# Project: MovieBot

Artificial Intelligence
Foundational

Submitted by: Prachi Mahajan

## CONTENTS

1. Introduction
   1.1. Overview
   1.2. Purpose
2. Literature Survey
   2.1. Existing problem
   2.2. Proposed solution
3. Theoretical Analysis
   3.1. Block Diagram
   3.2. Hardware / Software Designing
4. Experimental Investigations
5. Flowchart
6. Result
7. Advantages and Disadvantages
8. Applications
9. Conclusion
10. Future Scope
11. Bibliography

Appendix

Source Code

## 1. Introduction

### 1.1. Overview

A chatbot is an artificial intelligence (AI) software that can simulate a conversation (or a chat) with a user in natural language through messaging applications, websites, mobile apps or through the telephone. This project involves creating a movie bot built for the users. This movie bot will work for a particular movie theatre.

### 1.2. Purpose

The purpose of this movie bot is to allow the users to check the movies currently shown at the theatre, check the timings of the movies and then book the seats for the movie show for a particular date.

## 2. Literature Survey

### 2.1. Existing problem

Currently, at any movie theatre, a person at the counter addresses all the standard queries or questions posed by the customer/user and then books the tickets. Many a times, long queues are formed for booking. In order to book a show in advance, customers have to physically go to the theatre. One solution is to book online via the website of the theatre or other popular

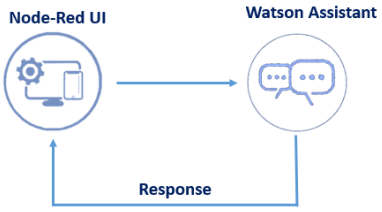
websites like bookmyshow.com. But all these websites, lack the feature of allowing any customer to ask a query and then provide the solution.

### 2.2. Proposed solution

The solution proposed here is the movie bot that mimics an actual person at the counter. The bot mimics an actual interaction and answers all the standard queries of the customer. It gives the customer/user almost the same satisfaction as talking to an actual person. The bot will perform the same tasks as that of the person selling tickets behind the counter.

## 3. Theoretical Analysis

### 3.1. Block Diagram




### 3.2. Hardware / Software Designing

Hardware Designing: There is no hardware involved in the building of the movie bot.

Software Designing: Includes building the bot and creating its UI using nodered.

Building the Chatbot: The movie bot has been created using IBM Watson Assistant. The steps followed in Watson Assistant are as mentioned below:

- Account was created on IBM cloud.
- After logging in to the account, the Watson Assistant service was created.
- The Movie Bot assistant was created.
- The skill Movie Bot was created within the Movie Bot Assistant
- Within this skill, Intents, Entities and Dialogs were created.
- 4 Intents created - namely Greetings (where user greets and the bot provides the currently shown movies), seats (where user specifies the number of tickets he wants to book and the bot asks for the timings and date of the show), otp (where user shares otp for ticket confirmation), timings (for show timings)
- 2 Entities created – namely location (to specify the area in which the movie shows are to be displayed), movie (to specify the movies currently shown)
    - The location entity has two locations namely Mumbai and Thane
    - The movie entity has three movies namely Shakuntala Devi, Dil Bechara, Thappad
- 2 system entities used – namely sys-number to store the number of tickets to be booked and sys-date to store the show date
- 12 nodes created – each node leads to the other through interactive questions
    - Welcome node - to welcome the user
    - Greeting node – to greet the user with hi or such and show him the list of currently shown movies

- 3 nodes movie1, movie2, movie3 - to show details of each of the movies like movie poster. One of these three nodes will be executed based on the movie selected by the user
- Location node – asks for the location of the movie show.
- Seats node – asks for the number of tickets/seats to be booked
- Moviedate – asks for the date of the show
- Movietime – asks for the time of the show
- Sendotp – to send the otp to the mobile number of the user
- Otp – to allow the user to enter otp and confirm the tickets
- Anything else – any input other than these standard inputs will invoke this node

