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Adaptive Mechanism to Provide Medical Solution to Animals

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Abstract: ***With the rapid development of technology, studies on mobile devices have been increased in the day. By using of smart systems with mobile devices, mobile has gained simple computer functionality and has begun to simplify human life.***
This research aims to scale back the number of stray animals in Maharashtra by way of introducing an app that's convenient for the general public to use. Stray animal mobile applications are popular overseas, but not so in Maharashtra. These mobile applications provide a 'clicking' and 'posting' function and data of animals only. Therefore, the developer decided to develop a prototype of stray animal app for Maharashtra. Information gathering was done from the resident's places of stray animals. A protocol of the app was developed and evaluated with users. although the evaluation results were satisfactory, the app still lacked some features. Therefore, developer have recommended those modifications for future enhancement.
Keyword: java, cloud (Database), Smartphones, Android studio, stray animals

I. INTRODUCTION

Stray animal, known in scientific literature as free-ranging are unconfined animal that live in cities. Municipalities and communities' councils are not connected to stray animals. The target of making this app is to help stray animals.

Today, technological developments in smart devices, the use of smart phones has become widespread. It has become necessary to present various information systems by sectors as mobile applications. Thanks to the software and hardware used with information systems, itis much easier for enterprises and institutions to fulfil the expected goals. With regard to the legal aspect, the storage of animal records for his safety makes it mandatory to perform with information systems and technologies their application responsibility in the policies determined for local governments.

This app based on "clicking and posting" the picture where user can capture the picture and post and further it directly connects to admin. In this study, an Android-based mobile application for temporary animal shelter in many countries of the world, training programs are organized at local level to control the population of animals. At the point of combating street animals, animals are placed in Street places and application policies for the stray animals are determined.

The basic condition of getting on the way to protect the street animals is success in the implementation of the policies. Applied by local governments; The success of the registration of animals, adoption studies, monitoring, and monitoring policies depends on local administrations should also be served community members [1]. This system can answer the questions such as the location of the nearest animal shelters or municipal corporation, responding to help call of people, seeing the billboards for adoption, and informing about activities of animals. When the studies in this area are examined, there are some applications such as VETNET [4] and HAYBIS [5]. The application regulations temporary animal shelters should be established for the protection of animals and welfare and rehabilitation of stray animals. The task of establishing animal shelters is given to the local administration. Tasks such as vaccination, adoption, registration, monitoring, and supervision policies were determined for these institutors [3]. The strengthening of social approaches to animal shelters is of great importance in terms of ensuring the successful functioning of animal shelters with the policies determined [2].

Activities titled as Safe animal was developed. This application has been developed not only for local governments and local animal protection volunteers, but also for community members who want to helping nature about the animal and protests it by his injuring [1].

II. RELATED WORK

Summarized related work pertaining to stray animals. Facts and findings are identified to support the idea and implementation of the proposed application. Existing systems are reviewed and compared to the proposed application

Stray animals stray miserably without a purpose on streets or place they do not belong [12] they lead poor and miserable life on the streets. They suffer from heat and cold from the ever-changing weather. Even more often, they are chased around by hostile and violent people [12]. Hence, the stray animal association emphasized adoption and caring is a good practice and it is also a chance to appeal to the public to participate in the activities of adoption and care. This action mainly is to raise awareness of the public regarding the problems faced by stray animals.

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When the public responded to adoption activities, the stray animal shelter will allow the animals to meet their new owner and find a permanent home. In this way, the animal shelter has room to rescue more animals from stray.

A better environment and basic supplies will be provided such as food, water, shelter, and medical care are given when is needed, once an animal enters the shelter [13]. Besides, the shelter has to make decisions based on the welfare of the public as to which animals can be placed for adoption and which animals cannot [13].

Worldwide Smartphone of Market Share Based on the data from the International Data Corporation (IDC) Worldwide Quarterly Mobile Phone Tracker, it shows that the worldwide smartphone market grew 13.0% year over year in 2015 Quarter 2 with 341.5 million shipments [9]. Android managed to increase gradually until 2014 with 84.8% market share, but it has a slope down to 82.8% in Quarter 2 2015. As expected, the Android operating system has the largest market share when compared with the IOS operating system, the Windows mobile operating system, the BlackBerry operating system, and other operating systems. Then, for other mobile operating systems such as IOS, Windows Phone, BlackBerry OS and other Operating Systems decrease in the year 2015 compared to the 2014 year because each of the OS only contributes to their own brand mobile devices like iOS to Apple, Windows Phone to Nokia, BlackBerry OS to BlackBerry [9][8].

