

# E-Governance App via Online and Offline Server

Akanksha Singh<sup>1</sup> Anamika Roy<sup>2</sup> Aman Raj<sup>3</sup> Krishna Bihari Dubey<sup>4</sup>

<sup>1,2,3</sup>Research Student <sup>4</sup>Associate Professor

<sup>1,2,3,4</sup>Department of Computer Science and Engineering

<sup>1,2,3,4</sup>ABES Institute of Technology, Ghaziabad, India

**Abstract**— E-Governance is the need of the hour and many citizen centric services are either online or going to be online. Any citizen to take benefit of these online e Governance services need to have an access of any computer/mobile and a good internet connection. But citizens are not able to take full benefits of these citizen centric governance services because of Internet connectivity issue. Even at some locations there is no internet connection at some times. As most of the citizen services portals are using text for communication therefore we have developed a service in the form of mobile app which have an easy to use GUI and in the background it normally uses internet services and in case the services are not available then automatically it can use encrypted SMS to request data from server and the server is able to send the data to the user mobile app via encrypted SMS which the app can decrypt and provide on the GUI of mobile app. The app must provide the data to the user in the same GUI whether if it is online or offline. The goal is to provide all the e-governance facilities to the users even who are not connected to the internet.

**Keywords:** E-Governance App Via Online and Offline Server, GUI, ODBC, DoS

## I. INTRODUCTION

- The app is designed with an easy to use GUI (Graphical user interface). Users can sign up and verify themselves using Email id and then can login using the same. A dashboard of services will be displayed from which the user can choose and then it can provide with necessary details on the portal. Example: We have chosen emergency services which are not provided at a faster pace due to unavailability of efficient communication services. So we have provided online as well as offline facility.
- Online module: When there is internet connectivity in the device the app works in online mode and send the information from the user device using http request.
- Offline portal: When there is no internet connection the app will switch to offline mode. The information is sent from the user using mobile carrier's SMS service. The SMS is sent in an encrypted form. Here we are using AES encryption algorithm. Encrypted SMS is sent from the server and decrypted at the android side and vice versa.
- Offline Server: Server receives SMS from the user using TextLocalSms API. Then the message will be decrypted by the JAVA application using javax.crypto package. If the user has requested for the service then it is forwarded to the concerned department or else if it is information required then it can be fetched from the database.
- Department/Administration: The department receives the request from the server on the administration portal. Administration responds accordingly back to the server from where the information (form of encrypted SMS) is

sent back to the user where message is decrypted and is displayed on the GUI of the app.



## II. PROPOSED SYSTEM

An android application which provides e-governance services either online or offline depending upon the availability of internet. E-governance app can be used for a wide range of applications. With its distinct feature of working without the internet connection and still fetching data from the server provides even the remotest of areas where internet connection is still a far cry, an opportunity to connect to know about the various government schemes. Emergency Services: Clicking on this a user can call an ambulance or police or fire brigade. Upon clicking the current location of the user is gathered using mobile internet and GPS or only using GPS and is sent to the hospital server. During unavailability of internet services, the GPS is used to fetch the location and is sent in an encrypted format to the server then server automatically chooses the nearby hospital and sends the request for an ambulance along with the location of the user. User can also call the police, fire brigade using the same mechanism. User could also get nearby hospital list and choose which one to call an ambulance from.

### A. Education:

In this a user can view list of scholarships available to them by the government depending upon their region. The data is directly fetched from the government scholarship website. Further there can be scholarship selection and user can directly fill the form and the app will send it to the respective department.

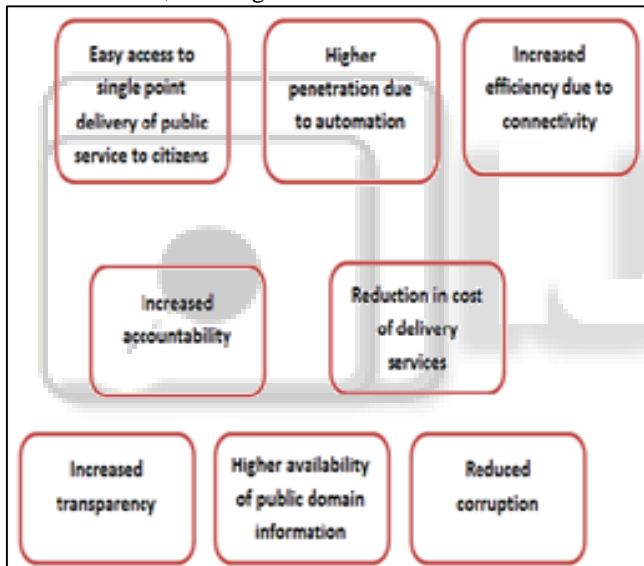
### B. Road Transport Office:

Selecting this a user can apply for a driving license. He/she must submit some documents online and then can file for an appointment or when in offline mode can choose for an appointment as well as document verification. Further we can add permit renewable as well as complaint box. E-governance application is an integrated platform which brings together all

the available online services on a single application and make them usable even without internet.

