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HOME SERVICE SYSTEM

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ABSTRACT:

The home service system is a revolutionary method of providing a board range of services, including cleaning, maintenance, personal care, and healthcare, right to customers' homes. The development, technological integration, and social impact of home service systems are examined in this study article. In the past, home service systems were dependent on private agreements and frequently experienced inefficiencies and unreliability. But with the introduction of mobile apps and digital platforms, the home care sector has experienced a dramatic change. By acting as go-betweens, these technologies allow service providers and consumers to communicate easily while guaranteeing excellent service delivery through user reviews and rating systems.

This study looks at the historical background of home services, emphasising the shift from conventional, frequently faulty arrangements to cutting-edge, technologically advanced solutions that guarantee high service quality standards. The expansion of home services is examined in relation to the internet and the spread of smartphones, with an emphasis on how these technologies have simplified scheduling and logistics. Furthermore examined is the effect of demographic changes on the ageing of the population and the increase in dual-income homes.

It is also examined how the COVID-19 pandemic has accelerated the adoption of home services, showing how customers' concerns about safety have pushed them in the direction of in-home solutions. This study offers insights into the advantages and difficulties of home service systems by a through analysis of the literature and recent market data, emphasising the significance of ongoing innovation to satisfy changing.

customer needs. The results indicate that the home service sector will change even more as technology advances, providing even more ease, effectiveness, and customisation. The significance of home services in contemporary society and their potential to revolutionise service delivery in the future are highlighted by this research.

Keywords: Home services, service automation, digital platform, booking system, quality assurance, real-time tracking, service scheduling, technology implementation, booking system.

INTRODUCTION:

The Home Service System is a web-based platform that connects home owners with service providers. The system, developed from a sturdy development blend of HTML, CSS, PHP, and MySQL, offers a front-end user-friendly interface for easily requesting and managing many types of home services, such as plumbing, electrical work, cleaning, and many more. The frontend, developed in HTML and CSS, offers an intuitive and user-friendly experience, while PHP serves as the backbone of the server-side logic, handling communication between the frontend and the MySQL database. It is in this database that critical information will be stored, ranging from user profiles and requests for services to information about providers, guaranteeing the integrity of the data and providing for its successful retrieval and update. This would provide an effective, user-friendly way of booking services, following up on the status of a request, and communicating with service providers in a way that would make home maintenance much easier and more convenient. Designing, developing, and implementing the Home Service System are the focus of this paper in order to shed more light on its features and architecture, which could have an impact on the home services industry.

Furthermore, it is now simpler for service providers toreach a wider audience and for consumers to access a variety of services from the comfort of their homes thanks to the development of high-speed internet and the increasing use of smartphones. Better scheduling and logistics have also been made possible by this digital transition, which has decreased service providers' downtime and allowed for more effective resource usage. These platforms leverage consumer feedback and rating systems to guarantee accountability and ongoing service quality improvement.

LITERATURE SURVEY:

The literature survey in the Home Service System is based on available literature related to web-based service platforms, with particular attention paid to the technologies and methodologies that have been previously applied in similar systems. The literature is rich in the application of HTML and CSS in front-end development, mainly because they are strongly associated with responsive and user-friendly interfaces. Such is the technology that forms a base through which the system ensures users can communicate seamlessly with it on different devices and screen sizes.

Research in PHP as a server-side language shows that it is majorly used in developing dynamic web applications because of its efficiency, flexibility in integration with different databases, and high support in back-end development. PHP has many times been applauded because of its flexibility in handling the logic on the server side; hence, it's good for use in systems that involve real-time data processing and user interactions, like in the Home Service System.

MySQL has been vastly applied in database management in web applications

due to its reliable performance and scalability, together with robust features in data security. Literature illustrates its effective usage for huge volumes of data storing and their management for any system handling more than one user and servicing requests simultaneously.

EXISTING SYSTEM:

Current home service delivery systems have therefore evolved to incorporate an integrated blend of established and the latest technologies in delivering services such as healthcare, maintenance, cleaning, and personal assistance right at clients' homes. As a matter of principle, these systems seek to facilitate convenience, efficiency, and access in households with varied needs—more particularly the increasing number of dual-income earning families, the elderly, and those challenged in their mobility.

Traditional house service systems have always been labor-intensive and needed to be present in person. Professional services, such as house cleaning, lawn care, or home repairs, are usually booked through telephone calls or from people in the local service providers. While efficient, most of these methods invariably suffer from a number of deficiencies in terms of convenience, flexibility of scheduling, or even scalability. Digital platforms have dramatically changed this scenario by facilitating access to these very same services with much greater ease.