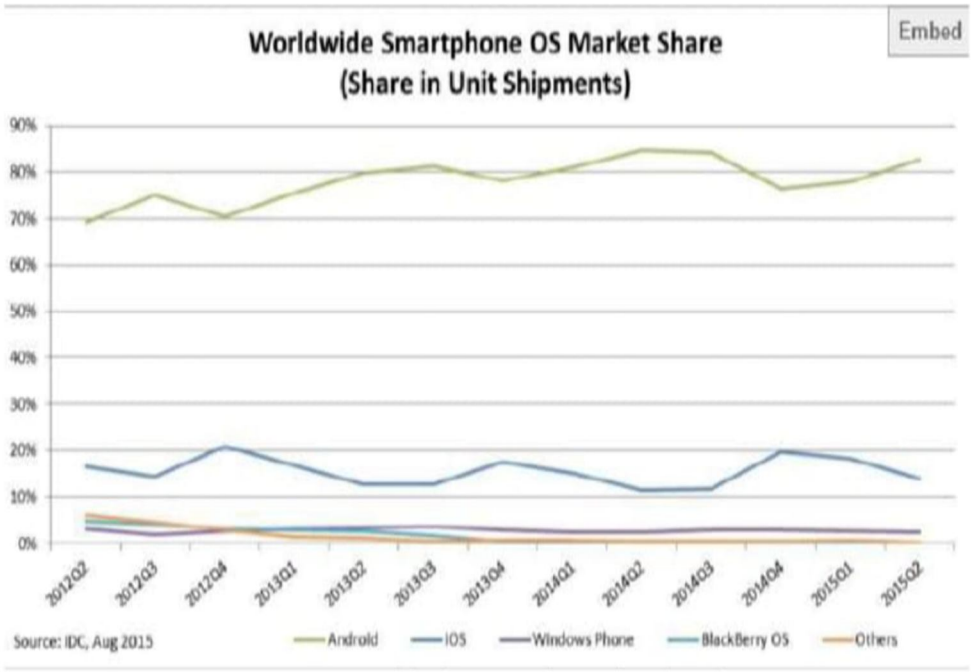


Table 1 Strengths and Weaknesses

Name Of Application	Strengths	Weaknesses
Dogly	• Attractive interface, • Able to share and explore, the image • Donate to the best total loves of the shelter each month	• Poor functionalities that unable to share to social media. • Some of the functions (E.g.: user account) are unstable • Too several classes to confuse users like profound pups, happy tails, and so on. Those classes area unit ready to transfer photos too.
Doggy Rescue	• Able to look • Able to check slashed animal • Allow to share to social networking sites.	• Do not offer authorization • Some of the functions (E.g.: settings) area unit unstable • Complicated interface as too several components enclosed in one interface
Dog Fined	• Allow to look by breed • Allow to pick out city • Allow to share to social network	• Poor performalities that unable to look function, view pet's information and others • Do not offer authorization • Confused interface as no classes

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III. METHODOLOGY

Using search algorithm and shortest path algorithm

Using a mobile device, the user could access the map application anywhere you stay. The study was developed to determine the best path from one location to another using GPS Satellite for administration. It has three features: Searching, Detecting, and live. The user can input the current location and destination anywhere on land and admin where use the search type algorithm for finding the current location and they use the Shortest Path Algorithm for getting the shortest route. Based on the inputted location given by the user, the list of available locations will be determined which enables the user to select the current location and send in the application. Afterward, the admin will detect which path that the user will show in the application then the admin will track the location using search location anywhere in the world through GPS satellite. It identifies the current location of the animal and once the user captured the picture and send in the application the uploading will get 10 secs and the GPS will update in 20 seconds so that the admin will get all possible routes to track with the number of kilometres will give the admin to choose the destination by use of the shortest route. After the completion of the Google Map API, it was found out that this application can be used worldwide. It can detect the current location of anywhere in the world by using arrays as we use pay defined method for data provided from the satellite as long as to admin on the land

Dijkstra Algorithm: Key to Finding the Shortest Path, using Google Map

```
function Dijkstra(Graph, source):

    create vertex set Q

    for each vertex v in Graph:             // Initialization
        dist[v] ← INFINITY                  // Unknown distance from source to v
        prev[v] ← UNDEFINED                 // Previous node in optimal path from source
        add v to Q                          // All nodes initially in Q (unvisited nodes)

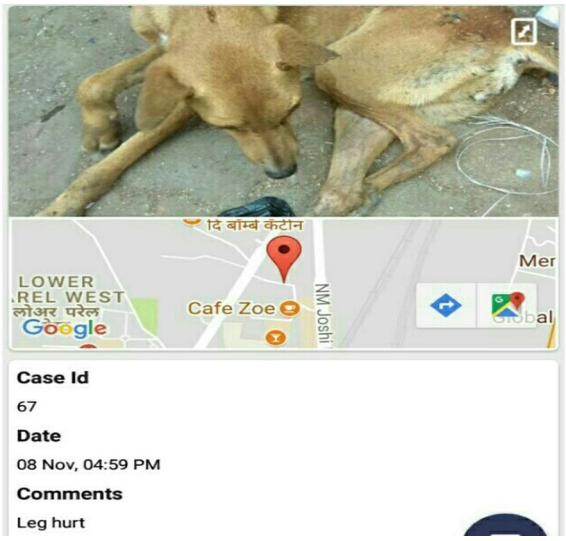
    dist[source] ← 0                        // Distance from source to source

    while Q is not empty:
        u ← vertex in Q with min dist[u]    // Source node will be selected first
        remove u from Q

        for each neighbor v of u:           // where v is still in Q.
            alt ← dist[u] + length(u, v)
            if alt < dist[v]:               // A shorter path to v has been found
                dist[v] ← alt
                prev[v] ← u

    return dist[], prev[]
```

