Application for House Maintenance Service

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Abstract - *Nowadays people are busy with their heavy work culture, engaged schedules. Managing our own time is a hectic task for all of us and if we get encountered with unexpected issues it leads to distraction and frustration. If we consider the current scenario, the Owner is worried about the property maintenance and the tenant has the headache of maintaining and solving the property problems like Plumbing, Electrical, Electronic, and Home Paint. For those services, they can go through a personal meeting or mobile call. It is difficult for the tenant to find any service in an emergency at any time and place. An owner can have multiple properties throughout the country. Maintaining this property is a big task. The owner needs to invest his valuable time in this. So, with this project, we are going to develop an application that will help customers to find out a solution for any problems related to property maintenance such as Plumbing, Electrical, Electronic, Home Paint services. Our application will provide a platform for all kinds of House (ex. Residential, commercial etc.) maintenance services at any time and place. The main problem is to maintain the property and that is not considered in the current legacy process, we are trying to tackle that problem by providing the WIN-WIN situation for both the owner and tenant.*

Key Words: **Service, Online System, Maintenance, Real Estate Management System, House maintenance**

1. INTRODUCTION

When the owner has multiple properties, it gets difficult for him to keep a watch on his property. If any household service is required from outside vendors like plumber, painter, electrician, etc it becomes difficult to find a skilled and trusted vendor who will provide consistent flawless services at any instance.

House maintenance Services is a house maintenance service system that provides a WIN-WIN situation for Property Owners as well as tenants. Owners need not worry about Property Maintenance and Tenants also don't need to worry about it. House Maintenance Services provide all the services to the Owner and Tenant to maintain the Property.

This online home maintenance service is beneficial for everyone who wants to offer home services because nowadays everyone wants to save time and shoot out their problems within time without any problem. Therefore, online home maintenance services are very useful for both tenant and the owner.

2. Existing system

A. Housing.com

Housing.com is a web-based application which mainly focuses on selling and renting of houses. It also has the feature of maintenance services which is provided by the Urban Company. Basically Housing.com is dependent on Urban Company for the maintenance-based services.

B. In the paper [1] authors have proposed an android application which consists of three stakeholders that is client, Service provider, system administrator. Clients can make payments to service providers by online payment, card or cash. The administrator has initial rights to access & modify the user data. Once a request is generated by the user, the details info with images are forwarded to the service provider. Service provider will confirm the service, once service is provided the user is redirected to the payment page. Finally, after payment the user can rate the service.

C. In the paper [2] authors aim to provide household service at the door in just one click. They proposed the system consisting of three modules as following:

1. Registration Module

2. Service Module

3. Payment module

To implement the system authors used WordPress, PHP & MySQL as a Database.

Payment module uses an external payment gateway which guarantees the secure & safe payment. System provides the service which is frequently used and payment is restricted to Mastercard only.

3. System Requirement

A.   Software Requirement

For Client Side:	Operating System	Windows 7 or higher and Linux
	Browser	Google Chrome, Mozilla Firefox

For Server Side	Database	MySQL 2008 or above
	Frontend	HTML5, CSS3, Bootstrap, JavaScript, Angular, Ionic
	Backend	Java, Spring, Spring Boot, JPA
	Server	Tomcat Server, Windows Server 2000 or above

B. Hardware Requirement

For Client	Processor	Pentium IV
	RAM	2 GB
	Hard Disk	2 GB

For Server	Processor	i3
	RAM	8 GB
	Hard Disk	2 TB

4. Proposed system

The proposed system involves a total five actors which include Tenant, Property owner, Service provider, Inspector and admin.

At first the property owner will register his property into the system and the property will be verified by the inspector. After renting the property if the tenant finds any maintenance in the house, he or she will raise a ticket in the system about issues like plumbing or electrical. Allotted vendors will fix the issue raised by the tenant. In this way the owner of the house will not have any headache as the tenant's issues are resolved. Also, monthly payments will be provided to the owners of the properties.

A. System Module

- Admin module -Admin has the privileges to access all the features - list all properties, list all owners, enable and disable property or owner and monthly checkout.

