



Societyconnect App: E-Manager For Residential Society

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Abstract: The Residential Society Management System Android app is an innovative platform that aims to simplify residential societies' control. In the old system the secretary had to manually collect maintenance, write notices on the board, and deal with complaints and issues, all of which took. The procedure took a long time, led to mistakes and delays, and made the system in general inefficient. The SocietyConnect app gives several functions to control diverse components of society, which include preservation collection, reserving facilities, sharing, and deleting society notices, and handling site visitors and workers. The app addresses the troubles with antique guide structures, making society control smooth and hassle-free. The app lets citizens pay maintenance payments online, track their fee history, and generate invoices decreasing the probability of mistakes and making sure of well-timed payments. Additionally, the app gives the function of reserving facilities like a clubhouse, gym, and pool, removing the want for bodily bookings, making it an extra handy and green procedure. The app makes sure that each citizen knows upcoming activities and changes.

"Simplicity is the utmost sophistication." Daily notices, monthly conferences, cultural activities, miscellaneous contacts for day-by-day desires, protection indicators, and excessive precedence communicate might not be conveyed nicely in the cutting-edge scenario as most of the matters are being dealt with manually. The SocietyConnect App will solve all the issues and provide various features for maintaining societal transparency. In this paper, we try to lessen the paper paintings so owners can effortlessly get the information of different flat owners. This online net utility can reduce paperwork, phone cost & manual running.

Keywords - Residential society system, sharing notices, deleting society notices, issues, complaints, delays, old manual systems, improved, online payments, well-timed payments, communication, reporting issues, protection measures, modern solutions.

I. INTRODUCTION

The efficient management of residential societies has emerged as a major issue in a time of rapid urbanization and rising housing demand. The conventional manual strategies for managing and keeping a general public's framework and administrations frequently lead to failures, blunders, and the absence of straightforwardness. Perceiving the requirement for a cutting-edge and smoothed-out arrangement, this examination paper presents a Residential Society Management System Android application, designed to revolutionize community administration practices. Individuals and families come together to form a thriving community in residential societies, which are the vibrant hubs. However, due to the numerous responsibilities and tasks involved, effectively managing these societies is difficult. To address these difficulties, utilizing the force of innovation has become basic. The development of an Android app called SocityConnect application that aims to improve the administration and operation of residential societies is presented as an innovative strategy in this research paper.

Society meetings decide all jobs and bills for maintenance, and members' contact information is recorded in the papers. Daily notices, monthly meetings, cultural events, various contacts for day-to-day needs, security alerts, high-priority communication, and many more may not be properly communicated in the current situation because most things are handled manually. It needs straightforwardness. This system of social management addresses the most common issues that residential communities face. Any helpful lodging society can utilize this Android-based application to deal with its everyday activities. Thanks to this application's simple mechanism, every resident has easy access to all social happenings and events in society.

Android is the platform used most frequently in smart mobile communication. Android is a low-cost technology that is used by everyone today. Portable processing has fundamentally modified our everyday lives because of cell phones turning out to be progressively strong and broadly accessible. Since everybody nowadays utilizes an Android application, it can be utilized successfully. Android is one of the most well-known flexible working frameworks due to its open-source nature and customizable user interface. As urbanization progresses, decision-makers face severe demanding situations in presenting numerous offerings and assembly infrastructure requirements. Android, being an impartial running system, gives an easy-to-use platform this is more and more popular, and affordable, and affords a greater reliable, efficient, and sensible mode of communicate for people with busy schedules or dwelling away. The upward push of smartphones and their giant availability have appreciably converted our day-by-day lives. Given the pervasive use of Android applications, they may be applied effectively. Android is famous for its flexibility as a running framework, ordinarily because of its open-supply nature and customizable consumer interface. The application focuses on useful solutions for everyday warnings for groups, such as watering the executives, powering the board, stopping, incidental contacts, security warnings, and the Internet of Things framework. It will undoubtedly reduce human errors and efforts. It will also cut down on paperwork, save time, and be reliable.

