

E-IDOL: E-way of Issuing Document Online

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ABSTRACT

Online Document Issuance System will ensure that everyone will have access to various documents or certificates one needs from the government on the click of web page button on any computational electronic device. We aim to transform conventional administrative setup to more efficient and transparent organization removed delays and huge amount of paper work with reliable fast service electronically. Our Online Document Issuance System support governance of collector office by using more effective and transparent document issuing System, thereby improving the old governance methods and the services. This improved way of issuing document guarantee the fast delivery and stability of electronic documents. When using storage and issuance services online which are one of core services, users register their electronic documents and they are issued electronically in standard PDF format on their mail.

KEYWORD: E-Governance, Electronic Document Issuance, Interdepartmental Verification, Unique Identification Number, MD5 Checksum.

I. INTRODUCTION

The document is required by Every Indian at almost every step—for admission or for joining a professional course, for participating in a government auction or availing of government welfare schemes like subsidized public . In a move that could well breed more corruption, Every Indian has the right to issue various documents from the collector office, which is issued more than three lakh certificates annually. Certificates and Documents will be issued by the overburdened and short-staffed deputy collector's office. In addition, there is an involvement of agents, lack of transparency, prolonged process with lengthy queues and overwhelm requirement of documents leads to inefficient and hectic document issuing system in India

The purpose of the online web Service is to make the entire process transparent so that any layman can easily follow the step-by-step instructions to get the desired certificate hassle-free and on time. This service ensures the process is convenient, faster and fully beneficial to the common man.

II. CURRENT SCENARIO

When we went to the local office for survey by creating a document we found that the process was very time consuming and there are lots of issues for creation of any document the first is we were not able to find the proper place for receiving of application forms then when we found it there was a very large queue of people and there was only two queue for this office which was unable to handle such a large amount of people it took about an hour to receive an application form and after that we have to fill the details and stand in another queue which was also crowded for submission of our application form it also took long time to fill the form and then we were told that it would take about a month for the document to be created or the other option was bribing the babu so that he could do the work quickly.

From our survey we found that the process of document issuance is very hectic, time consuming and it encourages corruption. It is very difficult for a common man to issue a document and wait till his document is deliver in this process he becomes helpless and frustrated because his lots of useful time is lost and he has no other option for document creation. We also found that the government employees has to face over burden of office task because of lack of employees in front of such a large population and also they are not trained properly and over all they have a hectic schedule so they are not able to do their work more efficiently.

We also found that there is lots of corruption in system from small clerks to big officers maximum of them accept bribe. The low salaries of people made them susceptible, bringing with it more inefficiencies and the easy way of making money with less or no accountability. The crime of corruption is easily forgotten, the law offers easy way back into the mainstream and acceptance by the society. In addition to that it is the lure of luxury, personal status enhancement and the false sense of elitism that makes the corrupt vulnerable to illegal and unethical means of acquiring wealth.

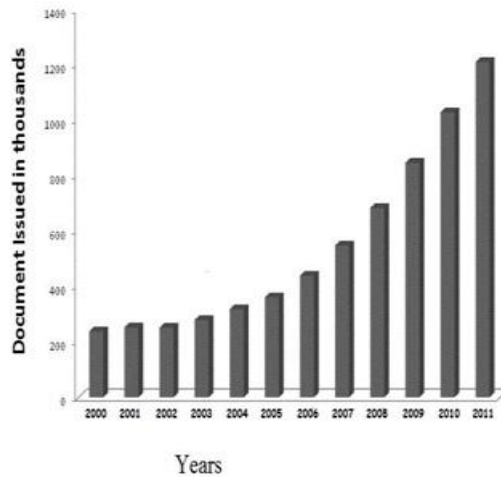


Fig 1: Documents issuance year's wise statistics

As per the survey we have done at Nagpur collector office, we found that the documents issued every year in INDIA are drastically growing as shown in the graph. As Indian population is expanding at a very high rate so the requirement for the documents are dramatically increasing to improve government. After collecting the data and carefully examining it we found out that the number of certificates created in year of 2000 was around 2 lakh and reaching till the year of 2011 it was about 14 lakh which was a great increase. We also found out that for doing such a huge amount of work the employee were not adequate which increases load of work on them and so they are not able to work properly and efficiently. The result of this is that documents issuance time and corruption increases.

The reason behind introducing novel e-governance system is to mini work load on government employees will decrease, the issuing time of document will get decreased and this will definitely help to reduce corruption in government office.

