
“DIGITAL FORENSIC ANALYSIS BASED ON MOBILE CLOUD COMPUTING”

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ABSTRACT: *Mobile Cloud computing is widely accepted as a concept that can significantly improve the user experience when accessing mobile services. By removing the limitations of mobile devices with respect to storage and computing capabilities and providing a new level of security by a centralized maintenance of security-critical software for e.g. mobile payment applications, it is expected that it will find broad acceptance on the business as well as consumer side. Research indicates that Mobile Cloud Computing will additionally help to make visions of context services become reality.*

Digital forensics is a scientific, logical technique and procedure to collect, keep, and analyze digital data and to report the evidence discovered from them. And purposely, we can define it as an investigative technique to examine any kind of behavior using a computer and to prove the fact relation of it based on the data stored in the computer.

In our system we are going to introduce a concept called 'Forensic Cloud' to develop a new paradigm in digital forensics and describe some challenges for next generation digital forensic and how our approach based on mobile cloud computing can solve it. To show the feasibility of the introduced concept 'Forensic Cloud', the paper suggests a technology framework for forensic analysis based on mobile cloud.

Keyword: Digital Forensic, Cloud Computing, Mobile Cloud Computing.

1. INTRODUCTION

Cloud computing has become one of the mobiles hottest topics. Mobile cloud services are mobile applications or services that leverage cloud computing by hosting the primary processing or data storage in the cloud [1]. Moving computing processing and data storage away from mobile devices and into large data centers, mobile cloud enables the users to improve performance, to share data, and to collaborate with others. By these reasons, service providers in the various fields have been developing mobile applications based on cloud computing to assist people in doing his work at anytime and anywhere through mobile phones. In addition to these, digital forensics could be one of good examples obtaining benefits of mobile cloud computing, as well. Digital forensics is a scientific, logical technique and procedure to collect, keep, and analyze digital data and to report the evidence discovered from them. And purposely, we can define it as an investigative technique to examine any kind of behavior using a computer and to prove the fact relation of it based on the data stored in the computer. Therefore, for digital forensics, it is required to obtain an image copy of original digital data without damage and to prove that the computer evidence existed in the specific time.

Considering the benefits of mobile cloud computing, the forensic service based on mobile cloud computing could be

good solution to the problems today's forensic tools are facing and following requirements should be met.

- High speed processing of basic forensic functions.
- Intuitive presentation.
- Supporting user mobility and secure data access.

Aim

Digital forensics used to find the patterns used in data such as pin code, phone no, name etc. it will find the patterns by using linear search algorithm and pattern key. To implementation of data servers sql server is used and for application server asp.net used as middleware

Objective

- Fast Analysis
- Supporting various devices
- Pervasive and Collaborative analysis.

2. PROPOSED SYSTEM

FLOWCHART OF PROPOSED SYSTEM

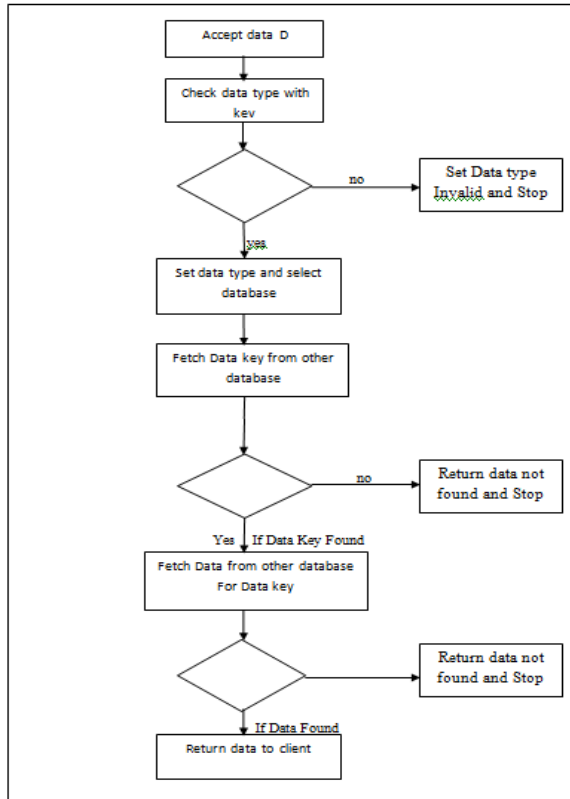


Figure 1: Flowchart of Proposed System

Data Flow Diagram [DFD]

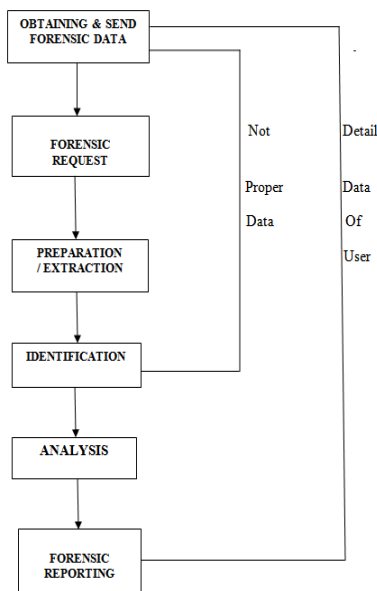


Figure 1: Data Flow Diagram of Digital Forensic Analysis

Digital Forensic term is used to find out all the detailed about user input. For that as above fig shows firstly we can obtain user input data called forensic data. Forensic data which obtain from user send as forensic request to the server this data will be identifying in database. If the data is found in our database then it will be analyzed and extracts all the related data from database and send detailed forensic report to the user.

