Voice Based Search For Education Data Using Natural Language Processing (NPL)

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ABSTRACT

The utilization of tongue brings ease for any person. This technique helps the coed to simply retrieve data from database using simple West Germanic. The user need not learn complex command language like SQL. We are able to add more synonyms for column names , and table names, so that, system can handle more queries. The system also stores the successfully executed queries supported voice generation mean (NLP to SQL). This method provides some recommendations, so that, it is helpful for user. We are translating an English query into an SQL query using semantic grammar. The user's query within the language as input is accepted by the system. The program will check whether the query is valid or not? Then we will generate tokens by performing the division of the question clause.

Index Terms: NLP, Machine learning, Semantics, Programming, Databases, linguistic communication, etc.

ARTICLE INFO

I. INTRODUCTION

While the language could also be the best system for people to be told and use, it's proved to be the toughest for a computer to grasp. Communication between persons and computers without resorting to the memorization of complex commands and procedures is enabled by the NLP. In other words, NLP could also be a way, which can make the PC understand the languages naturally employed by the humans. during this project, we are translating an English query into an SQL query using semantic grammar. The user's query within the linguistic communication as input is accepted by the system. The program will check whether the query is valid or not ? Then we'll generate tokens by performing the division of the question clause. within the user's query, each token represents one word. The tokens from the query clause are compared with clauses already stored within the dictionary. The dictionary has to be constantly updated. Then the algorithm scans the tokens , and tries to hunt out attributes present within the query. Then we discover all the tables within the database which contain the attributes by comparing syntax and semantics. Then we build the final word SQL query,

execute it on the database, and return the result dataset to the user. While the language is also the best system for people to find out and use, it's proved to be the toughest for a computer to grasp. The goal of NLP will enable communication between people and computers without resorting to the memorization of complex commands and procedures. In other words, NLP is also a way, which can make the pc understand the languages naturally employed by the humans. during this project, we are translating an English query into a SQL query using semantic grammar. The system will accept the user's query in tongue as an input. The program will check whether the query is valid or not ? Then we'll generate tokens by performing the division of the question clause. Each token represents one word within the user's query.

II. LITERATURE REVIEW

1] I.Androutsopoulos, G.D. Richie, P. Thanisch, "Natural Language Interfaces to Databases-An Introduction" , publish online by university Press, 12 Sep 2008.
This paper places an interest in some emerging capabilities for incremental speech understanding and

processing in virtual human dialogue systems. This work is a component of an in-progressing effort that aims to enable practical spoken dialogue with virtual humans in multiparty arbitration scenarios .These scenarios are designed to permit trainees to practice their intervention skills by engaging in face-to-face spoken negotiation with one or more virtual humans. a very important consider achieving naturalistic behavior in these arbitration scenarios, which ideally should have the virtual humans representing fluid turn-taking, composite reasoning, and responding to factor like trust and emotions, is for the virtual humans to start to know.

2] I. Bessmertny, "On constructing intellectual systems in ternary logic" , in Programming and Computer Software, 2014.
The paper shows that it's possible to develop an intelligent system on a production knowledge model using three-valued logic, which operates with the states , "truth, false, possible . " a way is proposed for constructing intelligent systems that are free from contradictions and are capable of not only extracting facts but also explaining what facts are needed to realize the goal. samples of ternary Prolog rules are given.

3] Levin E., Pieraccini R., Eckert W. , "Learning dialogue strategies within the Markov decision process framework" , IEEE Workshop On Speech Recognition and Understanding, 1997.
We introduce a stochastic model for dialogue system supported the Markov decision process. Within this framework we show that the matter of dialogue strategy design will be stated as an optimization problem , and solved by a range of methods , including the reinforcement learning approaches. the benefits of this new paradigm include objective evaluation of dialogue systems and their automatic design and adaptation. We show some preliminary results on learning a dialogue strategy for an travel system.

