# DECLARATION

We AYESHA SHEIKH (4HG20CS001) and BHAGYA RAJU NAIK (4HG21CS403) students of 6th semester B.E, CSE, Government Engineering College, here by declare that the project entitled **"GRAM PANCHAYT SERVICES APP"** has been carried out by me,under the supervision of **HARSHITHA H.R** faculty, Dept of CSE submitted in partial fulfilment of the requirements for the award of the degree of computer science and engineering by the Visvesvaraya technological university during the academic year 2022-23. This report has not been submitted to any other organization/university for any award of degree certificate.

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# ABSTRACT

Gram Panchayat Services Android app is an essential tool for local government administration in India. It aims to provide a platform that connects citizens and the members of Panchayat. With the help of this app, citizens can easily lodge complaints, track ongoing projects, and receive updates on upcoming events or programs and file an application for the certificates such as birth and death certificates.

The app is built using Java as the primary programming language and leverages Firebase Realtime Database, Firebase Storage, Firebase Authentication, Picasso library, and Android Image cropper to provide a seamless user experience.

# ACKNOWLEDGEMENT

The completion of any project involves the efforts of many people. We have been lucky to have received a lot of help, support from all directions during this project, so with the gratitude we take this opportunity to acknowledge all those who guide and encouraged us.

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# Chapter 1

# Introduction

## 1.1 Problem Statement

Now a day's people in the rural areas has to go to panchayat office in their location to apply and get their certificates provided in that office. It requires a lot of time and may result in work delay. The data in the office has to be maintained manually. There is no security for the data and faults can be encountered during entering the data mainly which require higher calculations. People also face so many problems in their area. They complain to their respective ward members but they may or may not respond quickly. There are many other problems in the present day panchayat system.

## 1.2 Objectives

- The Panchayat represents the low-level in the government activities having more than 60 percent of the Indian population and provides a large number of basic services for citizens living in rural area.
- The main objective is to identify and overcome the challenges faced in the villages, such as delay in delivery of services to citizens, lack of flexibility in communication, low revenue mobilization for implementing schemes at the Gram Panchayat level, and lack of monitoring mechanisms for schemes.
- The primary aim is to transform Panchayats into efficient units and to strengthen their business functions and processes with the ultimate goal of ensuring effective local area

development and prompt and efficient service delivery to common man.

- User-freindly Interface - To provide an initiative and easy-to-use interface for users of the application.

## 1.3 Advantages

- Improve the delivery of services to the citizens: This can include updates on government schemes,health and hygiene awareness,educational programs and other relevant announcements.
- Grievance Redressal:The app can allow citizens to raise complaints and grievances related to infrastructure, public services,sanitation,and other issues.
- Reduce the physical visiting to the gram panchayat to get things done

## 1.4 Scope

This app is going to use by thousands of active member of Grampanchyat.it has the folllowing future Scopes,

1.Automation of internal workflow processes of Panchayats.

2. Improving delivery of services to citizens.

3. Transparency, Accountability, Efficiency and RTI compliance of Panchayats.

4. Improving Governance of local self-government.

5. Agriculture, including agricultural extension.

6. Land improvement, implementation of land reforms, land consolidation and soil conservation.

# Chapter 2

# Requirement Analysis

## 2.1 Hardware Requirements

Processor :- intel core i5

RAM :- 8GB

Hard Disk :- 512MB

## 2.2 Software Requirements

Operating System :- Windows or UBUNTU

Language Tool :- Java

Running Environment :- Android Studio

## 2.3 Android Studio

Android Studio is an integrated development environment (IDE) specifically designed for developing Android applications. It provides a comprehensive set of tools and features to assist developers in creating, debugging, and testing Android apps.

Here are some key features and components of Android Studio:

**Code Editor:** Android Studio includes a powerful code editor with features like syntax highlighting, code completion, and code refactoring. It supports multiple programming languages,

including Java and Kotlin.

**Layout Editor:** This visual editor allows developers to create and modify the user interface (UI) of Android apps using a drag-and-drop interface. It provides a real-time preview of the UI and supports different screen sizes and orientations.

**Gradle Build System:** Android Studio uses the Gradle build system to automate the building, testing, and packaging of Android applications. Gradle allows for flexible project configurations and dependency management.

**Android Emulator:** Android Studio provides an emulator that allows developers to test their apps on virtual Android devices. The emulator supports different device configurations and Android versions.

