

MINI PROJECT – I
(2019-2020)

**AI CHATBOT FOR COLLEGE
COUNSELLING (WATSON API)**

MID TERM REPORT



Institute of Engineering & Technology

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About the Project:

This project aims at developing a chatbot that can help students in choosing the right stream and course for their under graduation. The project is being developed for the school passed out students who face a lot of problems while deciding which course and branch they should opt-in college/university.

The chatbot will work as an android app with a proper user interface. IBM's Watson is a powerful AI API that can be used to develop such bots. The chatbot uses IBM's Watson API as its backbone, which will provide the AI strength to the bot. A user can give his/her area of interest or future goals along with educational choices and the bot will provide the possible courses along with the college which he can opt for. It will also help the user with the scope and demand of the suggested course.

The user can provide his choices and options in the form of text or voice, which will then be converted into text by the backend of the app. This text query will be sent to Watson for further processing. Watson will analyze the user's query and will return the proper output using AI. This result will be displayed to the user in the form of voice and text depending on the mode user prefers. In this way, the chatbot will work as a counsellor for the students and will be beneficial to them.

Motivation:

Once after passing out school most of the students are confused in choosing the right stream and course for themselves. This choice is based on various factors such as area of interests, marks, and future choices. For example most of the students are confused whether to go with CSE or ECE branch of engineering. Many of the school passed out students do not have a proper idea about possible streams and available courses in them. There are several firms which claim to provide a proper guidance to such students. A chatbot that can recommend possible streams, courses, colleges and other information to a student can be of great help to him in his choice making.

Future Prospects:

The chatbot can be integrated with a website of similar goals and therefore can help students in a much more enhanced way.

Requirements:

a) Hardware:

- **Laptop(minimum i3 processor or equivalent/4gb of ram)**
- **Android powered smartphone**

b) Software:

- **Android Studio**
- **Gradle**
- **Java**
- **Watson API**
- **Git for Version Control System and Github.**

Different Modules

1. Android App Development
 - a. Interface Design
 - b. Main Activity
 - c. ChatAdapter
 - d. Message
 - e. RecyclerViewTouchListener
 - f. SplashActivity
 - g. API Linking
2. Model Training
 - a. Watson Assistant Creation
 - b. Training
 - i. Intents
 - ii. Entities
 - iii. Dialogs

Modules Completed

Model Training:

- a. Watson Assistant has been created and can be currently used over IBM cloud. Login to cloud.ibm.com with the login id and password then head to Resources, launch the “Education Query Chatbot” in the services.
Link of the Web API: <https://assistant-chat-eu-gb.watsonplatform.net/web/public/de957e08-8426-4e9e-954f-f30ddae47eba>
- b. Training
 - a. Intents: Intents for #greeting, #goodbye, #interests, #thank_you has been designed and the API is trained for it.
 - b. Entities: Entities on the basis of @college, @location, @person_name has been made.
 - c. Dialogs: Welcome Dialog and ChitChat along with #Greetings have been trained

The basics of the API has been trained, some of the csv files are still pending to be uploaded as they need a specific format for the IBM API. As soon as the csv files are formatted in the required format more of the entities like names of person, location all over India and Colleges and Universities of India will be completed.

Android portion is still pending, we are using IBM’s open source android code predesigned for the WATSON API, so all that needed is to put the code and test it in Android Studio.

Screenshots of the web API:

#intents

IBM Watson Assistant

Flower Shape Chain

Intents

Create intent

Intents (7) ▲	Description	Modified ▲	Examples ▼
<input type="checkbox"/> #good_best_list	user ask for best college	a day ago	3
<input type="checkbox"/> #goodbyes		a day ago	9
<input type="checkbox"/> #greetings		2 days ago	5
<input type="checkbox"/> #interest	user provide its interest	21 hours ago	6
<input type="checkbox"/> #location_info		a day ago	7
<input type="checkbox"/> #searchcollege	college description	2 days ago	1
<input type="checkbox"/> #thank_you		17 days ago	5