There have been dramatic developments in the home service system of the healthcare sector in the case of telehealth and remote patient monitoring technologies. Traditional house health care services are performed with nurses or caregivers visiting a patient personally for administering medical care and assistance. The arrival of telehealth has drastically altered this approach. Telehealth platforms, like Teladoc, Amwell, and Doctor on Demand, are easy to use for a virtual consultation where patients get medical guidance and treatment from the convenience of their homes.

PROPOSED SYSTEM:

The system of home service proposed herein is aimed at the integration of advanced technologies, optimisation of service workflows, and enhancing the user experience in delivering the same to a household. This new system allows for a seamless, secure, and highly efficient ecosystem for any home service—in healthcare, maintenance, or personal assistance— through the Internet of Things, Artificial Intelligence, Machine Learning, and Blockchain. The main aim is improvement over the current systems, making good the deficiencies and limitations, while the solutions provided are scalable and customizeable to meet different household requirements.

At the core of the proposed system will be the integration of IoT devices to make real-time monitoring and automation of various home functions possible. Smart sensors and devices will be fitted at calculated places around the house to monitor parameters related to environmental conditions, energy usage, security status, and health metrics. Such

data from the IoT devices will be transmitted to a central hub, and all of the information will then be made available for homeowners to monitor or act upon using an easy-to-use single interface. For instance, smart thermostats will optimise energy usage based on occupation patterns, and security cameras and sensors will allow for real-time alerts and remote surveillance.

IMPLEMENTATION:

Establishing a comprehensive home service system is complex work that melds innovative technologies and strategic planning with requirements for seamless integration, user adoption, and efficient service. First and foremost, the building of a robust technological infrastructure that will accommodate the range of functionality diversification associated with the system is necessary. This includes the laying of an IoT device network across the home for real-time environmental conditions, security status, energy usage, and health metrics. These devices should be interoperable and securely connected to a central hub, which acts as the command centre for managing all home services. Interoperability of these devices with existing home automation systems is very important in giving their users a coherent experience.

The next phase focuses on developing an intuitive and user-friendly platform that allows homeowners to interact with the system effortlessly. This platform, accessible via mobile apps and web interfaces, should integrate AI-powered virtual assistants to facilitate voice and text-based commands, making it easy for users to schedule services, monitor their home environment, and receive personalised recommendations. Machine learning algorithms will be employed to analyse the collected data, enabling the system to learn user preferences and predict future needs, thereby optimising service delivery and enhancing user satisfaction.

System Diagram: One can trace the flow of data and interactions inside the Home Service System in this diagram and learn how different technologies work together to provide a seamless experience to the user.

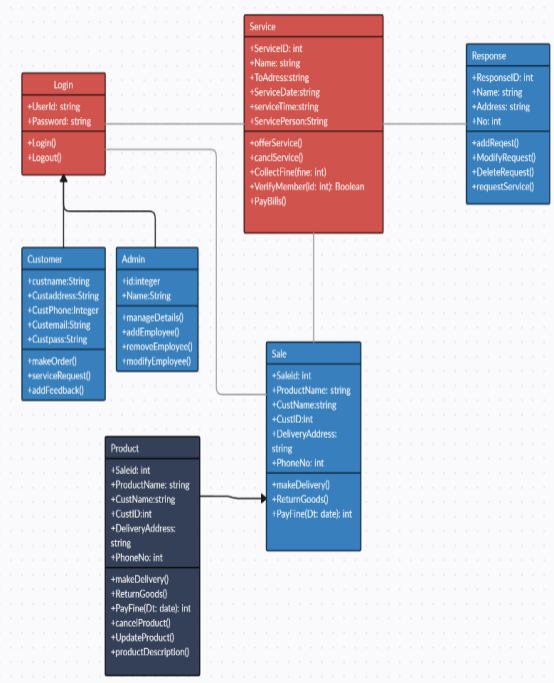


Fig: System Design.

Class Diagram: Class diagrams are the main building block in object-oriented modeling. They are used to show the different objects in a system, their attributes, their operations and the relationships among them. Classes in class diagrams are represented by boxes that are partitioned.

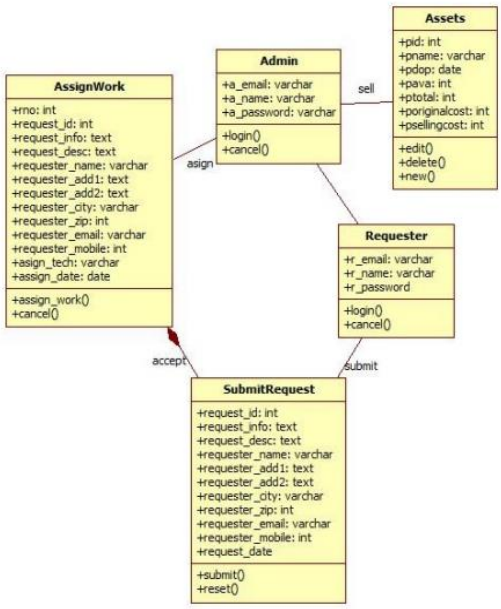


Fig: System Design.

