UNIVERSITY OF WOLLONGONG IN DUBAI

Assignment Cover Sheet

Subject Code: CSIT 323
Subject Name: Artificial Intelligence
Submission Type: Group report
Assignment Title: CAIS (Contemporary Artificial Intelligence Solutions) AI Project 2022

Student Name: Afraaz Ali, Mohamed Maarij Uddin Khan, Rohan Sujith Francis, Ibrahim Azam, Muhammad Ibrahim Jafar, Hassan Abdullah Ghauri, Mohamed Furqanuddin Siddiqui
Student Number: 7066600, 6222560, 6608206, 7058238, 7001915, 6882213, 6394140
Student Phone : +971 56 101 6265, +971 50 6966480, +971 56 7925305, +971 56 6221357, +971 50 350 7469, +971 56 6346194, +971 56 6078212
Student Email: amfa964@uow.edu.au, mmuk953@uowmail.edu.au, rsf826@uowmail.edu.au, ia786@uowmail.edu.au, mij990@uowmail.edu.au, hag999@uowmail.edu.au, ms093.uowmail.edu.au

Lecturer Name: Dr Patrick M.
Due Date: 30 / 11 / 2022
Date Submitted: / 11 / 2022

PLAGIARISM:	**DECLARATION:**
The penalty for deliberate plagiarism is FAILURE in the subject. Plagiarism is cheating by using the written ideas or submitted work of someone else. UOWD has a strong policy against plagiarism. The University of Wollongong in Dubai also endorses a policy of non-discriminatory language practice and presentation.	I/We certify that this is entirely my/our own work, except where I/we have given fully-documented references to the work of others, and that the material contained in this document has not previously been submitted for assessment in any formal course of study. I/we understand the definition and consequences of plagiarism.
PLEASE NOTE: STUDENTS MUST RETAIN A COPY OF ANY WORK SUBMITTED	**Signature of Student: HASSAN, AFRAAZ, MOHAMED, ROHAN, IBRAHIM, FURQAN**

Optional Marks:

Comments:

Lecturer Assignment Receipt (To be filled in by student and retained by Lecturer upon return of assignment)

Subject: **Assignment Title:**
Student Name: **Student Number:**
Due Date: **Date Submitted:**
Signature of Student:

Student Assignment Receipt (To be filled in and retained by Student upon submission of assignment)

Subject: **Assignment Title:**
Student Name: **Student Number:**
Due Date: **Date Submitted:**
Signature of Lecturer

Table of Content

Executive summary

This is a report about a business in the UAE which was facing an issue in the company that could be solved using artificial intelligence.

Our team interviewed the managing director of a shipping company called Fahim Express Shipping L.L.C, Mohamed Fahim Ali. During the interview, our team asked all basic questions to get a clear picture of what and how Fahim Express Shipping L.L.C operates and runs its business such as shipping details and procedures.

Once our team figured out the problem, we came up with an artificial intelligence solution which would make the communication between the customers and the company much easier for both the clients and the company. Our solution is a voice bot where the customers can talk, and the AI will guide the customers.

The artificial intelligence system was programmed using Python using NLP, CSV files as a dataset (database) and IBM Watson Speech to Text engine. The solution was tested by our team and then showcased to Mr Mohamed Fahim Ali.

Overview

The project requires students to use any programming language such as C/C++, Python, R or any language of their choice to implement a solution for the given problem.

The problem may require them to use any of the theories discussed in the class to solve a real-life problem with an existing company.

The goal of the project is to make students familiar with implementation issues of AI solutions. For this project, you are required to structure your project (report and presentation) following the implementation of any AI techniques and/or tools on a real practical problem in a company of your choice.

Introduction

First, we had to identify a real-world company in the UAE and conduct research on the problems they might face that could be solved using AI techniques. We have interviewed Mohamed Fahim Ali, having over 22 years experience in the Shipping Field and

Logistics. We asked him several questions regarding the procedure and the format of the Deliverable he provides to his customers.