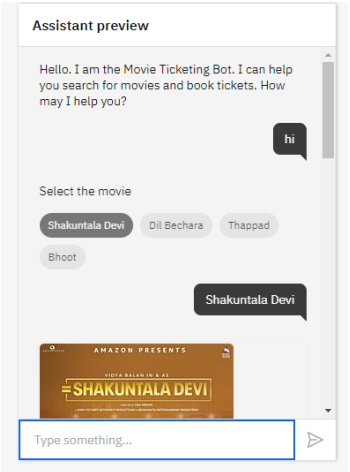
Creating the UI using Nodered

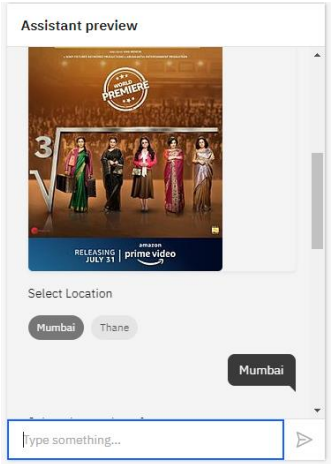
The API key, the URL, the Workspace ID were taken from the Watson Assistant and the flow created. The node-red-dashboard was installed. After creating the flow, it was deployed and checked.

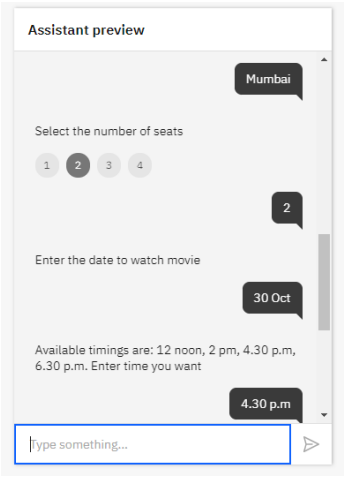
4. Experimental Investigations
   At every step, the Try it option in Watson assistant was used to check if the bot was responding as per expectations

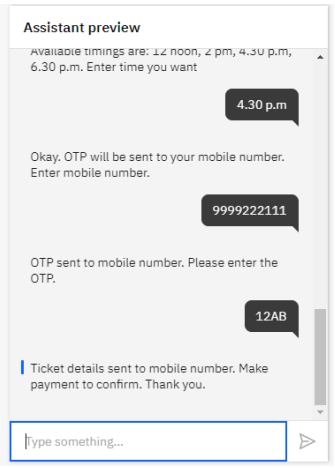
5. Flowchart
   Create IBM account -> Create Watson Assistant Service -> Launch Watson Assistant -> Create Assistant -> Create Skill -> Create Intents -> Create Entities -> Create Dialog -> Try it -> Export json file

6. Result
   IBM Watson Assistant Movie Bot Preview Link
   https://web-chat.global.assistant.watson.cloud.ibm.com/preview.html?region=eu-gb&integrationID=ab56376f-dc31-49bd-8796-2bdda28e52fe&serviceInstanceID=7fc86752-38ff-48a0-9465-fd4defc1fce9