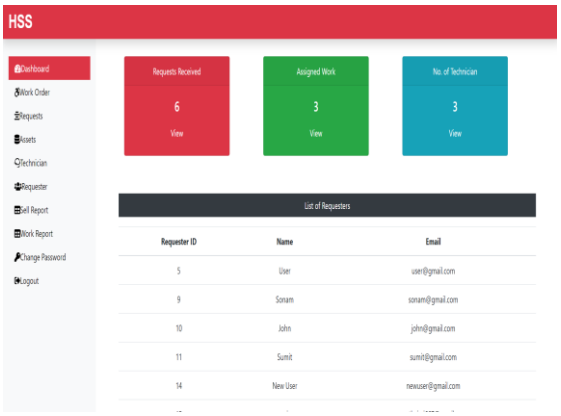
Table:

Test Case ID	Test Scenario	Test Case	Pre-Condition	Test Steps	Test Data	Expected Result	Actual Result	Status Pass/Fail
TC_Login_1	Verify Login	Enter Valid username and valid password	Need a valid username and password to do login	1. Enter username 2. Enter Password 3. Click Login	Valid username Valid password	Successful login, Main screen of application should displayed	Successful login, Main screen of application displayed	Pass
TC_Login_2	Verify Login	Enter Valid username and invalid password	Need a valid username and password to do login	1. Enter username 2. Enter Password 3. Click Login	Valid username Invalid Password	No Matched Username/ Password	No Matched Username/ Password	Pass
TC_Login_3	Verify Login	Enter Invalid username and valid password	Need a valid username and password to do login	1. Enter username 2. Enter Password 3. Click Login	Invalid username Valid Password	No Matched Username/ Password	No Matched Username/ Password	Pass

Fig: Admin login Test case

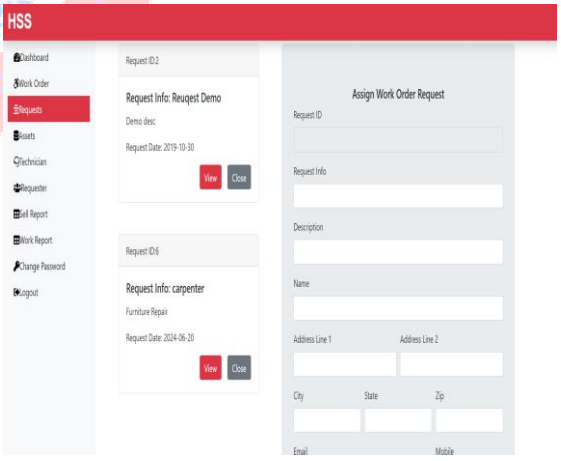
RESULT:

- Dashboard



The Admin Dashboard is the Home Service System's nerve centre, offering a set of dashboards to monitor and manage users, services, transactions, and content. Through it, the administrator will be in a position to keep the platform running efficiently and securely while continuing to meet the needs of the users.

- Service Request:



The Service Request Dashboard is crafted to ensure a better user experience by making the service request management easy, transparent, and efficient. On the homeowner's side, it will present the convenient procedure for requesting, following up, and reviewing services. As far as service providers are concerned, the

dashboard is critical in managing job assignments, communication, and customer satisfaction. Thus, the dashboard supports smooth interactions between users and providers, improving reliability and responsiveness in the Home Service System.

CONCLUSION:

A comprehensive home service system, therefore, shows a definitive step into the future of how each household secures and accesses health maintenance, personal assistance, and more. Moreover, state-of-the- art technologies—IoT, AI, ML, and blockchain— make the base on which to build an intelligent, secure, and very efficient ecosystem. IoT devices enable real-time data collection and automation; AI and ML enhance personalisation and predictive capabilities in tailoring services to individual needs and optimising service delivery. Blockchain technology provides data security and transparency of transactions, building trust and reliability between service providers and consumers.

The proposed home service system has huge potential to change domestic life in terms of convenience, efficiency, and security. Further research and development in the face of advancing technology will be required to fine-tune these systems against the emerging challenges and exploit opportunities for innovation. By embracing these advancements, we would be embracing smarter and more connected homes that bring enormous improvement in the quality of life for people and families across the world.

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