The SocietyConnect app addresses communication difficulties in residential communities. It works with consistent data trade between society administrators and residents, empowering speedy dispersal of significant declarations, meeting plans, crisis cautions, and local area refreshes. This contributes to a harmonious and well-informed residential environment by fostering a sense of community involvement and belonging. The purpose of the SocietyConnect app is to provide a comprehensive digital platform that automates various aspects of society management to society administrators, residents, and service providers

In conclusion, the SocietyConnect Android app is a significant advancement in the revolution of residential society management and administration. The app provides a comprehensive platform that simplifies and automates various tasks, fostering efficiency, transparency, and community engagement by harnessing technology. This paper investigates the turn of events, elements, and advantages of the application, preparing for a more compelling and current way to deal with residential society.

II. LITERATURE SURVEY

The purpose of these papers is to investigate a variety of strategies for launching an app for a housing society across a variety of platforms, including the web, Android, and iOS. Android development, web development, cloud computing, and the management of all aspects of messages and their delivery to the intended application on the intended device are the requirements of the investigated technologies. Google Cloud Messaging is used to implement the basic notification app. Technology-driven solutions have been investigated in response to the management of residential societies in the face of urbanization. This literature review looks at studies, papers, and articles about residential society management systems, especially those made for Android. The review gives an outline of momentum research in this field, featuring the principal discoveries, strategies, and commitments of these examinations.

Shivganga Gavhane et al. [1] published a research paper in 2015 that investigated how a Society Management System was implemented. A Google Cloud-based messaging system and an Android application that served as a mobile device notification system were the primary subjects of the study. The objective was to provide a more effective solution and address the limitations of the existing system. The application presented a striking component called "Push Through Warning" which worked with compelling job tasks to society individuals. The execution was expected to work on the general usefulness and use of the framework.

In 2016, Muhammad Barbar et al. [2] In the Industrial Internet of Things (IIoT) environment, a research paper on a secured data management scheme for smart societies was published. Within the context of the Modern Web of Things perspective, the study centered on the growing significance of smart communities and the rising demand for services and infrastructure that prioritize quality. The secure management of energy Demand Side Management was given special attention when discussing the difficulties associated with smart urbanization.

A study report on the installation of an Android application created for the administration of various functions within residential societies was offered by Rutuja Vatharkar et al. in April 2016 [3]. Electricity, water supply, security, and resolving day-to-day issues are all crucial aspects of metropolitan residents' everyday existence. These activities have historically depended on conventional ways of communication. However, the lack of openness in such communication techniques frequently resulted in the transmission of information being unsuccessful. To avoid these disputes and assure effective monitoring and maintenance of societal activities, it became vital to automate these responsibilities.

The remedy to the most prevalent issue that private social orders have been examining is resolved by this arrangement of preserving society, according to Rahul Bhagwat et al.'s proposal from May 2018[4]. This framework is a cloud-based solution for running the daily operations of any helpful lodging organization. They need cooperation between the various administration social orders and the service providers to offer the proper degree of comfort. The fact that this adventure has online accounting and billing is its primary benefit. This framework is user-friendly and makes it simple to produce receipts, invoices, and vouchers.

