

The Challenges of National e-ID for Kurdistan Region government for Multi-purposes

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Abstract: Kurdistan in Iraq is a non industrial region in Iraq. Since 1992, Kurdistan parliament has declared some rules and regulating in diverse areas omit Assemblage technologies and bearing electronics scheme. The National E-ID project brings an optimized frequent platform for Carpet Region Authorities to interact with varied authorities, agencies and transact electronically, and has been set up to promote comprehensive citizenship, impelling governance, the cashless action and efficient ontogeny. With the integration of driver's license, voter registration, health insurance, tax and pensions into one platform, the project is expected to transform both the way the government interacts with the public and the future development of Kurdistan Region Iraq KRI. The National e-ID project has been brought in to address these issues. The need for a trusted identity system has also been fuelled by such factors as the growing threat of kidnappings and terrorist attacks, rapid growth in the telecoms industry, the population is declining inclination to travel long distances to access government services, and the recent government policy shift towards a cashless economy with a focus on information and communication technologies. Since 2010 this project has been announced, it but till this moment it does not apply yet. A core element of the project is the new multi-purpose e-ID card combining several applications, including MasterCard's prepaid payment technology and Cryptovision's biometric identification technology using Public Key Infrastructure. This study tries to investigate similar E-national ID system and shows signs of this project as a starting point of E-Government and how it can be integrated into other public and private services to save time and money for our KRI citizens, adding more give a general recommendation for future usage of this system.

Keywords: e-National ID, (KRI) Kurdistan Region Iraq, (KRG) Kurdistan Region Government, Web services, e-government.

1. Introduction

The Kurdistan Region—Iraq (KRI) is a semi-self-sufficient area of Iraq arranged in the northern a piece of the nation, flanking Iran toward the east, Turkey to the north, and Syria to the West. Its range is comparable in size to that of the Netherlands and Switzerland. The national ID card Project Has been announced by the Iraqi Prime Minister in 7-Oct-2010 but till this moment it was not implemented, So the KRI will also apply this system and the ministry of Interior send their staff for training for implementing this project [1]. Ethnic cracks run somewhere down in Iraq, and ethnicity is firmly attached to the natives' more extensive feeling of political and social identity. Some contend that, with exact populace gauges occupied in light of the fact that Iraq has never directed an across the nation, evaluation, archiving residents' ethnicity on the national e-ID card could help the administration precisely focus the span of the nation's different ethnic gatherings. Adding to that other key piece of the e - ID system can be provided by government. The execution of e-ID lessen the spinning volume and expense of conventional ID report and it can be checked a satisfying and helpful instrument for the uncommon reason such; populace enumeration, voting indecision and different undertakings like these. While, poll fixing in KRI and Iraq presidential race has been constantly one of the greatest concerns which with having a solid advanced e-ID framework this issue ought to be tackled. The other noteworthy preferences are its adaptability, security, convenience, dependability, use all around. While paper ID records have been utilized as a part of a few nations for quite a while, today's fast development includes cutting edge IDs with implicit

biometrics and RFID chips. Most of citizen data in KRI are duplicated in flat database, Excel sheets across many ministries of KRG depending the citizen request for specific services. This is a very challenging for each Citizen to apply all its information again and again when need a specific service. The KRG right now gathers an expansive volume of information, however, quite a bit of it is not usable or not benefit capable for approach making, and there are significant security breaches. Points of view on what constitutes "information" shift crosswise over associations and people, making it hard to distinguish existing information sources and information needs to illuminate choice making. Information accumulation limit and routine shift crosswise over government units. Capacity strategies likewise fluctuate, with numerous offices entering and putting away information on paper, notwithstanding when electronic means are accessible. What's more, familiarity with information accessibility is poor: Staff individuals in one service regularly do not recognize what information different services gather [2]. In the wake of dynamite "terrorist" assaults in diverse parts of the world, concerns over national security have frequently taken all important focal point for instance ISIS in Iraq [3]. With them, the thought of building up national e-ID cards for all sectors, or for a subset, such as workers and outcasts particularly from the south and center of Iraq to KRI. Whenever National e-ID cards are proposed, protection concerns are raised, usually under the representation of the state turning out to be so natural to utilize the distinctive per user to peruse native data and wrongness use it, Therefore, it is important to define rules and regulation to use these data by public and private sectors in KRI [9]. The National Identity Cards Project is being intended to meet this prime need of the KRI and its government services. Another vital administration