Showing 1-7 of 7 intents

1 of 1 pages

#entities

IBM Watson Assistant

Flower Shape Chain

Entities

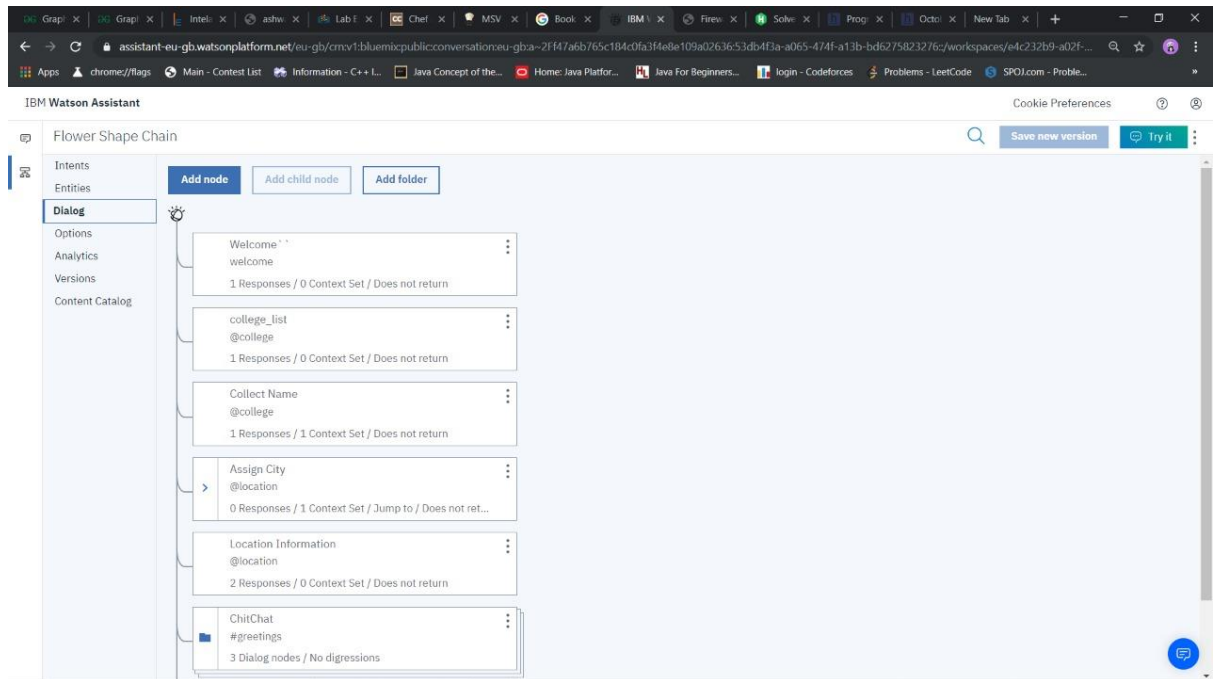
Create entity

Entity (3) ▲	Values	Modified ▲
<input type="checkbox"/> @college	bhu, iit, maulana National Institute of Technology, gla	a day ago
<input type="checkbox"/> @location	Varanasi, BHOPAL, Indore, Allahabad	a day ago
<input type="checkbox"/> @person_name	Ashu, ashwani, vivek, ashutosh, puneet	7 days ago

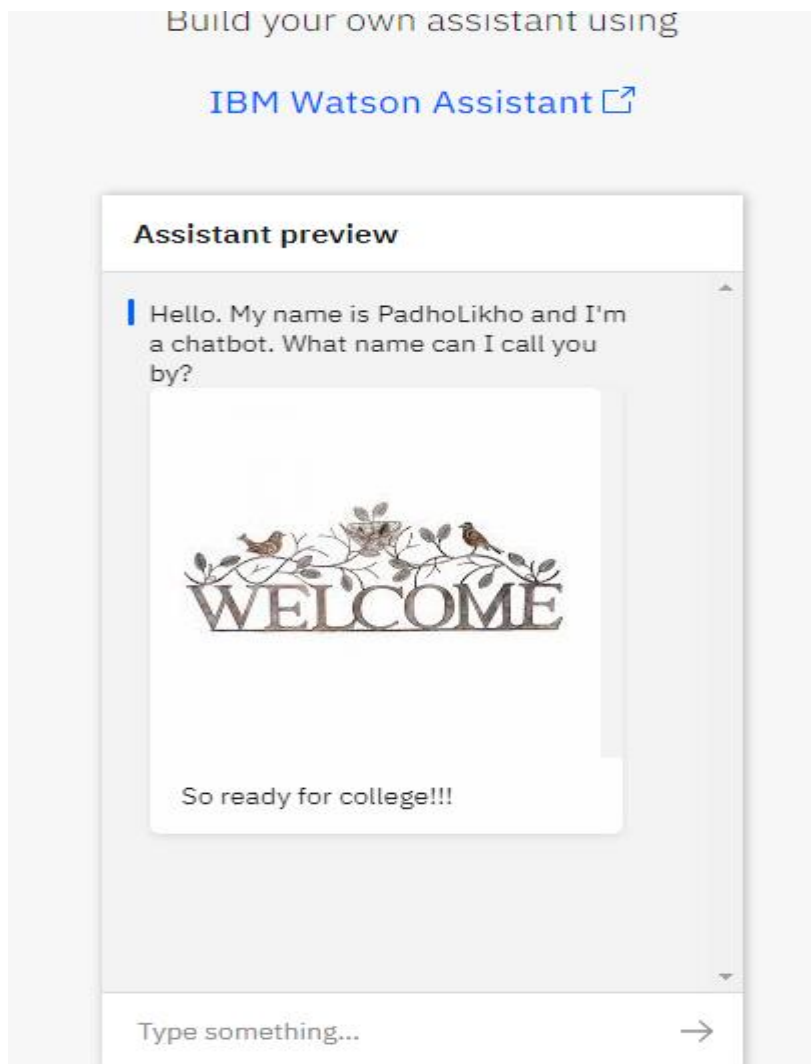
Showing 1-3 of 3 entities

1 of 1 pages

#dialog



#CHATBOT



Build your own assistant using

[IBM Watson Assistant](#)

Assistant preview



So ready for college!!!

Hello!

Hi there!

Hey

Hey, looks like someone is enthusiastic,
be like that!

Type something...



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Hi there!

Hey

Hey, looks like someone is enthusiastic,
be like that!

Hi!

Holla!

Good morning

Bonjour!!!!

Good evening

Hey!!

Type something...



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Assistant preview

So ready for college!!!

Hi

Hi there!

Allahabad

Try finding college here!

MNIT

nice choice

Type something...



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Assistant preview

Hi there!

Allahabad

Try finding college here!

MNIT

nice choice

Varanasi

Try finding college here!

IIT BHU

nice choice

Type something...



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Assistant preview

| Bye Bye

Thnks

| Bye Bye

thanks

| Life is beautiful, enjoy it!

thnks

| Bye Bye

bye

| Thanks, Nice talking to you!

Type something...

