E – Governance for Voter Data Collection and Verification

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Abstract:

   The aim of 'Voter ID Portal' is to create an online application experience that is as similar to writing in a paper-bound form or physical office as possible. Simple interface for accessing filling and updating data required for getting a voter id card, including submitting documents and finding the status of an application.

   It is the use of a range of modern information and Communication Technologies such as internet, Local Area Network, mobiles etc. by Government to improve the effectiveness. Efficiency, service delivery and to promote democracy. E-Governance uses modern information and technologies such as internet, mobile etc for effective, efficient and transparency in information and communication. This mechanism has the benefit of providing clear cut, transparent, interactive, easy to implement and just solutions in the quickest possible time frame. E-Government (short for election government, also known as e-gov, digital government , online , government and citizens (G2C),government and businesses / Commerce (G2B), government and employees (G2E), and also between government and governments/ agencies (G2G).

Key words: Citizens, E-governance, Internet, Technologies and Voter.

Introduction:

The people of an India elect their representatives and these representatives form a government. So, election in a democratic country like India is of utmost importance. In Democratic India, general elections take place every five years in India. All those who are eighteen years of age have a right to vote. A number of candidates seek election. They move from door to door. They hold public meetings and explain the programs of their parties. If they get a majority of votes, they win; but if they do not, they lose. An election, therefore, is like a battle. But this battle is fought in a peaceful way. It is a battle of ballots, not a battle of bullets. Over the past decade, the business of conducting elections has become vastly more complex and subject to exceptional scrutiny by voters, candidates, media, and the legal community as never before and for this arises the requirement of a high-performance, comprehensive and reliable voter registration and management system is essential to fulfilling this mission. This online or web based Voter ID registration system focuses on following operations. Registering new eligible voters and maintaining voter-centric registration information system. Maintaining state wide voter information, searching and easy tracking. Supporting voters all over the world with the powerful new Internet-accessible Electronic Voter ID Portal. Providing saleable voter registration and election participation data to the public. Providing easy access for reporting lost Voter ID Cards. Easy to update information portal for existing and mew voter ID cards. Having a complete, correct and current registration for each voter is an essential prerequisite for voting in elections. The Online Voter ID Registration solution enables a single countrywide identification of a voter. Individuals who are both a voter and an election worker are linked to provide a complete and consistent view. The voter's current address is used to assign the voter automatically to the appropriate polling location, and voting districts, City and village.

Individual voter demographics are easily accessible, For example: name, address, gender, birth date, zip code etc. Supporting information, such as a scanned image of the voter's photograph, address proof and identification, proof is stored with the voter record. So in general its complete solution for voter and their relative records with a stable module for helping voters for their problems such as lost of card, change in credentials, downloads etc.

An E-gov. strategy (or digital government) is defined as "The employment of the Internet and the world-wide-web for delivering government information and services to the citizens." (United Nations, 2006; AOEMA, 2005). Electronic governance or e-governance is the application of information and communication technology (ICT) for delivering government services, exchange of information communication transactions, integration of various stand-alone systems and services between government-to-customer (G2C), government-to-business (G2B), government-to-government (G2G) as well as back office processes and interactions within the entire government framework (Saugata, B., and Masud, R.R. 2007). Through e-governance, government services will be made available to citizens in a convenient, efficient and transparent manner. The three main target groups that can be distinguished in governance concepts are government, citizens and businesses/interest groups. In e-governance there are no distinct boundaries (Garson, D.G. (2006).

As a matter of fact, the governance of ICTs requires most probably a substantial increase in regulation and policy-making capabilities, with all the expertise and opinion-shaping processes along the various social stakeholders of these concerns. So, the perspective of the e-governance is "the use of the technologies that both help governing and have to be governed" (Rossel, Pierre, and Matthias Finger, 2007).

