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A Survey on Mobile App for Addressing Social Issue to PMC using React Native

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ABSTRACT: Numerous services, including urban biodiversity and eco-systems, water and waste water management, sanitation, solid waste management, traffic and transportation (PMPL), energy, and climate change are offered to Pune residents by the Pune Municipal Corporation. This survey paper discusses how the smart city grievance reporting system will alter how complaints are reported in the modern day. They offer this service to every resident of Pune with sufficient care and direction, however occasionally problems arise as a result of delivering services to them. And someone, somewhere, must bring these problems to the Pune Municipal Corporation so that they may resolve their problems for the welfare of the citizens. However, the PMC must oversee a sizable portion of Pune, around 243.96 sq. km, and it is difficult for them to manage such a huge region. It's challenging to spot tiny issues at a specific site, it might cause the treatment of a specific problem to be delayed. So, the only thing left to do is to imagine if we created a project that would work with PMC and try to assist them in resolving these issues with the aid of Pune residents. The major goal of this app is to increase transparency between local government bodies and the citizen of the Pune.

KEYWORDS: grievance, react, reporting, system, native addressing, citizen reporting system, significant.

I. INTRODUCTION

More than half of the world's population is currently online, using a variety of channels, the largest of which is social media. Social media is highly significant in daily life since it allows us to contact with one click with everyone in the world, share information, and provide feedback. It also gives us a platform to present our argument to a global audience.

In-depth study has been done on the topic of e-services for municipal corporation use. Understanding the usability and value of services offered by a municipal corporation utilizing more advanced technology is the aim. Studies that focus on the usability of e-services for the citizen group that is physically challenged have also been undertaken. The Pune Municipal Corporation is responsible for maintaining the city. The municipal corporation has a number of departments to handle various facets of city maintenance and administration. For the municipal corporation to effectively address the problematic areas, it is critical to be aware of the issues that exist in the city as well as when they arise imagine how it will assist us for resolving the problem that PMC and we have with handling very minor social concerns that have arisen anywhere in Pune.

The users can post photos, the location of the issue actually created, and a description to it by raising their issue almost anywhere in Pune, and they can tag the appropriate PMC Officer depending on the type of problem brought up. As a result, our app serves as an interface between the users and the specific officials of the PMC. Therefore, any user who believes that a problem brought up by a third party is legitimate and ought to be resolved by the Pune Municipal Corporation can like the post and intensify the debate so that PMC will take the problem into consideration and resolve it as quickly as feasible. A green Checkmark can be added to the post by the PMC once the problem has been resolved, letting users know that their problem has been taken care of.

A. Motivation of the Project

The Municipal Corporation is the governing body in charge of managing the affairs of the city of Pune is known as the Pune Municipal Corporation (PMC). A PMC's primary responsibilities include, among many other things, resolving any complaints that municipal residents may have. In order to maintain a huge city, the PMC must be informed of any issues, either by monitoring (sensors/cameras) or by enabling the public to report them. Due to a sense of community, the second choice is frequently chosen therefore, if a citizen has a problem with the services provided by PMC, he or she may file a complaint against it. To file a complaint, a person must visit the local PMC office or PMC care facility, but since life today is so busy, no one has time to travel there, wait in line, and file a complaint. Therefore, a mechanism like a mobile application that can receive complaints from residents 24 hours a day, seven days a week would be beneficial from both the citizens and the PMC in order to tackle this problem.

B. Brief description

The Pune Municipal Co-operation (PMC) is making significant progress in maintaining and controlling the social problems Pune City is facing, however no single authority or organization is able to manage the 729km of territory. Pune is 729 km in length, so the PMC cannot manage and maintain all of Pune. However, some areas of Pune may be manageable. Social media is the finest medium for reaching every nook and cranny of a specific location. Social media gives people from different locations a lot of opportunities to communicate with each other. It is also the ideal medium for promoting new understanding. So, in an effort to assist PMC, we have created an app that allows users to take photos of specific social issues, such as mobility and piss poor public transportation, as well as garbage problems and pretty poor healthcare facilities, unsatisfactory water waste management, pretty mediocre solid waste management, traffic, and climate change, and then post the photos online while tagging or noting a specific PMC office that handles that issue. As soon as the PMC officer who was mentioned receives a mention issue with the description for what the officer is mentioned, he or she will check the green checkmark and reply with a completed message on that particular post, keeping the people updated.

