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Online Product Hiring System

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Abstract: ***Nowadays, it is difficult to find a lessor who is willing to rent a product at an appropriate price for a few days. At times, even if he is willing to rent it becomes difficult for him to find people willing to buy/ hire his products. This project aims to solve this problem faced by the lessor and the customer. The Online Product Hiring System is an an online platform where in the user can hire goods of his/her choice. The user must create an account on the platform if he wants to hire. The system will have different categories. The software system will have multiple vendors wanting to rent their products. The consumer can view the ratings of the product as well as review and rate the product after use. The product can be tracked at what stage it is in the purchase cycle. There will be recommendations also for the user about a similar product. The buyer can view his/hers past orders. The system will be supported on mobile version with notifications.***
Keywords: E-commerce, Online Rental System, Address Prediction, Web application, Digitalization, Renting

I. INTRODUCTION

E-Commerce allows merchants to do business online by providing them the benefits of convenience and a larger consumer base. However, many a times people are forced to spend a large amount of money on items required for a short period of time. For instance, a college student needs to invest in a new laptop or a cell phone to take part in online classes as his device broke down or a traveller needs to buy some electronic equipment such as a refrigerator or microwave or a laptop for a few days to have a comfortable holiday. People may want to hire an item or equipment for one time use or in times of an emergency such as breakdown of a laptop, or music system etc. During these times, the purchasers would rather hire an item than spend their hard-earned money for a short period of time. The paper focusses on the problem faced by people that spend thousands on a device that stands useless after a short period of use and want to hire items but do not know from whom they can source it in case of an emergency. The paper also aims at helping people overcome the limitation of struggling to find a hiring system by clubbing items such as refrigerator, television, books, laptops, printers, furniture, and music systems, among others in one place.

II. LITERATURE SURVEY

The benefits of ecommerce to Business-2-Customer (B2C) are huge. However, previous literature shows that e-commerce businesses in the market do not allow the hiring of goods such as electronics and furniture but only allow the purchasing of new items. While a person searches such items manually, the prices are exceptionally high. The vendor also faces the risk of loss on account of bargaining. Leasing might be exceedingly difficult and time-consuming when conducted manually as it involves lot of paperwork and hence retrieval is difficult if the papers are damaged or lost. In addition, tracking of the product details such as due date, reporting issues and receiving necessary information instantly is bit difficult. Users thus, prefer to hire the product from a known person. In addition, previous systems have focussed on providing large items such as houses and flats for rent and not smaller household or electronic gadgets. An effective hiring system can help middle class people realize substantial cost savings and the renter meet the desired customer.

III.SYSTEM DESIGN

Online Product Hiring System will make use of technology such as HTML, CSS3, PHP, AJAX, MySQL, Bootstrap and JavaScript to build the modules of the interface, design and displaying the information to satisfy the needs.

A. System Module Description

1) Coding(HTML, CSS3, PHP, AJAX, MySQL, Bootstrap and JavaScript)
2) Database
3) Customer
4) Lessor
5) Admin

