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BIOMETRIC BASED CITIZEN INFORMATION SYSTEM

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Abstract: This paper presents a detailed study of implementations which we need in 'Biometric Based Citizen Information System'. This system is used for maintaining the information of citizens and provides a simple interface for it. A number of organisations can use it for maintaining the citizen records easily. We cannot achieve said objective using a manual system because in these systems information is scattered, redundant and may consume large amount of time. These problems can be solved using Biometric Based Information System. The fundamental attention is on providing the information in an intelligent and easy manner. This system would be accustomed by the People who want to comprehend about such management systems, this system can be very identical for them. They can also develop number of software products for the same concept. A number of facilities like registration and profile creation of an individual are provided by this system, thereby reducing hectic paper work and hence automating generation of records.

Keywords: Unique identification number, citizen information, Biometric check, administrator, Aadhar, centralized and integrated database.

1. INTRODUCTION

The Biometric Based Citizen Information System would provide the information of each and every citizen of the country. We have a unique identification number of the citizen which will be used to find out information of that citizen. [1][3] Various government and non-government organisations can use this application for validating the identity of any individual. For example, it can be used to validate the job applicant, a customer of the bank, a crime suspect and it can even be used for an unclaimed dead body. This system helps us to know the character of an individual and not only the details about the utilities and services.

This is a composite system i.e., it is made up of various elements and is used to prevent terrorism, provide protection to people, to enhance the accuracy and reliability of the documents of identification which are issued by the state government. It is possible only by developing a system that can provide all the information of an individual by scanning figure prints, iris or using the unique identification number. The main motive of this system is to provide information about each and every individual of a country to various departments.

The individual can be identified by a biometric check. This process of locating someone using one-to-many searching is called identification process [2]. Biometric strategies have been aided law enforcement efforts over a country but the latest technologies can also be used within the industry of the civil sectors etc.

2. OBJECTIVE

The prime objective of Biometric Based Citizen Information System is allowing the administrator of any enterprise to change or edit, finding out the personal detailed information of any individual and allows a citizen to keep his profile up to date i.e. updated. It also makes it easy to keep the records of the people like address, date of birth, contact details etc. This information can be extracted within seconds. The Indian government launched the Aadhar program in year 2009 whose main focus was to give unique identity to each and every resident of the country. It is vast database which can be combined or integrated with the Biometric based citizen Information System. The holy grails of this system are given below:

- For verification of an individual's identity at the national borders and the banks with a unique identification number which is much similar than carrying colossal physical documents like passport.[1][3]
- To make adequate eligibility or ownership verification when for example, trying to purchase age-restricted products, cheque cashing etc.
- To abate the bogus identification where the banks asks for identity card to access accounts.
- Citizen identification system can be a useful directional tool that can step-up efficiency in dealings with both the public and private sectors.
- Truncate immigration service bureaucracy. In many countries, the process to cast out illegal immigrants whose ages, identities or nationalities cannot be established conventionally and are more complex than that can be readily asserted.

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- To validate transaction (e.g. using signature or PIN) rather than trying to authenticate the identity of an individual.
- Exhaustively covers the large population and is only way to ensure interaction between the state and citizen; as unique ID is mandatory for the agencies of a state foe correct identification of individual at other end[1].

3. PROPOSED SYSEM

3.1 Overall Description

In Biometric Based Citizen Identification system each and every citizen of a country will have a unique 16 digit Unique Identification Number which would not only help the organisation to identify an individual, but would rather provides efficient and effective way for citizens, since whenever an individual want to avail a new service provided either by public or private sector they would not have to submit bulky documents each time .[3]The systems which are existing today are manual or are semi-automated i.e. the details or information of an individual can be stored in books, files, thin databases like excel etc. Since different state can use different format, one of the biggest problem of such systems is that a number of formats are used for storing the information [1]. An individual has to carry different documents or different identification numbers for each and every department, whenever he wants to utilize the services provided by private or government sectors. The portal of Biometric Based Citizen Information System helps in having all the services and utilities under one identification number. Since data is distributed among various departments, another problem is sharing the information among different departments. It's not an easy task to search an information of an individual as it is very time consuming since data is not centralized.

Thus the proposed system is opposite to all the existing systems i.e. data is centralized, information is easily extracted and sharing of information is possible among different departments.

3.2 Product Perspective

The Biometric Based Citizen Information System is aimed towards gathering or recording of huge number records of people and for managing them, assistance is required. The system must be reliable, robust, easy to learn, user friendly etc. Biometric Based Citizen Information System is intendent to be standard product. It should be independent of the software availability. This system has an administrator who has all the rights to perform necessary actions like managing and controlling the system.

The Admin has immense power than any other users as he can enable, disable, update necessary information of a citizen. This system can be accessed any time. Figure 1 shows data flow and figure 2 shows grid view control.