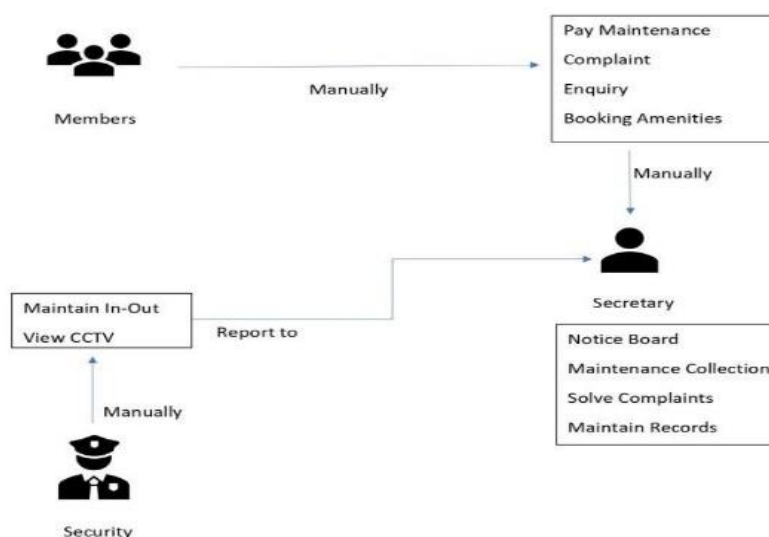
The Android Application Invention Challenge was launched in 2012 by Bin Peng et al. [5] to encourage students to create and build their own Android applications. The contest helps students learn about the topic of Android application development while also giving them a forum to display their creativity. The competition has grown in popularity over time, drawing participants from many universities and areas. The authors talk about the connection between this challenge and their study article, underlining the importance and effect such efforts have on encouraging students to be innovative and develop their skills.

In a study article on Residential society management released in 2018 by Shantanu Kudale et al. [6], the authors examined an easy-to-use Android application as a means of communication. The research study looked at the use of an Android app that had a feature that allowed for direct contact between users.

In their study work, Saurabhi Raut et al. [7] created a Housing Society Management Web Application that offered a forum for submitting complaints and discussing comments directly through the application, to enhance resident participation. Personal meetings with the chairman were no longer necessary as a result. By publishing the status of complaints and ideas that had been handled, the application further assured transparency. Residents were able to engage in numerous activities and were knowledgeable about societal issues consequently.

III. EXISTING SYSTEM

The existing system for running society's affairs relies on antiquated record-keeping practices that involve paper-based registers and papers. Unfortunately, because they are only available to the authority, these records



are not readily available to ordinary members. Members of the society must be present in person to vote on significant issues, such as choosing the chairman, secretary, or treasurer. However, unforeseen situations may prevent certain members from taking part. Additionally, reserving a venue for social events takes time since information is manually entered and is only available to the authorities. If several people want to celebrate in the same area, this may confuse them. The issue of unavailable information and increasing uncertainty is exacerbated by the reliance on a physical notice board. The notification board is customary. As a result, there is the issue of inaccessible data and increased time consumption. Parking payment and allocation take time, so personally maintaining the record may necessitate sacrificing some of his own time. More exertion is expected to keep up with this framework and the framework contains no utilization of the innovation. There is no straightforwardness in this framework. The current system lacks emergency or security measures.

IV. PROPOSED SYSTEM

This system eases the problems that arise when using the manual system and enables society members to avoid interminable lines to overcome the shortcomings of the current system. The suggested approach for managing housing societies intends to simplify and enhance several society operations and resident interactions. To increase effectiveness and convenience, it has a variety of features and functionalities. Some important elements of the suggested system may be:

Management of Resident Information: The system makes it easier to store and manage resident data, including contact information, property information, and occupancy status. It is simple to view and update this information as necessary.

Management of complaints and service requests: The system offers a platform for locals to submit electronic

Figure 3.1: Existing System

complaints, service requests, and ideas. This makes physical paperwork unnecessary and makes issue monitoring and resolution more effective.

Maintenance and Asset Management: The system helps to coordinate society's maintenance responsibilities, including keeping track of maintenance schedules, maintaining vendor agreements, and keeping tabs on the progress of maintenance projects. To track the assets owned by the society and their maintenance history, it could also incorporate asset management features.

Financial Management: The system provides tools for managing the money of society, such as the creation of bills and invoices, the monitoring of payments, and financial reporting. It promotes prompt payment collection from residents and maintains transparency.

A platform for Communication and Announcements: The system comes with a capable platform for communication that enables administrators to inform residents of announcements, alerts, and changes. To improve communication and community participation, it could have features like a notice board, messaging, and event management.