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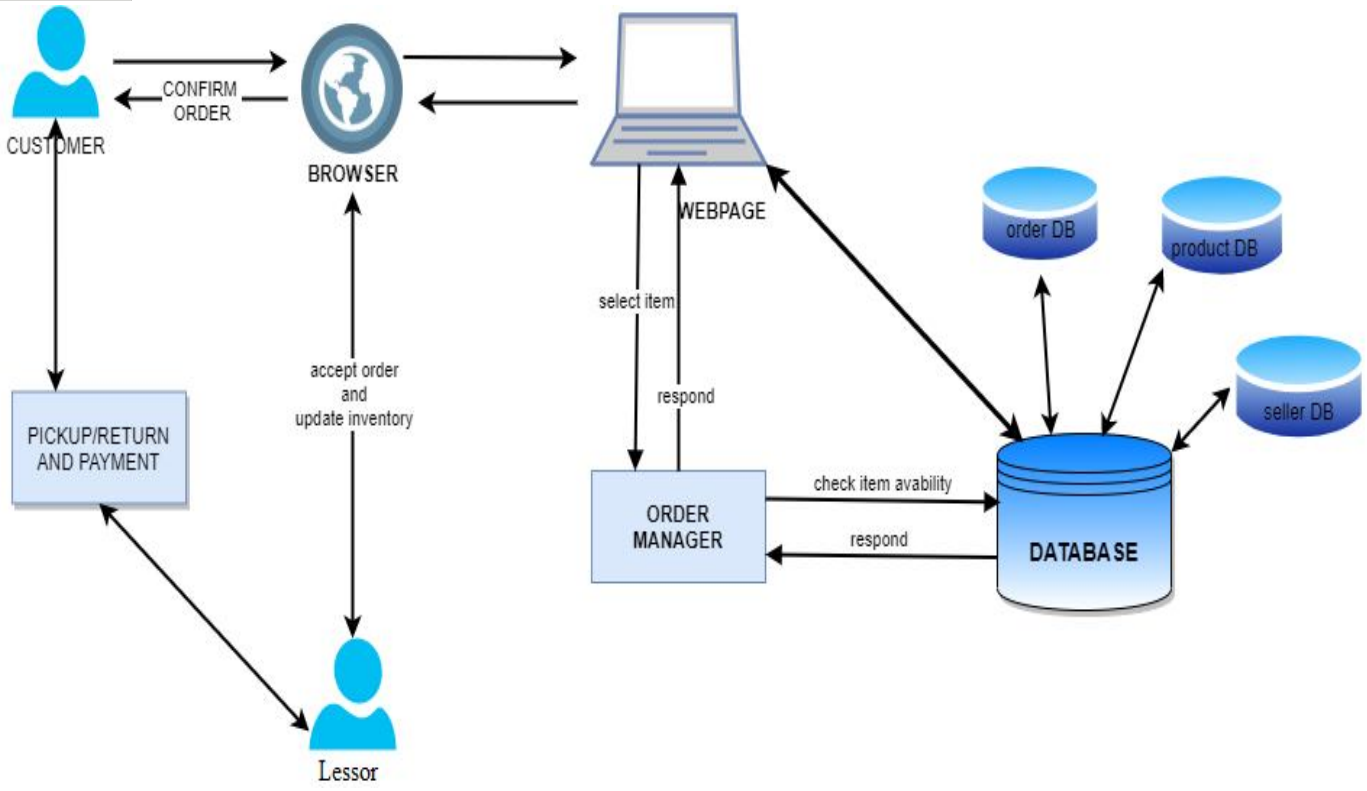