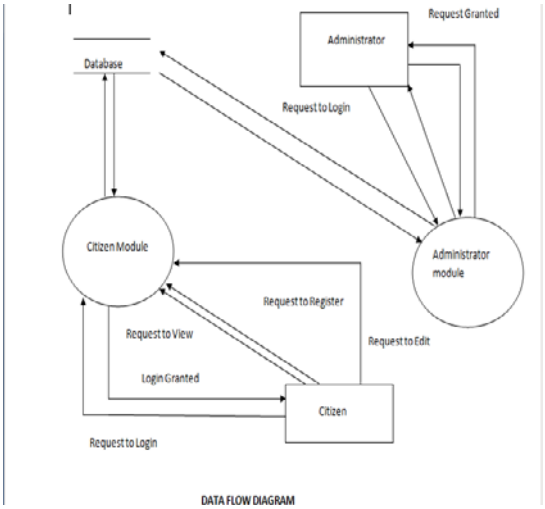

Figure 1. DATA FLOW DIAGRAM

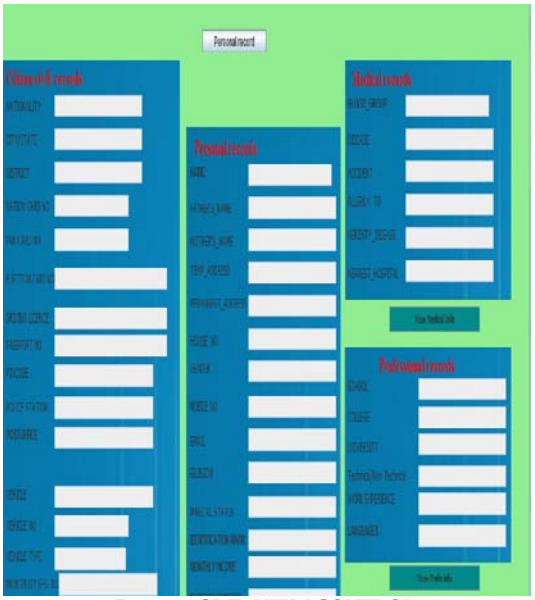

Figure 2. GRID VIEW CONTROL

3.3 Modules

The proposed system has following working modules:

- **Login Module:** helps to authenticate user accounts. Only the users having login id and password can login to their respective accounts.
- **Search Module:** This module is used for extracting the information of any specific person in the huge database.
- **Registration Module:** It is used for registering the user
- **Biometric Module:** It is used to validate the figure prints or iris of an individual. Biometric systems identify individual using their anatomical traits (fingerprint, iris etc.)[4]

4. METHODOLOGY

The basic process of biometric based citizen information system is:

- If the user is already registered in the system, he/she has to simply login to access the account. The user cannot update his criminal record; he/she can only view it.
- If the user is not registered, he/she has to fill the form provided in the interface and submit it.

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- After the details are filled in, the user in provided with the unique identification number, which is also mailed to the mailing id provided by the user.
- For security reasons administrator has a username and password so that no other person can use the system.
- Admin has four privileges, he/she can update criminal record, create, view, delete.
- Creation: account is created by filling the form and submitting it using submit Button in the interface.
- The unique identification number acts as a primary key in the database, which is used to extract the details/information of an individual.
- For fetching admin details, he/she has its own database when required fetches information from that and details are displayed to the admin.

5. ADVANTAGES

- There is centralized database i.e. the information is not scattered and unique format is adopted.
- There is no need to carry different identification number for each and every department.
- Information of an individual is easily extracted within seconds by using the unique identification number allotted to citizen.
- There is no redundancy of data.
- Security is maintained using password as well as biometric check.

6. PRIVACY ISSUES

In storing the personal information of an individual in one database, there is possibility of corruption and the data can be exploited when distributed [3]. Thus privacy is the key concern. In centralization of data there is the risk that include errors in collected data, inaccurate data recording, and providing access to unauthorised person. Thus there must be balance between "purpose and privacy" on the biometric data which is collected from the individuals.
The database containing the biometric data should not be misused in any way, the failure of which leads to consequences which are fatal. This is because the digital fingerprint is basically used for authentication process. If this critical biometric data is compromised, all other processes of authentication for such a person could be proven wrong.

7. CONCLUSION

This paper is on biometric based citizen information system which leads to a better organisation structure. It leads to better as well as well efficient resource utilization. Various educational institutions can also use this system to maintain the records of citizen easily. All the problems like redundancy of data, scattered data, and collection of relevant information can be solved using Biometric Based Citizen Information System**.**

8. FUTURE SCOPE

Maintaining the details of people is a hectic job for any enterprise. Biometric based citizen information system would be able to store all possible details of an individual like their educational qualification, medical history, background details and so on.
The future scope in such systems is that instead of fingerprint scanning we can use scanning devices which can scan iris of an eye. These iris scanners are most reliable than fingerprint scanning. Biometric Based Citizen Information System can be integrated with number of other databases.

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