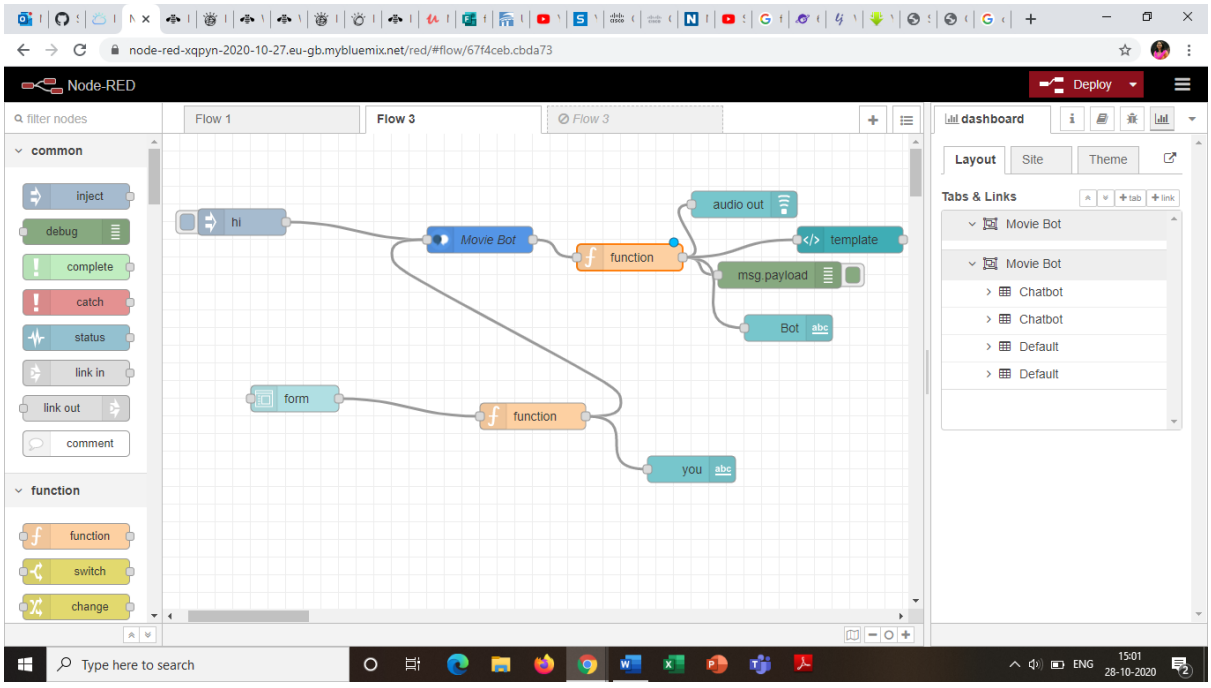



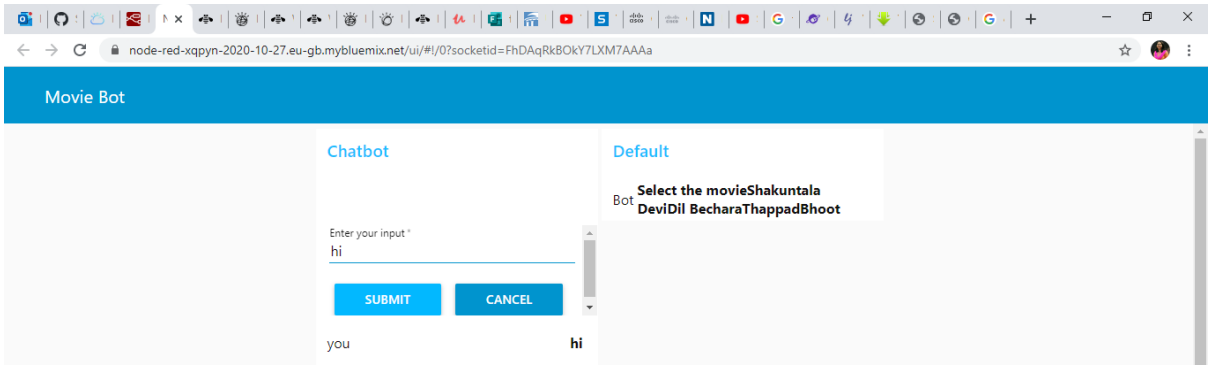


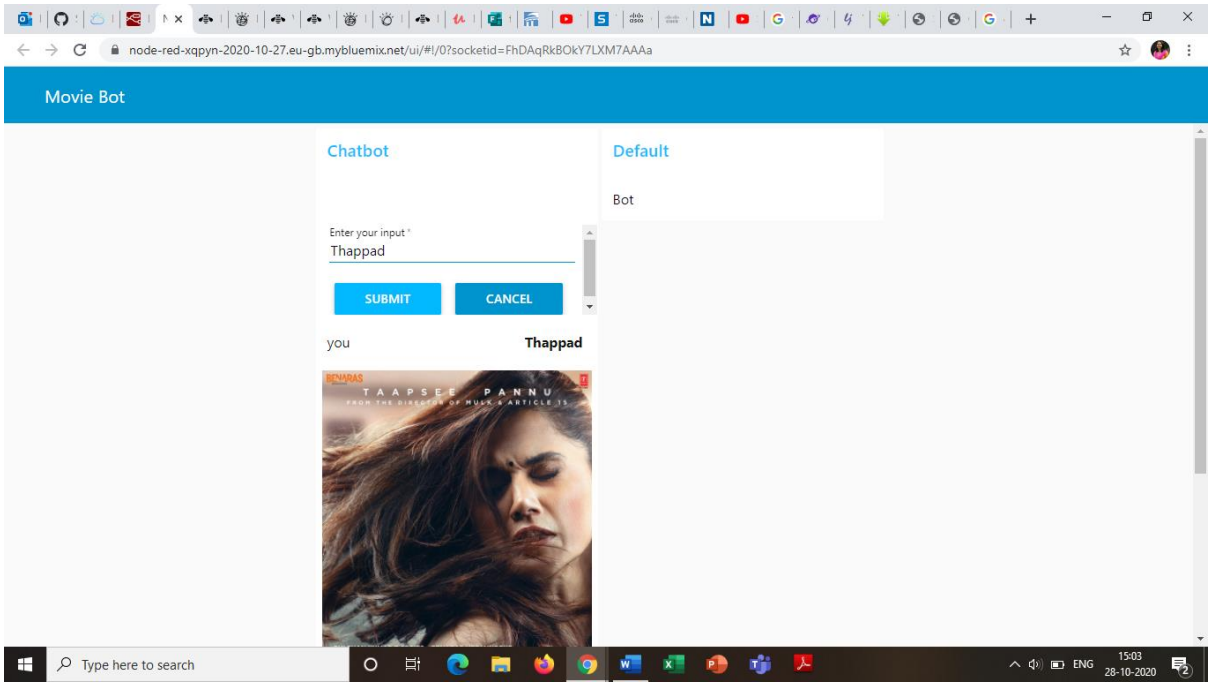




Nodered URL

https://node-red-xqpyn-2020-10-27.eu-gb.mybluemix.net/ui/#!/0?socketid=rtvInQkw9_hgha8QAAAX






7. Advantages and Disadvantages

   Advantages:

   - Gives the customer an experience similar to an actual interaction with a real person.
   - Saves time by eliminating the need to actually go to a theatre to check the available movies

   Disadvantages:

   - The bot not being a human, can respond only to standard queries

8. Applications

   Can be used in any movie theatre

9. Conclusion

   The movie bot created can be deployed for showing available movies/movies currently shown, book tickets for a particular show at a select date and time

10. Future Scope

    The integration with database is necessary to pick up all details of movies. More types of responses can be included.

11. Bibliography

https://en.wikipedia.org/wiki/Chatbot
https://expertsystem.com/chatbot/
https://www.youtube.com/watch?v=4G2qMhhAg0c&feature=youtu.be