4] Muhammad Khalid Mehmood , Anum Iftikhar , Erum Iftikhar, "Domain-specific Query Generation from tongue Text" , within the IEEE 6th International Conference on Innovative Computing Technology(INTECH), 2016.
This paper presents an approach to automate the generation of Structure search language Text. Software requirements specifications are most significant a part of tongue Processing, as little mistake during this phase leads to absurd software design. Software Specifications are utilized in software industry. after we automatically translate these language Text into Structured Query Text we discover many issues because Software Specification isn't an independent sentence they need many modules associated with one another. So once we translate these English texts we've

got found many issues like discourse , semantic and negation problems. The evaluation method for tongue texts is to check against a listing of sentences , each of which is paired with yes or no. What language Texts are and what issues are found after we automatically translate these Texts into SQL. We used the Stanford dependency parser for text translation.

5] Raghavendra Vijay B. Vangara, Shiva P. Vangara, V R Kailashnath Thirupathur , "A Survey On linguistic communication Processing in Context With Machine Learning" , The International journal of analytical and experimental model analysis,2020.
Natural Language Processing study has reached a degree where distinct machine learning algorithms were implemented so as to get better leads to the classification of text . This paper presents much previous research works during this field of interest. It discusses the various techniques used for text classification hitherto and summarizes the benefits and downsides of the various techniques. it's observed that everyone the algorithms work well but some techniques outperform others. Most of the algorithms are often improved by careful selection of the features which plays an important role within the learning of an algorithm.

III. RESULT AND DISCUSSION

The existing system of proposed system is critical to process for retrieving the data from database. When user retrieve the data from database then user must know the syntax, query and sequence if any one of these wrong then data not retrieve from database error throws.
The comparison of existing system and proposed system is to the proposed system is user friendly and easy to retrieve the data from database. The proposed system gives the facility of the NLP with voice input for getting data.

Comparison Table:

Parameter	Existing System	Proposed System
Accuracy	Low	High
Voice Command	No	Yes
NLP Process	No	Yes
User Friendly	No	Yes
Syntax	Want Exactly (proper)	Not like that

IV. CONCLUSION

The utilization of linguistic communication brings ease for any soul. This technique helps the user to

simply retrieve data from the database employing a simple West Germanic language. The user needn't learn complex search language like SQL. we will add more synonyms for column names and table names so system can handle more queries. The system also stores the successfully executed queries supported voice generation. This method provides some recommendations in order that it's helpful for a user.

Conference on Innovative Computing Technology(INTECH), 2016.

V. REFERENCES

1.   Http://en.wikipedia.org/wiki/ language Processing

2. I.Androutsopoulos, G.D. Richie, P. Thanisch "Natural Language Interfaces to Databases-An Introduction Journal of Natural Language'' Engineering, university Press.   1(1),1995,pp   29-81

3. tongue Processing Techniques Applied in Information Retrieval- Analysis and Implementation in Python , Tulika Narang, International Journal of Innovations & Advancement in computing IJIACS ISSN 2347-8676 Volume 5, Issue 4 April 2016

4.http://www.doc.ic.ac.uk/nd/surprise_97/journal/voll/ hks/int ro.html

5. A. C. Murray and D. M. Jones and C. R. Frankish, "Dialogue design in speech-medicated data entry: the role of syntactic constraints and feedback," International Journal of Human-Computer Studies, vol. 45,   pp.263-286,   September   1996.

6. I. Bessmertnyi ,"On constructing intellectual systems in ternary logic " , Programming and Computer   Software,vol.40,no.1,pp.43-46,2014

7. Levin E., Pieraccini R., Eckert W. "Learning dialogue strategies within the Markov decision process framework " , Automatic Speech Recognition and Understanding IEEE Proceedings, pp.72- 79,1997

8. M. Bates, "Models of language Understanding" , in auditory communication between Humans and Machines, D. B. Roe and J. G. Wilpon , Eds. National Academy of Science, pp.238- 253,1994

9. Raghavendra Vijay B. Vangara, Shiva P. Vangara, V R Kailashnath Thirupathur , "A Survey On tongue Processing in Context With Machine Learning" , The International journal of analytical and experimental model analysis,2020.

10. Muhammad Khalid Mehmood , Anum Iftikhar , Erum Iftikhar, "Domain specific Query Generation from tongue Text" within the IEEE 6th International