The portal has been developed as a Mission Mode Project under the National E-Governance Plan of the

government (United Nations Department of Economic and Social Affairs, 2014). The objective is to provide a single window access to the information and services such as passport, driving licenses, company registration etc. being provided by the Indian government for the citizens and other stakeholders (India Portal, 2013). India.gov.in links to Union, State, District and local level official websites and is the most comprehensive portal about the government of India with links to 6,700 government websites (Compendium on NeGP MMPs, 2009). The website also has a feature that customizes the content displayed, based on a user's individual profile and preferences. It is accessible by disabled people and users of handheld devices (Hindu Business Line- 2009).

Statement of the research work:

For all the avid voters, carrying their physical forms and additional documents to voter ID registration offices is a cardinal task, leaving out. To overcome this, many regional centers have been introduced to help people get their voters, but these are still for a specific region so we are providing this facility accessible easily anywhere while on the internet. With this it's anywhere, anytime access for various other features such as reporting lost cards. And printing and downloading voter's card and many more features.

Objective of the research work:

The aim of 'Voter ID Portal' is to create an online application experience that is as similar to writing in a paper-bound form or physical office as possible. Simple interface for accessing filling and updating data required for getting a voter id card, including submitting documents and finding the status of an application.

Scope of the research work:

The website is made simple for surfing and easy user interface. Thereby, anyone can interact with the processing on the application easily.

The information regarding the project will be maintained in a main server any changes made by the project members are known to the project leaders instantly.

System Analysis:

After analyzing the requirements of the task to be performed, the next step is to analyze the problem and understand its context. The first activity in the phase is studying the existing system and another is to understand the requirements and domain of the new system. Both the activities are equally important, but the first activity serves as a basis of giving the functional specifications and then successful design of the proposed system. Understanding the properties and requirements of a new system is more difficult and requires creative thinking and understanding of existing running system is also difficult, improper understanding of the present system can lead diversion from solution.

Analysis Model:

Research work development approach:
Software Process Model:
To solve actual problem in an industry, software developer and a team of developers must incorporate a development strategy that encompasses the process, methods and tools layers and generic phases. This strategy is often referred to as a process model or a software developing paradigm. A process model for software developing is chosen based on the nature of project and application, the methods and tools to be used, and the

controls and deliverables that are required. All software development can be categorized as a problem solving loop in which four distinct stages are encountered: status quo, Problem definition, technical development and solution integration.

SDLC Methodologies:

This document plays a vital role in the development of life cycle (SDLC) as it describes the complete requirement of the system. It means for use by developers and will be the basic during testing phase. Any changes made to the requirements in the future will have to go through a formal change approval process

System Requirement Specifications:

Hardware Requirements:

Operating System: Windows XP (sp 3) and Later
Processor: Pentium 4.0(1.6GHz)
RAM: 2GB Minimum
Hard Disk: 2GB

Software Requirement:

Web-Technologies:Windows Forms Using ASP.Net
Frameworks: MS .NET Framework 4.0
Database: SQL Server
Web server: IIS 5.0
Language: Visual C#

Development Tools:

Microsoft Visual Studio 2012.
Database: Microsoft SQL Server 2008 R2.
Documentation and Presentation Tool.
Microsoft Word 2007.
Microsoft Power Point 2007.
The Project required Internet connection.

Selected Software:

NET Framework:

The **Microsoft .NET Framework** is a software technology that is available with several Microsoft Windows operating systems. It includes a large library of pre-coded solutions to common programming problems and a virtual machine that manages the execution of programs written specifically for the framework. The .NET Framework is a key Microsoft offering and is intended to be used by most new applications created for the Windows platform. The pre-coded solutions that form the framework's Base Class Library cover a large range of programming needs in a number of areas, including user interface, data access, database connectivity, cryptography, web application development, numeric algorithms, and network communications. The class library is used by programmers, who combine it with their own code to produce applications. Programs written for the .NET Framework execute in a software environment that manages the program's runtime requirements. Also part of the .NET Framework, this runtime environment is known as the Common Language Runtime (CLR). The CLR provides the appearance of an application virtual machine so that programmers need not consider the capabilities of the specific CPU that will execute the program. The CLR also provides other important services such as security, memory management, and exception handling. The class library and the CLR together compose the .NET Framework.