- Inspector module - Next to admin we have the inspector who has the responsibility to verify the property before it gets listed into the system.

- Tenant module - The tenant will register himself and will search for the suitable property listed in the system and will rent the property.

- Property module - Property owner who will register his property by providing necessary details and documents. Once the property is verified by the inspector the owner's property will now be maintained and managed by the system by generating necessary requests for the services when needed. The owner will be able to add multiple properties and enable or disable property as and when required.

- Service module -When some service is required for any property a service request will be generated and will be sent to the respective service provider. When service request is done all the payment activity will be carried out by the payment module

B.   System design

1.   Data Flow Diagram
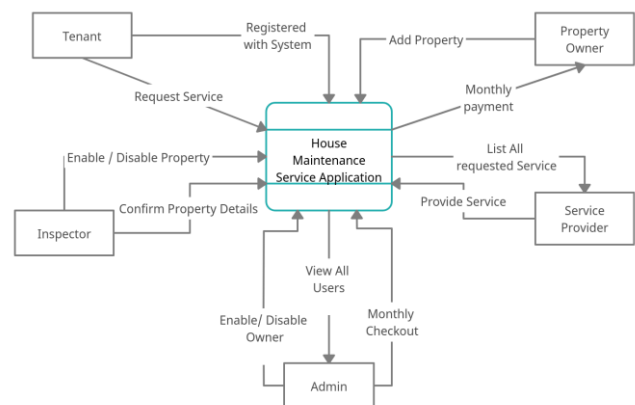
Fig -1: Data flow diagram

2. Flow chart Diagram
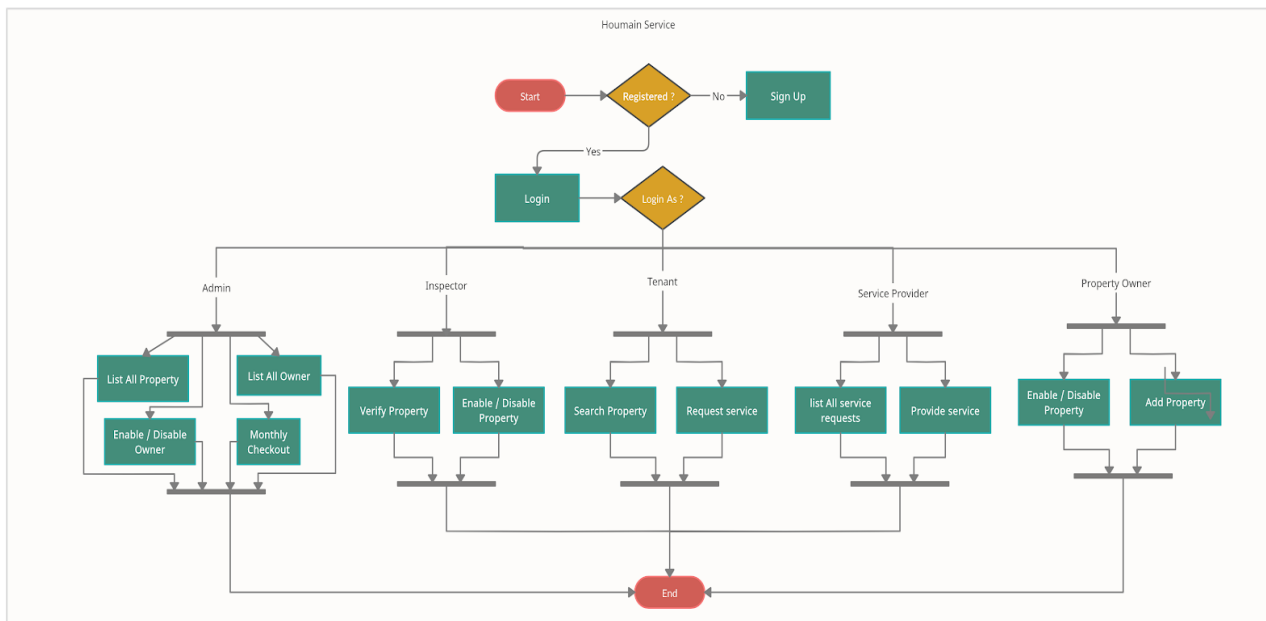

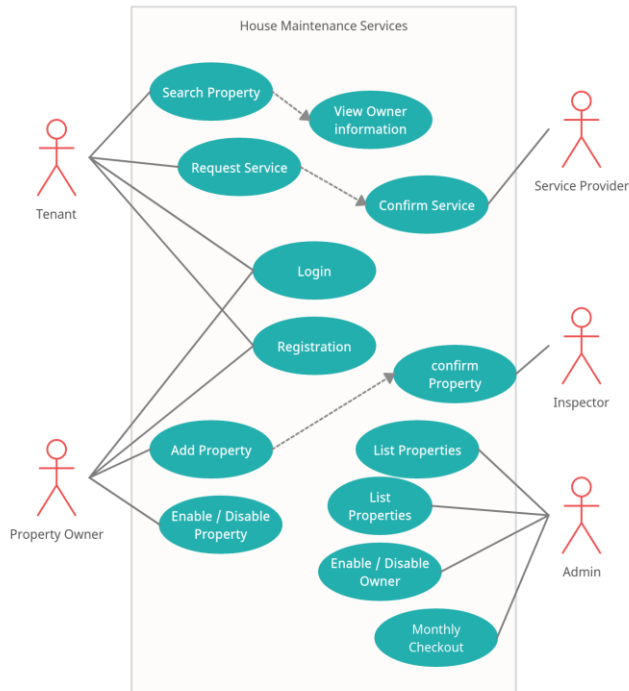**Fig -2**: Control flow diagram

3. Use case Diagram

Fig -3: Use case diagram

5. CONCLUSION

In this project, we have developed an application that helps owners to maintain their properties. Which ultimately helps them reduce the lengthy process of constantly being in contact with the tenant, finding the vendor, fixing the issue. Also, our application helps owners to find the tenants and helps tenants to find homes which makes a win-win situation for tenants as well as owners of the property. For developing the application, we have used technologies like angular, java and for databases, we have used MySQL.

6. Future scope