that the system could give is electronic voting (e-voting) has expanded, and numerous states are pushing for their utilization in legitimately tying decisions. In the meantime, states are receiving national e-ID cards, which give an extremely secure approach to recognize and verify clients over the Internet and consequently permit the natives associating with open powers or privately owned businesses from their home, regardless of the possibility that they live abroad. In e-voting, voter distinguishing proof and verification assumes an imperative part in guaranteeing that just qualified voters may make a choice, that those voters just make a choice once, and that qualified voters are not kept from voting. In this manner, utilizing e-IDs for voter recognizable proof and confirmation by e-voting is a promising future bearing [12]. The quick development of cellular telephones, information transfers and Information innovation, and the Fiber Optic Cable and Copper Cable Networks, give the best foundation to such broadly critical venture. In spite of the likely requirements in the utilization of this base, this is liable to encourage the on-time and best conveyance of the deciding item in KRI region. So this paper will focus on a proposed website framework that uses the national id in multiple service purposes such as (Resident Management, Driver License (DL) system, Vehicle Registration, Digital Signature and other ministries of KRG that shares the National ID citizen. The study will give some recommendation to apply the National ID system as soon as possible to save time and money and resources for KRG and citizen and remove routines. The papers will divide into several sections, section 2 is the background research about the National e-ID systems and requirements. Section Three concerns about the framework proposal of National e-ID and implementation challenges. Finally section four is a conclusion and section five is future work.

2. Literature review:

The Iraqi Government has contracted with Germany companies to implement this national ID system [1]. So this system should apply certain rules and regulation that satisfy Iraqi society. Since 2000, the thought of a "Resident Card" for secure confirmation in broad daylight online administrations has developed, chiefly confined by arrangements for open segment modernization and the set-up of structures for e-government. The official beginning stage was a concordant government's determination on November twentieth 2000 with respect to the conferment of shrewd card innovation to improving open online administrations for residents. At this early stage it was proposed to utilize the eCard as a Citizen Card, i.e. To incorporate the CC-capacity (confirmation/e-signature) on the card with the standardized savings number as an ID property. There were additionally plans to utilize the Personal ID card as a bearer gadget for the CC in the connection of a change of the Passport Act as shown in Figure1.

