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CITIZENSHIP INFORMATION MANAGEMENT CARD SYSTEM FOR EFFECTIVE USAGE

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Abstract

The system 'Citizenship Information Management Card System' provides information about citizens within a country. The issue of multiple identification card and problem of identification has caused several organisations to have a means of identifying their client and staff. However, this conceptual study proposed a system that generates a unique citizen Identification that finds the personal information of individuals in each and every department or services. This information can be queried with the unique Identification of the citizen. Presently, citizens utilize the services and utilities of the Government or Private organizations by going with a particular Identification of that department. Instead, a citizenship information management card system helps in having all the utilities and services under one unique Identification. The use of Information Technology to achieving the said system needs proper design and effective implementation by allowing a flexibility for the citizens, and the importance of the system that allows citizens with the easy access to necessary services. This conceptual study uses the first stage of system development as a method for this study to which requirement analysis was carried out and information gathering of the existing system was conducted. The system will allow citizens, government and corporate organization the ease to verify information and allow easy access to service with less effort, using concept of distributed computing which allows interactive devices and interface at both ends. This study presents the citizenship information management card system for effective use of citizens' information without replication and redundancy, with easy access to the relevant authority and elimination of corrupt practices within the society.

Keywords: card system; citizen information; corruption; technology usage; identification number

Introduction

Information Technology plays tremendous role in the development of citizens and the government of various countries. Nigeria, a country with less than 200 million is presently capturing the identity of its citizenry through the national identity program, bank verification number, plate number registration, mobile phone number registration, international passport, drivers' license registration through the means of Information Technology which are all ongoing however, there exist a number of citizens who are yet to register or obtain their identification card and this results to the private sectors creating their own identification (Obi, 2006).

According to National Identity Management Commission (NIMC, 2014), there is currently no centralized national identity database and no system of National Identity Management which efficiently links public and private sector identity schemes. This could be due to improper documentation of citizens' identification, issue of trust by private organisation and redundancy or multiple identification among the citizens.

While the financial services organisation are proactive in the identification of its customers for effective delivery of goods and services, several other identification schemes and database by other institutions offering services to the citizens led to the redundancy to citizen's identity. Government parastatals also hold several databases with no integration of access or interoperability to enhance the delivery of services within these government institutions. According to (Froomkin, 2007) when a non-mandatory card are introduced, its improvements on the authentication, making it mandatory and addition of other biometric increases attention on how collected data will be accessed after being stored. This biometrics could include fingerprints, medical data, iris measurements, driving records (Krajewska, 2010). A reliable and flexible identification system that verifies individual's identity is still being figure out which introduces the National Identification Number (NIN), and a means of having a secured database of the citizens (Omoniyi, 2012). This may lead to having a reliable network among the database of these different organization linking one another to form a secure, reliable and flexible database that will be a sole responsibility of the government, in order to collect, manage, and give access to the relevant organization and authority who are to access the citizens' information.

Therefore, allowing the a unique and single database of the government being the sole database that supply all the necessary information of the citizens to the relevant organization which can easily be query by these organization both the public and private, and other relevant authorities such as the security and law enforcement authorities. This study is not pointing out merit and demerit of the current identification, such as the card system, the infrastructure and technical know-how, however this conceptual study, tend to conceptualize and propose a system by which card system could be manage in order to allow effective usage and reduce redundancy.

The Citizenship Information Management Card System

The Citizenship Information Management Card System will provide every legal resident in the country, including foreign nationals, an easy and secure way of demonstrating their right to be within the country and asserting their place in the community. It will be linked to the person to whom it is issued by unique identifiers along with more traditional security checks, in such a way that it will be virtually impossible to obtain an Identity card in multiple identities.

According to Akinlabi (2006), who made emphasis on having a reliable and uncompromised identification system for citizens, this help in actualization of identification by census board, immigration, national planning, election, law enforcement, banking, tax collection, pension board, education and in fact the judiciary. Lack of this identification system had caused the citizens losing out in the dividends of the government's responsibility to its citizens while the government cannot properly

plan, it also breed corruption and other malpractices such as the issue of 'ghost workers.' However, having this identification which helps the verification of workers will help the government to eliminate the redundant payment of salary and wages to non-existing workers.