Reporting and Analytics: The system provides reports and analytics on several management-related topics for cooperatives, including maintenance records, financial summaries, and resident satisfaction. Administrators may use these insights to help them make better judgments and enhance society.

The suggested method for managing housing societies intends to improve communication, streamline procedures, and offer residents a simple and seamless experience while assuring efficient management and governance of the society.

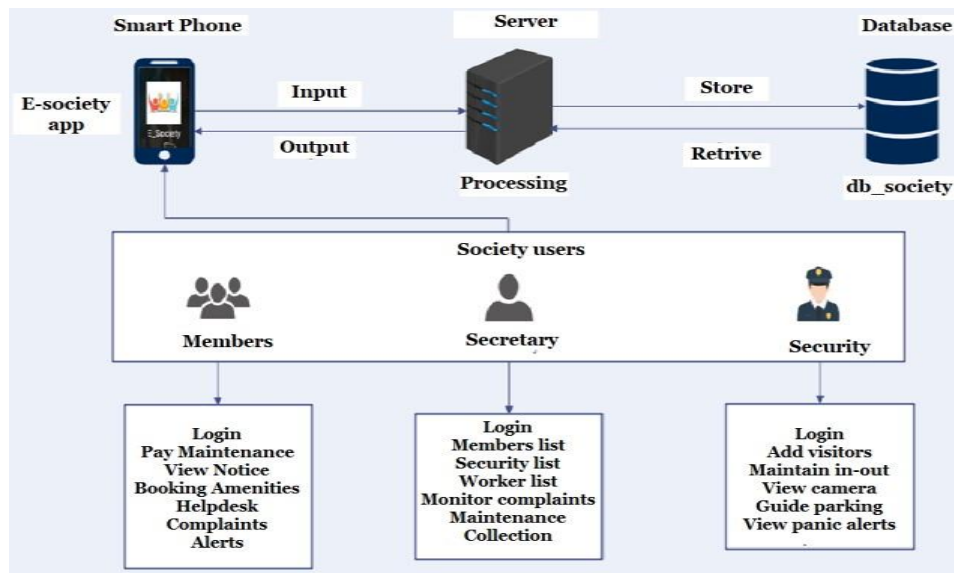


Figure 4.1: Proposed System Architecture of SocietyConnect

V. WORKING MODULES

5.1 MAINTENANCE COLLECTION

The SocietyConnect app has a feature called maintenance collection that makes it easier to collect maintenance fees from inhabitants of a housing society or community. Residents may quickly access their maintenance costs, make payments, and view their payment history via a digital platform that is made available to them. The advantages and capabilities provided by this module increase the simplicity and effectiveness of the maintenance fee collection procedure. The society ought to issue a bill or invoice detailing the fees that each member is required to pay as their contribution to raise funds for the upkeep of the society building as well as any common property or facility on the premises. Recurrence of support bills could be month-to-month, quarterly, half-yearly, or yearly. SocietyConnect makes it easy to generate bills for the entire unit with a single click. The application will show the member's due maintenance along with the due date and give users the option to pay for it. The maintenance history will also be displayed on the dashboard.

5.2 BOOKING AMENITY

On the app, residents of the E-Society can reserve access to a variety of amenities, including a swimming pool, badminton court, clubhouse, and hall, among others. There is no cross-over of booking a specific amenity as the application has the connection point of google calendar which shows which amenity is reserved in which slot. It enables you to comprehend the value of an amenity and even resolves recurring issues.

5.3 SECURITY

The visitor and worker information will be entered into the app by the security guard. It will also keep track of things like arrival and departure times. This module comprises records and support of guest subtleties to get to whenever moment call/warnings to individuals for endorsing guests accordingly upgrading the security of the general public.