**Android SDK Manager:** Android Studio includes an SDK Manager that allows developers to download and manage Android software development kits (SDKs), platform tools, and system images.

A Function is nothing but inputs the software system.A Functional Requirement is description of the service that software must offer.It describes a software system or its components

## 2.4 XML

stands for Extensible Markup Language. XML is a markup language much like HTML used to describe data. It is derived from Standard Generalized Markup Language(SGML). Basically, the XML tags are not predefined in XML. We need to implement and define the tags in XML. XML tags define the data and used to store and organize data. It's easily scalable and simple to develop. In Android, the XML is used to implement UI-related data, and it's a lightweight markup language that doesn't make layout heavy. XML only contains tags, while implementing they need to be just invoked.

## 2.5 Java Programing Language

Android App are mostly developed in JAVA language using Android SDK (Software Development Kit). Other languages like C, C++, Scala etc. can also be used for developing Android App, but JAVA is most preferred and mostly used programming language for Android App

Development. It is class based and object oriented programming whose syntax is influenced by C++. The primary goals of JAVA is to be simple, object-oriented, robust, secure and high level.JAVA application runs on JVM (JAVA Virtual Machine) but Android has it's own virtual machine called Dalvik Virtual Machine (DVM) optimized for mobile devices.

## 2.6 Functional Requirements

**User Registration:**The app should provide a user registration feature, allowing residents to create an account with their personal details such as name, address, contact number, etc.

**Login and Authentication:** Users should be able to securely log into the app using their registered credentials or through other authentication methods.

**Service Requests:** The app should enable users to submit various service requests to the Gram Panchayat, such as water supply issues, sanitation problems, road repairs, waste management, etc. Users should be able to provide details and attach relevant images if necessary.

**Offline Access and Data Synchronization:** The app should provide offline access to certain features or information, allowing users to use the app even in areas with limited or no internet connectivity. It should synchronize data with the server when an internet connection is available.

**Grievance Redressal:** The app should provide a platform for users to submit complaints or grievances regarding infrastructure, public services, or other issues. It should capture relevant details of the complaint, assign it a unique reference number, and allow users to track the progress of the complaint resolution.

## 2.7 Non Functional Requirements

**Usability:** intuitive user interface, The app should have a user-friendly interface, with wellorganized controls and easily accessible features.

**Compatibility:** Device compatibility, The app should be compatible with a wide range of Android devices, considering various screen sizes, resolutions, and orientations. Android version support, Specify the minimum Android version required for the app to ensure compatibility and make use of the latest features when applicable.

**Performance:** The app should be responsive and provide a seamless user experience. It should have quick loading times, smooth navigation, and minimal latency. The app should be optimized to handle a large user base and high traffic during peak usage periods.

**Scalability:** The app should be designed to accommodate future growth and increased user demand. It should be scalable, allowing for additional features, services, and users without compromising performance. The backend infrastructure should be capable of handling increased data and user load.

**Offline Capability:** The app should support offline access to certain features or information, allowing users to perform essential tasks even without an internet connection. Offline data should be synchronized with the server when the connection is restored.

**Reliability:** The app should be reliable and available for use at all times. It should have minimal downtime and provide appropriate error handling and recovery mechanisms. Regular maintenance and updates should be carried out to ensure the stability and reliability of the app.

# Chapter 3

# Proposed Methodology

## 3.1 Methodology

In this project, the agile development cycle will be used to guide the development process. The reason for using agile methods is that mobile applications have a short software life cycle and rapidly changing technologies, so users will constantly change their requirement and needs in response to technological changes. Therefore, the agile development cycle are more suitable for android application development because of iterative and flexible, so it can adapt effectively to changing customers.

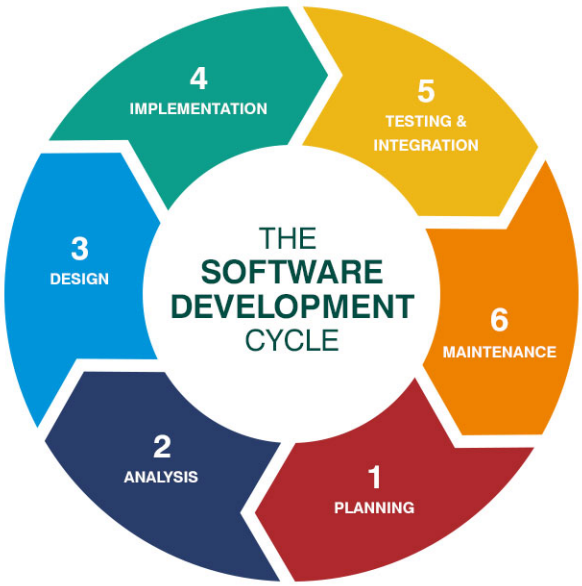


Figure 3.1: Agile Developmkment cycle

The agile development cycle contains 6 phase which is requirement analysis, planning, design, implementation or development, testing, and deployment.