This identification system will be capable of maintaining the details of the entire citizens in an effective manner and it will be a user friendly application in which each and every task related to citizen will be performed efficiently. These therefore provides facility for identification and verification services to other entities such as Ministries, financial institutions, Hospitals, Road safety officials, Police and other authorized personnel. It provides a unified smart Identification card for Nationals and Residents, Interface with other systems such as: labor, health, justice, education, and telecommunication. The system will build an integrated information database for the entire population, eligibility or ownership verification would be facilitated by attempting to buy age-restricted products or identify drivers' age and eligibility.

The system allows citizens to apply on-line through this flexible system and be scheduled for the date and time to complete their registration, web-based user interface allowing citizens to log-on using their smart card and view the details stored about them on-line, support for web-based enrolment system for a number of services without completing multiple forms such services include library, proof of age, e-purse, staff card, payments, citizen cards can be a useful administrative tool that can increase efficiency in dealing with both the government and private companies, commercial organization such as banks typically do not try to authenticate the identity of a person, but rather the validity of a transactions (e.g. by signature or PIN) due to the acknowledged difficulty in reliably identifying an individual in a fraud proof and convenient manner, potential reduction of fraudulent financial activities. An identity card can accompany any purchase and requested by the seller. Biometrics would make it harder to fraudulently obtain cards. Cards could not be bought off the street with a photo superimposed, and airline boarding would be more efficient and officials screening passengers could quickly verify identities. Law enforcement agents could quickly identify and verify the individual through their card and the use of card reader for the purpose intended. With the unique National Identification Number known as NIN (Omoniyi, 2012) introduced within the concept of Citizenship Information Management Card System both the residents and the government will require less stress in identification processes however, Alkhurayyif (2013) maintained that passport is a suitable document that can be used to prove identification both nationally and internationally.

National Identification Number

A national identification card is part of a system in which a unique identifier, a national identification number (NIN) is associated with every citizen of a given country, just like

the Bank Verification Number (BVN). A national identification number is used by the governments of many countries as a means of tracking their citizens, permanent residents and temporary residents for the purposes of work, taxation, government benefits, health care and other functions. While different countries have different views on using national identification, many countries are positive towards having a national identification system (Hiltzet *al.*, 2002:1).

The unique NIN is principally to give the country a dependable database of the count of its citizens and other residents. The NIN is a non-intelligent numbers given to individual in order to differential two individuals with exact name upon enrolment (Osunade, Olanrewaju and Phillips, 2013). Enrolling for NIN will require an individual's demographic data and capturing of the upper part of the body, head to shoulder facial picture, all fingerprints of both right and left hand, including other biometric features and signature which are used to check existing data for redundancy and multiple registration in the system database, for confirmation, nonexistence of the same data. After successful data capturing and found to be unmatched, the data is then stored and the unique number known as NIN is then generated (Omoniyi, 2012). This set of numbers uniquely assigned to individuals will be embedded within the smartcards issued to citizens. When NIN is issued to a person, it signifies that the number cannot be in use again to avoid replication and safe storage of individual information even if the person having the NIN is deceased. Individuals are easily refers to, using this set of number which instantly identifies them within the database by calling the number, and gaining access to the database will only be by request and authorization by organization which can only have access to data of individuals that are relevant to their organization.

The NIN when implemented must be a requirement for every citizen and legal resident so as to helps the government in decision making and planning, it differentiate two or more people with the same names and makes identification easier. According to Osunade, Olanrewaju and Phillips (2013), information such as home address, phone number(s), date of birth, parents' information, DNA information, criminal record, vehicle registration, vehicle insurance, plate number registration, driving record, marriage information and even employment record of people should be stored with the number. This will allow a full information of individuals, avoidance of multiple registration in both public and private organization and ease individual access to amenities without further registration on spot.

Throughout the globe, Identification cards are used to provide citizens with access to specialized resources, benefits and privileges. The project citizenship information management card system will offer an end-to-end solution that will help government increase security, maximize efficiency of a wide variety of identification programs, good decision making and planning appropriately. If an organization wishes to ascertain the identity or age of one of its users, the third party information company can call for

the information supplied against details held on the Citizenship information management card system central database.