II. LITERATURE SURVEY

Studies that focus on the usability of e-services for the citizen group that is physically challenged have also been undertaken. The Pune Municipal Corporation is responsible for maintaining the city. The municipal corporation has a number of departments to handle various facets of city maintenance and administration. For the municipal corporation to effectively address the problematic areas, it is critical to be aware of the issues that exist in the city as well as when they arise the users can post photos, the location of the issue actually created, and a description to it by raising their issue almost anywhere in Pune, and they can tag the appropriate PMC Officer depending on the type of problem brought up. As a result, our app serves as an interface between the users and the specific officials of the PMC.

A. "Natural Language Mobile Interface to Register Citizen Complaints"

^[1] The research work done by SunilKumar Kopparapu, a member of TCS Innovation Lab - Mumbai Tata Consultancy Services Limited, Yantra Park, Thane, India, conducted the research. A city's municipal corporation (MC) is the local governing body in charge of overseeing city operations. In this study, they developed an app and web portal for filing grievances with municipal corporations. Once a citizen registers a complaint on this site, the complaint is forwarded to the appropriate departmental authority for action. The person who filed the complaint is informed of its status. The primary methods of complaint registration are visiting the local ward office, where a representative listens to the complaint and requests some personal information before entering it into an electronic form that is stored in a central database, calling a contact center over the phone, where a call Centre representative enters the complaint into the system, and more recently using a web portal interface, where t The complaint's status can be updated by the ward officer. Wireless Mark-up Language (WML) is used in this study's context to make it possible for mobile devices to submit concerns about the porting of the web interface.

B. “Social media platform development with React Native”

^[2] Here the author of this thesis is Minh Tien Le who has gave the detail info about the social media and about React and how the Social media will act as a platform to reach to the people using react. React is the best language for this platform, as JavaScript’s framework is React. After Python, JavaScript is the most popular language. On the same platform, a user can code for both IOs and Android by using React. Facebook was the first to use React, but it has a large user base. However, React gained popularity when Instagram started utilizing it for development. React was designed to be declarative, which means that if the application's state changes, the user interface is rebuilt. Using Virtual DOM is React. React continuously searches for an internal Virtual DOM and use Virtual DOM diffing to make it as resembling to the actual DOM of the browser as possible. This gives browsers the option to update only the modified components rather than the entire DOM. This thesis's author's independent final-year project, "Kid Tube," served as the social media platform. Both the kids and their parents found the "Kid Tube" to be a fun platform. A website for sharing videos made just for kids and parents is called Kid Tube. The sole objective of developing this program was to protect children from hazardous content while still providing them with a fun and safe environment. The first stage in the authorization procedure for this application is signing up. The second step is browsing contacts. This is also the second function. The final function of the application is uploading content. If the user-uploaded content is hazardous, there is a group of people who watch over it can prevent the user from uploading it.

C. “All Indian Grievance Redressal App”

^[3] Students from the department of computer engineering at RCOE Mumbai, Viral Patel, Dannyaal Kapadiya, Deval Ghevariya, and Shiburaj Pappu, carried out the research. The purpose of this study was to develop an app that would enable local residents to file complaints against issues they encountered in their daily lives, such as issues with garbage collection or potholes in the road. This would enable the municipal corporation (MC) to quickly identify the issue and effectively address it. They created an app that makes it simple for local residents to complain to the municipal corporation. they used Java and XML to create an app (extensible Mark-up Language). There are other alternatives in that app, including sharing the geolocation, image, and address of that specific issue or complaint. In that app, complaints are divided into several sorts and subtypes, such as waste problems, traffic problems, energy problems, and many more, so that municipal corporations may readily access and rapidly resolve a large number of complaints.

