Enhanced Banknote Recognizer for Sri Lankan Currency

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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Information derived from the published or unpublished work of others has been acknowledged in the text and a list of references is given.

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Abstract

Automatic bank note recognition has been researched in many countries around the world in the recent past using many new technologies. It has various potential applications including electronic banking, currency monitoring applications, money exchange counters, super markets, rail way ticket counters, gas stations etc.

Many researches or developers have tried to come up with a global solution for this area of research. However, the accuracy of those solutions are tends to depend on the country's currency note characteristics and the identification depends mainly on the extraction of features. Hence, a generalized system is not applicable in every situation. Sri Lankan researches also have been tried implementing solution for Sri Lankan currency. Even though such systems are being used in banking sector in Sri Lanka, they have limitations and need improvements where researches have a space to give solutions. Therefore, the whole purpose of this research is to overcome the limitations and enhance the current automatic bank note recognition system. In addition, proposed system will perform a data analysis and give a recommendation to the Central Bank of Sri Lanka, about the usage of the currencies (money velocity).

Enhanced Banknote Recognizer for Sri Lankan Currency solution will be done for latest series of ‘Development and Prosperity, and Sri Lankan Dancers’ which released on 4th of February 2011. RBG value analysis, image processing, OCR and Data analysis will use to implement the proposed solution.

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Abbreviations

Abbreviation	Explanation
ANN	Artificial Neural Network
ATM	Automatic Teller Machine
CBSL	Central Bank of Sri Lanka
HSV	Hue, Saturation and Intensity
MODI	Microsoft Object Document Imaging
BR	Blind Recognition
MSDN	Microsoft Developer Network
RGB	Red Green Blue
OCR	Optical Character Recognition
URL	Unified Resource Locator