Profile

Experiences

Assistant General Manager in **ALPHA STAR SHIPPING L.L.C.** **(2008 - 2013)**

General Manager in **PEARL SHIPPING L.L.C.** **(2014 - 2016)**

Managing Director of **FAHIM EXPRESS SHIPPING L.L.C.** **(2017 - Present)**

Review

Mr. Fahim Ali was generous to spend his time with us to discuss the working of top Shipping lines and the Logistic world. He had also shared with us a handful of customer enquiry details, formats and the procedure requirements for the process of a

successful shipment of goods from one part of the country to the other.

Organization Background

Fahim Express Shipping L.L.C. has been established back in 2017 located near the Hamriya Port of Deira - Dubai. They are also a proud member of Lognet Global.

Image of Hamriya Port - Dubai

The services provided by this Company is based on International Logistics (Global services). They Handle shipments of both Import and Export customers.

As a market leader in freight forwarding, they provide the following services :

1. Sea Freight
2. Air Freight
3. Land Transport
4. Warehousing & Distribution
5. Cross-Trade
6. Ship spares in Transit

7. Packing & Removal
8. Marine Insurance
9. Custom Clearance
10. DG Cargo Handling (Dangerous Goods)

Type of Business

Fahim Express Shipping offers global sea freight services from Jebel Ali, Port Rashid and Hamriya Port cater numerous container as well as bulk loading vessels arriving in Dubai. As a transshipment hub to the Upper Gulf and Middle East, We Ocean freight service has excellent LCL, FCL and Break bulk services for export and import. Our dedicated operations personnel ensure proper tracking of your consignments at all times and keep you updated on the status of your shipments at all times.

Very carefully chosen and qualified agents from worldwide to handle your cargo in a professional manner with due diligence. You can rely on us so that your global ocean freight gets where it's going, safe, and on time. We also offer customs broker services throughout the world. Every time, we'll work with you together to determine the right solutions to meet your ocean freight requirements.

- Full container load (FCL)

- Less container load (LCL)
- Reefer container (For Refrigerated Goods)
- Break bulk
- Over-dimensional/Project
- Motor vehicles
- All kinds of General Cargo - FAK (freight all kinds)

Procedure

When dealing with international freight forwarding services, it is a complex collection of actions and steps that must be taken into account. To begin, we must understand the Container Specification of International Shipping Standards.

The table below contains all of the Container Specifications information..

CONTAINER				Capacity		Recommended Load Volume	
Nominal Dimension	Length	Width	Height	Cubic Feet	Cubic Meter	Cubic Feet	Cubic Meter
External	20'	8'	8' 6"				
	6.096 m	2.438 m	2.591 m				
Internal	19' 4.25"	7' 8.625"	7' 10"	1170 cft		1000 cft	
	5.899 m	2.353 m	2.388 m		33.131 cbm		28 cbm
External	40'	8'	8' 6"				
	12.192 m	2.438 m	2.591 m				
Internal	39' 5.375"	7' 8.625"	7' 10"	2385 cft		2050 cft	
	12.024 m	2.353 m	2.388 m		67.535 cbm		58 cbm
External	40' Hicube	8'	9' 6"				
	12.192 m	2.438 m	2.896 m				
Internal	39' 5.375"	7' 8.625"	8' 10"	2690 cft		2350 cft	
	12.024 m	2.353 m	2.692 m		76.172 cbm		66 cbm

Procedure 1 : Customer Enquiry

Usually customers of **Fahim Express Shipping L.L.C.** email their enquiry which is quoted with container fee. This is a sample below (expired enquiry) of a customer named Mr. Farooq Umar.

Dear Mr. Fahim

How are you?

Please quote freight from Ningbo to Dubai for 40' container Goods can be ready in 10-15 days, so please give the best rate as its for my cousin brother and want to get it done from your side rather give to supplier in China

Regards

--
Farooq Umar
Popular Traders
P O Box 97, Dubai, UAE
Tel - 00971 4 2253252
Fax - 00971 4 2253449
email - ptraders97@gmail.com

Mr. Farooq Umar is a very loyal customer of **Fahim Express Shipping** L.L.C.