D. “Grievance Reporting System”

Department of Computer Engineering Pillai College of Engineering, New Panvel, India students Harshad Rane, Omkar Suryawanshi, TejasMandhare, and Shraddha Pokale took on the significant responsibility of assisting Navi Mumbai MC in social activity such as Solid waste Management and many other social problems faced by Panel residents. In order to save users time, they created project components that simplify and streamline the grievance registration procedure overall. Users of this Android application can take pictures, which are subsequently processed using a machine learning model to determine the image's severity, such as high, medium, or low. Users' spatial locations are also recorded as part of the image-capturing process so that the overall location of the problem can be determined. After posting the captured images and any pertinent descriptions, the images are sent to the appropriate government agency and create a post about the complaint that can be viewed and up-voted by other citizens. The GPS feature of this technology is what allows the authorities to locate the problem being raised. By doing this, the issue of incorrect spatial location insertion was resolved, preventing confusion and unneeded delays for the officials.

D. “React-Native Based Mobile App for Online Experimentation”

^[4]The study was carried out by Xingwei Zhou, Wenshan Hu, and Guo-Ping Liu, all of Wuhan University in Wuhan, China. The paper describes how to deploy NCS Lab in a mobile application using the React-Native framework. For the University of Wuhan, they created an online lab on this React Native website. The main parts of this mobile application are the user login, registration, menu, 3D model, experiment introduction, algorithm download, and configuration interfaces. For the convenience of users, each experiment will include a document outlining its overall concept, specific subject matter, and operating process. Before conducting the experiment, users must apply for the control. If the

experimental equipment is not in use, each user's program will be set to control for 30 minutes, allowing users to carry out their own experiments during that period.

E. "Smart E-Grievance System For Effective Communication In Smart Cities"

^[6]Mahvash Momin, Sadiya Ansari, and Abbas Damarwala are students at the M.H. SabooSiddik College of Engineering in Mumbai, together with SanamKazi, the assistant processor. His system's primary goal was to give people a faster way to convey their opinions to government officials by giving them a forum to do so. Therefore, they suggested a clever application to post complaints in text, image, or video format. The user's location will be monitored. According to the domain, or type and number of problems, the locally elected authority will view a list of issues in his or her community. The more senior authority can be notified of the most important and serious situations. The application will also include a "Serve India" module where citizens who want to volunteer their time for the country can sign up to do so. The responsible authority will then assign them to work on spreading awareness of smart digital India in rural and other underdeveloped regions of the nation. This is one of the important grievance reporting system among others but the problem with this Application is the Graphical User Interface is poor and not user-friendly.

F. "Design And Implementation Of Disaster Management Application Using React Native "

They are creating a disaster management software that NGOs and other assistance organization can use to report missing people, provide data on the availability of commodities, and offer safe places to stay in an emergency. This app was made using React Native, Node.js, Firebase, and TensorFlow to collect data on the crisis, such as how long it might last and what news the government is broadcasting. Because there are times when there isn't a network in these types of regions, this app will retrieve all the necessary information and allow us to use it offline, among other technologies. The app can be a problem because it is free and managed by administrators and volunteers, whose duties can change depending on the region. Users using their software can report missing people and get the most latest situational information, as well as any other feature they might possibly need.

The second aspect of the application offers details and locations of rescue operations. There is a huge amount of other functionality accessible in addition to these two main ones, such as volunteer-managed chatbots. Also, there will be a separate volunteer registration form that anyone may use to nominate themselves, offer their assistance, and sign up to volunteer.

G. "React-Native Application Development"

Using React Native, the author developed the iOS and Android compatible mobile app Medikyte. The modules that make up the are discussed in the paragraphs that follow.

1. Take a Photo: This mobile app's first feature lets users place orders by taking photos of prescriptions written on any kind of medical slip or piece of paper. Once the user confirms the order, the created order is then shown and forwarded to my orders.
2. Create a List: Tapping this takes the user to the cart module. It is the mobile application's main module. After selecting the "confirm order" option a second time, the user is sent to the mobile application's "my orders" section to examine the generated order. Two functions are available in Medikyte's first module: "Make a list," which takes the user to the cart page, and "Take a photo," which starts the camera and opens the photo library while allowing the user to create an order using React-Native-Image-Crop-Picker. gives the app access to the phone's camera collection, allowing the user to take a photo of the prescription.