Fig. 1 System Architecture Diagram

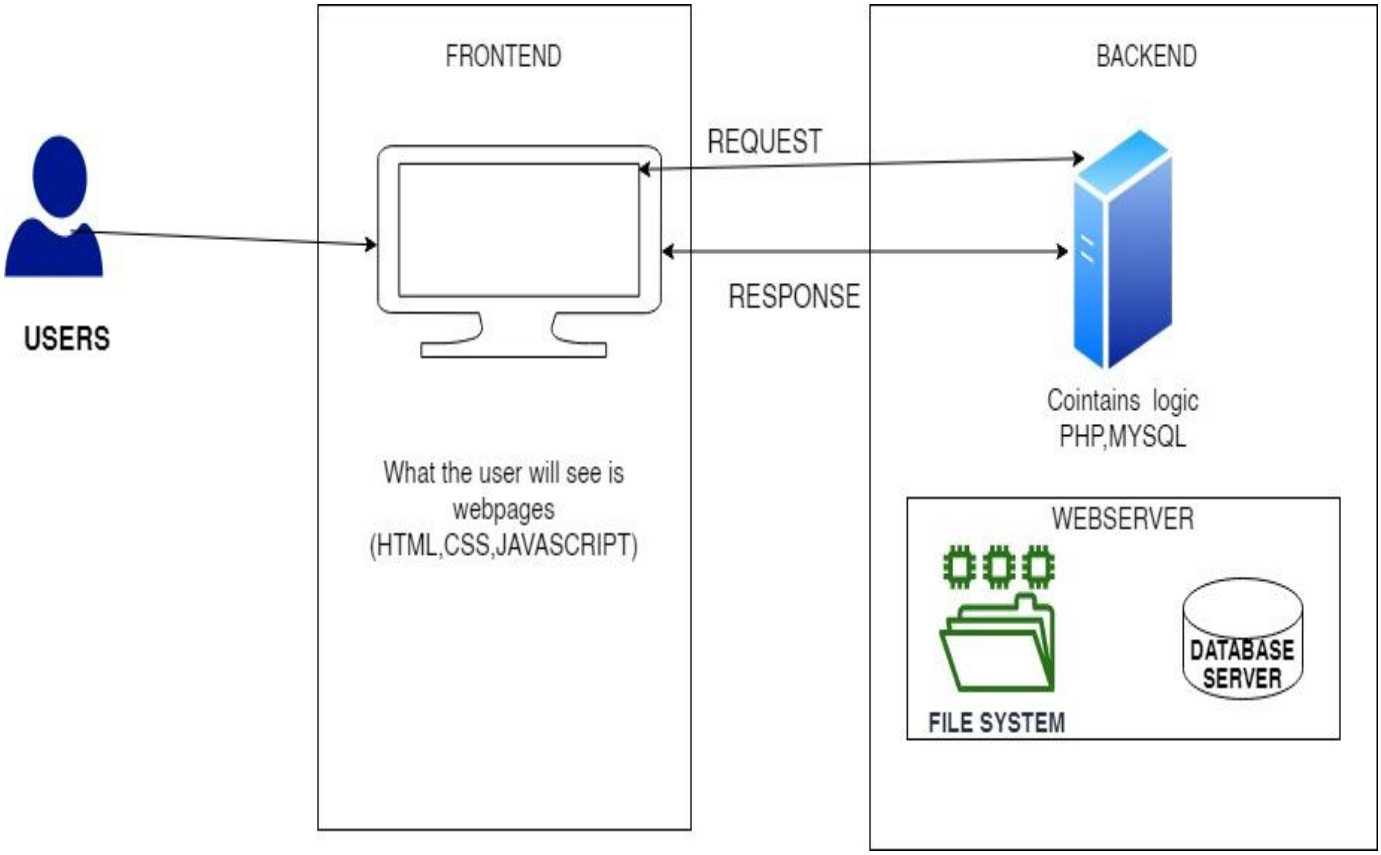


Fig. 2 Data processing in the system.

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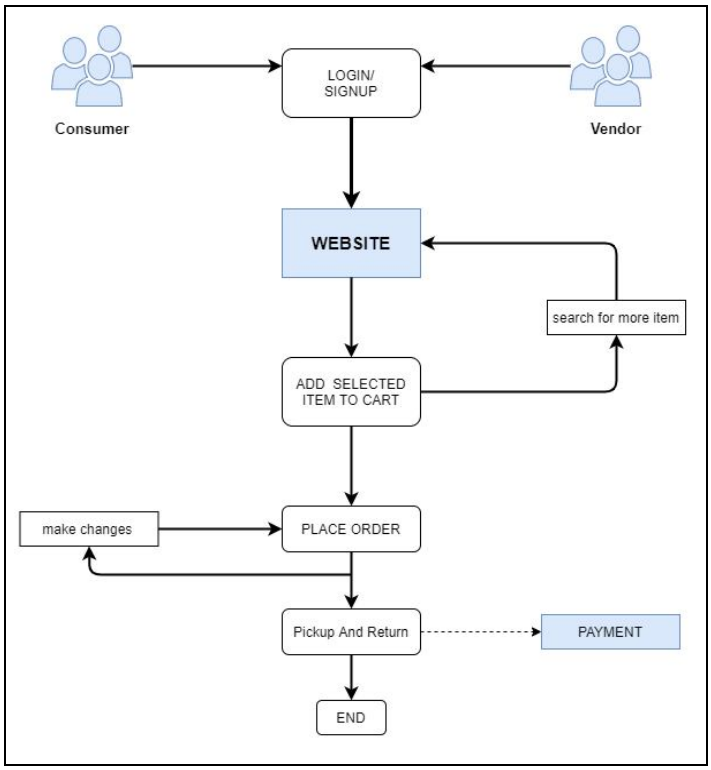


Fig. 3 Flow diagram for renting.

