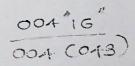
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Speech Recognition Research for Recognize Digits in Sinhala

LIDRARY UNIVERSITY OF MORATUWA, SRI LANKA MORATUWA

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TH 3161 + IDVD ROM (TH 3160 - TH 3180)

Declaration

I declare that this thesis is my own work and has not been submitted in any form for another degree or diploma at any university or other institution of tertiary education. Information derived from the published or unpublished work of others has been acknowledged in the text and a list of references is given.

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Dedication

This Dissertation is dedicated to my loving Family for being part of me and encouraging me always being by my side.

Acknowledgement

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Abstract

There is growing tendency in the human computer interaction activities especially within last decade with smart world. Day by day lot of smart options are coming to the market which has more powerful human computer interactive options. With this kind of an environment speech recognition is also became very vast and interested research area among modern computer researches. When we considering speech recognition there are lot of smart applications even in smart phones are available all around the world right now, but major problem of those application are the accuracy and the localization. Especially considering a language like Sinhala, current industry doesn't have much accurate of efficient recognition system to cater with. This research is basically focuses on how to identify user audio signals in Sinhala language and how to convert them in to text. Speech recognition becomes very popular research topic with the highly incremental human computer interactions today. Most of the popular or vastly using languages are already have well developed speech recognition systems, but as mentioned earlier languages like Sinhala it is very rare, but for Sri Lanka it is very useful to have a recognition system.

Ceylon Electricity Board (CEB) is the sole agent to generate and distribute electricity power within the Sri Lanka. So it has several call centers running around the country to get customer feedbacks especially regarding power failures. Recently CEB management came with an idea to employ some disable (blind) people to those call centers to collect customer complains thru telephone line and log them into a call center web application and then that application will process those complains to forward to correct maintenance party to attend to the problem quickly as possible. In order to get the input first idea was to use a brail keyboard; same time management has an idea to get the input thru a microphone. But that audio input needs to be in Sinhala language. So now our problem is to develop good speech recognition for Sinhala language to identify those vocal signals. As part of solution to the above mention problem, this research is conducting to create well trained Sinhala identification system. In this phase research is focus only to identify digit's vocal inputs created using Sinhala language. Than can be used to identify customer according to his/her electricity account number. Once that is done call center application can validate the customer using customer billing database.

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