UID, Cloud Computing & E-Governance

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ABSTRACT
The Aadhar project is being implemented in India. UIDs are being given to all citizens. The distribution of UID cards has begun in the near past. The card has certain features which provide uniqueness to each individual and that uniqueness can be availed in various online services available in India. On the other side, E-Governance projects are being developed and implemented at mass level in developing countries. Common services Centre are being provided to rural citizens so that they can avail online Government necessary services at their doorsteps. Moreover providing these services online would also diminish the digital divide between rural and urban. E-Governance services will be affected a lot with the introduction of UID. This paper addresses certain effects of Implementation of UID in the E-Governance services in our country. In this paper how cloud computing can also be beneficial in E-Governance is also stressed upon. The present status of UID and E-Governance in India is also shown. There can be other benefits of E-Governance for a developing country like it can help in reduction of corruption.

KEYWORDS
UID, ICT, SOA, E-Governance, CSC

1. INTRODUCTION
Technology can not work in isolation; It has to reach out one and all. Also it is a vital for citizens to receive the services they need when required at the minimum cost [17]. The worldwide Internet has changed our lives in terms of the way we work, learn and interact. We live in society of a democratic country where Government can not abstain from the great impact of Internet. The effect of Internet on our lives also affect various functions in the Government in the terms of relationship with its citizen, organizations, businesses and other Governments. Hence this interaction in Government sector with various organizations is done with the help of E-Governance. E-Governance is the application of IT to the processes of Governments functioning to bring bout Simple Moral Accountable Responsive and Transparent (SMART) Governance that works better, costs less and is capable of fulfilling the citizen’s need as never before [17]. The Aadhar Project, a big part of the national E-Governance plan in India, earlier known as Unique Identification Number or UID aims to make our welfare systems more accessible and fair to every citizens of India. For this purpose, the Government of India (GOI) has constituted the Unique Identification Authority of India (UIDAI) which will provide every resident, a unique identification number that will serve as a universal proof of identity, allowing residents to establish their credentials anywhere in India [18]. The Authority is to issue a unique identification number (UID) that can be verified and authenticated in a cost-effective manner, and that is robust enough to eliminate duplicate and fake identities. This ID will be assigned on the basis of the uniqueness of the resident’s biometrics. For this, the fingerprint and iris-related biometrics of each resident will be captured. It will enable to correctly establish the identity of an individual by linking the UID number to the demographic and biometric information. Unique identity is one of the 27 mission mode projects—designations given by the national E-Governance programme to projects that would help establish it as the efficient new way to govern in the technological age [19]. Cloud computing is the development of parallel computing, distributed computing and grid computing. To users, cloud computing is a Pay-per-Use-On-Demand mode that can conveniently access shared IT resources through internet. Cloud computing can much improve the availability of IT resources and owns many advantages over other computing techniques [20].

2. UID AND ITS APPLICATION
UID stands for Unique Identification Number and new name for the project is given as AADHAAR means support. It would provide support to many deprived people in making them available their rights also it will provide support in providing proper identification to the individuals and this UID will be linked with a person’s Passport Number, Driving License, PAN card, Bank Accounts, Voter ID etc and all this information will be checked through a database. A combination of technologies would be used as the UIDAI [6] rolls out. UID would help in identification of real beneficiaries for various schemes of Indian government. If we identify a person or an activity with foolproof medium then problem of frauds & security can be minimized and needed people would get their shares in Government schemes. UID can assist in the positive identification of unique individuals and families [5]. E-Governance holds great promise in the developing countries. But many ICT projects fails because certain problems in these countries. The problems include lack of proper planning, stability of administrators having interest in implementing such projects. The survey in Ethiopia and Fiji [7] also shows that...
corruption is perceived to have a significant adverse effect and red tapeism is also a biggest hurdle in the way of improved Government citizen relationship. One of the major challenges in the country like India is non availability of proper identity of an individual. By looking at the features available in the UID this can be used for identification in various schemes of Centre Government and state governments in India. It would help in reducing corruption, increase transparency and thus would help in removing poverty from rural India. Until and unless we do not have the reliable and proper way to identify the beneficiaries how can we talk about their interests. UID will provide so many solutions of many problems based on the identity of an individual in India. This unique number will be linked to many departments for various purposes and identification for various schemes. A huge database for storing complete information is required. Infrastructure already available can be fully utilized with the help cloud computing.