The algorithmic paradigm builds the solution of part, always choosing the next part that gives the correct and right way. So the problems where choosing locally optimal also leads to global solutions are the best fit for the Greedy algorithm. The most obvious algorithm is a simple, intuitive algorithm that is used in optimization problems. It has the choice to attempts the overall optimal way to solve the entire problem. I learned that Google Map API has a Get Direction feature that let users find the shortest path from one point to another.

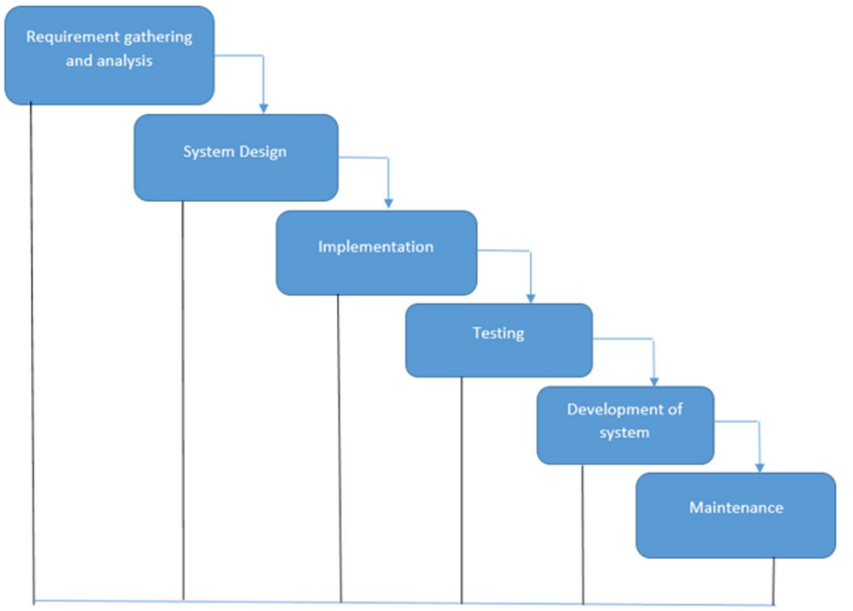


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IV. METHODS

This project uses the software development life cycle (SDLC) methodology to define tasks performed at each step in the software development process. It is a detailed plan describing how to develop, maintain, and replace specific software. The life cycle defines a methodology for improving the quality of software and the overall implement process. The methodology used in this project is a modified waterfall model whereby it describes the various phases involved in the development. shows the diagram of the waterfall model



V. EVALUATION

Complete evaluation for testing purposes for the prototype mobile-based stray animal system such as unit testing, integration testing, and system testing has been done. In addition, the evaluation is to ensure that the researcher has met the objectives of the project in order to avoid the researcher does not meet the scope or requirements of the project.

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VI. CONCLUSION

The developed system was developed as a totally functional prototype android mobile application. The system works with all the functionality in Android 6.0 Marshmallow and the above version. The application can be modified according to requirements for Municipal corporation. The application can be customized with user name and password also using google authentication with the authorization of the local administration for the Application, access to the records of the MC units can be customized by entering the user name and password in the same way.

To reduce the amount of stray animals by helping them to seek out their rightful owner through an application where users can share the photos and site of a stray animal, hoping that a kind soul will adopt it and care about it. This prototype system provides a platform for users to adopt homeless animals Users are going to be also allowed to share photos of a homeless animal on this platform once they discover a homeless animal. The contact information is going to be included within the information that's uploaded by the owner.

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With the use of the application developed within the scope of this study, the Adaptive mechanism to provide medical solutions to animal application policies can be strengthened. Social approaches constitute the infrastructure of laws. The Law on Animal Protection will remain inadequate unless social approaches are strengthened. Topics such as perspective the stray animals in society and perpetration against animals should be revised. It should be aimed to prevent animal safety by strengthening social approaches. Local administrations should be helping the stray animals by using this application Local administrations should help policy the safety instead of purchasing for animals.