**Requirement Analysis:** Identify the specific services to be provided through the app, such as birth/death certificates, property tax payments, water bill payments, complaint registration, etc. Gather requirements from the Gram Panchayat officials, residents, and other stakeholders. Define the scope and objectives of the app.

**Planning:**In the planning stage, we should first try to explore out the features that the gram panchayat services app can have. Next, we will eliminate the features that users feel no really useful or low cost-effective. Finally, each feature is prioritized and assigned to an iteration.

**Design:** Create a user-friendly and intuitive interface. Design the app to be accessible to users with varying levels of technological proficiency.

**Development:** Select appropriate technologies for app development (e.g., native or cross-platform development). Break down the development process into milestones and sprints. Implement features and functionalities based on the defined requirements.

**Testing** :Perform comprehensive testing to ensure the app functions as intended. Conduct usability testing with representative users to gather feedback. Identify and fix any bugs or issues found during testing.

**Deployment and Launch:**Prepare the app for deployment to relevant app stores (e.g., Google Play Store, Apple App Store). Plan a marketing strategy to create awareness among the target users. Launch the app and monitor its performance in the initial stages.

**Maintenance and Updates:**Provide ongoing support and maintenance to address user feedback and bug reports. Regularly update the app to introduce new features, improve performance, and address security vulnerabilities.

# Chapter 4

# Design

## 4.1 system design

**User Interface:**

- Main Screen : Display the login page with Admin login,user login and Registration page.
- Home Page: it display the different features for Admin And Users.User can select the desired services.

**Data Management:**

- Store the Admin and User credentials in Real time database that is inbuilt in android studio.
- The data Stored in the Real time database will be fetched during login.

**Certificates:**

- It contains the three Domains that is birth,death and domincial certificates.
- When the user click respective buttons it will leads to official government website for applying to respected domains.

# Chapter 5

# Implementation

## 5.1 Implementation

**Set up a new Android Studio project:**

- Launch Android Studio and create a new project.
- Choose the appropriate project template and set the desired configuration.

**Design the user interface:**

- Create the necessary layout XML files for the main screen, Home screen, and any other required screens.
- Design the UI elements such as buttons, progress bars, text views, and image views.

**Authentication:**

- Enable the fire base authentication in android studio.
- After enabling it will send mail during registration for authentication.

**Navigation Drawer:**

- Creating Navigation Drawer Layout using the Android Studio inbuilt activity creator and customizing it according to the needs.
- The Navigation drawer contains the options like filing complaint,handling complaints in admin login,account details,certifications etc..

# Chapter 6

# Snapshots

## 6.1 Main page

Once the user starts the application, the first screen will be a splash screen (Figure 6.1) to show out. The main page Contains the login,Register and Admin login forms.

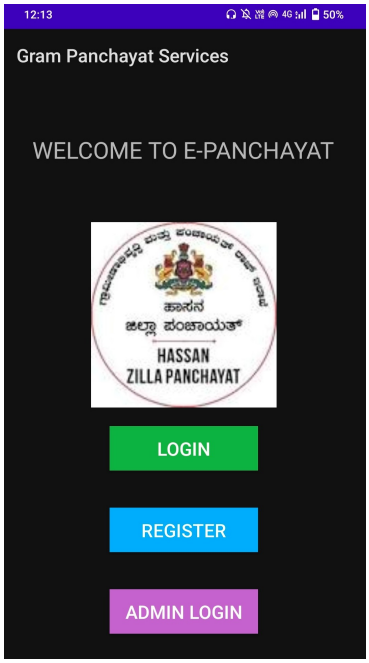


Figure 6.1: Main page

## 6.2 Registration Page

The new user can register them self through this page.After registration the users need to authenticate them self though the mail send to their email id.