If the forensic request of input data is not identify or not available in our database then the request input will be rejected and send message to the user that input data is not proper or input data is invalid. Otherwise forensic request will be accepted and follows next step so that user can get proper forensic report as per their input data.

3. RESULT ANALYSIS

Home Page:

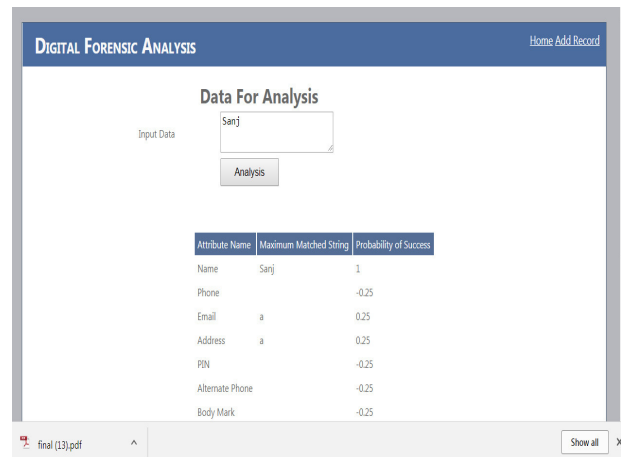


Figure 2: Home Page

This is the home page. The home page contains the navigation bar it contains the Home and Add Record. It contains Input data box to accept an input data from user. This page accepts an input data from user, and then check or analyzes that input data after clicking on analysis button on home page.

2. Add Record:

This is Add Record page. as earlier page Home page contains Home and Add Record, when clicking on add Record this page is generated. This add record page contains the label and text field and button to simple the registration of the input user.

Figure 3: Add Record

This page is used to add record of person detail such as name, phone no, email id etc. After filling all the details of person by clicking on Add button record or data of a person is to be added in our database.

3. Data Analysis:

Figure 4: Data analysis

This is Data Analysis window, which our home page also. In this Input Data can be given by user to access and get information of user. If input data is available then user details can be downloaded in pdf format and get information in pdf file format so that user can print that data and details in hardcopy format.

Data analysis for pin no:

Attribute Name	Maximum Matched String	Probability of Success
Name	Sanj	1
Phone		-0.25
Email	a	0.25
Address	a	0.25
PIN		-0.25
Alternate Phone		-0.25
Body Mark		-0.25

Figure 5: Data analysis for pin

Data Analysis window for pin no analysis.

Download PDF:

Figure 6: Download PDF report

Here, Pin no is given by user to analyze data which is available in our database so it will gives us pdf report which will be downloaded

Display Report in PDF Format:

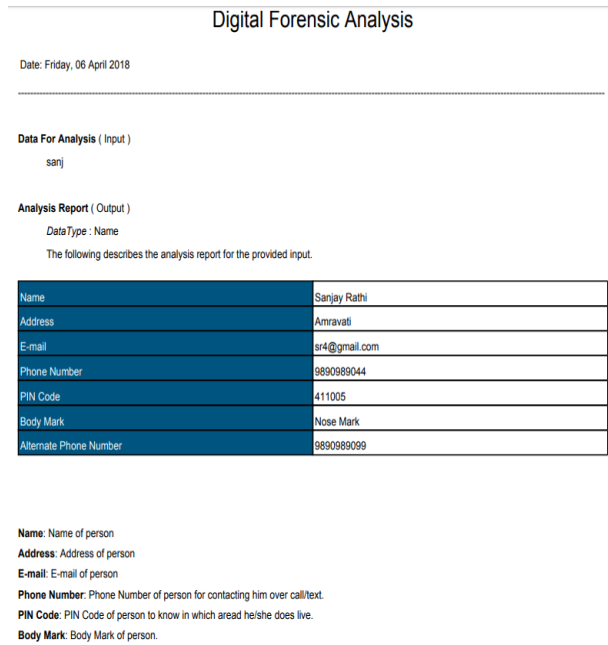


Figure 7: Report in PDF Format

This is report file window which displaying output to the user in pdf format so that user can get that details of person as hard copy by printing that record pdf page.

4. CONCLUSION

Developing cloud computing platforms and mobile software in parallel is an intriguing prospect. Existing digital forensic tools operate on a single platform such as Windows OS or Linux OS, which have been constantly improved in processing speed and supporting various media. Recently, the number of evidences in digital media is increasing and to process these data, high speed processing is needed. Enormous digital evidence will require more processing time and resources to process them. However, a single platform based tool cannot satisfy this requirement. In this project a forensic service concept called forensic cloud is proposed which drives new idea in digital forensics and studied a technology framework for Forensic cloud to deal with these limits of existing tools, and associated with mobile cloud computing can help solve these drawbacks.

5. FUTURE SCOPE

As the project digital forensic analysis based on mobile cloud computing, Digital forensics used to find the patterns used in data such as pin code, phone no etc. So that, we can collect all the information of particular person requires to user considering to his input data. Also In future digital forensic can use as image processing to investigate or collect data or report of person such as we can use finger print

image of any person to get detailed information about that person.

5. REFERENCES

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