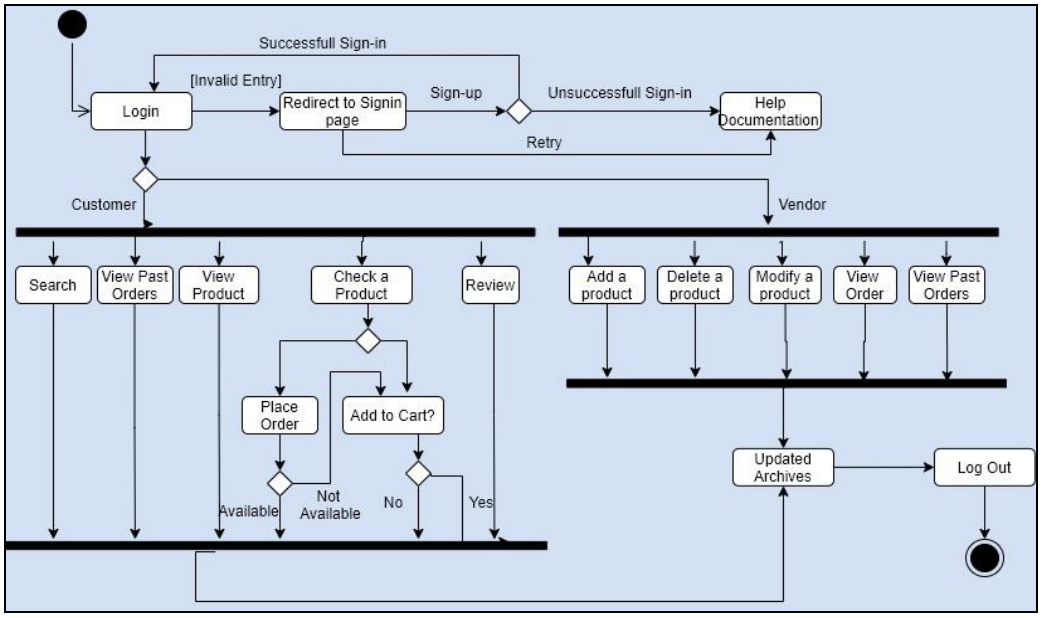


Fig. 4 Sequence Diagram

While logging in if there's an invalid entry, the user will be redirected to the Sign-up page, if again there's an unsuccessful entry, the user will be given a documentation help. If the signup was successful, then he will be directed to login page. There are login options for vendors as well as customers. The customer can search, view past orders, view, check product and review a product. While checking the product he can either place an order or add to cart, if he wants to rent and it is not available then he can put the item in the cart or not. The vendor can add/remove/update, view an order as well as view past orders. These actions are updated in archives and the user can logout from the website.

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B. Coding

The web application is made by using multiple scripting languages such as HTML, CSS3, JavaScript and Bootstrap. This languages beautify the webpage and make it more attractive to the user. These webpages run at the Frontend side. Whereas PHP, AJAX and MySQL run at the backend.

