

Fingerprint Impression for Document Security

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Abstract— In traditional way of document verification process user has to present all documents which is very time consuming and hectic process as user need to travel to that place as well as he/she to carry all documents even when attending interview user need to carry all documents. When user authorized person wanted to appoint any employee then previous working details or behaviour of employee need to know so for that authorized person has to contact previous places where that employee worked which is time consuming process so this Document Mapper will helpful to get that details. If user lost his/her documents then he/she has to visit all universities and state board through which he/she complete his/her education and has to do lot of paperwork. This invention present new way for educational details tracking in this authorized person will ask user for finger print which is use to extract users documents from Document Mapper-database. As Document Mapper uses fingerprint of user which is unique identity of users it is easy to check and identify fraud documents. The educational global data base can store the all education detail (Like, 10th, 12th, UG, PG, etc.). Original documents store by only authorized person of the education organization with the help of user biometric input.

Key words: Fuzzy Logic, Document Mapper, Feature Extraction, Data Leakage

I. INTRODUCTION

In traditional way of document verification process user has to present all documents which is very time consuming and hectic process as user need to travel to that place as well as he/she has to carry all documents to that place. So, this Document Mapper will be helpful to the user to get his/her details on that place. This invention reduces paperwork and presents a new way for educational details tracking. In details tracking, authorized person will ask user for finger print which is used to extract users documents from Document Mapper-database. Fingerprint is a technology that helps one to find information similar to the reference data by some features. It is used for tracking the fact of illegal copying of electronic documents. As Document Mapper uses finger print of user which is unique identity of user so it is easy to check and identify fraud documents.[5] The basic algorithms is to create a fingerprint of the original information by statistical evaluation of several features like text formatting, the presence of characteristic elements, and frequently encountered character combinations in electronic documents.

II. LITERATURE REVIEW

Fingerprint is a technology that helps one to find information similar to the reference data by some criteria (features). It is used for tracking the fact of illegal copying of multimedia or electronic documents. The basic algorithm of a «fingerprint» is the statistical evaluation of different features in document: the presence of characteristic elements, and frequently encountered character combinations. Digital fingerprints are very sensitive even to the trivial replacement of symbols in

text. Authors propose the fuzzy search algorithm application in digital fingerprinting technology to fix some of the Fingerprint shortcomings.[1] Protection of confidential data from being leaked to the public is a growing concern among organisations and individuals. Traditionally, confidentiality of data has been preserved using security procedures such as information security policies along with conventional security mechanisms such as firewalls, virtual private networks and intrusion detection systems.[4] Unfortunately, these mechanisms lack pro-activeness and dedication towards protecting confidential data, and in most cases, they require predefined rules by which protection actions are taken. Fuzzy search algorithms are a basis of spell-checkers and full-fledged search engines like Google. For example, these algorithms are used to provide the "Did you mean ..." function. Fuzzy search is a very useful feature of any search engine. However, its effective implementation is much more complicated than implementing a simple search for an exact match. The problem of fuzzy string searching can be formulated as follows: "Find in the text or dictionary of size n all the words that match the given word (or start with the given word), taking into account k possible differences (errors)."[6]

III. ARCHITECTURE DIAGRAM

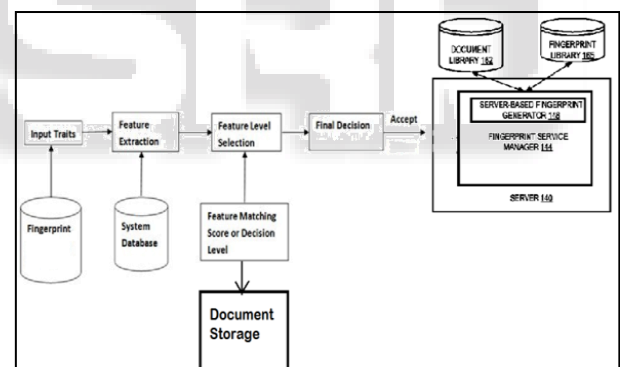


Fig. 1: Architecture Block Diagram

In the document mapper system, the fingerprint of individual user is collected and documents are uploaded for individual user. If the user is an already existing user then the feature of the fingerprints is extracted from the system database.[2] The feature level selection is done by using fuzzy logic algorithm to decide the feature matching score.[3] If the fingerprint matches then user can access the document store to add, delete and update his/her documents. If the fingerprint does not match then access is denied. This, keeps the documents of the user secure and preserved for a long time.

IV. EXPERIMENTAL SETUP

The project setup consist of a fingerprint device, Secugen Hamster Plus Fingerprint Scanner. It is a high performance, maintenance-free optical fingerprint sensor, fast and accurate verification, compact, lightweight and portable. The front-end is designed using PHP, HTML, Java and the back-end is

designed using MySQL. The connection between front-end and back-end is done using Xampp server.

V. RESULTS

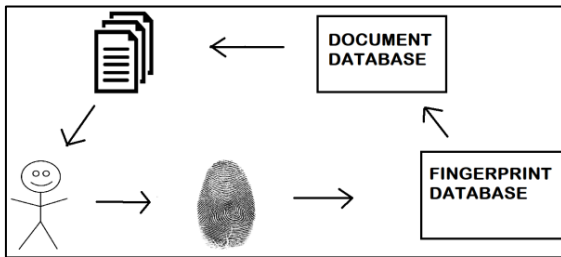


Fig. 2: Results

If the fingerprint of the user matches the stored fingerprint then the user can access his/her documents and if the fingerprint does not match then the user gets alert messages and cannot access his/her documents.

VI. CONCLUSION

Data leakage is an ongoing problem in the field of information security. Both academics and practitioners are continuously working towards developing data leakage prevention and detection methods to mitigate this problem. Data protection Systems are increasingly recognized as preferred solutions for identifying, monitoring and protecting confidential data. In this Project, we aim to draw attention towards this inadequately researched area and to provide academics and practitioners with a comprehensive solution to data protection using fingerprint verification. All of the methods were systematically analyzed and the contributions and limitations were acknowledged.

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