5.4 HELPDESK

Overseeing people group issues and complaints of residents can be very time-consuming. Members of the society can easily assign complaints to the facility manager or secretary using E-society, and they will receive real-time updates, alerts, and notifications. Important Contacts, a quick complaint assignment, an SMS alert, real-time updates, a detailed complaint report, and other features are included. The facility manager provides real-time updates on the ticket to the management committee and residents, keeping everyone informed. As a result, there are fewer escalations and everyone stays on the same page. When you file a complaint, you frequently remain unsure whether your message has been received by the individual who will resolve the issue. With our application, the technician gets an SMS when one is assigned, and both the committee and resident are informed.

5.5 VOTING

Any society that needs to conduct an election, like societies going through a builder handover and hosting their first-ever Association Election, Cultural Committees, is qualified to use this feature. It provides resource optimization based on the size of the society; 2-3 individuals are enough to organize the entire digital election process. Cost can be optimized as there is no need to print nomination forms and ballot papers or set up polling booths. You get your results in minutes. This allows everyone to take part in their association election from anywhere.

5.6 SMART LIGHTS POWERED BY IOT

The management and control of lighting systems within a residential community are revolutionized by an Android application. This integration connects and automates the lighting infrastructure using Internet of Things (IoT) technology, providing more convenience, energy efficiency, and customization choices. Several hardware elements are frequently used to create IoT-enabled smart lighting in a society management Android application:

1. **Smart light fixtures or bulbs:** These are specifically made light bulbs or fixtures that include Bluetooth or Wi-Fi wireless communication capabilities. Through the Android app, these smart lights can be managed and altered remotely.
2. **Central Hub or Gateway:** The smart lighting system's main control point is a central hub or gateway. It serves as a link between the smart light bulbs and the Android application. The hub distributes orders and instructions from the application to the smart lights through communication with them.
3. **Sensors:** To improve automation and energy efficiency, a variety of sensors may be added to the smart lighting system. For instance, motion sensors can recognize whether a space is occupied and switch on or off the lights automatically when someone arrives or exits the space. Depending on the ambient illumination, ambient light sensors can change the brightness of the lights.
4. **Android-Compatible Devices:** The designed society management Android application may be used to operate the smart lighting system using Android-compatible devices, such as smartphones or tablets. The user interface for administering and setting the smart lighting system is included in the application.

VI. IMPLEMENTATIONS AND RESULTS

The application is implemented using Java, android studio, and Firebase for the application database. The application allows the admin to control the application and adds the user by checking the credentials of the user. On successful registration by the user, he/she can log into the application and view the modules as required. Complaints are to be viewed by the admin as well as shared notices to members.

Following are some snapshots of the application showing the dashboards of admin, user/member, and security:

1. Choose Your Role and Admin Dashboard:

There are three roles in the application. Admin role for the Secretary of the society, Member role for all the members of the society, and security role for security guard of the society.

