

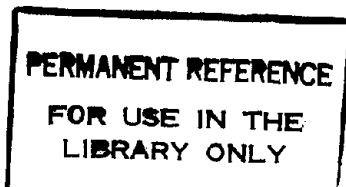
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**DEVELOPMENT OF IMAGE PROCESSING AND ANALYZING
WORKBENCH FOR
AN ELECTRONIC DOCUMENT AUTHENTICATOR**

A PROJECT REPORT PRESENTED BY

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to the Board of Study in Statistics and Computer Science of the
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**DEVELOPMENT OF IMAGE PROCESSING AND ANALYZING
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Evaluation of reproduced documents to check whether the reproduced document is an actual document or a true copy, is a definite requirement for government administrative and legislation and commercial transactions. In Sri Lankan situations, the clients are often requested to produce their original documents issued to them for various purposes. However, there is no reliable authentication mechanism, instead, these documents are accepted or rejected based on visual checking. But the current trend towards the e-governance with automated information processing systems, a reliable authentication mechanism for of above documents is a major requirement.

In this project it was intended to implement an important part of the above authentication process by substituting electronic authentication of documents, while keeping an electronic images of the originals. The modern data processing systems are designed with the facility of storing data as well as images where necessary. Electronic systems developed for other authentication procedures that is the authentication of documents and related materials without having their original electronic formats, are popular but, these technologies are very different from the problem concerned herein.

The image subtraction techniques were introduced as the major authentication mechanism. To treat degraded documents, an investigation viewer interface was developed.

Furthermore, an image workbench was developed and introduced to observe and treat various differences in re submitted documents. The workbench was facilitated with necessary treatments and enhancement mechanisms to allow the user to select appropriate operations. The image authenticator was developed for the purpose of carrying out the authentication process of reproduced documents (image) against their original images stored in a central database. The image authenticator interface was linked to the workbench to process the validation after the investigations and some treatments applied to the duplicate image if necessary.

Finally, selected set of documents containing expectable differences, degradations and effects were evaluated using the developed authentication system.