This system provides the services which are most frequently used. Further, the system may provide additional services like Electronic repairing service, logistic transport service, etc. If some service provider is not available in an area or there is sudden increase in demand for service in a particular area. To avoid such problems yearly reports and feedback can be provided by the system which can be used in decision making and planning. The majority of the population has access to mobile so integrated mobile applications specially for owners & tenants can be created.

REFERENCES

[1] Hegde Sharaj Bhaskar Shyamala, Krishnamoorthy Rao, Padmanabha Bhandarkar, Prateek Prakash Vetekar, Geetha Laxmi,"An Android Application for Home Services",IRJET May 2020.

[2] N. M. Indravasan, Adarsh G, Shruthi C, Shanthi K, Dadapeer"An Online System for Household Services", IJERT 2018.

[3] Warda Ruheen Bristi,Fariha Chowdhury,Sadia Sharmin."Stable Matching between House Owner and Tenant for Developing Countries.", IEEE - 45670,10th ICCCNT 2019.

[4] "The 5th annual state of the property management industry report" Buildium 2020.

[5] Paul Benjamin Lowry, Taylor Michael Wells, Greg Moody, Sean Humphery, Degan Kettles. "Online Payment Gateways Used to Facilitate E-Commerce Transactions and Improve Risk Management ".Communications of AIS Volume 17 Article 6

[6] Teddy Mantoro, Admir Milišić, Media A. Ayu, " Online Payment Procedure Involving Mobile Phone Network Infrastructure and Devices ",IEEE 2010

[7] Cong Yin, "An empirical study on users' online payment behavior of tourism website", IEEE 12th International Conference on e-Business Engineering,2015.

[8] Dr. Ashok Talukder, Ms. Roopa Yavagal, Mr. Hasan Ahmed: Mobile Computing, Technology, Applications and Service Creation, 2nd Edition, Tata McGrawHill, 2010.

[9] Warda Ruheen Bristi , Fariha Chowdhury, Sadia Sharmin - "Stable Matching between House Owner and Tenant for Developing Countries" 2019 10th International Conference on Computing, Communication and Networking Technologies (ICCCNT)