

# Dynamic Geo based Survey Document Retrieval

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**Abstract:** The availability of the locations using GPS has made many changes nowadays. The smartphones are having this inbuilt location-based feature of GPS where we use to display in maps. For Android Operating Systems, Google Maps API V2 is one of the location-based APIs available. This paper discusses the utilization of Google Maps API V2 to design an app which aims to simplify the Land Office and the people who want to buy the land to obtain more accurate information about the land which they want to buy. By using GPS in mobile, we can get location to perform a survey to determine the coordinate points of the land which the buyer wants to buy. The main objective of this paper is to identify the exact survey details of a piece of land and to reduce the litigation issues created by the land brokers or real estate people on the people who are purchasing it. The main advantages of this application is that, it reduces the ambiguity in identifying the plot, it is accurate and reliable, litigation issues can be reduced, the buyer can be saved from incurring loss, fraudulent activities can be terminated.

**Keywords:** Global Positioning System(GPS), Google Maps API V2, Android, National Land Agency (NLA), Google Maps, Survey Department of Government.

## 1. Introduction

Surveys are used to identify boundaries and features of land to determine ownership. Survey Department of Government surveys the land and draws boundaries across and are given the plot of land with specific survey numbers. They are employed in construction projects ranging from building fences to entire cities. Survey is essential for data collection, with the end result of a data and information in the form of maps. Generally, this results in the form of a hardcopy form. This contains the administrative boundaries of land ownership, which change at any time.

When a person is willing to purchase a land belonging to someone else he/ she has to first go to government offices collect the survey details and maps of that particular land and then manually go to that plot and check the measurement and other parameters. Sometimes the broker or the real estate people who act as mediators between the seller and the buyer play double game in order to take the benefits of commission and make profits. Sometimes the buyer of the land after purchasing the land he might have built a house or started work on constructing a building, suddenly encounters worst scenarios by others claiming that this particular land belongs to us or the

survey number of this land is different etc. The buyer will end up in litigation issues and cases. The detailed produced by the seller or the broker will not be 100% genuine, this may put the buyer in despair. In order to overcome all these fraudulent activities we have developed this application which will give all the information regarding the plot which the buyer wants to purchase, so that the buyer doesn't get carried away with false perceptions and incur loss.

## 2. Existing system

In the existing system, if somebody wants to buy a piece of land, the buyer either collects the details of the plot which he/she is interested to buy from the broker or real estate people. These people in order to make profits will not provide the full details of the plot such as the family tree details of the owner of the plot, the boundaries and other measurement parameters of the plot. The buyer has to collect all these details from a government office or manually waste lot of time in gathering all the information regarding the plot. Time consuming. Tedious to frequently visit the physician for suggestions. In existing system, its difficult to get proper details about land or plot. The buyer has to collect all these details from a government office or manually waste lot of time in gathering all the information regarding the plot. Hence there is a need of application which overcomes from problems of existing system.

## 3. Proposed system

In the proposed system, an android application is developed for the survey department of the Government. This application can be used both by the Government as well as the buyers of the land. In this application complete survey details and the geographical location details of each portion or plot of land, owner details, owners family tree, shape of the plot etc. will be accurately fed into a server. When the buyer goes to the plot and opens this application a clicks the button in, it will show the complete details of that particular plot with accurate survey number where he / she is standing. The buyer can even download the document, whole document can be downloaded with one click and can use this document in future. In the proposed system, there are mainly two modules, one is Admin

module and the other is user module. In Admin module there is two other sub-modules, they are Manage User module and Manager Service Provider (Survey Department). In Manage User module admin can add, delete and view users registered into the applications. In Manager Survey Provider module, admin can manage service providers by adding details of service providers and also admin can view service providers. In User module, Register and Login module, the user has to get registered to our application and can login to view the app modules, Receive Notification module is for the users to get notifications about the confirmation message to access the land details, Request Land Details module is to request for land details provided by survey departments and View Plot/ Land Details module is used to view details about the lands or plots. The Manager Service Provider module contains Login Module where the service provider has to get logged-in to the application to view the app modules, View Request module is used by the service provider to view request sent by user to access the land details, Send Notifications module is used by the service provider send confirmation message to user for accepting service to provide land details and Provide Land Details module where the service provider allow the user to access the land details. The advantages of the proposed system is that, it can reduces the ambiguity in identifying the plot, it is accurate and reliable, litigation issues can be reduced, the buyer can be saved from incurring loss and fraudulent activities can be terminated.

