

Digital Gram Panchayat-Android application for better delivery of Citizen Services in the Village

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Abstract—Information technology has a vital role to play in all transactions that government undertakes. It helps the government avoid corruption, and reach the citizens needs directly. Such initiatives will help citizens learn about the various policies, process and help the lives that the government offers. This paper provides the application for reducing paper work at Gram panchayat and e-services will give the simple servicing. It also encloses the fact of reducing the labour of paper work. Here the digital signature plays an important role in deploying some services. E-Governance in day to day transactions has become part of every citizen's governmental transactions and realizing its importance. The government of India, also focusses on delivering the services in a simple manner. The main objective of this application is for better delivery of Citizen Services in the village through computerization of application. At present in 2017, India is moving towards Digitalization and the people of using internet are increasing day by day. Digitalization is not only for urban areas or metropolitan cities, it must be starts with villages.

Index Terms—Java, Java Server Packages, Android, Android software development kit, Testing, Verifying, E-services

I. INTRODUCTION

In Digital Gram panchayat, the majority of India's population lives in the Panchayat and the village which represents the face of the governance for these villagers. Digital Gram Panchayat is an initiative for providing software solution attempting automation of Gram Panchayat functions. Benefits are improved citizen services, better transparency, streamlining of procedures and monitoring of revenues & services.

Digital Gram Panchayat provides online service to the people living in that area. All the services which are done manually are made mobile App in the project. The people can about their panchayat, activity notifications and all other information related their villages. All the applications and certificates are applied and verified online. The users on the people in the village can complain about their problem through online. Suggestions are also accepted from the people for the development of their village. The user can request any application, suggestion, and complaint at anywhere and at anytime.

All the villages are not panchayath as some of them are very small. A gram panchayat is the cornerstone of a local self-government organization in India of the panchayati raj system at the village or small-town level and has a sarpanch as its elected head. There are 2,18,116 panchayths in India against 5.8 lakh villages. According to my research the number of peoples using social media like Facebook, twitter are gradually increasing in villages [4]. This application made every gram panchayth in India digitalized specially in providing services and it also helpful for government to reach every service to every citizen of villages of the gram panchayath. Gram panchayat is a decentralized institution managing the application and providing the information about services in the gram panchayath office.

The proposed system provides the applications for various services and schemes. It also provides the application status. E-Services for gram panchayath aim is to provide the information about the services or schemes and applications for each services of gram panchayath and it also view and update by the staff of gram panchayath. Gram panchayath officer will update, delete, create the services [4]. He can view the applications which applied by the people of villages and he can add the application status like approved, pending, on process.

II. EXISTING SYSTEM

India is a country which has a more number of villages. Indian government has launched gram panchayath for the development of villages. Government announcing the various schemes and services for the village peoples. People of villages get the information about schemes and services only throw print media, electronic media or by visiting to gram panchayath office. Some services are failure due to lack of information.

In the present scenario, various government services are published in print media and advertised by the respective departments. It is often difficult for people to get the relevant information and approach the officials for availing the services. Due to lack of proper communication among various departments and officials, often the purpose of the schemes is not achieved. People do not get to know about the schemes and do not benefit from them. Application

process is doing manual and people do not getting the proper application status.

Disadvantages

- They get information only through print media, electronic media and by visiting gram panchayat office*
- They will not get applied application status.*
- The overall process of application and getting benefits from it is too slow.*
- The officer and staff of gram panchayat will fail to reach a target which is given by government for each service due to lack of information.*

III. PROPOSED SYSTEM

The Gram Panchayat will have so many functions introducing different kinds of services like, Application requesting for skill based equipment's like tailoring machines, Application for bio gas etc [5]. and the proposed system provide the information about the services or schemes and application for each services of gram panchayat and it also view and update by the staff of gram panchayat. So the people can know about services without entering into the Gram Panchayat office.

Advantages

- They get information by using this system.*
- They will get status of application process.*
- The overall process of application and getting benefits from it is faster.*
- The workload of staff and officer of gram panchayat are reduced.*

IV. TOOLS AND TECHNOLOGIES USED

A. Java

Java programs run inside Java virtual Machine (JVM), which provides a platform independent level of processing for java byte codes, into which java source files are compiled [1]. Java thus avoids itself to a particular hardware platform, operating system vendor, or web server. Java has gained wide industry acceptance and needs and because the Java Community Process provides a well-defined mechanism for introducing changes into the platform when enough industry support exists [2] [3].

The Java platform has two components:

- The Java Virtual Machine (Java VM)*
- The Java Application Programming Interface (Java API)*

The Java API is a large collection of ready software components that provide many useful capabilities, such as graphical user interface (GUI) widgets [1]. The Java API is grouped into libraries, classes and interfaces; these libraries are known as packages [2].

B. Java Server pages

JSP is a dynamic scripting capability for web pages that allows Java as well as a few special tags to be embedded into a web file (HTML/XML, etc.) [3]. The suffix traditionally ends with JSP to indicate to the web server that the file is a JSP file. JSP is a server side technology which you can't do any client side validation using it. JSP files actually get compiled into Servlets.

There are other very powerful aspects that Java Server Pages provides: An object model: JSPs are Servlets and as such, they are able to participate in delegation and inheritance models as well as all of the other things that are available.

C. Android

The Android platform is a software stack for mobile devices including middleware, operating system and key applications. Developers can create applications using the Android SDK [1]. Android applications are written using the Java programming language and run on Dalvik, a custom virtual machine designed for embedded use, which runs on top of a Linux kernel. Android is an operating system for smart phones and open-source development platform for creating mobile applications, run by Dalvik virtual machine. Android developed by Google.