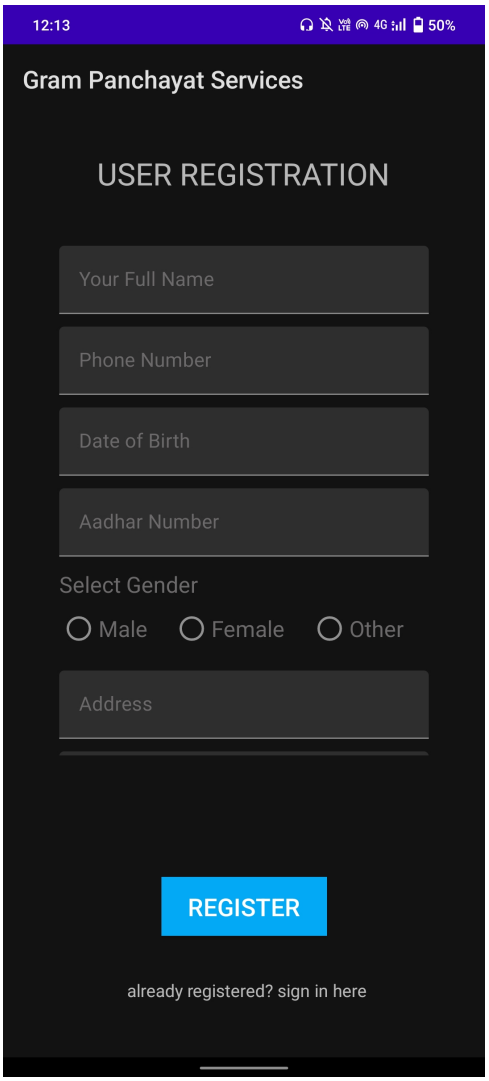


Figure 6.2: Registration page

## 6.3 Login Page

The User can login trough the email id and password provided during registration.

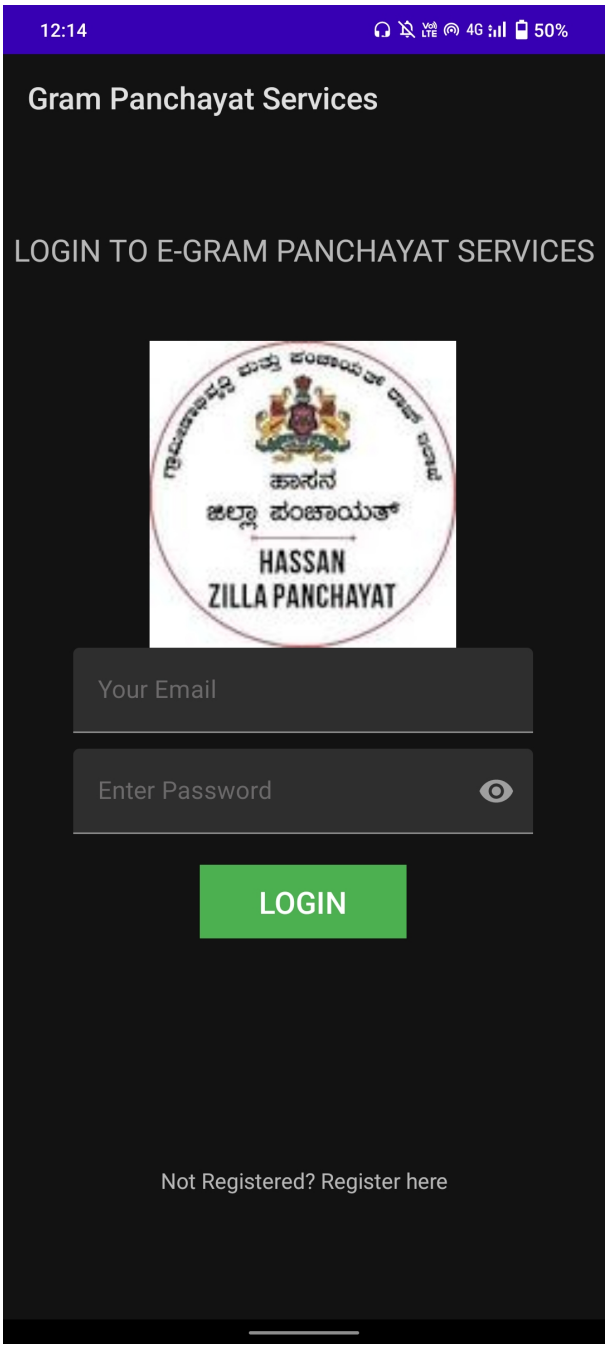


Figure 6.3: Login page

## 6.4 Admin Home Page

After admin login it leads to admin home page where admin can access the complaints and resolve them.