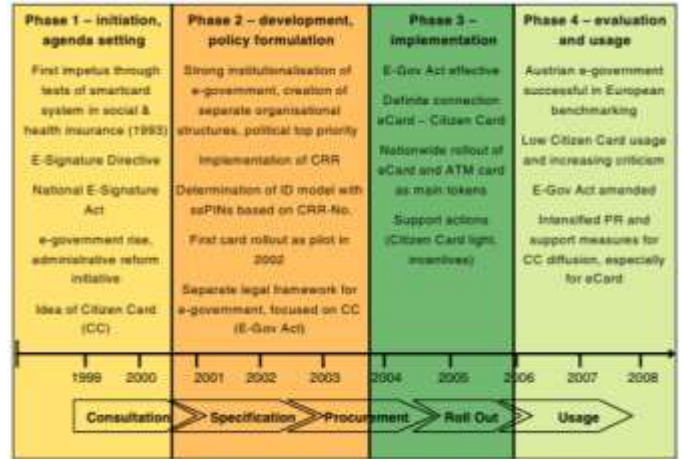


Figure 1 the innovation process of ID General system in Europe in General

Certain individual rights to control the presentation of his own data, in this manner, improving the level of protection and security of the information. To address this, Beslay and Punie, who connected it to personality administration frameworks [11], created the idea of virtual homes. It advances the execution of the basic ideas of limits in the online world— simply like they are actualized in this present reality. The level of security and control access to the clients in this present reality is required to be available in the online world too. Beslay and Punie have highlighted three fundamental viewpoints that should be viewed as in order to guarantee compelling interoperable character administration in online and disconnected from the net spaces, to be specific 'Control of individual data', 'Clear mapping in the middle of physical and virtual personality', and 'Hide data'. For the last few years KRI need to establish a new e-Government, including e-payment so these e-systems requirement a base to start and could build on it. It could possibly have a general unique database for all related information about KRI residents and use it in distributed system [13]. The German Federal Government endorsed the law overseeing the electronic ID card in 2008. The ID card should be issued to German residents beginning November 2010. The Visa measured recognizable proof record will give an ISO 14443 (ISO 2009) agreeable contact less RFID chip. In the accompanying we clarify the three distinct elements of the ID card. 1. ID (electronic identification work) The electronic ID card may be utilized for character checks inside of the nation furthermore as a travel report for particular nations in substitution for a substantial visa. As to the current non-electronic ID cards, individual data, for example, name and location will be unmistakably connected to the new card to take into account character checks by visual review. Also, the electronic ID card will give biometric data about the proprietor. While the digitized photo is compulsory, every subject may choose whether his or her fingerprints are to be put away digitally on the ID card. Biometric information is only available to sovereign powers. 2. Electronic is distinguishing proof for e-Government and e-Business applications (electronic ID capacity) notwithstanding the comprehensive data on the ID card, the holder's close to home information are put away as on-line administration suppliers in e-Government and e-Business. Upon the holder's demand, the electronic ID capacity of the ID card can be initiated or deactivated whenever by the skillful power, i.e. The personality card office. Making utilization of the electronic ID capacity obliges a PC and a

guaranteed card peruse. The ID card holder demonstrates his or her personality to the administration supplier. The administration supplier demonstrates its approval to peruse the individual information from the card. The recent rules are refined by giving a testament of approval, which the administration supplier gets, from an open office upon supported application. 3. Qualified electronic mark The ID card takes into consideration a discretionary chargeable testament, which backings qualified electronic marks as indicated by the German Signature Act. Subjects who choose to incorporate such a testament in their ID card can from that point use it for issuing legitimately tying electronic marks as a comparable to writing by hand marks. This encourages numerous e-Government and e-Business applications [13]. These all functions is recommended to be applied in our KRG National e-ID card system.

3. National e-ID Framework

3.1 Website Framework Scenario

The Framework situation is worrying with the giving administration of national ID to different services and establishments of KRG government. In Reality now it took two hours until 2 weeks for every Institute to figure out how to get their administrative work. For occasion in the event that you need to have a car drive license in KRG you have to have four endorsement Identification record (Personal Identification, Citizen Card, Form of Trading Ministry and data structure to demonstrate your location) if you passed your records then you can handle your work there. What I suggest is making a website that give the support of every other organization to give them the right data and educate the client about it, for instance, nowadays service support the National e_ID for every Citizen with no further administration Services. The appropriate website will give numerous administration web services. Figure 1 beneath demonstrates the proposed situation for giving the web administration to subjects.

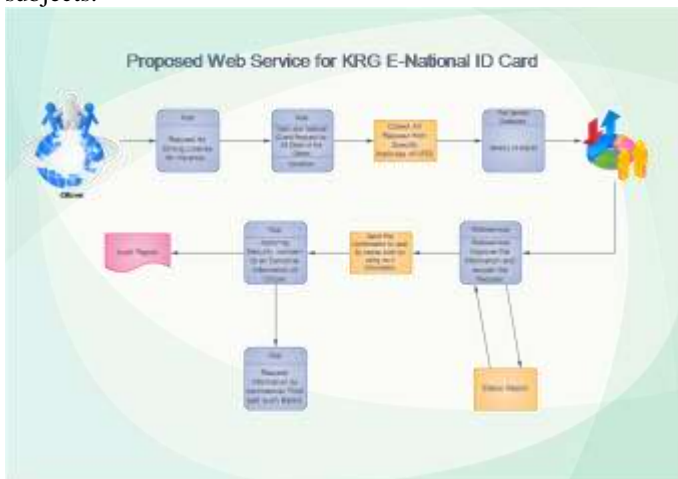


Figure 2 Proposed Web Service for KRG National ID Card

In figure 2 shows that any Kurdistan Citizen if want to have a to ask for government treatment or services what s/he will do. First step gives the institute the their national ID then the institute need to check the information it will use our proposed web service website that check the information from Ministry of interior because this ministry provide the National e-ID in Iraq and KRI. The Interior Ministry will approve the

information, will send the details of citizen information according to the request with highly secure protocols through our website, and will acknowledge the user with an SMS message with code for further update. This process is will take several minutes rather than days or weeks to finish.

