National University
Science & Technology
College of Engineering

الــجامـعـة الوطنيـة
العلــوم والتكنــولوجيا

Technical Project Proposal
BEng_MHH124715-Research Methodology
Level 4 –BENGCO/BENGEIE/BENGEPE/BENGTE
Semester B, 2018-19.

1. Personal Information

Name	Maha Mahmoud Ali Mahmoud
Student ID	150792
Programme	BEngCoE
Mode of study	FT (Full Time)
Broad Technical Area of Interest	Artificial Intelligence & Machine Learning

2. Project title:

Artificial Intelligence based Chatbot Application for Student Queries in Colleges

3. Research problem:

Students in colleges have to access the college portal and CCE learn frequently to get up to date information regarding attendance, exam timetables, college activities, requesting a letter or view its status. In addition, students sometimes have to visit the college personally to get responses on their queries such as Staff timetables, hostel management, internships, and availability of books in the college library etc...

By developing this application, students will be able to be get the information of all mentioned services from one place, which is the Chatbot Application. Hence, it will save time for the student as well as teaching and non-teaching staffs.

4. Aim: (the main goal, solution to the problem)

To build an Artificial Intelligence based Chat bot Application that allow students to interact with a bot and have an ongoing conversation for responding to queries.

5. Objectives (steps to be conducted to achieve the aim):

- To investigate and study various types of chat bot applications.
- To study the Chatbot Application technologies critically.
- To analyze and compare various frameworks used to develop the chat bot Application.
- To gain knowledge on Machine Learning and Artificial Intelligence.
- To design the concept and structure of the Chat bot Application.
- To develop the Chat bot application using Python Language.
- To test and implement the Chat Bot Application.

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6. Description of the Technical Project idea, research problem, proposed solution and methodology (limited to 100 words)

Nowadays, students is facing problems in searching for the necessary information about their study in more than web pages. They have to access the college portal and CCE learn frequently to get up to date information regarding attendance, exam timetables, college activities, requesting a letter or view its status. In addition, students sometimes have to visit the college personally to get responses on their queries such as Staff timetables, hostel management, internships, and availability of books in college library etc...

For these reasons, The Chatbot Application for Student Queries will be developed in order to fulfill student needs. In this application, students will be able to be get the information of all mentioned services from one place, which is the Chatbot Application. Hence, it will save time for the student as well as teaching and non-teaching staffs.

Dialogflow (API.ai) framework, which is powered by Google's machine learning, will be used to develop the "Artificial Intelligence based Chatbot Application for Student Queries in Colleges". Dialogflow is user-friendly and supports several languages such as PHP, Python, Go, C#, Ruby and Java. In this project, the Python language will be used to develop the Application, which is a high level, object-oriented and interactive language, and not to mention, it is easy to use.

7. Innovation(What is new in the selected topic)

There are various Chatbot applications used by students. Nevertheless, this Chatbot Application is different because of its various services that are all provided in one place. This Chatbot will be designed in a conversation form, in order to enable users to check previous responses in the chat if needed. The conversation should flow and always keep the user in control of it. Moreover, this application will be available to chat 24/7, so that students can access the application anytime to get any information regarding college activities, attendance, exam timetables and many different services. Furthermore, the chat bot application will allow students to interact with the bot using either voice or audio.

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9. Project Analysis

a)	Availability of tools and resources to carry out the project (in college and workplace).	• College PC Labs. • College Library. • Online ProQuest Journals. • Research Gate Journals. • UK Essays.
b)	Constraints	A lot of research and potential troubleshooting is involved, to make the app proficient and practical.
c)	Risk Analysis	• Exhaustion from working on computer for a long time.
d)	Data collection and testing	Research journals on the internet.
e)	Environmental and Societal Implications	Availability of information needed to be collected.

Student's signature with name and date .Maha.......Mathes.........10/3/2019.......

Supervisor's signature with name and date: .....Ramakrishna......(....Ramakrishna....)
10/3/19.

Comments of Project Approval Committee (PAC) Chair: .....Approved with condition

PAC Chair's signature with name and date: .... Gani Basher Ahand
24/3/19

COLLEGE OF ENGINEERING

PROJECT RISK ASSESSMENT FORM

Risk assessment in Student Project work and during a practical session is a compulsory requirement. It involves a careful examination of possible events that may adversely affect the intended outcome of the project or may cause harm to people or damages to properties. Appropriate precautions should be taken well in advance to minimise the likelihood of such adverse events and to ensure the satisfactory achievement of the expected result from the project/ practical work. Students doing project/practical work must fill this form after discussion with their supervisors.

Student ID and Name	Maha Mahmoud Ali Mahmoud (150792)	Department	E&CoE
Title of the Project:	Artificial Intellegence based Chat Bot Application for student Queries in colleges.	Location of Project Work:	College Labs
Brief Description of the Project	This application will provide the complete information about the college in place. It is 24X7 available.		
Have you participated in the HSE workshop on risk assessment? Yes/No			Yes

RISK ASSESSMENT

Activity/Hazards	Possibility (Yes/No)	Risk involved	Control measures taken / that will be taken to eliminate or minimize risk
Shortage of Physical Resources (Material/ Equipment)	No		
Lack of Human Resources(Supervisory & Support Staff)	No		
Chemical hazards, Hazardous material to be Used etc.	No		
Equipment/instrument hazards: (Mechanical/Electrical/ Fire hazard etc.)	No		
Health Hazards	No		
Environmental risk	No		
Any Other Risks	Nil		

Signature of Student: _Maha_

Date: 7 / 3 / 2019

Signature of Project Supervisor/ Project Coordinator

Date: 7/3/19

Signature of HSE:

Date: 10/3/19.

Note: Location of HSE Office: M007A, Ext: 379. Project risk assessment approval time: From 2.30 to 5.00PM.

Technical Project Approval Committee Recommendation

Name: Maha Mahmoud Ali Mahmoud **Student ID:** 150792

Title of Project: Artificial Intelligence based Chatbox Application for Student Queries in Colleges.

1. Check list:

Sl. No	Topic related particulars	Yes	No
1.	Is Topic Identification Form completed with the required information, signatures of student and supervisor?	✓	
2.	Is Risk Assessment Form duly signed by all concerned	✓	
3.	Are the aim and objectives achievable within the time frame of two semesters?	✓	
4.	Is the title relevant to the aim?	✓	
5.	Is the topic relevant to the specialisation of student?	✓	
6.	Is the topic challenging enough for a Level 4 student?	✓	
7.	Is the topic too ambitious?		✓
8.	Does the project idea constitute innovation?	✓	
9.	Is the methodology clearly stated?	✓	
10	Is the nature of topic interdisciplinary?		✓

2. Type of project work (Please tick appropriate):

☑ Experimental Investigation/Prototyping/Hardware   Software

☐ Simulation based work

3. Committee decision:

☐ Approved

☑ Approved with condition

☐ Need revision

If approved with condition/revision, please state reason/suggestion:

Title States Chat box App for college students whereas research problem, project idea focuses on COE. So better to reflect the users in the title. objectives 4/7 are reflecting the knoledge that will be gained for carrying out the project. It can be reduced & steps major steps of the project can be included as objectives.

Name and signature of the Project Approval Committee member:

Date:
Cleetha Achuthan

project description to be rephrased.
In project analysis (9), check d, e.