https://www.youtube.com/watch?v=tUBJZfnxeTw&feature=youtu.be
https://www.youtube.com/watch?v=mWZLuHpcZRY&feature=youtu.be

Appendix

Source Code

Nodered Code

[{"id":"72be5040.557b7","type":"function","z":"67f4ceb.cbda73","name":"","func":"if(msg.payload.output.generic[0].response_type==\"image\"){\n    msg.url = msg.payload.output.generic[0].source\n    msg.payload = msg.payload.output.generic[0].title\n}\n//else{\n// msg.url=\"https://t3.ftcdn.net/jpg/02/20/14/38/240_F_220143804_fc4xRygvJ8bn8JPQumtHJieDN4ORNyjs.jpg\"\n//    msg.payload = msg.payload.output.text[0];\n//}\nelse if(msg.payload.output.generic[0].response_type==\"option\")\n{\n    var str=\"\";\n str=msg.payload.output.generic[0].title;\n    for(var i=0;i<msg.payload.output.generic[0].options.length;i++)\n    {\n str=str+msg.payload.output.generic[0].options[i].label    \n    }\n    msg.payload=str;\n}\nreturn msg;","outputs":1,"noerr":0,"initialize":"","finalize":"","x":610,"y":140,"wires":[["3b5c4693.dd002a","410092bc.35f02c","9b2015e0.575ec8","62187b71.0f09c4"]]}]