3.2 Information Security Challenges

e-ID cards have proceeded the rapid evaluation as a huge demand for increasing population growth's identification in the world. According [5], the issues surrounding the security of the e-ID include device and software reliability to assure compliance with the established authorization scheme of the system. Experiences from other countries show that the issuance of e-ID prevents from identity theft, and facilitate to accelerate the implementation of administrative activities and reduce the multi procedures efforts, for better recognition for employment, enrollment for public services as a unique formal identification document. For example, Afghanistan with an aggregate populace of almost 27 million near of the population of Iraq 33 million [6] has been the center's purpose of worldwide guides for economy and base improvement. With sound administration of GTR Company and participation of universal accomplices and national customers Afghanistan's MCIT (Ministry of Communication and Information Technology) and MOI (Ministry Of the Interior), the longing for usage of National e-ID Project works out. Every accomplice attempts to understand its image and past example of overcoming adversity in the field, and this accomplice is recorded as taking over: another case study UK is adding to building up the PKI (Public Key Infrastructure). Korea does the primary offer of the e-NID venture, for example, e-NID programming (According [7], e-NID Software advancement is done at the e-NID Center in Seoul; Pashto/Dari dialect enablement, Calendar, and social specifics are to be tried on location before arrangement), biometrics frameworks, and IC chip (Integrated Circuit). At last, Malaysia supplies the crude material of ID card and card printing offices [7] all these are under GTR organization. Subsequently, preparing projects, tests, and remote specialized backing and correspondence offices were completed. Secure personality is playing a perpetually essential part in the world as the worldwide populace develops and gets to be progressively portable, both authoritatively and informally [8]. The security issue should take it into consideration when design this system. The security and character of client data in the physical and virtual universes have been a region of interest toward numerous years. Various speculations have been created in the past with the target to enhance the security and personality. [10] Composed a standout amongst the most critical hypotheses for securing verification convention for multi-server environment utilizing element ID. Their hypothesis depends on the nonce-based (a worth or counter) instrument instead of timestamp. It is critical to give an. The KRG government and ministry of interior has significant challenges to protect Iraqi and KRI citizen from National e-ID information lost, hacking and misusing them. There are many information security should have considered against information lost, such as Infrastructure Network Security, Database Security, web system security. For network security issue there are new approach called Honeypots which are security advantage whose quality lies in testing, assaulted or traded off. This implies that whatever we assign as a honeypots, our, objectives are to have the framework to be examined, assaulted, and possibly misused. It doesn't matter what the asset is (a switch, routers scripts running imitated administrations, a correctional facility, a real generation

framework). What does make a difference is that the property quality lies in its being attacked. If the framework is never tested or assaulted, then it has almost no worth. This is the precise inverse of most creation frameworks, which you would prefer not to be tested or assaulted [16]. The main role of a honeypots is to proactively assemble data about the security dangers by furnishing a genuine framework with genuine applications and administrations for the assailant to communicate with, however with no generation esteem: we can securely watch and gain from an interloper without the trepidation of trading off our frameworks [14]. The estimation of a honeypot is weighed by the data that can be gotten from it [15]. Regularly, the assailant has dependably had the activity. They control whom they attack, when, and how. Everything we can do in the security group is safeguard: fabricate efforts to establish safety, keep the awful gentleman from getting in, and after that distinguish at whatever point those preventive measures come up short. As any great military strategist will let you know, the mystery to a decent safeguard is a decent offense. Nevertheless, how benefit the people take the activity on the internet? Security executives can't go haphazardly assaulting each framework that tests them. We would wind up bringing down the Internet, also the obligation issues included. Associations have dependably been constrained on how they can take the fight to the assailant. Honeypots give us the point of interest by giving us control: we permit the awful people to assault them [16]. Honeypots can run any working framework and any number of administrations. The designed administrations focus the vectors accessible to an enemy for trading off, then again examining the framework [15]. Therefore, it is recommended to use Honymyots infrastructure. Regarding the Database Security there are many challenges, Database system management of National e-ID should have these properties:

A. Access control management (ACM): an ID card contains the information of a cardholder; this information appears as plain content. When the information on the National's carrier ID card requested the administration supplier demonstrates either the private key or the information of a pin. This technique can secure the classification of the holder against an assailant who has a goal of getting to the information.

