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Development of municipal services for human welfare by using smartphones

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ABSTRACT

In Today's world, usage of smartphones increasing rapidly. Smart phones makes our life easy and comfortable by providing different online services like e-commerce, banking, ticket booking, hotel booking, etc. In our day-to-day life, we are facing so many problems in our surroundings like drainage, garbage collection, water problems, road cleaning, etc. We are creating an Android application to provide Municipal services for Human welfare by using smart phones. If the person who observed these problems in his surroundings makes a snap about the issue and keeps it in the app with the location, then the municipal staff or officers review the complaint and solve it. The users are able to apply for different certificates and also pay different taxes by using this app.

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KEYWORDS: Smart Phones, Android app, Human Welfare, online services.

1. INTRODUCTION

The application Development of municipal services for human welfare by using smart phones provides various municipal corporation services. Users can access these services from anywhere and anytime through mobile. Generally, people visit the Municipal corporation offices to register a complaint about the problem in their surroundings. So that the people need to travel to municipal offices thus time and money wasted. To overcome this problem, we have developed this application. The App provides the number of municipal corporation services that are used by the citizens frequently, thus accessing these services via mobile applications will be a boon to humans. By using this application, users are able to apply for certificates like Income certificates, Birth certificates, Death certificates, etc. The users are also able to pay different taxes, like water bills andhouse taxes using this application.

2. LITERATURE REVIEW

1. Smart municipal systems and services platform development

AnatolijsZabasta; KasparsKondratijevs; Nadezhda Kunicina; Janis Peksa; LeonidsRibickis; Jelena Caiko Nowadays each utility allocated in the municipality territory maintains usually its own network of meters and sensors, own system for data collection and

storage, separate customer service, inventory, bookkeeping, billing and etc. Most of the systems are unreliable and incompatible. However, the development of sensor networks for monitoring and control of utility networks and their maintenance is a challenging process due to plenty of human work related to them. During the state research program NexIT, RTU research team developed and tested multi- resource meters for the water distribution network, for installation at district heating substations, and for temperature and humidity measurement in offices and multi-apartment buildings. The gateways implement also adapter and protocol translation functions for communication with other systems.

2. Development of smart infocommunication networks for intellectual municipal services

IevgeniiaKuzminykh; Stephen Kabali

This research demonstrates a smart system that bypasses the normal functioning of traffic lightsalgorithm, triggers a green light when the lights are red or to reset the timer when the lights are about to turn red.Variety of hardware components like microcontroller units, transceivers, resistors, diode, LEDs, digital compass and accelerometer will be connected together and programmed to build a unified and sophisticated complex intelligent system.

3. EXISTING SYSTEM

In India, we have government bodies likeMunicipal Corporations responsible for maintaining cities. It is Municipal Corporation's responsibility to provide various services. But the municipal workers and employers don't do their work properly.

Nowadays people are busy with their works, No one cannot put any interest on problems in our surroundings. Whenever any citizen wants to register a complaint, he/she needs to visit Municipal Corporation. This process takes a long time.

Disadvantages:

- Waste of time and effort.
- Doesn't have any Android Application for this Municipal corporation to reactimmediately
- Confusion creates.

4. PROPOSED SYSTEM

By using this application, users can register their complaints using their mobile phones instead of visiting municipal offices. To raise complaints in this app, users need to make a snap about the problem and upload it along with the location. While raising complaints, users must turn on location services in their mobile phones. So that the location is automatically sent to the app authority.

Figure 1 shows the working of the Developmentof municipal services for human welfare. When the user raises the complaint, The complaint will go to admin. Admin is able to see all the complaints raised by different users. So that admin can submit the complaint to related officers. The officers are able to see all the complaints assigned by the admin. When the officer click on any complaint, google maps will open along with the present location and the location where the complaint raised.

When the officer click on the location of complaint, a message will be displayed to confirm whether the complaint is solved or not. If the officer click on OK the status of the complaint gets updated. By using the status of complaint module, the user can see whether the complaint is solved or not. Users are also able to apply certificates and pay taxes by using this application. When the user applies for certificates, The information entered by the users will go to the admin. By reviewing the information entered by the user, the admin will create certificates for the requested users.