In this sample Email.
He wants to deliver some goods

But he doesn't give any weight and dimensions of the Goods.

That is because he wants the whole 40-foot container reserved for his goods alone.

His quote is asking the price for the container that loads at Ningbo (port at China) and unloads at Jebal Ali port in Dubai.

In Addition he gives a comment that it should be ready within 10 to 15 days

Fahim Express Shipping Company refers to the Ningbo to Jebal Ali Popular rates (Mentioned Below)

And gives the best Rate to Mr.Farooq (customer)

The company doesn't alone give only the rates but gives the following below

1. The date of loading
2. Rate (cost of Shipment)
3. Transit Time

Once the customer agrees to the enquiry the company contacts the agent who gave the best rate and create a Bill of Lading which is also known as Receipt of the shipment

Dear Mr.Farooq,

Please to advise the sea freight from Ningbo to Jebel ali rate levels upto 9th Nov.

USD 2700/40' to USD 2950/40'

Transit Time : 20 to 23 days.

We can offer exact rate once the cargo is ready.. the Chinese keep changing rate after confirmation of business.

Thanks & Bregds

Fahim

Managing Director

FAHIM EXPRESS SHIPPING L.L.C

P.O.BOX NO: 63030

Office No: 228, 2nd Floor, Al Nokhitha Building,

Procedure 2 : Checking the right container with their respective requirements for that customer.

After understanding what the customer requires we must refer to the agents in NINGBO to JEBEL ALI popular rates. and inform the customer the important quotes required for the customer to understand the process.

NINGBO - JEBEL ALI - POPULAR - RATE IN USD						
AGENT	CARRIER	CNTR	OCFRT	TT	TLX RLS	FREE TIME
SILVIA	HPL/RCL	40FT	2100	20	75	14 DAYS
WENDY	HPL	40FT	2200			14 DAYS
JOYCE	RCL	40FT	2000			
PATRICIA	HPL	40FT	2050	20	75	
JJ FLY	ZIM	40FT	2100	20	-	14DAYS

Procedure 3 : Creation of Bill of Lading after the customer agrees with the rates

Once the customer agrees with the contract, the company will create the following BL of that cargo. Of the above sample they have quoted from the JJ FLY'S Container Agent of Carrier ZIM.

B/L No. JJFL21120144

Shipper
TARPSNTOP CO., LTD.
1503A, LEADERS TOWER, 286, BEOTKKOT-RO,
GEUMCHEON-GU, SEOUL, KOREA

JJ FLY INTERNATIONAL LOGISTICS CO., LTD

OCEAN BILL OF LADING

Consignee
POPULAR TRADERS
P.O.BOX 97, DUBAI, U.A.E
TEL:971 4 2253252 FAX:971 4 2253449

Notify Party
SAME AS CONSIGNEE

COPY NON-NEGOTIABLE

Pre-carriage by	Place of receipt

Ocean vessel	Port of loading
SIMBA 2177W	QINGDAO, CHINA

Port of discharge	Place of delivery	Freight payable at	Number of original B/L
JEBEL ALI, DUBAI	JEBEL ALI, DUBAI		THREE (3)

Marks and Nos.	Number and kind of packages	Description of goods	Gross weight(kgs.)	Measurement (m^3)
N/M	1186 BALES	SHIPPER'S LOAD & COUNT & SEAL 1X40' HQ CONTAINER S.T.C. PE TARPAULIN SHEET HS CODE:39269091	27850.000 KGS	65.000 CBM

VOLU4903257/D200367/

SHIPPED ON BOARD
4, JAN. 2022

CY-CY

FREIGHT COLLECT

ABOVE PARTICULARS FURNISHED BY SHIPPER

Freight and charges

FAHIM EXPRESS SHIPPING L.L.C
P.O.BOX NO: 63030
OFFICE NO: 228, 2ND FLOOR, AL NOKHITHA BUILDING,
AL HAMRIYA, DUBAI, U.A.E.
TEL : +971 4 2699022