B. Unique Identification: this component deflects employing to brush databases verity identifiers in diverse application spaces. By utilizing this approach, the individual's information cannot be distorted.

C. Privacy Disclosure: with a specific end goal to regard the protection, what's more, approval standards, just particular data should be unveiled when a cardholder's data are gotten to. For instance, if an investor might want to check the client's address, the card.

D. Checking single mode: utilizing confirm just mode technique makes the information in a character card more secure. The recognizable proof cards ought to have a questionable motor that keeps running contrary to the ID card information or approve the card to return, simply chose fields and match it inside of a sure information range. Take the instance of Passport checking the time of the client. Scrutinizing the client is whether above 18 years of age or not, the personality cards simply react with a yes or no answer instead of uncovering the client's date of conception.

E. Accessibility: The biometric keen ID cards have more accessibility than their forerunners. Whenever a recognizable proof card is joined with the principle PC database, the card can be gotten to and recovered effectively [17]

F. Biometric layouts: this methodology is a successful method to diminish the measure of danger that comes from robbery or loss of recognizable proof cards. In this technique a biometric format is put away on the card which can get to the biometric information put away on a focal database. This implies that no genuine data is put away on the card and hence it gives a high level of assurance to the CIA triad (Confidentiality, Respectability, Availability) [18].

Regarding web system, security Building up a safe framework is not a simple assignment as giving an ensured login screen. Henceforth, an additional exertion is required to accomplish security necessities. Different security objectives can be accomplished by applying security examples amid outline phase. Security examples are an arrangement of suitable strategies for investigating, creating, and testing new security mechanisms. The security properties, for example, verification, trustworthiness, non-denial, confidentiality, availability, and approval. Identified with these security properties, various security dangers, for example, parodying, altering, renouncement, data exposure, disavowal of administration, height of benefit are accessible which can influence the system. [19] depicted an example dialect for security concerns, having six examples. In spite of the fact that for any application, all examples may not be connected; but rather taking into account security necessities for the contextual investigation on the web keeping money framework, five programming, security examples, for example, Single Sign On, Check Point, Authenticator, Policy, and Secure Proxy have been considered. Piece of distinguished examples is a troublesome errand in configuration designs. An organization of distinguished security designs alongside the outer environment, principles, and assets is exhibited in as shown in Figure 3.

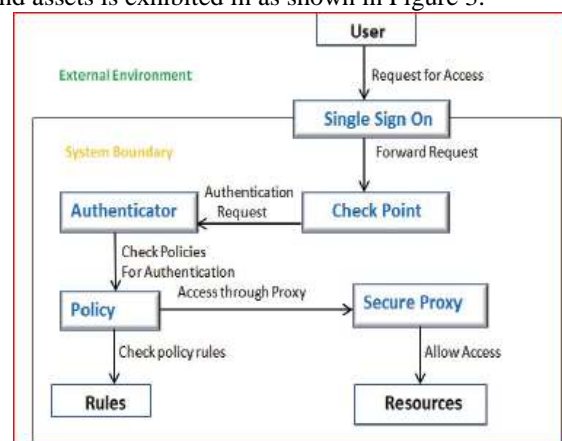


Figure 3: Security Stages [19] for Government National ID System

Figure 3 speaks to the synthesis of five security designs alongside User, Resources, and Rules, When a solicitation arrives, the check point practically in all situations where security idea required. The unwavering quality and security of Authenticator are very little higher. Arrangement depends on security rules. On the off chance that principles satisfy all security necessities for an application, it will be vigorous

against dangers. The dependability and security of this example, rely on upon security techniques and principles. Nevertheless, it is difficult to execute. Secure Proxy has rapid of operation. On the off chance that security arrangement is not fulfilled, it wipes out the asset demand.

