

Literature Survey on
INTERACTIVE EMAILING SYSTEM

Third Year of Engineering
In
Computer Engineering
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2019-2020

Literature Survey Report Content

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Abstract

In today's world communication has become so easy due to the integration of communication technologies with the Internet. However, the visually challenged people find it very difficult to utilize this technology because of the fact that using them requires visual perception. Even though advancements have been implemented to help them use the computers efficiently, no naïve user who is visually challenged can use this technology as efficiently as a normal naïve user can do. This project aims at developing an email system that will help even a naïve visually impaired person to use services for communication without previous training. The system will not let the user make use of keyboard instead will work only on mouse operation and speech conversion to text. Also, this system can be used by any normal person like the one who is not able to read. The system is completely based on interactive voice response which will make it user-friendly and efficient to use.

Introduction

Internet is considered as a major storehouse of information in today's world. No single work can be done without help. It has become one of the major ways of communication. Out of all communication methods available, Email is one of the most common forms, especially in the business world. However, not all people can use the Internet. This is because in order to access the Internet you would need to know what is written on the screen. If that is not visible it is of no use. This makes the Internet a completely useless technology for the visually impaired and illiterate people. Even the systems that are currently available like the screen readers TTS and text summarization ASR do not provide full efficiency to the blind people so as to use the Internet.

Hence we have come up with this project in which we will be developing a voice-based email system which will aid the visually impaired people who are naïve to computer systems to use email facilities in a hassle-free manner. The users of this system would not need to have any basic information regarding keyboard shortcuts or where the keys are located. All functions are based on simple mouse click operations making it very easy for any type of user to use this system. Also, the user need not worry about remembering which mouse click operation needs to be performed in order to avail a given service as the system itself will be promoting them as to which click will provide them with what operations.

Literature Survey

In[1], *Tirthankar Dasgupta, Aakash Anuj, Manjira Sinha, Ritwika Ghose, Anupam Basu* created an emailing system that is designed to be used by a blind person to send email through voice recordings. The system allows the person to record the voice and instead of converting speech to text the system directly sense the recorded voice message to the recipient's mail address as an attachment.

In[2], *Yogita H. Ghadage, Sushama D. Shelke* created a speech to text for multilingual languages representing the following: This project presents a multilingual speech to text conversion system. The system operation is divided into 2 phases- training and testing. In the training phase, the speech utterances of each sentence are recorded. The speech signal is preprocessed and segmented into words. For each word, acoustic features are extracted using MFCC method. Such features for each word forming feature vector is stored for reference. In the testing phase, the speech utterance to be tested is preprocessed, segmented into words and features are extracted for each word. These features are compared with the reference feature vector stored during the training phase. This is done by using a combination of SVM and Minimum Distance Classifier. The word having a minimum difference is given as a recognized word.

In [3], *Min-Yuh Day, Chao-Yu Chen* created an automatic text summarization using artificial intelligence the main objectives of this study include:

1. Use artificial intelligence technologies, which are including statistical method, machine learning, and deep learning, to generate candidate titles, and compare the Accuracy
2. Compare the accuracy of different deep learning models.

In this, they use a method of evolution approach which was proposed by Lin which states Rouge methods as ROUGE-L uses the Longest Common Subsequence (LCS) to calculate the similarity score. ROUGE-W is used to improve the disadvantage of ROUGE-L. ROUGE-S uses

skip-bigram to generate pairs of words in their sentence order, allowing for arbitrary gaps and calculate the percentage of matched pairs between candidate summary and reference summaries as a similarity. ROUGE-SU combines skip-bigram and unigram to solve the potential problem for ROUGE-S. We use “Systems Development Research Methodology” from information system research field as our research methodology.

Raw data were obtained from the Web of Science Core Collection database.

Fliting special characters and convert encode. Essay titles and essay abstracts were extracted, flited some special characters, convert encoded and converted into the format of “title-abstract” pair.

In[4], *Khosrow Kaikhah* created an automatic text conversion model using neural networks.

In this paper, they used a machine learning approach that uses artificial neural networks to produce summaries of an arbitrary length of news articles. A neural network is trained on a corpus of articles. The neural network is then modified, through feature fusion, to produce a summary of highly ranked sentences the article. Through feature fusion, the network discovers the importance (and unimportance) of various features used to determine the summary-worthiness of each sentence. The input to the neural network can be either real or binary vectors. In this paper, they have used summarization based on extraction approach which involves selecting a number of important sentences from the source text. Summarization by abstraction is concerned with issues related to text understanding, semantic representation and modification, and natural language processing. There are three phases in the OUT process: neural network training, feature fusion, and sentence selection.

Summary

The system allows a Blind person to send voice-based e-Mails messages. This will reduce the extensive cognitive load taken by a Blind to remember and type characters using a keyboard or a mobile keypad. Further, as messages are sent via voice, it eliminates the lack of English language proficiency of a Blind person. This system will help in overcoming some drawbacks that were earlier faced by the blind people in accessing emails. Also, any naive user who does not know the location of keys on the keyboard need not worry as keyboard usage is eliminated. The user only needs to follow the instructions given by the IVR.

References

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