Principal Design Features:

Interoperability:

Because interaction between new and older applications is commonly required, the .NET Framework provides means to access functionality that is implemented in programs that

execute outside the .NET environment. Access to COM components is provided in the System.Runtime.InteropServices and System.EnterpriseServices namespaces of the framework; access to other functionality is provided using the P/Invoke feature.

Common Runtime Engine:

The Common Language Runtime (CLR) is the virtual machine component of the .NET framework. All .NET programs execute under the supervision of the CLR, guaranteeing certain properties and behaviors in the areas of memory management, security, and exception handling.

Base Class Library:

The Base Class Library (BCL), part of the Framework Class Library (FCL), is a library of functionality available to all languages using the .NET Framework. The BCL provides classes which encapsulate a number of common functions, including file reading and writing, graphic rendering, database interaction and XML document manipulation.

Simplified Deployment:

Installation of computer software must be carefully managed to ensure that it does not interfere with previously installed software, and that it conforms to security requirements. The .NET framework includes design features and tools that help address these requirements.

Security:

The design is meant to address some of the vulnerabilities, such as buffer overflows, that have been exploited by malicious software. Additionally, .NET provides a common security model for all applications.

Portability:

The design of the .NET Framework allows it to theoretically be platform agnostic, and thus cross-platform compatible. That is, a program written to use the framework should run without change on any type of system for which the framework is implemented. Microsoft's commercial implementations of the framework cover Windows, Windows CE, and the Xbox 360.In addition, Microsoft submits the specifications for the Common Language Infrastructure (which includes the core class libraries, Common Type System, and the Common Intermediate Language), the C# language, and the C++/CLI language to both ECMA and the ISO, making them available as open standards. This makes it possible for third parties to create compatible implementations of the framework and its languages on other platforms.
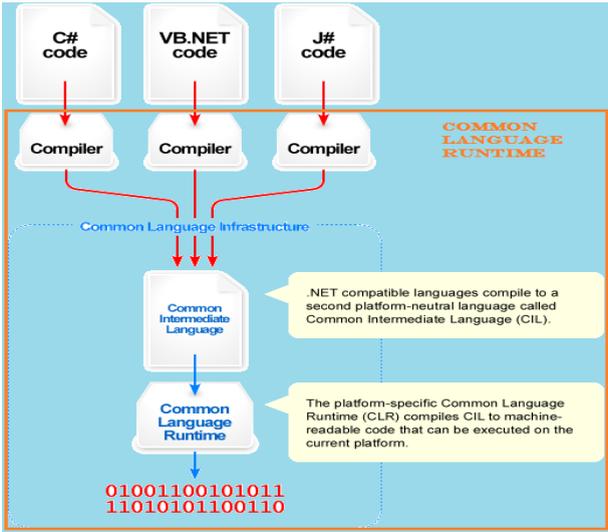
Architecture:

Fig No.1: Visual overview of the Common Language Infrastructure (CLI)

Common Language Infrastructure:

The core aspects of the **.NET framework** lie within the Common Language Infrastructure, or **CLI**. The purpose of the

CLI is to provide a language-neutral platform for application development and execution, including functions for exception handling, garbage collection, security, and interoperability. Microsoft's implementation of the CLI is called the **Common Language Runtime** or **CLR**:

Assemblies:

The intermediate CIL code is housed in .NET assemblies. As mandated by specification, assemblies are stored in the Portable Executable (PE) format, common on the Windows platform for all DLL and EXE files. The assembly consists of one or more files, one of which must contain the manifest, which has the metadata for the assembly. The complete name of an assembly (not to be confused with the filename on disk) contains its simple text name, version number, culture, and public key token. The public key token is a unique hash generated when the assembly is compiled, thus two assemblies with the same public key token are guaranteed to be identical from the point of view of the framework. A private key can also be specified known only to the creator of the assembly and can be used for strong naming and to guarantee that the assembly is from the same author when a new version of the assembly is compiled (required adding an assembly to the Global Assembly Cache).