1) *HTML:* HyperText Markup Language, or HTML is the standard markup language for documents designed to be displayed in a web browser. It is responsible in the framework of the webpage. HTML elements are the building blocks of HTML pages. It is a delineated tag they have an opening tag as well as a closing tag. It can embedded by other scripting languages such as CSS, JavaScript etc. A HTML has many part some basic parts are header, footer and body. In web application along with these side-bar and Dropdown Menu in Navigation bar will be USED.
2) *CSS:* Cascading Style Sheets is a style sheet language used for describing the presentation of a document written in a markup language such as HTML. It was introduced in 1996. It is used in styling the webpage .A HTML can be beautified using its id, class or tag. Aside from HTML it can be also used for XHTML, XML, SVG and XUL.IT can be specified in HTML STYLE tag it can be written in the HTML tag or it can be written external file and linked using the link tag.
3) *PHP:* PHP is a general-purpose scripting language. It runs on the server and send the data to the user. This helps is data hiding as the user does not know what is running on the server. It has a vast library that a developer can pick functions. Since the code is run on the server end the user does not have a big load to process. Since it is open source a large number of community members can help but since it is open source it can be vulnerable also. It can work with a number databases.
4) *Bootstrap:* Bootstrap is open-source CSS framework directed at responsive, mobile-first front-end web development. It was released on 11 august 2011. The main advantage of this framework is that it takes care of the devices the user is viewing the page on. Multiple devices with different size of screen will view the webpages in a uniform manner. There are a number of layout, components, colours and background effects to choose from which makes the developer easy to choose from. The codes have been documented in a uniform way.
5) *JavaScript:* JavaScript (JS) is a lightweight, interpreted, or just-in-time compiled programming language with first-class functions. We can use it to validate form to make sure the user has not written junk data or a duplicate data. Since it works on the client side there will be less load on the server. There are various ways a form can be validated using this technology. Some of the basic validation are field cannot be empty, email address, mobile number and date validation.
6) *AJAX:* Asynchronous JavaScript And XML is not a programing language. It allows a webpage to load data without refreshing the whole page. With this a web application can send and receive data asynchronously. This would come in handy for the suggestion. It is a combination of technologies.

C. Database

Database is a collection of information. We can store multiple types of data. In our case will be needing it to store login credentials, the personal details of lessor and customer ,the inventory of the lessor and the orders with their reviews about the product. A relational database stores data relate using data points. The retrieval of data from a database is fast and it is secure.

D. Renting location

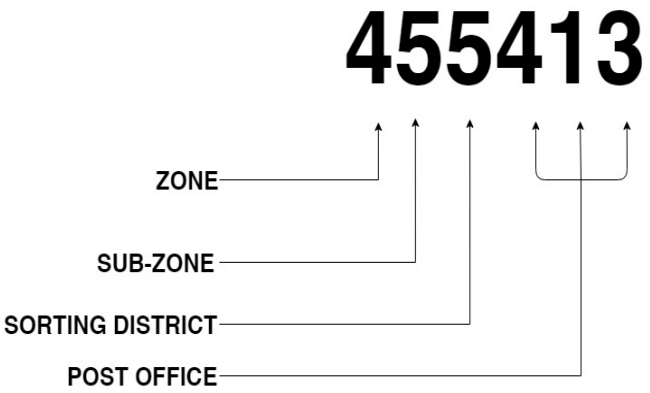


Fig. 5 Structure of a Pincode

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To ensure that the customer and lessor are from the same location we can this find out from their Pincode using the following algorithm

1) Step1: Start.
2) Step2: Get the Pincode from lessor and customer store them in Integer variable a & b respectively.
3) Step3: Divide them by 1000.
4) Step5: Compare variables a & b if true return 1 or return -1.
5) Step6: End.

IV. ADVANTAGES

A. Advantages

1) Cost Effective

a) Beneficial for tourists who have come for a few days
b) For temporary or newly set up offices who do not want to invest in a brand-new appliance or furniture.
c) Buying projectors for company meetings

2) Can Be Returned When Not Needed

a) Can be used to furnish houses and return when not needed which is not possible with purchased items
b) Trend changes quickly in electronics appliances and people want new items
c) Person can rent product for trying for instance, offices can use product for testing different functions and then invest in a new item

3) When moving to another location due to job or other reasons, the person can rent the equipment on the website
4) College Students

In general, The application of this project would be specific to consumers and lessor. It would provide a platform for a lessor to put his items and expand its business. For a consumer it would be easy to search for products and would be a better alternative than to rely on someone or buy a new product.