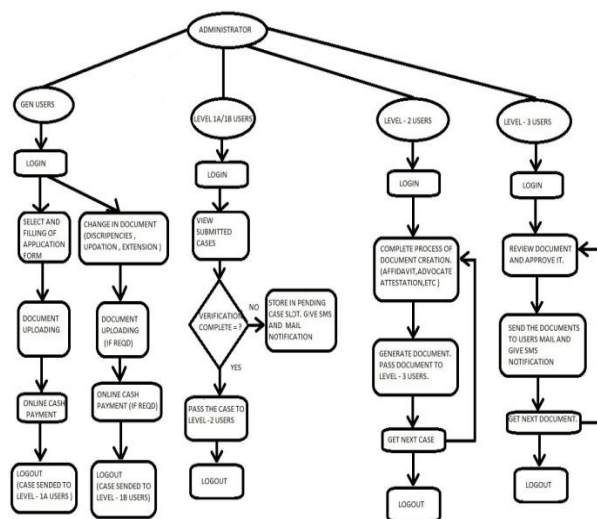


Fig2: High Level Diagram

III. OUR IMPLEMENTATION

We have come up with an idea to issue the documents online this will help to reduce the time, corruption, reduce the burden of staff and it could be applied from anywhere so we have implemented our project in different phases.

A. Phase (1):-

In phase 1 we have done a detailed background survey in Collector office (NAGPUR) and Social Welfare Justice Department (NAGPUR). We decided that first we will create five documents (Cast certificate, Cast validity, Income certificate, Domicile certificate, Non creamy Layer). Then we have done a survey on how these documents are created, authenticated and what time is required for the same.

In phase 1 there will be general user who can login after registration, can view different type of documents which are available for him/her to issue, can request for a document by filling application form, can request for change in issued document from EIDOL and can pay online when it is required.

B. Phase (2):-

The work of level 1A/1B Employer of EIDOL in phase 2 will be that he will login then view the submitted cases and verify their documents. If there would be any document missing he will alert the user by e-mail and text message and give a limit of 15 days to submit the document or will discard the case if the user is not able to submit the document in allotted time. If the user has submitted required documents correctly then he/she will pass the case to level 2 Employer of EIDOL.

C. Phase (3):-

In phase 3 the level 2 Employer of EIDOL will login first then perform the full procedure of document creation. When the document is ready he/she will check it and will pass it to level 3 Employer of EIDOL for approval.

D. Phase (4):-

When the level 2 Employer of E-IDOL will forward a case to level 3 Employer of E-IDOL. The level 3 user will view it and approve it and send the document to user through mail and will also give user a sms notification. The document generated will be stored in database and user can view it in future in their profile's document box.

IV. SNAPSHOT

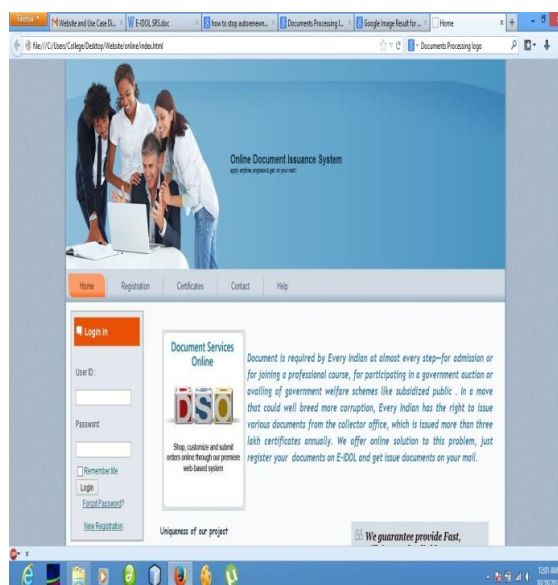


Figure 3: home page

Figure 4: Registration page

Figure5: Certificates Offered

V. SECURITY

Security plays a very important role in any online process. *Security* is probably one of the most significant concerns for us so we have used various steps to make our online process secure by using appropriate protocols and algorithms to make our process secure.

MD5 Algorithm:-

The MD5 message-digest algorithm is a widely used cryptographic hash function producing a 128-bit (16-byte) hash value, typically expressed in text format as a 32 digit hexadecimal number. MD5 has been utilized in a wide variety of cryptographic applications, and is also commonly used to verify data integrity.