D. Android Software Development Kit

a) Android SDK is software development kit that used by the developers to create application for android platform.

b) Android SDK includes one or more API's , programming tools, documentation and required libraries to build android applications.

c) Android SDK separates tools, platform and development environment includes Eclipse IDE and plug-in ADT and android emulator.

V. IMPLEMENTATION

Implementation is the stage of the project when the proposed theoretical design is turned into a working system. At this stage the workload of upheaval and impact on existing practices shift to the user department. If the implementation stage is not carefully planned and controlled, it can cause chaos, thus it can be considered to be the most critical stage in achieving new system and in giving the users confidence that the new system will work and be effective.

Implementation is the stage in the project where the theoretical design is changed into a working system. At this stage the main work is the greatest upheaval and the major impact on the existing system shifts to the user department. If the implementation is not carefully planned, controlled and executed it can cause errors and confusion.

Implementation includes all those works that take place to convert from the old system to the new system. The new system may replace an existing manual or automated system or it may be a major modification to an existing system. Successful implementation may not guarantee improvement in the organization using the new system, but improper installation will prevent it.

The implementation stage involves following tasks.

- Careful Planning.*
 - Investigation of system and constraints.*
 - Design of methods to achieve the changeover.*
 - Training of the staff in the changeover phase.*
- Evaluation of the changeover method.*

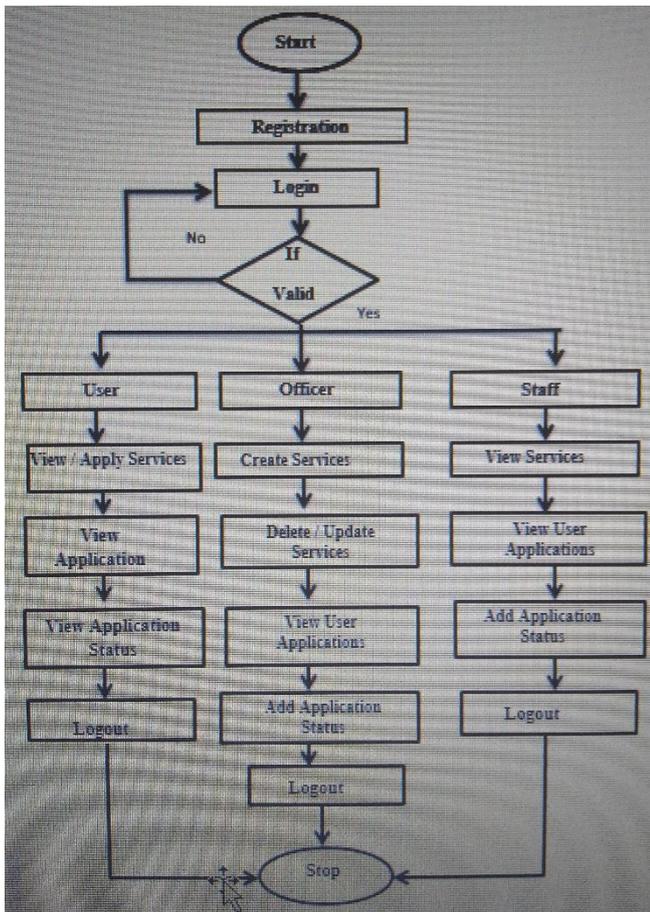


Fig .1. Flow of Project

VI. TESTING STRATEGIES

A. Unit Testing

In this testing we test each module individually. Unit testing focuses verification efforts on the smaller unit of the software design in the module. This is also known as ‘module’ testing. The modules of the system are tested separately. Testing is carried out during programming stage itself. It is very easy to find errors debugging the system.

B. Integration Testing

Once individual program components have been tested, they must be integrated to create a partial or complete system. This integration process involves building the system and testing the resultant system for problems that arises from component integrations. To make it easier to locate errors, we should always use an incremental approach to system integration and testing

C. System Testing

System testing validates software once it has been incorporated into a larger system [4]. System testing is actually a series of different test whose primary purpose is to fully exercise the computer-based system.

VII. VALIDATION

The terms verification and validation are used interchangeably [5]. Validation is the process of evaluating the software at the end of software development process; we find how well the software satisfies the requirement specifications.

Functional testing is centered on the following items:

- Valid Input: identified classes of valid input must be accepted.*
- Invalid Input: identified classes of invalid input must be rejected.*
- Functions: identified functions must be exercised.*
- Output: identified classes of application outputs must be exercised.*
- Systems/Procedures: interfacing systems or procedures must be invoked.*

CONCLUSION

The India is a country which has a more number of villages. Indian government has launched gram panchayath for the development of villages. Our governments announcing the various schemes and services for the village peoples. People of villages get the information about schemes and services only throw print media, electronic media or by visiting to gram panchayath office.

E-Services for gram panchayath aim is to provide the information about the services or schemes and by using this they can apply application for each services of gram panchayath. View and update by the staff and officer of gram panchayath.

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FUTURE ENHANCEMENT

The following features can be implemented as future enhancements.

- We can implement mobile number verification and validation by generating OTP.*
- We can implement adhar card number validation.*
- We can also include other important information which announced by the government to reach the people of villagers very frequently.*
- We can implement this mobile application to urban areas by adding the urban services and schemes.*
- We can implement online payment to gram panchayth.*

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