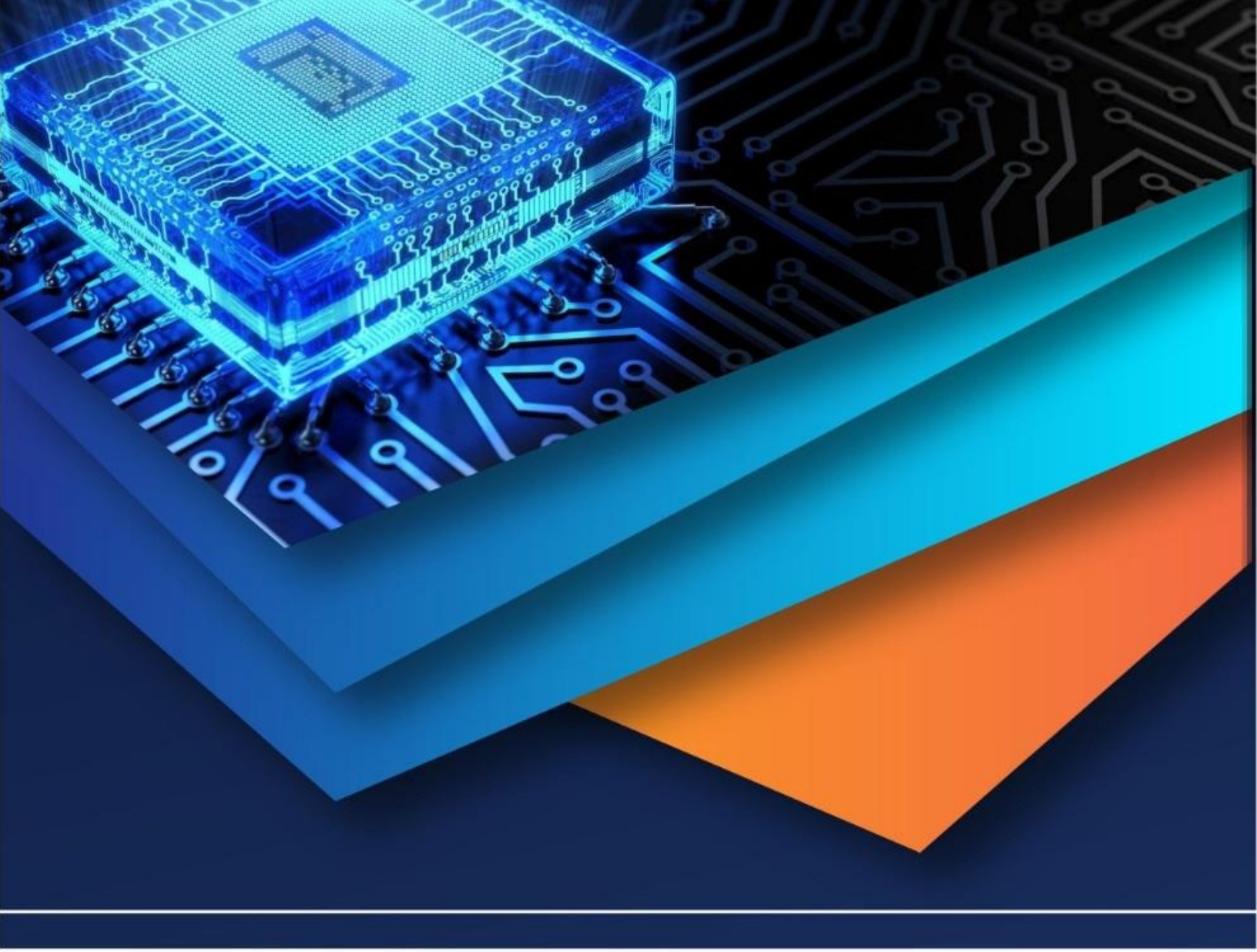
V. CONCLUSION

Online Product Hiring System (OPHS) is an idea of developing a system to make it easy for consumers to find products. It will help consumers to get a product for rent without relying on someone. It will also help lessors grow their business by providing them with a larger customer base.

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