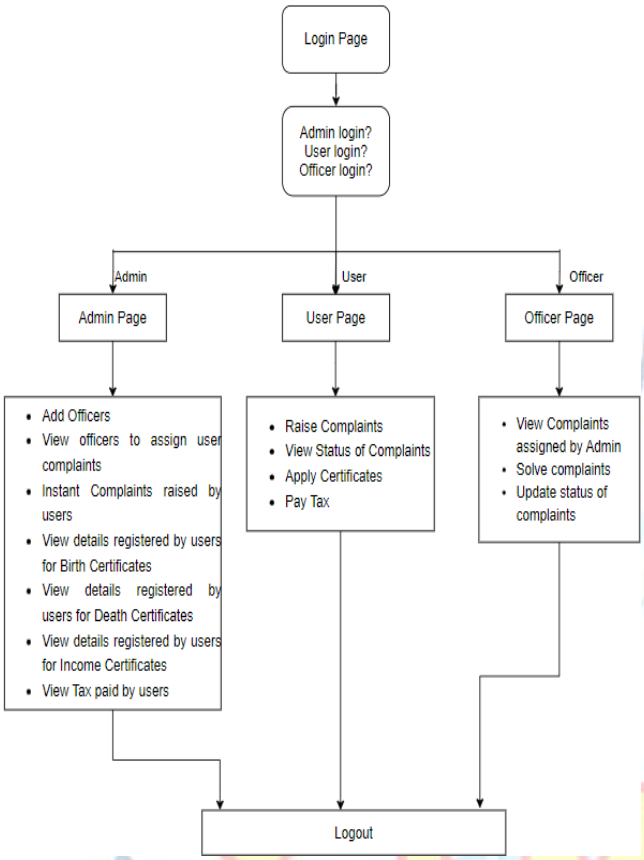

Figure1 - System Work Flow

5. IMPLEMENTATION

The project Development of municipal services for human welfare by using smart phones is developed using Java programming language and PHP by using the software tool Android Studio.

This application consists of the following modules

1) Authentication

- Register
- Login

Register: The register page allows users to register into the application by entering the details like user name, phone number, and password.

Login: In this page, the users need to provide the username and password to validate data and log in to their accounts.

2) User Page:

- Raise Request
- Status of request
- Apply Certificates
- Pay Tax

3) Raise request:

In this module, the public will have the option to add the problems in the framework, the public will register their complaints like water problems, drainage problems, and garbage collection in theirsurroundings.

4) Status of request:

In this module, the public will track or view the status of their complaints which they post in the application.

5) Apply Certificates:

In this module, the users are allowed to apply for different certificates like birth certificates, death certificates and income certificates.

6) Pay tax:

This application facilitates the users to pay different taxes, like water tax and house tax. Through this application, the users are allowed to pay different taxes.

7) Admin module:

- Add officer
- Instant requests
- View certificates
- Death certificates
- Income certificates
- View tax

8) Add officer:

By using this module, admin will add the officers into the application by entering the details like username, password and phone number.

9) Instant requests:

By using this module, admin is able to see all the complaints raised by different users.

10) View certificates:

By using this module, the admin is able to see all the registrations done by the users for birth certificates.

11) Death certificates:

By using this module, the admin is able to see all the registrations done by the users for death certificates.

12) Income certificates:

By using this module, the admin is able to see all the registrations done by the users for income certificates.

13) View tax:

By using this module, the admin is able to see all the taxes paid by the users.

RESULTS

The below screenshots depict the "Development of Municipal Services for human welfare" Android application.