IN WITNESS where of the number of original Bills of lading stated above have been signed one of which being accomplished the other(s) to be void

Place and date of issue

SHENZHEN, CHINA 4, JAN. 2022

Signed for or behalf of the Carrier

Image: Bill of Lading

Motivation

Problem

Both operations and customer inquiries consume a significant amount of valuable time. Customers who want to import or export goods from one country to another have little or no idea what details the Shipping Company requires to proceed with their shipment. This in fact

takes a lot of time to educate the customer on how the shipping procedures work.

Solution: Customer Procedure Requirement for the Datasets

So from the above sets of procedures we need to extract the proper format of the requirements needed from the customer. Mr. Fahim has personally shared with us a sample where the customer had followed the format and sent it in the email.

Kinldy quote your best rates for the below.

POL : Portugal
POD : Jebel Ali
Commodity : Riding Boots
Terms : Ex Works
T Gwt : 584.00kgs
Package : 39 Cartons (390 pairs)
Volume : 4.225CBM.

Nr.Pares	P. Bruto(kg)	Peso Liq (Kg)	Volume	Nr.Cartões
Total Pairs	Gross Weight	Net Weight	Volume	Nr.Cartons
390	584,00	456,00	4,225	39

-
Pick up address details below.
Abílio P. Carneiro & Filhos, S.A
Z.I Monte Grande
Rua Padre António Vieira, nº63
4505-316 Fiães VFR

As from the email we can make out that we need to cover the datasets such as the :

1. **POL (Port of Loading)**
2. **POD (Port of Discharge Loading)**
3. **Commodity (Type of Goods)**
4. **Net Weight (Weight of Goods)**
5. **T Gwt (Total weight of Goods in vessels)**
6. **Package (Number of goods)**
7. **Volume (Dimensions)**

8. **Pick-up Address**

Technical requirements

Using the programming tool PyCharm, we are developing an artificial intelligence voicebot with python using NLP. Our solution's methodology entails collecting the customer's information and shipping details for the company to determine the quote.

We need to create a Database using a csv file of the above mentioned list and then install the required libraries for speech recognition using IBM Watson and Speech to Text engine.

We need a microphone, a speaker, and a set of recognition engines to record and comprehend the voice and ask any necessary questions about the shipping using the Voice Bot.

Main constructs (aspects/parts)

When our team interviewed Mr Mohamed Fahim Ali, one thing we noticed was the fact that there are certain tasks that are simple and do not need that much manpower in this day and age. These tasks can be assigned to more advanced artificial intelligence programs and help reduce the workload. The benefit of assigning these kinds of jobs to a computer-based system is that other major tasks can be completed or done instead of wasting time on repetitive tasks. Moreover, we also learned that it can improve customer service as there would be more availability of the system compared to manually taking down all the customer needs, and costs can be reduced as well as manpower. It can also increase sales because a person's availability for calls is limited to office hours, whereas a voice bot can be available 24x7x365.

The main benefit of this was that being a real-world issue, our team got a better picture and understanding of modern artificial intelligence. The labs, tutorials, and lectures were also helpful such as knowing how to

approach a problem and what method to follow when solving the issue. The other major benefit of it was the fact that there was no real question provided to us like in the labs (we are asked to do a task following certain method(s) in the lab for example), instead, we had to find the problem, then think of a solution, then come up with our own questions, and then build a solution for the company. This also further enhanced our understanding of what is like working in an IT-based environment.

Evaluation by Director of Fahim Express: Fahim Ali

During the discussion, he identified a variety of possible issues that could cause the user inconvenience. For starters, if the program was error-free, it would be a logistical achievement. Next, when a person says 'two,' the engine understands it as 'do,' causing the machine to stop working. Lastly, he advised incorporating this into the official website, but it must be both visually appealing and user-friendly. The program's overall effectiveness and accessibility are greatly appreciated.