H. "CitizenApp: Yet Another Social Media Platform For Public Facility Monitoring In Sidoarjo"

This study's objective is to create a smartphone app for an integrated smart city that can be used to report damage to public infrastructure by scanning the QR Code that has been put on each of them. The problem is that Sidoarjo locals don't know how to report damaged public property. As a solution, CitizenApp, an integrated and portable smart city application, is being suggested. Residents of Sidoarjo can use it as a platform to report damage to public facilities, which enables the administration to quickly and simply document the damage and make repairs. Immediately after the user begins the programme, a splash screen appears. There is a form for the facility that has to be reported on the add a

report screen. Report screen insert . On the explore screen, which is where all user reports are aggregated, other users may read them. The first of the three questions was, "Does this app have any issues when installed on your devices? CitizenApp may be used by Sidoarjo locals to report damage to public property. The government may now quickly gather information on damage to public infrastructure in Sidoarjo thanks to the CitizenApp application, which has been successfully built and made available on the Play Store. Based on the research and analysis given in the preceding chapter, it is possible to reach this conclusion.

I. "Road Care Mobile Application"

This application is developed by students of bachelor of computer science (software development) with honours universiti sultan zainal abidin

They developed a social application which is used to report problem in road and highways in this application they use GPS means whenever the user report a problem regarding any potholes and damaged road the application linked that problem to GPS coordinates so that the road maintenance team can easily find the spot and repair the road in this application there is mainly three part user(citizen) those who report the problem , admin who maintain the application and the data regarding it , and the contractor (the road maintenance team) who can solve the problem and repair the road as quickly as possible this is the main structure of this application in this application user first need to report the problem and share the information regarding it also including the location (coordinates) of that spot after that message will go on the application and then the road maintenance team will lead the situation and solve the problem as quickly as possible . this type of application will help to improve the situation of our road and solve many road regarding issues easily.

J. "Location Based Garbage Management System Using React-Native"

This research is done by AakarshanBasu Bhardwaj*1, Sharada R*2 *1,2Student, Department Of Computer Science And Engineering, Don Bosco Institute Of Technology, Bangalore, Karnataka, India.

They develop a application using react native to solve the problem of garbage collection . basically they made application which is location based garbage management system for urban cities this application use a algorithm for checking and analysing the data to create maps that determine the best and easiest garbage dumper routes. This application provides a interface for monitoring the garbage disposal and the garbage bin will be located using a GPS system . in this application user can raise issues about the garbage problem facing in users area user can share the location of garbage so that the garbage collection trucks will pickup the garbage easily and solve the problem. This app also for garbage truck drivers so the drivers can easily see the complaints and get location to go and collect the garbage the app will show the rote to driver toward the location. this type of application will improve the garbage collection system of any city and solve the problem of garbage collection

III. PROBLEM STATEMENT

Pune is developing and this development also bring some changing in environment, surrounding. numerous problems raised in Pune issues like mobility and piss poor public transportation, as well as garbage problems and pretty poor healthcare facilities, unsatisfactory water waste management, pretty mediocre solid waste management, traffic, and climate change, which Pune municipal corporations (PMC) make while providing services to residents. The greatest way to address these concerns, from the perspective of the people of Pune to the Pune Municipal Co-operation, is through social media because social media is highly significant in daily life since it allows us to contact with one click with everyone in the world, share information, and provide feedback. It also gives us a platform to present our argument to a global audience.

The project's goal is to create a system that gives Pune residents a platform to discuss issues which Pune municipal corporations (PMC) make while providing services to residents. This would aid the PMC in resolving incredibly minor concerns that may arise anywhere in Pune. The public and the PMC staff members involved in the issue must both benefit from such solutions.

IV. PROPOSED ALGORITHM

The term "application" (abbreviated "app") refers to software that can be installed and run on a computer, tablet, smartphone, or other electronic device. The most common use of the term "app" is to describe a piece of software that is downloaded to and used on a mobile device. Most programmes do a single, limited task. Each mobile app has a different design and data flow because each app has specific objectives and activities to carry out. In our case, our program's design and data flow are simple but incredibly effective.