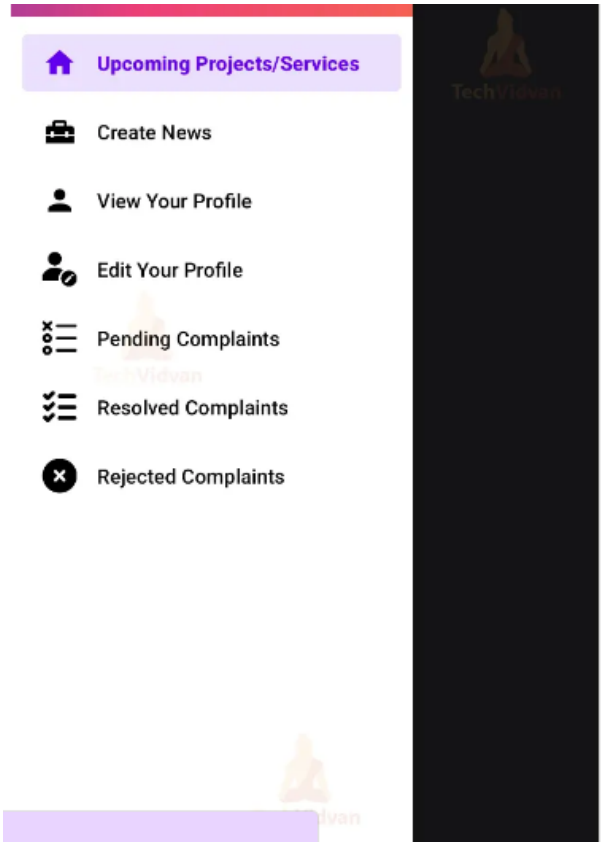


Figure 6.4: Admin home page

## 6.5 User Home Page

After user login it leads to user home page where user can view services, edit there profile and can file complaints.