Approaches Taken by Nigerian Government

Aginam (2008) highlighted approaches taken by the government such as the synchronization of data among the Central Bank of Nigeria (Bank Verification Number), Federal Road Safety Commission (drivers' license database), Independent National Electoral Commission (Permanent voters' card), Nigerian Communications Commission (SIM card registration) and NIMC in order to have a single national database, which will effectively have full details of Nigerians. The national identity programme which is ongoing is incomplete (Osunade, Olanrewaju and Phillips, 2013) due to less participation by Nigerians, resulting to lack of identification by those who do not drive and not having drivers' license, those who don't use mobile phone and those who are still having doubt about the process of identification.

The Federal government through Ministry of Finance and other parastatals try to capture civil servants data by means of salary payment using the IPPIS platform. Recently, the President ordered the military and universities to join IPPIS platform (IPPIS, 2015), this could be means of having data of all other employees available and can later be synchronized to form an identification. The issue of carrying multiple identification still remain and the validation and identification still remain an issue however, with a single card, having the NIN, and the use of card reader by organisation and enforcement agencies will also resolve the validation, identification, malpractices and corruption. Government approaches are highlighted in Table 1.

Significance of the System

The essence of this system is to design a modern population register and identity management system that provides a secure and safe environment for citizens and residents while protecting people privacy and supporting the planning of allocation of resources, benefits and services, promoting economic growth. Whereby the front-end partners (FEP), of the NIMC agreed with, central bank Nigeria (CBN), mobile phones operator and other private and governmental agencies to capture citizen's biometrics, giving the National Identity Numbers (NIN) and the General Multi-purpose Identity Cards (GMPC), and providing infrastructure for verifying and linking bank accounts, mobile phone number, National health identification number to the issued NIN within the NIMC data base (Osunade, Olanrewaju and Phillips, 2013).

Table1: Highlights of the Nigerian Government Approaches

S/N	Project/sector	Year implemented	Issues of previous approaches by Government
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1	INEC Electronic Voters Register	In progress	Only interested voters obtained the card
2	NHIS Patient Card	2005	Only the Federal Government employee
3	National ID Cards	In progress	Lack of will to register
4	FRSC	1990	Only drivers
5	University student ID	2001	Only students
6	Value Card	1998	Only for interested bank customers
7	Pen Com National Database	In progress	Next of Kin to deceased
8	ECOWAS Harmonized E-passport	In progress	Only among travelers
9	State Governments	2003/2004	Disparities among different States
10	Bank Verification Number	In progress	Unique number peculiar to bank customer

(Source: www.nimc.gov.ng.)

This system will be capable of providing the information related to Citizens within a country in a click that provides every needed information and allow the citizen access to services without the use of multiple identification. Every country has its own citizen policies in which each and every citizen will have their unique national ID through which the personal information of each citizen will be verified and updated. In order to get work done from any government based offices, using the citizenship information management card system, users can perform different activities such as paying for bills such as telephone bills, electricity bills, mobile phone recharge, tickets booking as well as bank services which include taxing services, insurance services, mobile transfer, credit card services, credit rating system, by making use of the credit rating systems, the personal information of the user can be identified through which the person's character can be noticed.

The Citizenship information management card system will keep details of citizens on a central database so that if some organization or authorized person queries a citizen's card, the organization or the person querying the card will be able to confirm the legitimate cardholder and the system will store the details of the query, such as the time, date and the organization that calls the data. Third party information company can have access to a fraction of the citizens card central database for the purpose of age validation, identity authentication, fraud prevention and use of such information provided by the citizen, because many organizations need to be sure of their clients age or identity and can directly copy from the database so as to save the citizen time to fill multiple forms with the same information. Using a Citizens Card will be mandatory, because it will make life much easier. Even if a citizen have an international passport, Citizenship information management card system means the citizen can leave this valuable

documents safely at home. Citizens will not require a “card” for driving license as such authorization will be involved within the Citizen Card. Using a Citizenship information management card system means that the citizen can access the products and services to which citizens are entitled to.

System Components and Description

Any national identification system should be based on four key components:

1. *An identity verification system:* This will verify the identity of the person by using biometric features.
2. *A database:* this serve as the storage location for the information of the citizens.
3. *A card:* the smart card that could be presented on a request or for verification.
4. *A card verification system:* This will verify the authenticity of the card and the details that are allowed access to the authorized person or organization, such as the card reader.