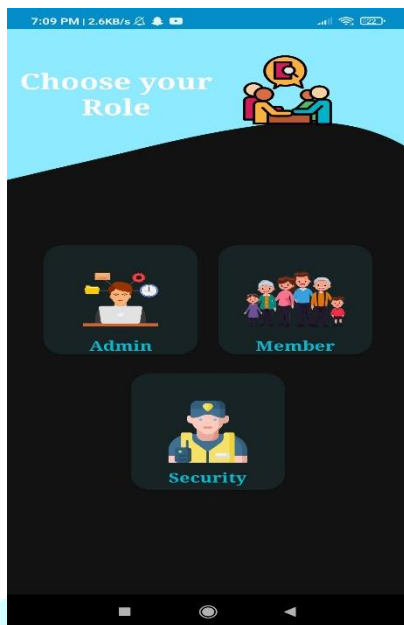


Figure 5.1.1: Choose your role

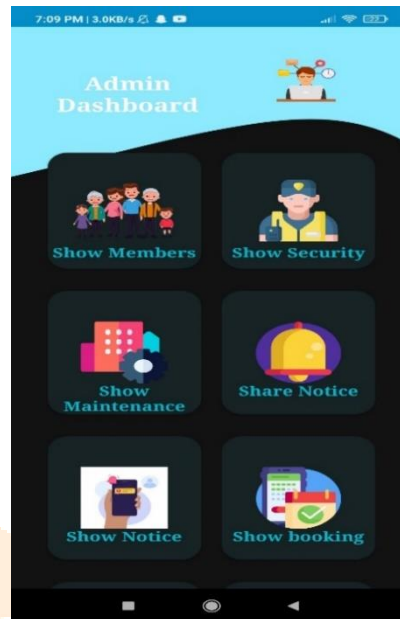


Figure 5.1.2: Admin Dashboard

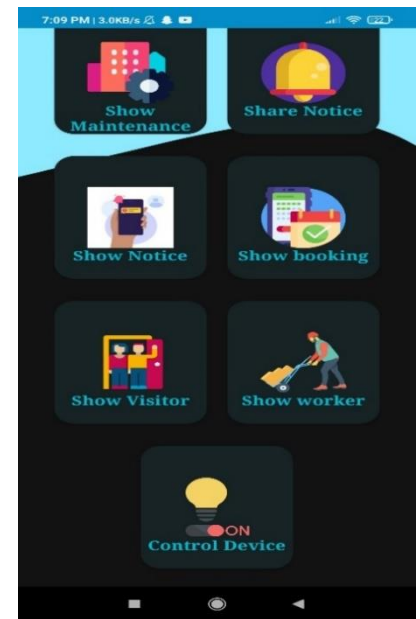


Figure 5.1.3: Admin Dashboard

2. Admin Dashboard Features:

Admin Dashboard consists of various features that are managed by the Secretary of the Society. Show Members feature shows all the registered members of the society which the admin can activate and deactivate. Show Security consists of a list of Security registered. Member's Maintenance History consists of a list of members and their history. The Secretary can share notices in the Share Notice tab and can view and delete notices in the Show Notice tab. The admin can view all the details of daily workers and visitors in the Show Workers and the Show Visitors tab respectively. The admin can power the lights in society through the control device feature.