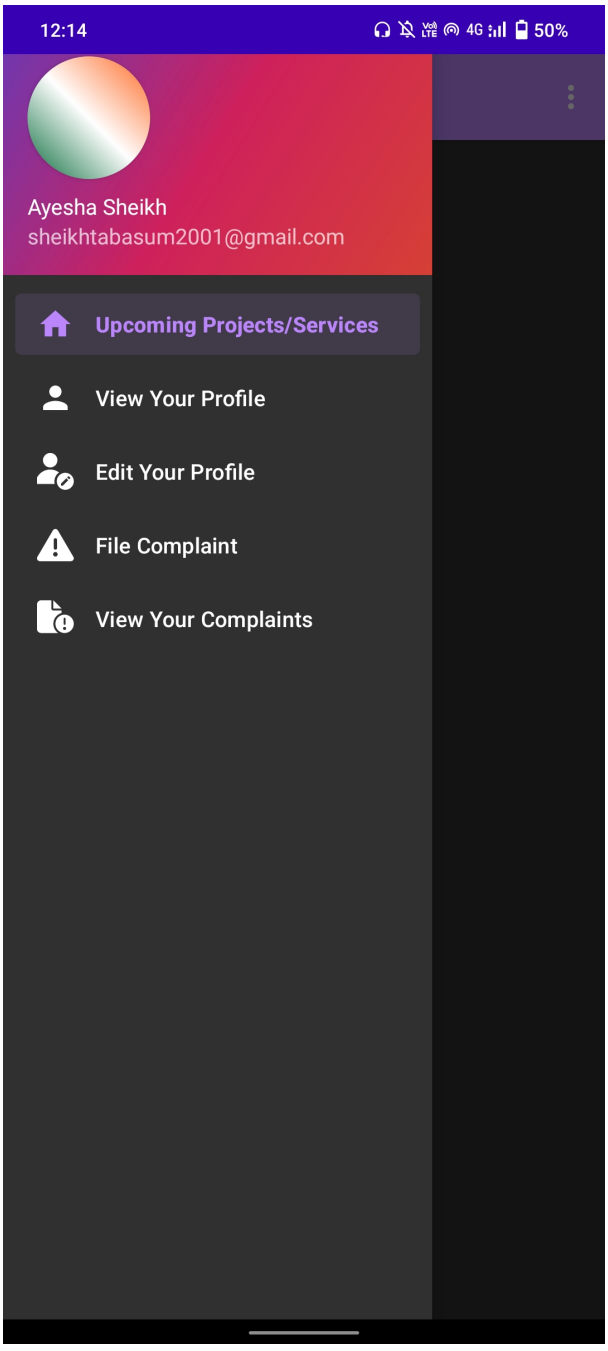


Figure 6.5: User Home Page

## 6.6 Edit Profile Page

By the help of this page User and Admin can edit their profile.

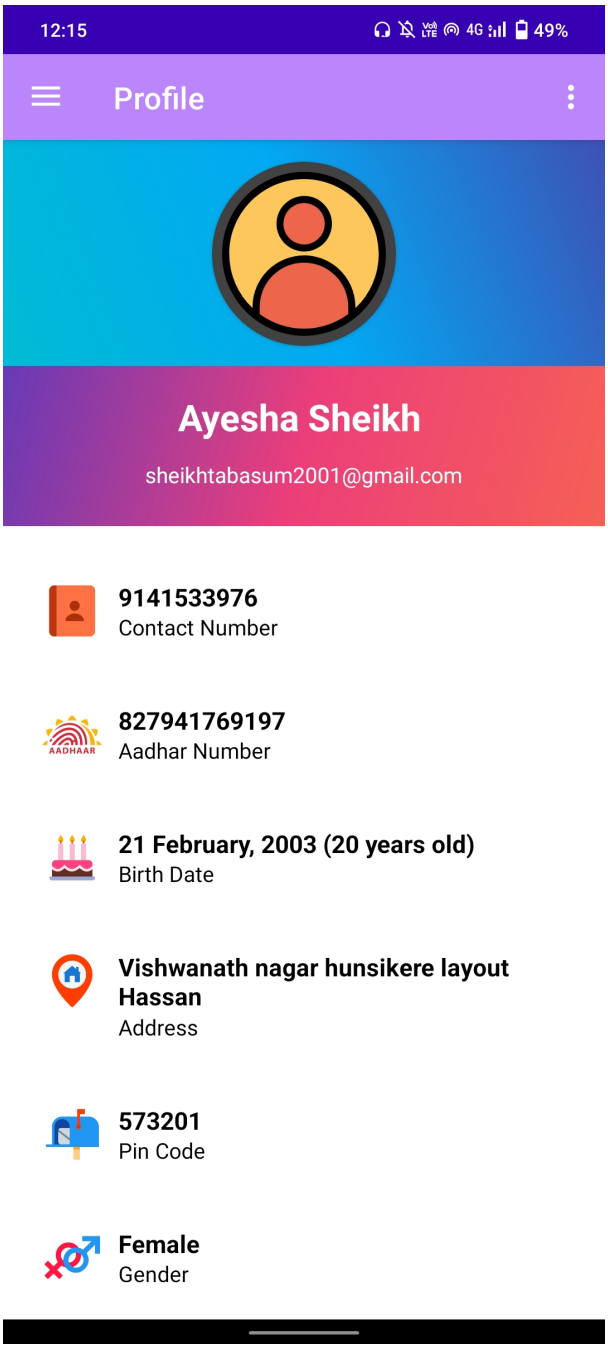


Figure 6.6: Edit Profile Page

## 6.7 Certificates

The user can apply for Birth , Domicile and Death Certificate by clicking respected buttons.


Figure 6.7: Certificates page

# Chapter 7

# Conclusion

Gram panchayat services app provides online services to the people living in that panchayat. It helps for the people in that area to easily complete their work which involves the action of authority of the panchayat people. As everything is made online people can request their applications from anywhere at any time. After requesting the certificate the process will be carried out normally, no need for the people to go to panchayat office every time for the completion of work. It saves people time and they can perform their daily work without any interruption. By using this users can also post their problems directly to the higher officials and can get them solved. The people can access the website where ever they are in the world. This is user friendly and users can perform their operations easily. The e-Governance for Panchayat project promises the rural areas that it can transform the Panchayat Raj Institutions into a modern, efficient and transparent areas. The concept of online panchayat system put a step forward in digitalizing India.

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