MD5 processes a variable-length message into a fixed-length output of 128 bits. The input message is broken up into chunks of 512-bit blocks (sixteen 32-bit words); the message is padded so that its length is divisible by 512. The padding works as follows: first a single bit, 1, is appended to the end of the message. This is followed by as many zeros as are required to bring the length of the message up to 64 bits less than a multiple of 512. The remaining bits are filled up with 64 bits representing the length of the original message, modulo 2^{64} .

The main MD5 algorithm operates on a 128-bit state, divided into four 32-bit words, denoted A , B , C and D . These are initialized to certain fixed constants. The main algorithm then uses each 512-bit message block in turn to modify the state. The processing of a message block consists of four similar stages, termed *rounds*; each round is composed of 16 similar operations based on a non-linear function F , modular addition, and left rotation. Figure 1 illustrates one operation within a round. There are four possible functions F ; a different one is used in each round:

$$\begin{aligned}F(B, C, D) &= (B \wedge C) \vee (\neg B \wedge D) \\G(B, C, D) &= (B \wedge D) \vee (C \wedge \neg D) \\H(B, C, D) &= B \oplus C \oplus D \\I(B, C, D) &= C \oplus (B \vee \neg D)\end{aligned}$$

$\oplus, \wedge, \vee, \neg$ Denote the XOR, AND, OR and NOT operations respectively.

B. Securing SQL Server:-

Surface area reduction is a security measure that involves stopping or disabling unused components. Surface-area reduction helps improve security by providing fewer avenues for potential attacks on a system. The key to limiting the surface area of SQL Server includes running required services that have “least privilege” by granting services and users only the appropriate rights.

Principals are the individuals, groups, and processes granted access to SQL Server. “Securable” are the server, database, and objects the database contains. Each has a set of permissions that can be configured to help reduce the SQL Server surface area. Securing SQL Server can be viewed as a series of steps, involving four areas: the platform, authentication, objects (including data), and applications that access the system. The platform for SQL Server includes the physical hardware and networking systems connecting clients to the database servers and the binary files that are used to process database requests.

VI. PHYSICAL SECURITY

Best practices for physical security strictly limit access to the physical server and hardware components. For example, use locked rooms with restricted access for the database server hardware and networking devices. In addition, limit access to backup media by storing it at a secure off-site location. Implementing physical network security starts with keeping unauthorized users off the network.

VII. SYSTEM SECURITY

Operating system security packs and upgrades include important security enhancements. Apply all updates and upgrades to the operating system after you test them with the database applications.

Firewalls also provide effective ways to implement security. Logically, a firewall is a separator or restrictor of network traffic, which can be configured to enforce your organization’s data security policy. If you use a firewall, you increase security at the operating system level by providing a chokepoint where your security measures can be focused.

C. SSL Certificate:-

SSL (Secure Sockets Layer) is a standard security technology for establishing an encrypted links between a server and a client typically a web server and a browser or a mail server and a mail client. SSL allows sensitive information such as credit card numbers, social security numbers, and login credentials to be transmitted securely. Normally, data sent between browsers and web servers is sent in plain text leaving you vulnerable to eavesdropping. If an attacker is able to intercept all data being sent between a browser and a web server they can see and use that information. More specifically, SSL is a security protocol. Protocols describe how algorithms should be used; in this case, the SSL protocol determines variables of the encryption for both the link and the data being transmitted.

SSL Certificates have a key pair a public and a private key. These keys work together to establish an encrypted connection. The certificate also contains what is called the “subject,” which is the identity of the certificate/website owner. To get a certificate, you must create a Certificate Signing Request (CSR) on your server. This CSR creates the private key and a CSR data file that you send to the SSL Certificate issuer (called a Certificate Authority or CA). The CA uses the CSR data file to create a public key to match your private key without compromising the key itself. The CA never sees the private key. Once you receive the SSL Certificate, you install it on your server. You also install a pair of intermediate certificates that establish the credibility of your SSL Certificate by tying it to your CA’s root certificate. The instructions for installing and testing your certificate will be different depending on your server.

VIII. CONCLUSIONS

In this paper, we considered the problem of offline document issuance system of INDIA, in order to maximize the efficiency, security and ease of this system. We developed an efficient Online Document Issuance System making ADHAAR as the base of the system. This system essentially gives the best possible performance for generation, processing and delivering the documents to the actual destined user. In addition most of the drawbacks of offline system are minimized taking only relevant facts into consideration. We believe that our results provide an interesting step towards a principled study of document generation of INDIA and information gathering.

IX. ACKNOWLEDGMENT

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