Multilingual Search Engine in Commercial websites

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Abstract:
In this modern internet world has developed with many cloud the cloud with more advanced services. The internet world is used by well-educated persons and people aware of internet. The main object of this project is to make the illiterate make use of resources available in the internet and make them to involve in online shopping site by providing the speech to text service for performing search operations and further more operations and item identification is also there for the so far the Google, Bing…and many other search engines are powered with speech based searches. But in case for Commercial websites textual based searching medium is only supported for searching products. In this project the online websites are made search through voice based search operations and Multilingual based search using virtual keyboard for the Indian languages. For the language identification performed through the encoding processing and then the search is made in the selected language. Thus the users can search the product through the voice based input. Thus in country like India with more diversity there will be more number of language used among various regions then among the various languages there will be different dialect.

So for different dialect machine learning is implemented for keyword identification in different dialects through displaying the pictures of random products pictures in the database. Thus the main objective is to bring the illiterates to the internet world for the initiation the multilingual and the speech recognition support is to be given in commercial website with NLP support and Machine learning to fetching the appropriate product from the queries given in multiple languages and displaying the product.

Introduction:
Online shopping is the process whereby consumers directly buy goods, services etc. from a seller interactively in real-time without an intermediary service over the internet. Online shopping is the process of buying goods and services from merchants who sell on the Internet. Since the emergence of the World Wide Web, merchants have sought to sell their products to people in online. Customers can visit web site from the comfort of their homes and shop as they sit in front of the computer. Consumers buy a variety of products from online stores. In fact, people can purchase just about anything from companies that provide their products online.

The given input in any language is used. To quickly get an overview of the contents of such datasets, tools for exploratory analysis are essential. We propose a method for extracting from a set of texts the relevant words that distinguish these documents from others in the dataset. We can then summarize the texts belonging to each product by visualizing the extracted relevant word thereby enabling one to grasp the contents of the documents at a glance. This paper shows how to identify topics in the dataset and then selecting and visualizing relevant words, which distinguish a group of documents from the rest of the texts, to summarize the contents of the documents belonging to each topic. The main idea is about to bring the illiterates to the modern computer world through machine learning algorithms and various supports provided. The term search...
engine is general would search for metadata and use page rank algorithm for searching through the search engine.

For Key word extraction NLP (Natural Language Processing) is used. Natural language processing is a branch of computer science and artificial intelligence which is concerned with interaction between computers and human languages. Natural language processing is the study of mathematical and computational modeling of various aspects of language and the development of a wide range of systems. These includes the spoken language systems that integrate speech and natural language. Natural language processing has a role in computer science because many aspects of the field deal with linguistic features of computation. Natural language processing is an area of research and application that explores how computers can be used to understand and manipulates natural language text or speech to do useful things. The applications of Natural language processing includes fields of study, such as machine translation, natural language text processing and summarization, user interfaces, multilingual and cross language information retrieval (CLIR), speech recognition, artificial intelligence(AI) and expert systems.

Literature Survey:
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<td>2.</td>
<td>Ilya Segalovich</td>
<td>A fast morphological algorithm with unknown word guessing induced by a dictionary for a web search engine.</td>
<td>Morphology analysis for unknown keyword using dictionary based analysis.</td>
<td>In multiple-languages the unknown key word may occurs due to some lexical grammatical mistakes.</td>
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<td>5.</td>
<td>Hideo Joho, Adam Jatowt, Rio Blasco</td>
<td>Unicode Standard and improved reinforcement learning based memory-network architectures to solve QRAQ problems in the difficult setting where the reward signal only tells the Agent if its final answer to the challenge question is correct or not.</td>
<td>requires multi-turn interactions in which a good agent should ask only non-deducible and relevant questions at any turn.</td>
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<td>Xiaoxiao Guo, Tim Klinger, Clemens Rosenbaum</td>
<td>Temporal information searching behavior and strategies</td>
<td>Accessing the Metadata and Temporal information retrieval, the user gives the query to the search engine which seek for time related information whether it is past, present, future for more effective results.</td>
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Reinforcement learning is used to learn from given queries and respond to the given queries. Base reinforced learning is used to learn from memory network and imp. Reinforced learning which improve the better result by software-
| 7 | MarcoBasaldella, Muhammad Helmy, ElisaAntolli, MihaiHoriaPopescu, GiuseppeSerri and CarloTasso | Exploiting and Evaluating a Supervised, Multilanguage Keyphrase Extraction Pipeline for Under-Resourced Languages | Low-level NLP, Candidate generation, Features extraction, Candidate scoring | Key word extraction for the given query in under resourced language | Automatic keyword extraction agent is built with various steps like stemming, lemmatization and learning word phrase patterns from various documents. | [7] |
| 8 | Eva Katta, Anuja Arora | An Improved approach to English-Hindi based Cross Language Information Retrieval System | Naïve Bayes and particle swarm optimization algorithm | The user give the query in their user native language which the key word is extracted for query processing | Naïve Bayes and particle swarm algorithm which suggest the result in which the query given in same format as in document | [8] |
| 9 | Pascale Fung and Lo Yuen Yee | An Approach for translating new words from nonparallel, comparable texts | NLP | Our algorithm is the first to have generated a collocation bilingual lexicon | Algorithm has good precision, lint the recall is low due to the difficulty in extracting unambiguous Chinese and English words. | [9] |

Architecture Diagram:

Front-End:

Client

Virtual Keyboard

Speech input

Language Identification

| Lang | 1 |
**Proposed System:**

The Proposed system consists of following models:

1. Input interface.
2. Language Identification.
3. Extract keyword.
4. Product Search.

**1. Input interface:**

The input to the system is given through Voice command or either virtual keyboard. The Virtual keyboard is made to avail in all Indian languages and then user have to choose the language to give the text based input in their native language.

Display the products with the given attributes
In addition to it speech recognition google api is integrated in for voice command on their user own language they need to provide in which language they are going to speak and the user can provide voice based command this speech api is integrated in the point of allowing the illitrated people to perform online shopping and in voice based command about their product.

1.1. Google Speech Recognition api [11]:
Google Speech to recognition api[11] convert the speech dictated to the text using powerful neural network model and deep learning. This recognize module supports over 110 languages. This API can filter inappropriate content and recognize the speech in noisy environment. Automatic speech recognition is powered with deep learning. They have made this service allocated through API for integrating with various services.

1.2. Virtual Keyboard:
The virtual keyboard act as the interface for input given in multiple languages. Various languages is given in the keyboard like tamil, telugu, hindi kandam for the input given in multiple languages. Thus the virtual keyboard is build with jquery.

2. Language Identification:
Language identification is perform to identify in which language the user have given the input either the virtual keyboard or google speech recognition api both return the text based input for analysis .Thus from the given text the language is identified using the Unicode in the text then the key word is used to search the product in appropriate language.

3. Extract Keyword:
The key word is extracted using trie based dictionary algorithm demonstrated in [2]. Thus in this they have performed key word extraction using dictionary based trie algorithm. Trie is effective information retrieval algorithm.

4. Product Search:
Thus the keyword extracted using trie based algorithm then the extracted keyword is search through the database with the given attributes like color, type, materials, price…etc.,

5. Learning Process:
Learning process is done using supervised learning algorithm and which train the system using the various datasets and then in
the case of search for unidentified product by asking the user to identify the products showing some random images then the system is trained accordingly using the prediction in [10].

Reference:


3. Perceived irritation in online shopping: The impact of website design characteristics, March 2015.


5. Temporal information searching behavior and strategies, March 2015.


9. An Approach for translating new words from nonparallel, comparable texts