Implementation

Firstly, we import all of the necessary packages for our AI Voice Bot to function properly. We utilized libraries such as “Speech Recognition”, “PYttsx3” “Pandas” and much more. We also utilized the tool of IBM Watson’s Speech to Text service for better performance which without, would have made testing a challenge.

```
import random

import speech_recognition as sr
from ibm_watson import SpeechToTextV1
from ibm_cloud_sdk_core.authenticators import IAMAuthenticator

import pyttsx3
import csv
import pandas as pd
import numpy as np
import pandas as pd
import timeit
import wikipedia
```

If import packages code above doesn't work then we will have to use the following code in the PyCharm Terminal :

pip install speechRecognition
pip install ibm_watson
pip install pandas
pip install wikipedia
pip install pyttsx3
pip install pyaudio
pip install listener

Now we'll write the critical queries that will call the specific functions and name all of the deliverables that will be logged as null and zero.

```
listener = sr.Recognizer()
microphone = sr.Microphone()
player = pyttsx3.init()
pol = pod = commodity = terms = ""
pick_up_address = ""
net_weight = total_weight = package = volume = 0
main_menu_counter = 0
```

Creation of `listen()`

```
def listen():

    with sr.Microphone() as input_device:
        print("I am ready, listen")
        listener.adjust_for_ambient_noise(input_device)
        listener.dynamic_energy_threshold = 3000
        voice_content = listener.listen(input_device, timeout = 7.0)

    with open("Talk.wav", "wb") as f:
        f.write(voice_content.get_wav_data())

    authenticator = IAMAuthenticator("KfzwRzlAhU_fg8o1QRCrpOe0xFVNMIuOgUj1ls-Uox-N")
    stt = SpeechToTextV1(authenticator=authenticator)

    stt.set_service_url(
        "https://api.au-syd.speech-to-text.watson.cloud.ibm.com/instances/669d6070-bac9-41c6-81de-787b06d21ce6")

    with open("Talk.wav", "rb") as f:
        res = stt.recognize(audio=f, content_type="audio/wav", model="en-US_NarrowbandModel", smart_formatting=True, inactivity_timeout

    print(res)
    text = res["results"][0]["alternatives"][0]["transcript"]

    return text
```

The `listen()` comprises multiple things. First things first is that we use a Speech Recognition library to listen to the response, the response is then saved locally to be optimized with IBM Speech to Text Service where it then returns what the user says. The Speech to Text service also provides how confident the model was in interpreting what the user said. Moreover, this data is also sent back to the model where the model is trained to better recognize speech.

Creation of `talk()`

```
def talk(text):
    voice = player.getProperty('voices')  # get the available voices
    # eng.setProperty('voice', voice[0].id) #set the voice to index 0 for male voice
    player.setProperty('voice', voice[1].id)
    player.setProperty("rate", 150)
    player.say(text)
    player.runAndWait()
```

The talk function is what the bot will say on command about what we need it to say. This function utilizes the pyttsx3 which allows it to have different playback speeds, different voices and clear voices. We chose a Female voice for this project as the Female voice had more clarity while pronouncing.

Creation of `order_response()`

```
def order_response(attributes):
    talk("You said " + attributes + ". Is this correct? (Please say Yes or No)")
    response = listen()
    if "yes" in response:
        return attributes
    counter = 0
    while ("no" in response and counter < 2):
        counter = counter + 1
        talk("May you please repeat it?")
        user_input = listen()
        talk("You said " + user_input + ". Is this correct? (Yes or No)")
        reply = listen()
        if "yes" in reply:
            return user_input

    talk("You have reached maximum number of tries, please call again later. Have a great day!")
    return 0
```

Another important function we have is the order response which confirms what the user said for the options. Where we have to confirm what the user was saying, we repeat what they were saying to confirm and fix any errors. `Order_response()` also takes a parameter attribute which is what the user is saying and goes through test cases to make sure it is satisfied before returning it back. The return 0 in the end, serves as an important in the function because if it did not return 0 then that means the option will stop there and the call will disconnect.