3. CLOUD COMPUTING ITS UTILIZATION FOR E-GOVERNANCE
Cloud computing is a technology that uses the internet and central remote servers to maintain data and applications. Cloud computing allows consumers and businesses to use applications without installation and access their personal files at any computer with internet access. It allows for much more efficient computing by centralizing storage, memory, processing and bandwidth. Very simple example of cloud computing is Yahoo email or Gmail etc. There is no need of software or a server to use these mail facilities except an internet connection. The server and email management software is all on the cloud (internet) and is totally managed by the cloud service provider Yahoo, Google etc. The consumer gets to use the software alone and enjoy the benefits. Cloud computing provide basically three service segments: SaaS (Software as a service), PaaS (Platform as a service and IaaS (Infrastructure as a service)." Each segment serves a different purpose and offers different products for businesses and individuals around the world [1]. The most affected would be various companies and Government due to this paradigm shift. This technology can be fully utilized for various E-Governance services provided by the government at the door steps of common man. In case of Companies software companies, internet service providers and hardware manufacturers would also be affected a lot if Cloud computing is being utilized properly. SaaS can be utilized for various E-Governance services (G2B, G2G, G2E, G2C). In case of PaaS database services, backup services and other middleware services can be provided effectively. IaaS allows various stakeholders to utilize the services of Hardware, Storage and Network. Cloud computing potential lies not only in the evolution of technology but also in a sourcing strategy that uses resources shared by large number of users. Cloud computing benefits may help in minimizing certain challenges of E-Governance. Cloud computing can be helpful in rolling out new projects and services. IaaS feature of cloud can be utilized for this purpose. Hence clouds can minimize the time to deploy new application instances. Corruption is a big problem in India and cloud computing can help in analyzing huge volume of data and detecting any fraud. Corruption and red tapeism can be controlled by keeping the providers of the services accountable. Cloud virtualization technologies allow backups and restoring and hence help in disaster recovery. Cloud computing provides the facility of application migration seamlessly as compared to traditional data centres. Also various security features can be provided in the E-Governance applications with the help of Cloud computing. Cloud computing also helps in minimizing pollution. Because if we are to maintain our resources at many places it will require lot of power, air conditioning at all places but as we utilize the same infrastructure in case of cloud computing lot of power consumption as well as environment can be saved particularly in case of data centres. No doubt there are many benefits of cloud computing in the era of Information age. But still we hesitate in utilizing the potential of cloud computing due to various challenges of cloud computing.

4. CHALLENGES OF CLOUD COMPUTING
Cloud Computing can fundamentally revolutionize the way technology is used in public sector and reject the view that the public sector has to ride behind the private sector in IT innovation. UID application will be architected for the cloud and will sit on an e- Governance cloud platform. Cloud computing can permit to uniformly cover the whole country with E-Government units that may be richer or poorer, and better or worse prepared to provide e-services. Moreover, cloud computing permits to considerably minimize costs of IT in the public sector which are often one of the main obstacles to E-Government deployment. Organizations like Government agencies, defense services, education sector can take advantage of cloud computing [16]. Cloud computing faces many of the same challenges as other information and network technologies: performance, security, resiliency, interoperability, data migration, and transition from legacy systems[3]. Data confidentiality is one of the most difficult things to guarantee in a cloud computing environment. As public clouds grow number of people having access to customer data also increase and hence number of chances of breach of confidentiality also increases. Due to data duplication at many places for performance and fault tolerance also provides more chances to data thieves. Also end-to-end data encryption is not yet available. Data must be decrypted on the cloud’s server when being processed for a query or a transaction, unless fully homomorphic encryption is used [2]. TCP can be used as the hardware base for the cloud computing system and provides some important security functions, like authentication, communication security and data protection [4]. Cloud computing provides a solid foundation for providing services to various stakeholders including companies, end-users, administrators and Government. Applications designed on the basis of Service Oriented Architecture (SOA) and deployed in
cloud architectures will benefit the government in reducing operating costs and promoting Governance. SOA and cloud architectures when properly applied to developing E-Governance applications have the capability to transform the nation into an Information Society [12]. Cloud helps enabling E-Governing services faster and cheaper thereby hence is an excellent tool in accelerating the adoption and use of Information Communication Technology (ICT) for e-services.

5. E-GOVERNANCE AND ITS PRESENT STATUS

Government is convinced that the gap between the rich and the poor, between the more developed and the less developed, between the urban and rural population can be bridged by empowering the less privileged sections of society by providing equality of opportunity to access information and services. Hence Government procedures in all Departments shall be re-engineered to use the ICT tools for attaining speed, transparency and effectiveness in implementing Government decisions and reaching them to the people. Various Departments and important administrative set ups of the Government shall be connected to the Secretariat Local Area Network (LAN). Computerization of District and field level offices of all Departments shall be taken up expeditiously. Departments connected with important public services and utilities shall be automated in their functioning and suitable public interface will be designed to provide the services [9].