Metadata:

All CLI is self-describing through .NET metadata. The CLR checks the metadata to ensure that the correct method is called. Metadata is usually generated by language compilers but developers can create their own metadata through custom attributes. Metadata contains information about the assembly, and is also used to implement the reflective programming capabilities of .NET Framework.

Security:

NET has its own security mechanism with two general features: Code Access Security (CAS), and validation and verification. Code Access Security is based on evidence that is associated with a specific assembly. Typically the evidence is the source of the assembly (whether it is installed on the local machine or has been downloaded from the intranet or Internet). Code Access Security uses evidence to determine the permissions granted to the code. Other code can demand that calling code is granted a specified permission. The demand causes the CLR to perform a call stack walk: every assembly of each method in the call stack is checked for the required permission; if any assembly is not granted the permission a security exception is thrown.
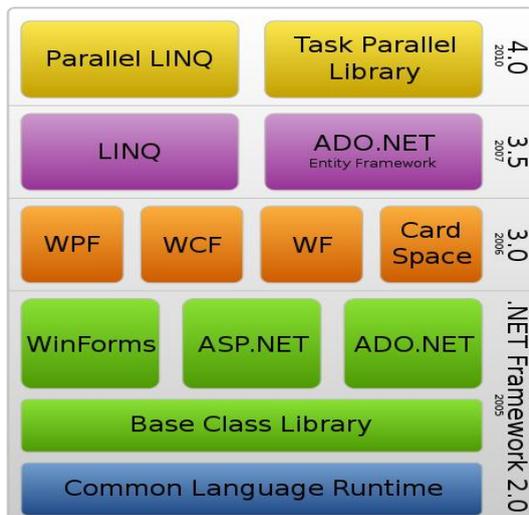
The NET Frame Work Stack:

Fig No. 2: NET Frame Work Stack

Active Server Pages.NET:

ASP.NET **(Active Server Pages.NET)**is a programming framework built on the common language runtime that can be used on a server to build powerful Web applications. ASP.NET

offers several important advantages over previous Web development models:

Language Support:

The Microsoft .NET Platform currently offers built-in support for three languages: C#, Visual Basic, and Java Script.

SQL Server:

A database management, or DBMS, gives the user access to their data and helps them transform the data into information. Such database management systems include dBase, paradox, IMS, SQL Server and SQL Server. These systems allow users to create, update and extract information from their database.

System Design:

Software design sits at the technical kernel of the software engineering process and is applied regardless of the development paradigm and area of application. Design is the first step in the development phase for any engineered product or system. The designer's goal is to produce a model or representation of an entity that will later be built. Beginning, once system requirement have been specified and analyzed, system design is the first of the three technical activities - design, code and test that is required to build and verify software.

The importance can be stated with a single word "Quality". Design is the place where quality is fostered in software development. Design provides us with representations of software that can assess for quality. Design is the only way that we can accurately translate a customer's view into a finished software product or system. Software design serves as a foundation for all the software engineering steps that follow. Without a strong design we risk building an unstable system – one that will be difficult to test, one whose quality cannot be assessed until the last stage.

