Increasing Efficiency of Indian Healthcare System

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Abstract- Managing big data is a tedious and tiresome job because the data from across various social networking, banking, e-commerce, medical or alike websites. The same person may have one or more number of records with same or different names and same or different mobile numbers or email IDs. In such age a generic database based on a unique identification is required to manage the data and link it to the corresponding person. Sorting, identification, linkage, algorithms are some of the general terms used in this paper.

Keywords- Big Data, Database, Records

I. INTRODUCTION

Maintaining a record of people in an efficient way is becoming more and more necessary day by day for the population is growing day by day.The data of same person is stored in different databases because there is no central storage system available.The data present in various databases can be incomplete and hence linkage of incomplete data can cause incorrect outcomes thus data should be standardised before linkage. If the values of datasets are missing or incorrect then it would lead to a management disaster since each process performed on the dataset will be incorrect [1].If a unique identification(UID) is available, the technical solution to link various databases is short. In some countries (for example, Scandinavia), UID is available for the entire population. The UID can be encrypted separately for each link operation [2]. In practice, however, most statistical linking is based on individual identifiers such as name or date of birth. This ID must be combined to create a declaration code [3]. However, IDs are usually unstable and logged without errors.

II. PROPOSED SOLUTION

The proposed solution is to link datasets of a single person from various databases eliminating repeating data and marking the sets with its origin also making it secured enough so that it is only accessed by authenticated personals.

The purpose of the idea is to generate a database which is secured and accessible also data from various datasets should be linked together without repetition with the help of a UID.For an example, if we consider the health care system of India, people tend to visit different Hospitals, Clinics, pharmacies, blood banks etc. Data is collected at all this facilities and stored in separate databases as mentioned in [4].This creates unnecessary repetition of data and sometimes confusion also accessing data is a tedious job.

The most popular UID in India right now is the Aadhaar number.The Aadhaar number is any 12-digit number assigned by UIDAI to residents of India as a result of the verification process established by the authority. There are over 130,000,000 Aadhaar card holders in India and the details of each card holder is stored over the cloud computing platform.

Data stored in the cloud has to be maintained at a high security level due to the utmost sensitivity or the medical records hence the expenses in the security field increases.Internet is used to access the data stored stored in the cloud platforms and hence in case of interruptions in the network connections or power-cuts can cause termination of the connections and might lead to inaccessibility at crucial movements.We need to address and resolve these problems and move

The cloud computing platform used by Aadhaar can to used to store that medical history of Aadhaar card holders and the Aadhaar number can be used as UID to identify, authenticate and link various datasets. Due to the cost reduction of cloud platforms, small and medium sized healthcare providers can take advantage of the service which allows the clients to pay according to the utilisation. Also, as mentioned in [5] if one central data centre is established, sharing medical history, newly discovered facts enhance medications, medical treatments and healthcare services would be much easier.

Fig 1 explains the architecture of the proposed system.Blocks of data will be compared with the help of Aadhar number and merged if similarity of the ownership

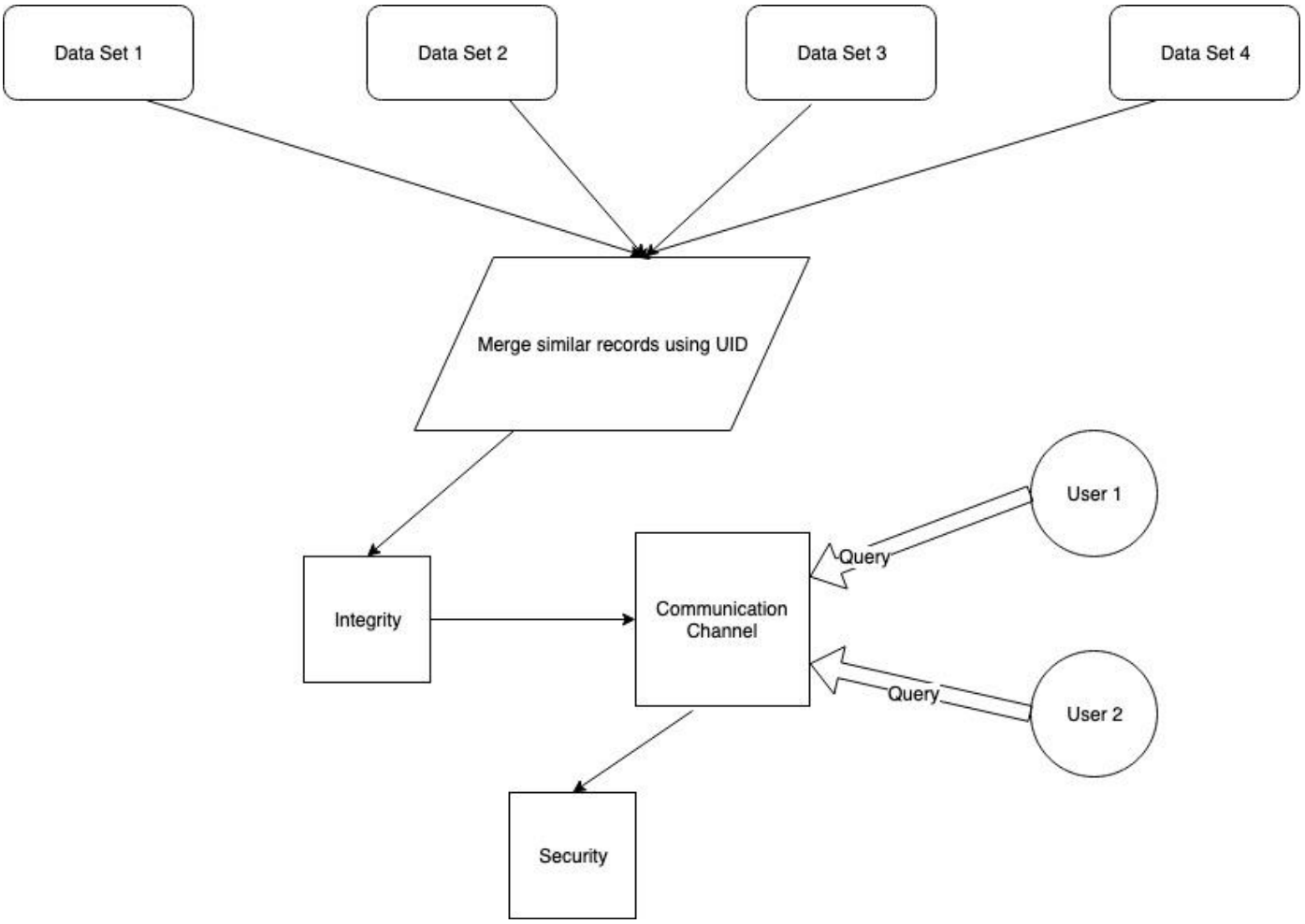

Fig.1

access the data on their will. Also future logs will be recorded in the same dataset hence making it an efficient method that the traditional multi-located file systems.

III. CONCLUSION

The paper aims to dodge the problems in managing big data like the medical records of people through better, revised techniques which used a UID to identify, link and secure data which is easily accessible to the authentic users and helps in more efficient health care system throughout the country.

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Prerit Shah is pursuing Bachelors in Computer Science with specialization in Cloud Technology and Information Security. He has a vivid interest in understanding how technology works and this helps him remain in top 5% of his class consistently. With an interest in programming and security he excels in all technical subjects.