3.3 Training Center and Information centers challenge

Electronic National e-ID System in KRG offers tremendous possibilities for enhancing the inward productivity of the general population part and the conveyance of open administrations to subjects and other government customers. The accessibility of talented workforce with great limit for learning is fundamental for National e-ID, alongside different variables like initiative, administrative structures, money related assets, hierarchical conditions, and Information and Technology (IT) foundation [1]. A number of elements are key to effective aptitude improvement for open offices. These incorporate accessibility of the preparation and improvement methodology, correspondence system, sway evaluation of e-national ID, determination of expertise prerequisites and accessibility of execution pointers [20]. These variables can be talked about quickly:

Preparing and Development Strategy: There is a need to give preparing and improvement system to National e-ID as a general's part e-government technique.

Correspondence Strategy: Training and advancement methodology should be imparted to the staff. Correspondence for the most part constructs responsibility and comprehension from staff.

Way Assessment of National e-ID: There is a need to complete the effect evaluation on the staff created by the presentation of electronic administrations, particularly the adjustments in the quantity of staff and their conceivable re-sending to new areas. The presentation of new electronic administrations might likewise require new abilities.

Ability Requirements: Public officers must forces a variety of aptitudes to be prepared for National e-ID. The required expertise must be resolved from the earlier in light of the general medicines, and particular needs and chances of distinctive organizations. This includes setting up the present human limit of an office. The aptitude crevice must be recognized (required versus accessible ability sets) for mediation or improvement.

Execution Indicators: Performance markers are fundamental and valuable for consistent change. They are required to screen the set's achievement focuses as a premise for investigating preparing exercises.

The above variables ought to be considered when building up an arrangement for e-government preparing. The regular steps included in such arranging are: Skill Definition, Initiation, Strategy Development, Sourcing of Resources, Specification of Training Needs, Implementation and Application. Ability Definition includes characterizing particular aptitudes to be created, and relating them to administration and business range necessities. Start includes picking up the assertion from supervisors and preparing divisions and in addition the staff to be prepared. System Development includes settling on how abilities will be produced, giving the method of reasoning for having new aptitudes, making courses of events, and concurring on the general methodology and assets. Particular of Training Needs makes the itemized determination of the required aptitudes, recognizes the objective gathering or persons, characterizes expected results, and unmistakably conveys the desires to all gatherings included in the preparation (staff, mentors and managers). Implementation includes building up the abilities through preparing and different means. The obtained abilities are put into utilization in the Application stage. This stage likewise incorporates all types of misuse of the gained aptitudes for consistent change. Concerning preparing focus the administration could make numerous improvements focus in colleges and instructive institutes to create native and staff to partner with a third party, this should be possible through college staff and lessen costs for government. In conclusion, here are a few proposals on the improvement of KRG government staff:

- 1) There is a need to build up a human asset advancement arrangement for National e-ID as a major aspect of the general key arrangement for National e-ID.
- 2) The Government ought to build up, keep up an ability stock of its representatives, and survey the current expertise holes for e-government.
- 3) The Government ought to frame key associations with colleges, tertiary instruction, foundations and preparing associations.
- 4) The Government ought to start the advancement of the internet-learning framework and make it effortlessly open to the general population workforce for the occasion through organization intranets.
- 5) The Government ought to advance the theory of "long lasting learning" among its staff, as vital for the Information Society.
- 6) The Government needs to urge its staff to characterize and keep up a self-improvement arrangement, like the Singapore's experience [21].

4. Conclusion

KRG government when lunched the National e-ID system need to be taken into consideration the possible future e-government so it is essential to prepare a 15 year plan of infrastructure of information technology for all public sectors. This includes security consideration of the system (Frame Work Security, Network Security and Database security). This National ID system can be expanded to all other e-System such bank system, transportation system and multiple purpose system, that defines by private and public sector that need the

customer ID information. Moreover the KRG needs to be aware of training centers and their employee training in order to still continue to provide the services to the citizen in the government.

5. Future Work

Regarding the Web Framework, the future work will building the web framework for National e-ID from KRG government by providing multiple service using web services techniques with implementing all security concern of database security and web security. The web framework will increase the performance of all ministries and institution of KRG government and help private sectors to involve and give customers, many services that can accessed by his won National e-ID.

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