Project Id: 22203

Project Title: Chat Bot for Java Language Query

Name of the student (1): Ashish Sahu	Roll no: 201810428
Name of the student (2): Subham Mahapatro	Roll no: 201810440

Name of the advisor: Prof. Prashant Kumar Mohanty

Short description of the project:

Javamate

It is a chat Bot using python and Natural Language Processing (NLP) techniques which help learners by answering with common queries with respect to Java Programming Language.

This Chat bot will handle queries related to Basics of Java, Datatypes, Syntax, Different errors, different exceptions, best practices and other important topics (If else, Loops, Functions, arrays, 2D arrays, classes and objects, collections in Java, frequent errors, exception handling and more).

Aim/Objective of the project:

In the recent situation we have seen digital learning is one of the fastest growing trends and pandemic made it even more faster. Digital learning have many quirks like learning anywhere, learning from anyone and many more. But one things that lacks is the interaction between the teacher and student.

To solve the problem or to make digital learning more natural, Javamate provides a chatbot interface. A java learning student can easily ask any query on java and javamate can answer it with most suitable response.

Methodology (the necessary software/tool or process s)

Tools and languges

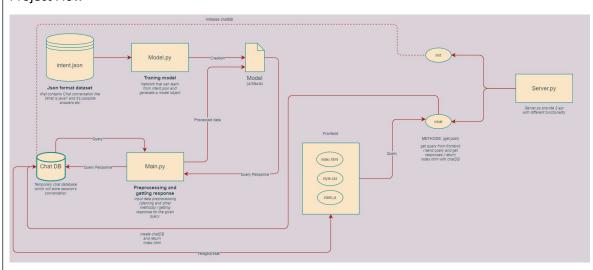
Frontend: HTML, CSS, Javascript

• Backend: Flask (Python)

Dataset: Custon JSON dataset

• Model: tflearn based Neural network architecture

Project Flow



- User enter query into the frontend
- Frontend sends the query to backend which will further passed to NN model
- NN model will predict a tag according to which proper response is selected
- Backend receives the response and send back to frontend where User can see the same

Possible outcome of the project:

- Javamate will benefit learners to understand Java Language in a more natural manner.
- Any doubt and guery can be resolved anytime from anywhere.
- Chatbots enhances the learning experiences
- It can be deployed on multiple platforms like android, ios etc.
- It can also be implemeted with learning bots for discord, telegram etc

Importance of the project in engineering aspect:

- The use of chatbots in educational mobile apps help students in getting instant replies and help for their queries.
- Growing digital learning trends, ensure chatbot as an important mode of learning for students.
- Chatbots help learner to learn in a more interactive and natural way.
- Chatbot introduces students to a field of AI/ML application.
- It also provide an organised and easily maintained services to the users.

Innovativeness if any (why the project is different from others):

- It focuses more on user interaction and helps user to learn java laanguages easily and conveniently.
- Being a Web App it can be used in any platform or can be accessed from anywhere.
- It can easily learn any programming languages by only changing datasets (intents).
- It is very practical project as in current situation digital learning is growing at an exponential rate thus chatbots are an interactive digital learning mode.

Reference:

- http://tflearn.org/getting_started/
- https://flask.palletsprojects.com/en/2.0.x/
- https://github.com/nltk/nltk/wiki
- https://developer.mozilla.org/en-US/docs/Web/HTML