**4. System design**

The purpose of the design phase is to plan a solution of the problem specified by the requirements document. This phase is the first step in moving from the problem domain to the solution domain. In other words, starting with what is needed; design takes us toward how to satisfy the needs.

A data flow diagram (DFD) is a graphical representation of the "flow" of data through an information system. DFDs can also be used for the visualization of data processing (structured design). On a DFD, data items flow from an external data source or an internal data store to an internal data store or an external data sink, via an internal process. The data flow diagram for admin and user of our system is shown in Fig. 1 and Fig.2 respectively.

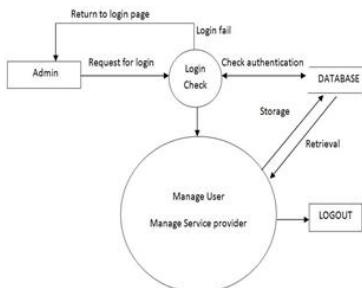


Fig. 1. DFD for Admin

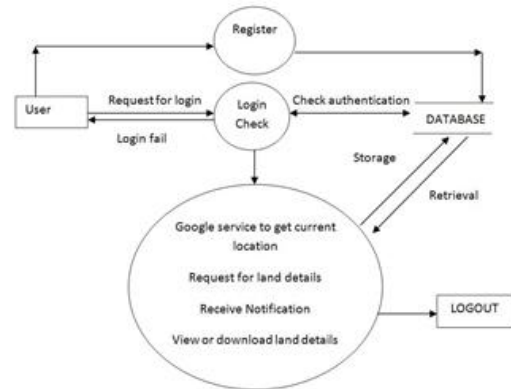


Fig. 2. DFD for user

**5. Results and discussions**

Our android application is implemented using object oriented programming language. Following snapshots below shows our application pages.



Fig. 3. Home page

Fig. 3 shows the home page of our applications, where the user can login to our application, they can contact us and they can know about us more.

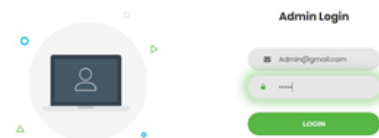


Fig. 4. Login page

Fig. 4, shows the Login page where both the admin and the user can login to the application.



Fig. 5. Add new survey details

Fig. 5, shows Add New Survey Details page where the admin adds the new survey details of the land by giving details such as survey number of the land, its latitude and longitude, its radius, owner name, type of land e.g. Agriculture land, dimension of the land in acres, registration date and the address.

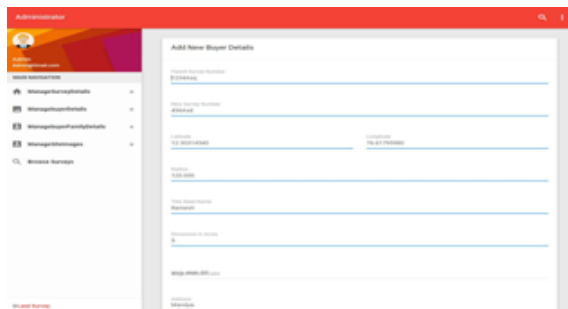


Fig. 6. Add buyer details

Fig. 6, shows the page to add the details of the buyer. This page takes the information such as parent survey number and new survey number of the land, latitude and longitude, radius, dimension, address etc.

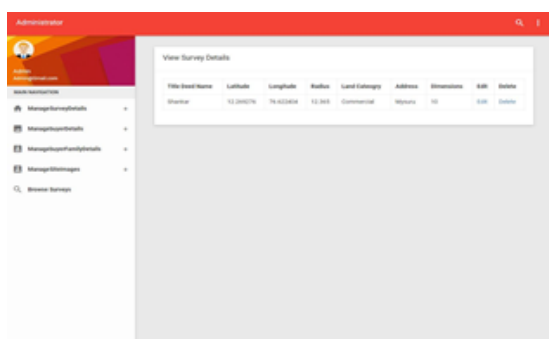


Fig. 7. View survey details

Fig. 7, shows the page to view the survey details of the land which are surveyed.