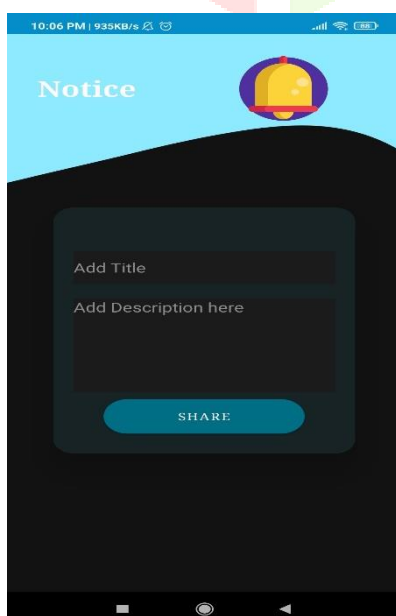


Figure 5.2.1: Add Notice

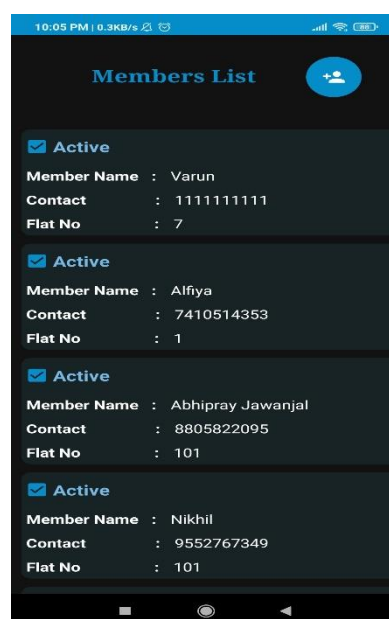


Figure 5.2.2: Active and Deactive Members List

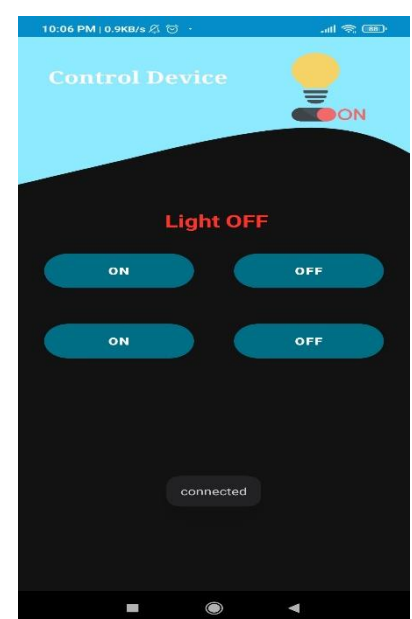


Figure 5.2.3: Smart Lights by IoT

3. Member Dashboard features:

Member dashboard consists of features like pay maintenance, show notices, booking amenities, showing which amenity is booked, and voting for societal elections. The members of the society can pay monthly or yearly maintenance in the Pay Maintenance tab. Notices put by the secretary can be viewed in the Show Notice tab. The members can book amenities of the society for a particular time slot in the Booking Amenity tab and can view booked amenities in the Show Booking tab. They can also participate in societal elections by using the voting feature in th app.

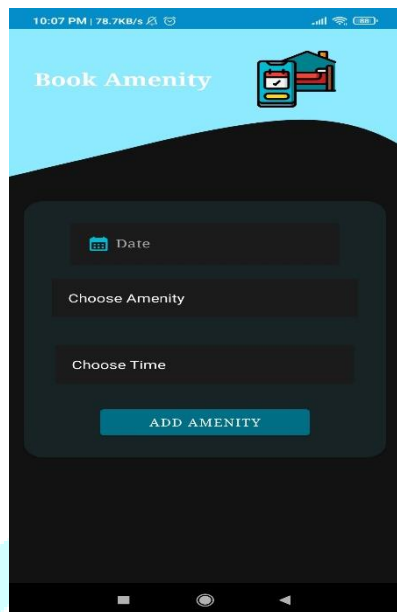


Figure 5.3.1: Book Amenity

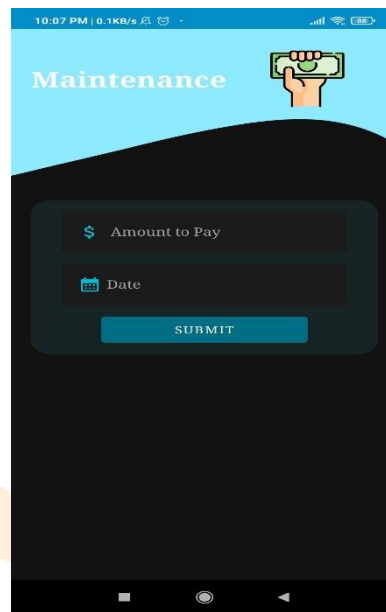


Figure 5.3.2: Pay Maintenance

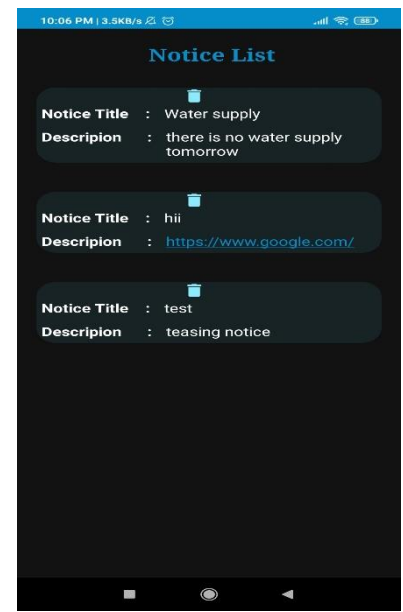


Figure 5.3.3: View Notice

4. Security Dashboard features:

The security dashboard consists of adding the worker's and visitor's information. The security guard fills the information like visitor name, flat number the visitor is visiting, contact number, email address, date, time of arrival and departure of the visitor. This information of visitors and workers is visible to the secretary.