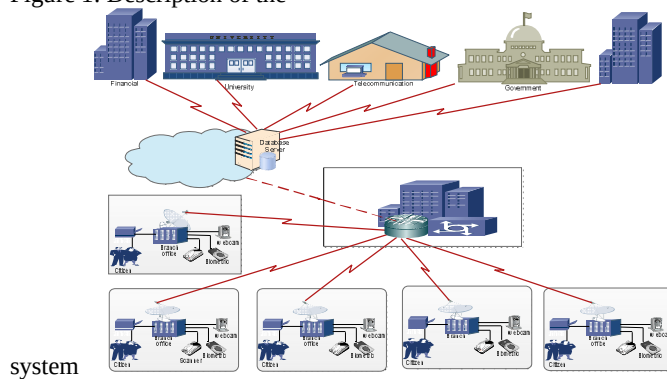
While the card is the most visible of these components, without the other components working together, the card is not especially useful. Before a card can be issued, there must be some means of assuring that the person receiving the card is who he or she claims to be, due to this, any identification system is only as good as its ability to verify an identity in the first place. Issuance of the identification is accompanied by the entry of the person's identifying information into a database. But an ID database, no matter how sophisticated, only gives basic information about the person identified: weight, height, hair and eye color, address.

Proponents of new national identification systems believe that adding technological features to the cards themselves will eliminate problems inherent to such systems, like fraud and forgery. History does not smile on this belief. If a card can be affordably mass-manufactured, it can also be forged. The addition of hi-tech features such as embedded smart chips, biometric interlocking, and linking of card data to databases, all promise to make cards less forgeable, and for a while will succeed. However, a cruel paradox of identity card systems is that the more secure a card is, the greater its value, and the greater the incentive and reward for breaking the card.

Finally, deriving any value from building enhanced hi-tech security measures into a national identification system will require massive card verification architecture. Putting a microchip on an ID card only improves it if there is a fair chance that a police and road safety officers, airport gate worker, banking officials or other personnel who should have cause to inspect the card has a machine capable of reading its advanced features. The police officer and road safety officials only need a card reader to verify the age of the driver and the validity of his driving license which is embedded with the information of the driver in the database.

The client who also is a citizen or resident goes to the branch office for registration. The necessary biometrics are captured and the information send to Central site with Access Server (the client can register and check his data due to the flexibility) this is stored in the Database Server. The financial institution, University, Telecommunication, Government, hospital and relevant government enforcement authorities will access information relevant only to their job at that particular moment.

Figure 1: Description of the



Scenarios

A client, after obtaining the identification card which has the National Identification Number (NIN) will use the card in the following scenarios.

Bank Scenario:

1. The client walk to the bank to open a bank account, instead of filling all the form required, the client present his Identification Card and only the relevant information is retrieved from the card by the bank through the NIN.
2. The client walk to the bank to withdraw money and other services, to validate and identify the client, the bank use the card reader to check relevant information on the Identification card.

Law Enforcement Scenario:

1. The officer stops the client to check the vehicle registration, driving authorization, and personal identification, the client present the Identification card to the officer. The officer use the card reader to retrieve the information of client such as the age (18 years for driving permit depending on the law of the land), the card reader shows client authorization to drive and the validity of the authorization.

Hospital Scenario:

1. The client presents his Identification card to the desk officer, enter the NIN and verify the Insurance scheme and then direct the client to the appropriate office.

These scenarios show a few from the relevancy of the citizenship information management system that has the NIN, it makes it easier for the client who happens to be the citizen or resident of a country and also easy for the officers who need to verify the people who seek the services of different parastatals.

Conclusion

The system had signifies the use of citizenship information management card that captures all the necessary and useful information of a citizen in a country whereby giving the public and private organization less stress in identifying and verifying the citizens. With the help of the present data captured by the banking section, the BVN had becomea stepping stone into achieving the NIN. This system also create an avenue for less stress of filling forms and other documentation, which can easily be retrieved by providing the identification card in which the national identification number is retrieved the authorized personnel. This study presents the citizenship information management card system for effective use of citizens' information without replication and redundancy, with easy access to the relevant authority whereby eliminating corrupt practices within the society.

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