone is available.

**7. Search for & Track Flights**

You can use chatbots to get some vacation inspiration. Others will let you search for and compare flights based on price and location. Kayak’s chatbot even lets you book your flights and hotels entirely from inside Facebook Messenger.

Once you’re all booked, there are other chatbots that will let you track current flights, wait times, delays, and more.

**8. News**

Chatbots help you stay up to date on the news or topics that matters to you.

You can get the latest headlines from mainstream media sources like CNN, Fox News, or the Guardian. Or you can get the latest tech headlines from Tech Crunch or Engadget.

**9. Find Love**

A match made by chat bots? It could happen.

Instead of swiping left or right on an app, you could use Foxsy. This Messenger bot promises to help you find a “beautiful and meaningful connection with the right person.”

**10. Send Money**

You can easily send payments to your team or friends with chatbots. All you have to do to send money on the Slack PayPal account is type /paypal send $X to @username.

That’s it. Crazy simple, right?

**11. Find a Restaurant**

Where do you want to eat tonight? Not sure? Ask a chatbot.

Much like the product recommendation chatbots, restaurant chatbots can provide recommendations based on cuisine, location, and price range. Some chatbots will even make reservations for you or take your order online.

**CONCLUSION**

The advantage to using the chat bot’s conversational interface is the unique ability to collect real-time data and provide customized and personalized responses based around user input — just like conversing with a physical person. Essentially, the chatbot’s machine learning could use the candidates’ inputs to generate varying outputs. The aspiration of many in the AI and machine learning community — and what many of the big players in the industry are on the brink of achieving –is that a bot will serve a unique user experience based on personal data. Chatfuel’s AI is far less sophisticated than that, but with enough time and testing, impressive results can be achieved.

With the new millennials into the workforce, they like to interact more on instant messaging than before.

The implementation of Chatbot will be an interesting idea to improve employee engagement.

Although we know that Chatbot are smart but please do not forget it take time to train a bot thus if you have intention to do it then please think through which area to start with first and plan it correctly.

Using an interview bot takes the fuss out of recruitment and helps recruiters focus on shortlisting the final bunch and closing offers. Here are 5 ways interview bots can help streamline the process of interview

* **Conducts interviews:**An interview bot is equipped with a question bank that enables it to ask relevant questions to each candidate. The bank can be updated to let the bot ask cross domain questions as well as conduct logical reasoning and psychometric tests, two essential aspects of a modern day interview.
* **Answers queries and screens qualifications:** An interview bot can brief the candidates and answer their queries about the concerned job profile and its requirements as well as the employee benefits the company offers. Additionally, the interview bot can screen and validate the candidate’s qualifications.
* **Records perspective and body language:** Leading interview bots like [Gecko](https://www.webspiders.com/gecko-video-interview-bot" \t "https://www.webspiders.com/blog/5-ways-an-interview-bot-makes-a-recruiters-life-easier/_blank) use video intelligence to scan a candidate’s facial expressions and body language. A video interview bot also asks the interviewee for their feedback in order to record their perspective.
* **Conducts sentiment analysis:** After the interview, the interview bot analyzes the feedback collected and the key words and phrases used by a candidate to do a sentiment analysis. It combines the analytics with the overall score to provide a comprehensive report to the human recruiter.
* **Allows sharing of report**: After going through the report, the recruiter can mail it through the bot itself to his peers. This way, the recruiter can consult his fellow recruiters before taking the final call.

With interview bots, large scale interviews like campus interview and walk-in would be a breeze, allowing recruiters to focus on matters that require their expertise.