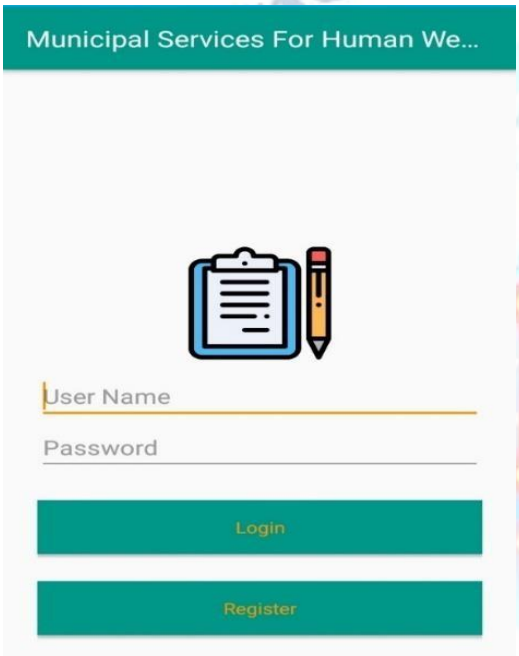

Figure 2 - Login Page

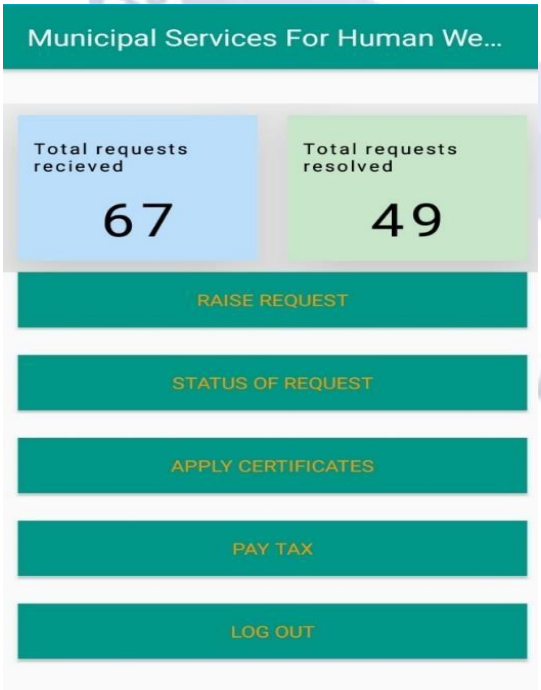

Figure 3 -User Page

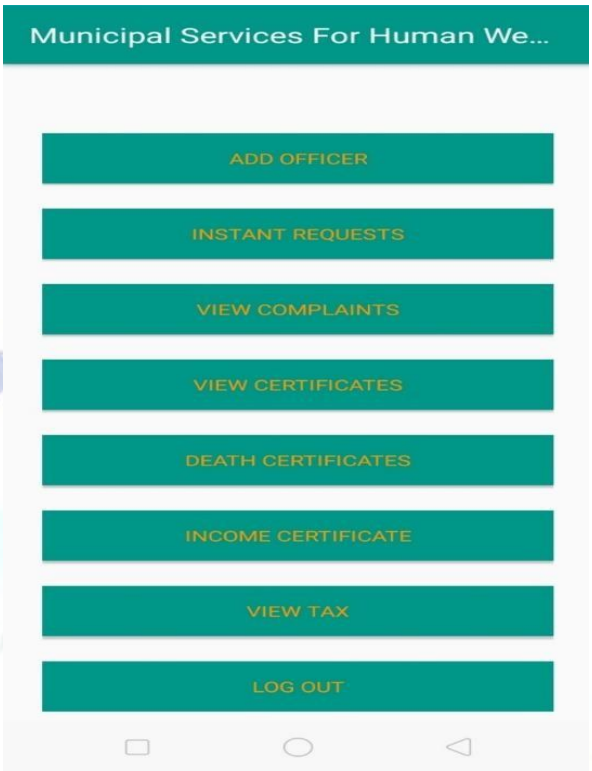

Figure 4 - Admin Page

6. CONCLUSION

Nowadays people are busy with their work, No one cannot put any interest in the problems in our surroundings. Whenever any citizen wants to register a complaint, he/she needs to visit Municipal Corporation. Nowadays, the use of mobile has increased drastically. Hence, we have developed an Android application to provide municipal services. By using this application, the problems or complaints raised by the users can be solved without going to municipal/regional offices. The users are also able to apply for certificates and pay taxes by using this Android application.

Conflict of interest statement

Authors declare that they do not have any conflict of interest.

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