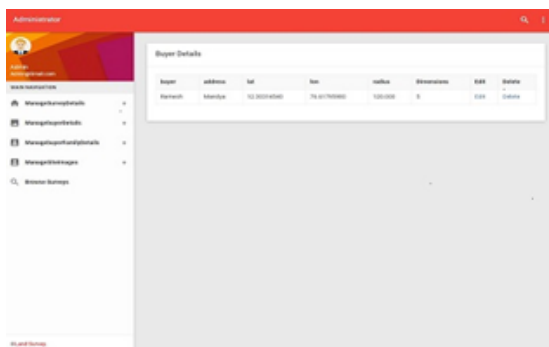


Fig. 8. View buyer details

Fig. 8, shows the page to view the details of the buyer who wish to buy the land.

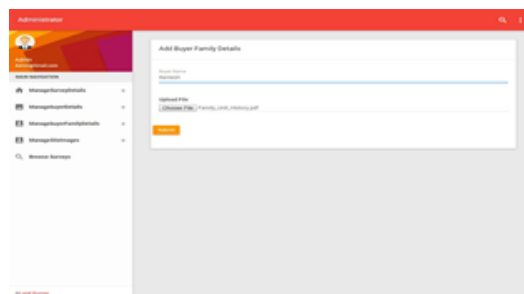


Fig. 9. Add buyer family details

Fig. 9, shows the page where the buyer needs to add their family details by uploading some certificates asked.

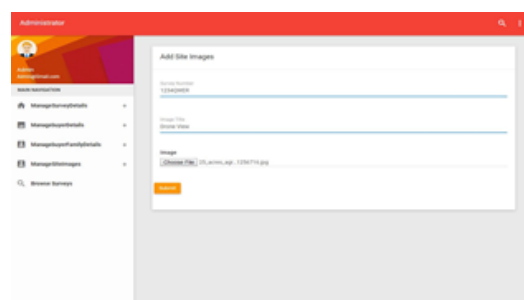


Fig. 10. Add site images

Fig. 10, shows the page where the site images which has to be sold can be uploaded which is displayed when the buyer browses the surveys.

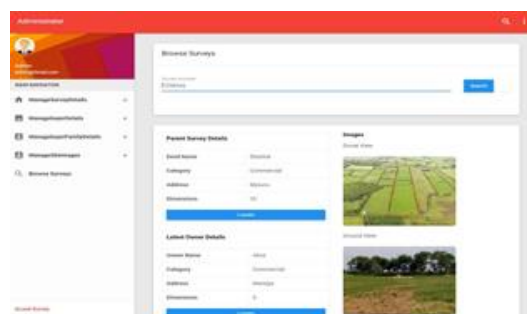


Fig. 11. Browse surveys

Fig. 11, shows the page where the buyer can browse the surveys.

## 6. Conclusion

Our land survey is an android application using which users can view details of lands. It thus saves time, effort and reduces the litigation issues created by the land brokers or real estate people on the people who are purchasing it. This application can be used both by the Government as well as the buyers of the land.

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### References

- [1] Android Developer Guide:  
<http://developer.android.com/guide/index.html>.
- [2] Android API: <http://developer.android.com/reference/packages.html>
- [3] <http://www.java.com/en/download/faq/whatis-java.xml>
- [4] Software Engineering, Ian Sommerville, Sixth Edition, Pearson Education Ltd, 2001.
- [5] O'reily, "Android Application Development."
- [6] Jerome Dimarzio, "Android Programmer's Guide."
- [7] Reto, "Android Application Development."
- [8] Abidin HZ et al., "Crustal deformation studies in Java (Indonesia) using GPS," J. Earthquake Tsunami 3(2): 76-88, 2009.
- [9] Thomas A.Powell, HTML, "CSS: The Complete Reference," 5th Edition, Tata McGraw- Hill education, 2010.
- [10] Badan pertanahan nasional.  
<http://kotsalatiga.bpn.go.id/Tentang-Kami/Sekilas.aspx>
- [11] Sahoo, B. P. S and Rath, Satyajit, "Integrating GPS, GSM and Cellular Phone for Location Tracking and Monitoring," Proceedings of the International Conference on Geospatial Technologies and Applications, IIT Bombay, Mumbai, India, 2012, February 26-29.