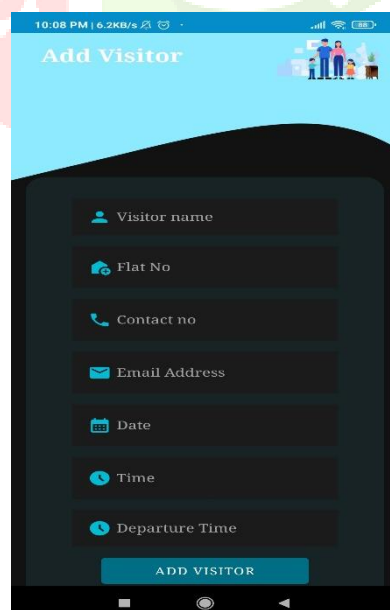


Figure 5.4.1: Add visitors

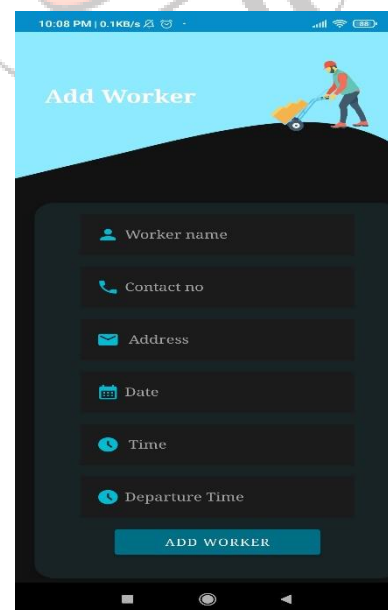


Figure 5.4.2: Add Workers

VII. CONCLUSION

Regardless of the industry, most people have attempted to integrate technology into their everyday tasks as times have changed. Thus, changing how society maintains its knowledge will also be advantageous, increase productivity, and save us time. The complete system will offer a hassle-free, user-friendly, economical communication platform to foster positive relationships among homeless community members and a more intelligent method of interconnectivity. Reducing their efforts will promote transparency between the society's residents and the management. Therefore, our application aims to provide its users with comfort by offering straightforward and essential features.

VIII. REFERENCES

- [1] Shivganga Gavhane, Rutuja Vatharkar, Pratiksha Patil Swati Sonar "Study of Implementation of Society Management System" International Journal of Computer Applications (0975 – 8887) Volume 132 No.1, December 2015.
- [2] Muhammad Barbar, Fazlullah Khan, Waseem Iqbal, Abid Yahy "A Secured Data Management Scheme for Smart Societies in Industrial Internet of Things Environment", 10.1109/ACCESS.2018.2861421, IEEE Access, 2016.
- [3] Rutuja Vatharkar, Pratiksha Patil, Swati Sonar, "IMPLEMENTATION OF SOCIETY MANAGEMENT SYSTEM: SOCIETALES", International Journal of Science & Technology, ISSN (online): 2250-141X, Vol. 6 Issue 2, April 2016.
- [4] Rahul Bhagwat, Aashay Bharadwaj, Vivek Harsode, Anurag Chawake, Mrs. Deepali Bhanage, "Society Management Application on Android," International Research Journal of Engineering and Technology (IRJET), May-2018.
- [5] Peng, Bin, JinmingYue, and Chen Tianzhou. "The Android Application Development College Challenge." High-Performance Computing and Communication & 2012 IEEE 9th International Conference on Embedded Software and Systems (HPCC-ICSS), 2012 IEEE 14th International Conference on. IEEE, 2012.
- [6] Shantanu Kudale; Chandan Amarnani; Harshal Sawakare; Shubhankar Kokate; Sujata Kadu," Housing Society Management", International Journal of Scientific and Technology Research, May 2018.
- [7] Saurabhi Raut, Priyanka Pawar, Masira Shaikh, Neha Bhat, Prof. P.N. Kalavadekar, "Housing Society Management Web Application with recommendation system", Imperial Journal of Interdisciplinary Research (IJIR), 2017.