Voice bot responses to query :

Creation of `option1()`:

```
def option_1():
    talk("Our services include the following:")
    talk("Sea Freight")
    talk("Air Freight")
    talk("Warehousing & Distribution")
    talk("Custom Clearance")
    talk("To no more about these services please visit our website at fahimexpress.com: ")
```

Using the `talk()` function defined above we state the relevant services and company details and direct users to the company website for further details

Creation of `option2()`:

```
# If the user chooses option 2 and ask about the things needed to place a new order
def option_2():
    # Thinking of removing talk because the options already specify if the user wants to place a new order
    counter = 0
    # talk("Would you like to place a new order? ( Please say Yes or No)")
    # reply = listen()
    # if "yes" in reply:
    print("Understood. Please specify the port of loading")
    talk("Understood. Please specify the port of loading")
    pol = listen()
    pol = order_response(pol)

    if pol != 0:
        talk("Understood")
        print("Please specify the port of deloading")
        talk("Please specify the Port of Deloading")
        pod = listen()
        pod = order_response(pod)

        if pod != 0:
            talk("Understood")
            print("Please specify the type of goods")
            talk("Please specify the type of goods")
            commodity = listen()
            commodity = order_response(commodity)

            if commodity != 0:
                talk("Understood")
                print("Please specify the terms")
                talk("Please specify the terms")
                terms = listen()
                terms = order_response(terms)
```

If the user specifies option 2 we use this function to ask for and record all the necessary details needed for order confirmation. We first ask the user for the port of loading, then use the `listen()` to understand and interpret the user's voice and what information they wish to convey, which is in turn stored in POL. We then use the `order_response()` function to repeat what the user has said back to them for confirmation, with an additional two chances to change the information if it was mistaken or misinterpreted. If the information is confirmed correct we save it. After a successful entry we move to the next object and repeat the same cycle till all values are understood , confirmed then stored.

```
if terms != 0:
    talk("Understood")
    print("Please specify the net weight of the goods")
    talk("Please specify the net weight of the goods")
    net_weight = listen()
    net_weight = order_response(net_weight)

    if net_weight != 0:
        talk("Understood")
        print("Please specify the total weight of goods in the vessel")
        talk("Please specify the total weight of goods in the vessel")
        total_weight = listen()
        total_weight = order_response(total_weight)

        if total_weight != 0:
            talk("Understood")
            print("Please specify the number of goods")
            talk("Please specify the number of goods")
            package = listen()
            package = order_response(package)

            if package != 0:
                talk("Understood")
                print("Please specify the Volume")
                talk("Please specify the Volume")
                volume = listen()
                volume = order_response(volume)
```

```
if volume != 0:
    talk("Understood")
    print("Please specify the pick up address")
    talk("Please specify the pick up address")
    pick_up_address = listen()
    pick_up_address = order_response(pick_up_address)
    order_number = order_id()
    write_to_csv([order_number, pol, pod, commodity, terms, net_weight, total_weight, package, volume, pick_up_address])
    write_to_status_csv([order_number, "Under Review"])
    talk("Your Order ID is " + order_number + " please keep it with you for future references")
    talk("Thank you for using Fahim Ali express, our representative will contact you in the next 24 to 48 hours with the pricing details.")
    talk("Have a great day!")
```

Creation of `option_3()`:

```
def option_3():
    counter_option = 0
    flag = 0
    while counter_option < 3 and flag != 1:
        talk("Please tell us your 5 digit order id")
        order_number = listen()
        df = pd.read_csv("Order_Status.csv")
        # response = input("Enter your 4 digit ID")

        # print(type(order_number))
        # print(df["Order_ID"][0])
        for ind, row in df.iterrows():
            if int(order_number) == row["Order_ID"]:
                talk("Your status of Order ID" + order_number + " is... " + row["Status"])
                flag = 1

        if counter_option == 2:
            talk("Sorry,we were not able to find your order id. Please call again later")
            break

        if flag != 1 and counter_option < 3:
            talk("Sorry, we were not able to find your Order id. Please try again")
            counter_option = counter_option + 1
```

Option 3, the last option from our list of options, confirms the status of the order or the customer would like to follow up on the order. It has exception handling in case the user didn't hear what the person was saying as well as some 3 tries to confirm the order otherwise it will end the call there.