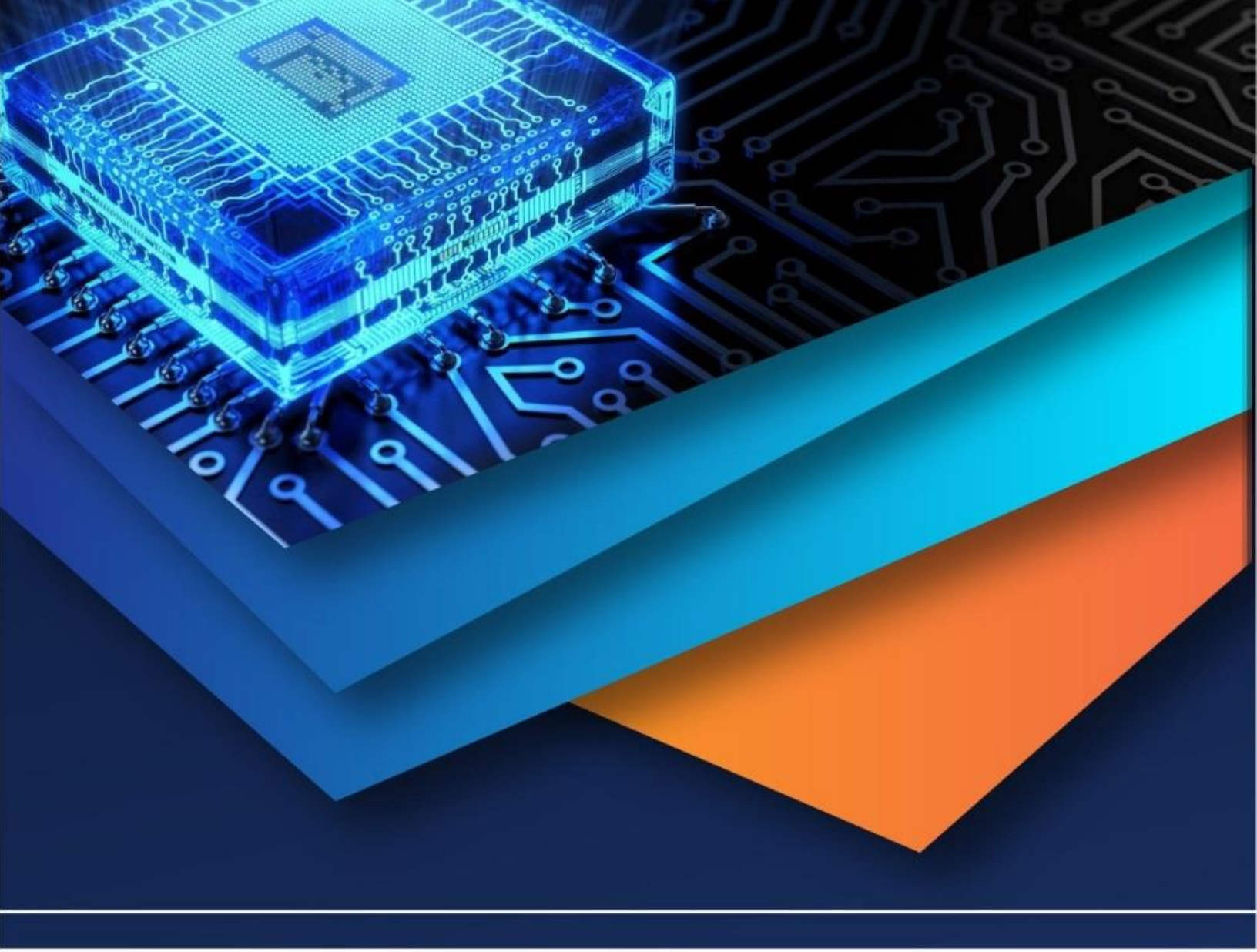
Future Works There are several features that are able to innovate or enhance this application. These features seemed beneficial to the application but were not implemented due to time constraints. Therefore, recommendations were made for those researchers or developers who are interested to continue the research in the future. The following features may help to add value to the system in the future:

1) *Application Used For Administration Panel:* This feature enables an administrator to manage the application. It allows the administrator to update the announcement, post the latest news, and give further information.
2) *Google Search Function Able To Display The Location Of The Pet And Search Their Location:* This feature is going to be ready to display the present location of the pet that users have found. It will show the accurate location of the pets so the NGOs and owners would be able to find the injured animals. It will also allow users to search for homeless pets around their area by using google map. Subsequently, users are able to rescue or adopt homeless pets based on their choice.
3) *Application for Public Use:* This platform allows users or administrators to speak with one another. It allows users to post a question in the forum. The administrator will also be able to reply to users by giving them advice or solve the users' problems that are related to the query.

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