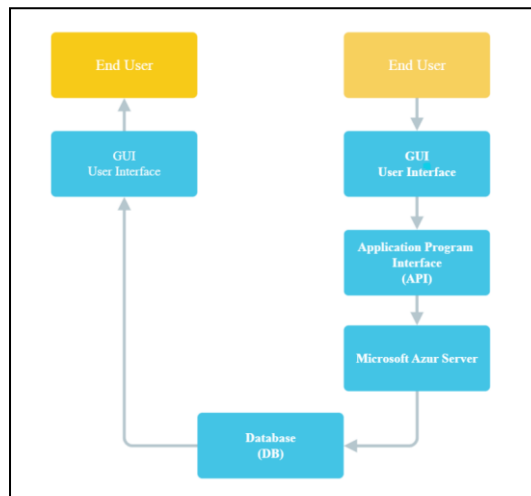


Fig. 1.Data Flow Diagram

A. End User and GUI

As shown in the figure above, the proposed system will receive input from the end user in the form of a complaint, which will include a photo and some text. The input will be collected using a graphical user interface (GUI), and we will carry out our best to make the GUI user friendly and simple to understand.

B. Application Program Interface (API)

An API is a set of computer code that allows data to be sent from one software product to another. It also includes the conditions of this data exchange. Whenever a user adds a post, the API will handle the majority of the job, connecting to the server and doing the necessary actions like Execute the query and add the results to the database.

C. Notification

The user must select/tag the proper PMC officer when submitting photographs of the issue being addressed. Which may act and resolve the subsequent issue A push notice will be sent to the tagged PMC office, informing him or her of the location of the problem.

D. Like System

Users can raise their concern from basically anywhere in Pune, and the suggested solution allows them to post images, the location of the issue produced, and a description of it. Any user may like a post and encourage debate if they consider a concern raised by a private entity is real and should be resolved by the Pune Municipal Corporation. This will encourage PMC to investigate the issue and find a rapid solution.

E. Trending Issue Page

The most popular post will be featured on the trending issue page. Any user may like a post and stimulate debate if they believe a private entity's complaint is legitimate and should be addressed by the Pune Municipal Corporation. This

will motivate PMC to examine the problem and find a quick solution, as well as inform other users about the problem in their area.

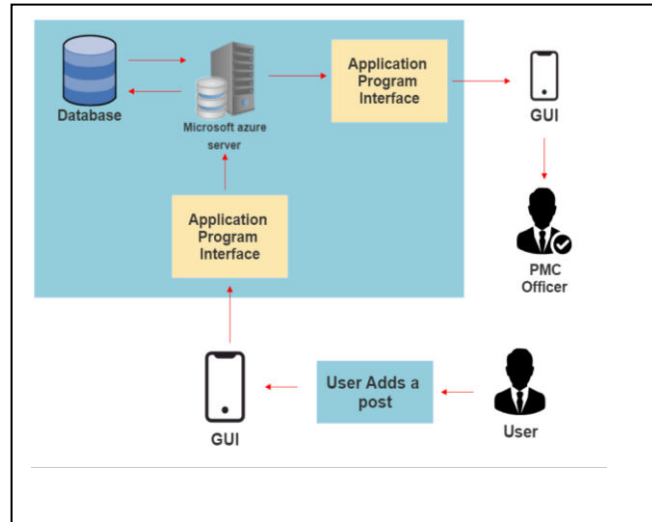


Fig. 2. Architecture of App

V. CONCLUSION

For Pune residents, we have suggested a 24-hour-a-day, accessible app. In addition to employing Microsoft SQL Server for its database and React JS for its front end, the system hosts apps on the Azure hosting platform. A mobile app for social concerns has the potential to significantly improve the level of transparency between Pune's local government and its residents, according to the study's findings. A reliable procedure for bringing a complaint to the municipal corporation must be in place given the rising use of technology and social media. We can bring up the complaint to the company and the general public using React Native.

The average Pune resident will eventually be able to file their complaint on our app, view other complaints occurring nearby or throughout Pune, and bring up further issues using a heat or like button to draw attention from the appropriate authorities. The local municipal official is also capable of quickly responding to problems that arise in Pune and receiving notifications of grievances that do so in the city.

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