Creation of `main_menu()`

```
# Welcome message
def main_menu():
    global main_menu_counter
    talk("Welcome to Fahim Ali express! This call will be recorded for quality assurance and training purposes. Please select from one of the options")
    talk("If you'd like to know about our services, please say 1")
    talk("If you'd like to place a new order, please say 2")
    talk("If you'd like to follow up on your order,  please say 3")
    response = int(listen())
    if 1 == response:
        option_1()
    elif 2 == response:
        option_2()
    elif 3 == response:
        option_3()
    else:
        while main_menu_counter < 2:
            if main_menu_counter == 2:
                talk("You have reached the maximum number of tries. Please call again later. Have a great day!")
            main_menu_counter = main_menu_counter + 1
            talk("Invalid option chosen. Please listen to the main menu again and choose an option")
            main_menu()
```

Our main menu is the only function we call directly to initiate the program. It starts off with the normal procedure, gives options to the user to choose and from and accepts **an integer** otherwise it will ask the user to repeat. There are a total of 3 options to choose from ranging from 1) Knowing about the company, 2) Placing a new order and lastly 3) Following up on the order. If the user says something other than numbers again, it has about 3 times to rectify what they wanted to say otherwise the call will end.

Future Improvements

We can add a proper real time dataset to observe the pricing for the shipping containers using database software. For example using mySQL, Oracle. This will allow the customers to easily see the shipping container pricings in one place easily. Also, we can train the speech recognition model with more local accents and languages to improve speech understanding and allow it to reply to the customer faster hence reducing the response time. Also, we can use a twilio integration system to be able to directly receive calls from users with a company number. But, we could not implement this Twilio integration system for our voice bot due to time constraints and cost constraints since twilio does not support UAE phone numbers and only supports US numbers making it expensive to test out the voice bot on the phone.

Conclusion

To wrap up, we believe that the AI voicebot that we are adopting will improve Fahim Express's productivity by reducing the amount of manpower required to contact customers to confirm customer details as well as shipping details for goods to be transported from one location to another. So, only the AI voicebot will handle this part of the company's operation. This will substantially assist the organization in making better use of its resources by directing them to other operations of Fahim Express and stay updated with the latest technological advancements and enhance the reputation of the company. Thus, increasing the amount of customers coming to Fahim Express to avail their shipping services.

Team Contribution Worksheet

Student ID	Student Name	Contribution to the Team
7066600	Afraaz Ali	● The compilation of this Report ● Introduction & Overview ● Interviewing owner of Fahim Express ● Profile, Review, Organizational Background, Business Procedure.
6222560	Mohamed Maarij Uddin Khan	● The compilation of this Report ● Helping with coding AI Voicebot ● Conclusion ● Future improvements ● Interviewing owner of Fahim Express
6608206	Rohan Sujith Francis	● Implementation of IBM Watson Studios ● Improvement of Main menu function ● Interviewing owner of Fahim Express ● Debugging and program testing
7058238	Ibrahim Azam	● Main Construct ● Debugging and program testing

		• Interviewing owner of Fahim Express
7001915	Muhammad Ibrahim Jafar	• Executive Summary • Main construct • Interviewing owner of Fahim Express
6882213	Hassan Abdullah Ghauri	• Implementation of IBM Watson Studios • Debugging and program testing • Interviewing owner of Fahim Express
6394140	Mohammed Furqanuddin Siddiqui	• Creation of extracting information and storing locally. • Interviewing owner of Fahim Express • Debugging and program testing


main.py


Order_Status.csv


Order_Details.csv