After implementation of RTI Act , 2005 Government information such as various Cabinet Decisions, forms, procedures, programs, projects, schemes, tenders, quotation calls, notice etc. will be displayed in the State Portal for reference and use by the public. Designated Information Officers in individual Departments and offices shall be responsible to provide all information Needs. E-Governance is an evolutionary phenomenon, and requires a change in the mindset of one and all citizen, executives or the Government [10]. With the use of Internet, the Government processes can be made efficient, effective and citizen friendly. Various projects have been implemented by various Governments but these are fulfilling the limited needs only and there is a need to adopt a holistic approach to progress and transform these to make them self sustainable. E-Governance, in simple terms Electronic Governance can be defined as giving citizens the choice of when and where they access government information and services. While E-Governance entails the processes used to provide services to the public, E-Government is the tool to accomplish E-Governance. It makes the citizens the focal Centre of Government in terms of service delivery [11].

Classification of E-Governance may include G2C,G2B,G2E and G2G. Major objective of E-Governance can be improved efficiency, services, building trust among Governments and citizens, can empower remote rural areas by high speed Internet access, greater participation by citizens in Government and many more. According to one school of thought, E-Governance is not just about government web site and e-mail. It is not just about service delivery over the Internet. It is not just about digital access to government information or electronic payments. It will change how citizens relate to governments as much as it changes how citizens relate to each other. It will bring forth, new concepts of citizenship, both in terms of needs and responsibilities [8].

6. STATUS OF E-GOVERNANCE IN HARYANA

Various citizen services such as payment of utility bills like Electricity Bills, Water and Sewerage Bill, Telephone Bills, Holding Tax, Filing CST Returns, Exam Fees , Filing IT Returns, Registration of birth and death and getting related certificates, getting various permits and licenses, downloading of Forms and Government Orders etc. will be designed to be made available to the public through State Government Portal. These services will be available to the public from the information KIOSKS. In Haryana current status of Common Service Centres is that 1159 CSCs have been rolled out and with the help of these CSCs G2C services will be delivered to the citizens at their doorsteps. A cluster of six villages will get one CSC and these CSC will be enabled with the proper IT infrastructure and connectivity. PPP model of implementation will be used to implement this CSC scheme in rural India. This CSC scheme is a part of the NeGP under Bharat Nirman. Also CSC scheme envisages three pillar Model namely State Data Centres, State wide area Network and Common service Centres. The Haryana State Information Commission is ready to implement an SMS service that will provide answers to RTI queries like status of appeals, complaints, decisions and the dates of hearing of cases. The state commission has tied up with a Hyderabad-based think-tank, Centre for Good Governance, which provides e-Solutions on good governance. After working for almost a year on the SMS project, the centre is all set to implement it. Besides, the state information commission is in for a total overhaul of the system with digitization of all complaints and appeals underway. It is in the process of revamping its website so that appeals are filed online effectively and residents don’t have to travel all the way to Chandigarh to file their complaints [13]. HARTRON is coordinating the implementation of both the SWAN and CSC schemes in Haryana. In the initial phase, a bouquet of about 10-12 Government to Citizen (G2C) services like land records, electricity bills, certificate issuance, etc. have been targeted for immediate provision in the upcoming centres. HARTRON officials together with technical support of National Informatics Centre (NIC) staff will overlook the process. In addition, the CSC Division in HARTRON is also negotiating with various agencies State Bank of India and Department of Posts, to provide valuable services to the citizens in the villages through the e-Disha Ekal Seva Kendra network. Haryana has launched its first e-Disha Ekal Seva Kendra in Chiken Village of Panchkula District of Haryana on July 30th 2007[14]. Backend operations and integration of departmental applications with databases would be handled by the IT department in technical consultation with NIC – HRSC and the front end operations of running the e-Disha portal of the state government would be handled by the PPP partner. Respective
stakeholders shall work as per their roles and responsibilities, which would be clearly delineated. The project would be a trendsetter in the state and will ensure delivery of services with efficiency, effectiveness and transparency. The management of such a project would definitely be a stupendous task and would involve coordination of all the stakeholders. The synergy and convergence of efforts of all the parties would be necessary for smooth working of the citizen centres [15].

7. CONCLUSION

E-Governance is being implemented in India throughout all states. Simultaneously UID is being implemented being one of the MMP of NeGP. This UID will provide unique identification of all citizens to avail various E-Governance services. Major problem in India is that of identification of the beneficiaries of a particular scheme. If AADHAR project is implemented successfully then it will be linked for various purposes in E-Governance services. It would help in reducing corruption upto some level which is increasing day by day in India. Being a developing country the numbers of resources are less as compared to developed countries. But at the same time utilization of Cloud computing for E-Governance will help us a lot to become a leaders in E-Governance. The combination of UID, Cloud Computing in implementing E-Governance would help us a lot to reduce poverty and digital divide in India.

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