Requirements for implementing successful e-governance across the nation are:

- 1) e-Governance framework across the nation with enough bandwidth to service a population of one billion.
- 2) Connectivity framework for making the services to reach rural areas of the country or development of alternative means of services such as e-governance kiosks in regional languages.
- 3) National Citizen Database which is the primary unit of data for all governance vertical and horizontal applications across the state and central governments.
- 4) E-governance and interoperability standards for the exchange of secure information with non-repudiation, across the state and central government departments seamlessly.
- 5) A secure delivery framework by means of virtual private network connecting across the state and central government departments.
- 6) Datacenters in centre and states to handle the departmental workflow automation, collaboration, interaction, exchange of information with authentication.



### III. RESOURCES

#### A. Servlet API

The `javax.servlet` and `javax.servlet.http` packages represent interfaces and classes for SERVLET API. The `javax.servlet` package contains many interfaces and classes that are used by the servlet or web container. These are not specific to any protocol. The `javax.servlet.http` package contains interfaces and classes that are responsible for http requests only.

#### B. MySQL Connector

MySQL Connector/ODBC is a driver for connecting to a MySQL database server through the Open Database Connectivity (ODBC) application program interface (API), which is the standard means of connecting to any database. Users can connect from within common applications and programming environments, such as Microsoft Access or Excel or Borland Delphi.

#### C. JSON Library

The Java API for JSON Processing provides portable APIs to parse, generate, transform, and query JSON. JSON (JavaScript Object Notation) is a lightweight, textbased, language-independent data exchange format that is easy for humans and machines to read and write.

#### D. Textlocal SMS Gateway

An SMS Gateway enables a computer to send and receive SMS text messages to and from a SMS capable device over the global telecommunications network (normally to a mobile phone). The SMS Gateway translates the message sent, and makes it compatible for delivery over the network to be able to reach the recipient.

#### E. AES Encryption Algorithm

The Advanced Encryption Standard, or AES, is a symmetric block cipher chosen by the U.S. government to protect classified information and is implemented in software and hardware throughout the world to encrypt sensitive data. distinguish the newly created phishing websites from legitimate websites.

#### F. Hardware and Software Used:

##### 1) Hardware:

- 8 gb RAM
- i5 Processor
- Android device

##### 2) Software:

- Android Emulator
- SDK Manager
- SMS Gateway

#### G. Challenges to e-governance and requirements for successful implementation

There are many challenges in implementing E-governance model in India as well as at global scale.

The actual challenge is how to develop and withstand successful e-governance projects and deliver state of the art e-services to inhabitants.

Unfortunately, it is not as easy to develop e-governance website in service delivery mechanism. Efficacious e-governance initiatives can never be taken in hurriedness. With reference to India, e-Governance should enable seamless access to information and seamless flow of information across the state and central government.

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There are several security drawbacks of an E-Governance mechanism.

##### 1) Spoofing:

In this practice, the attacker attempts to gain the access of the E-Governance system by using fallacious identity either by stealth or by using false IP address. Once the access is gained, the assailant abuses the E-Governance system by elevation of the privileges.

##### 2) Tampering of E-Governance system:

As soon as the system is compromised and privileges are raised, the classified information of the E-Governance

mechanism becomes very much susceptible to illegal adjustments.

3) *Repudiation:*

Even the attacker can mount refutation attack during the E-Governance transaction, which is the ability of the user to reject its performed transaction.

4) *Disclosure of E-Governance Information:*

In case of the compromised E-Governance system, the undesirable information disclosure can take place very easily.

Denial of Service: In this technique, attacker can perform Denial of Service (DoS) attack by flooding the E-Governance server with request to consume all of its resources so as to crash down the mechanism.

5) *Elevation of Privilege:*

Once an E-Governance system is compromised; the attacker pretending to be a low profile user attempts to escalate to the high profiles so as to access its privileges to initiate further damage to the system.

6) *Cyber Crimes:*

Advancement of science and technology increase the rate of the cybercrime. It is a threat to the transactions accomplished between the Government and its Citizenry within the E-Governance methodology.

#### IV. RESULT AND CONCLUSION

E-Governance is the need of the hour and through this project we have tried to make it possible that our system can be used where, there is lack of internet connectivity and people can access all the services of government either online or offline.

It's future scope:

- Biometrics can be integrated.
- New module can be easily added.
- Aadhar number can be linked for authentication.

#### REFERENCES

- [1] Android development < <https://stackoverflow.com>>
- [2] Android Syntax <https://developer.android.com/reference>
- [3] Sawal Tandon, "Application of Incoming SMS to a Website, Control the Website to Send Bulk SMS", International Journal of Computer Science and Mobile Computing – 2012