During design, progressive refinement of data structure, program structure, and procedural details are developed reviewed and documented. System design can be viewed from either technical or project management perspective. From the technical point of view, design is comprised of four activities – architectural design, data structure design, interface design and procedural design.
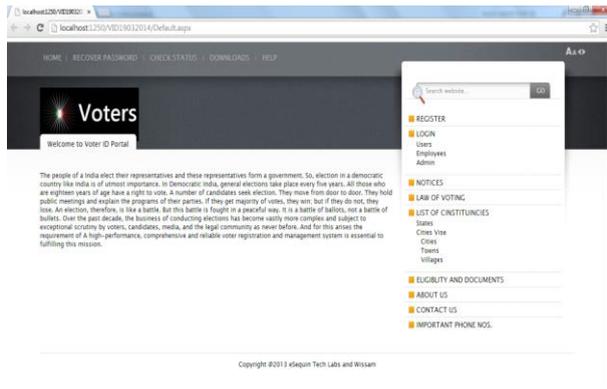
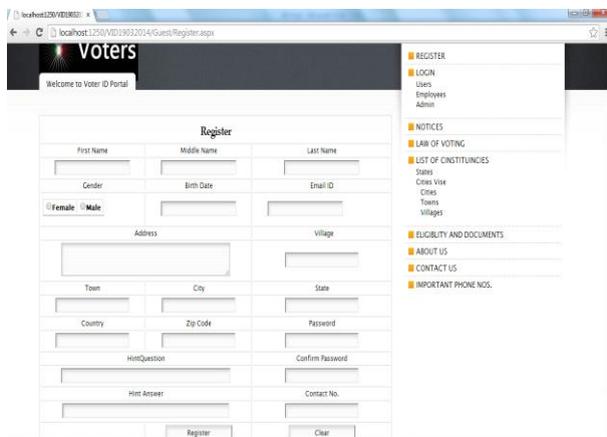## Screen Shots:

Fig No. 3: Guest Home Page

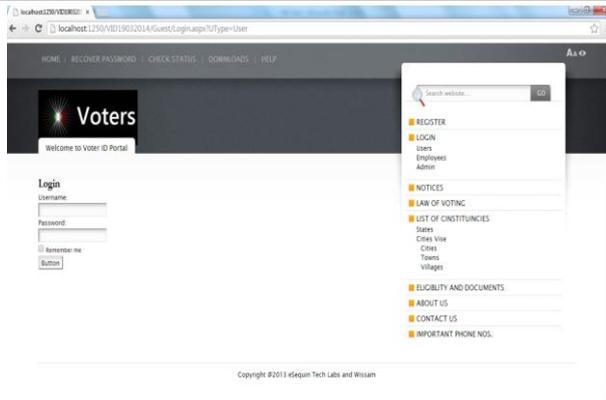**Fig No. 4: Register User Page**
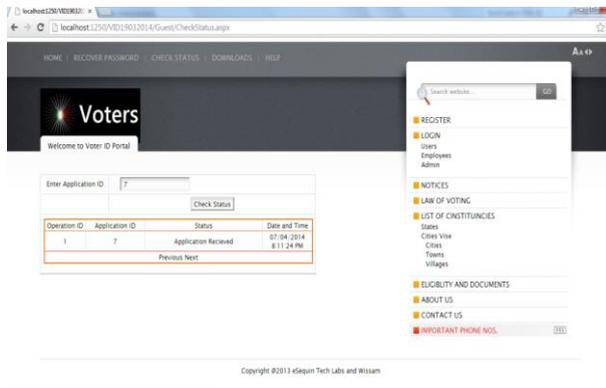
Fig No. 5: Login page

Fig No. 6: Check Status Page

Conclusion:

The Project 'Voter ID Portal' gave us immense pleasure in developing it. Through implementing it we learned programming in ASP.NET, C# and working of SQL Servers. We learned about the latest technologies of the computer world which help developers in easy and efficient programming of modules, designing them and deploying them.

The website 'Voter ID Portal' at its completion gave following results:

1. The Project is a web based App.

2. The Project has been developed by keeping in mind User's requirements as per their privacy and security, so that they are assured to have a complete, safe environment to apply for VID.

3. The Interface has been implanted as easier and flexible as possible for the User so that they could easily shift between pages.

4. Updating, Editing and Deleting records are easier and are provided to User by just a Button Click.

5. Easier retrieval of data and no long list of sign up form give it a short access.

6. There is room for password recovery in case user forgets it.

7. With Hyperlinks at every page, user can easily shift between pages of interest and work comfortably.

8. User can upload files related to their application in the 'Upload Documents' page and images in 'Apply for VID'.

9. Altogether, a great experience for voter to visit and access the site anywhere, anytime on the internet.

Acknowledgement:

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