

Design and development of web based “Automotive management System”

By:-

Project guide :- Mr. Mahesh Panjawani

Authors:

- 1) Piyush Ramteke
- 2) Trupti Kolhe
- 3) Saurabh Thakare
- 4) Ritik Singh Chauhan
- 5) Pratiksha Neole
- 6) Mahesh Panjawani

ABSTRACT

The main aim of this project is to create an online platform which will ease the procedure of Buying, selling and renting different types of vehicles. This online platform (i.e. website) includes three panels Admin, Company, and Customer panel. The main access to the platform is controlled by the Admin panel where each and every information will be kept secured and encrypted only the officials will be allowed to access. The Company panel will be controlled by the companies who will get a passkey to access, here they can add their vehicles and important information and the customers enrolled on the platform will receive an id and passkey who can buy, sell and rent his/her vehicle according to the procedure. The main task of the website is to manage and keep updated about the Booking, services, rentals, bills, quotations, and expense of the vehicles according to the information provided.

Automotive system helps the customer to get a vehicle in best deal and budget friendly price, the system also provides renting vehicle service,

selling the vehicle to the best price it meets, the system also takes care of the automobile by keeping maintenance tracks, servicing information the car travel reading, engine efficiency, oil changing regular check, vehicle alignment, holding dash reports or accidentals records.

Team:-

Saurabh Thakare, Piyush Ramteke, Trupti Kolhe, Ritik Singh Chauhan, Pratiksha Neole.

This system has the capability of booking, Renting, and Selling the vehicle. The system is developed in a very user-friendly pattern so that company and customers can navigate easily throughout the site, here we have a dynamic user interface where you can find out your need easily, every section is developed according to buying, renting and selling of automobiles. We provide a vehicle comparison system so that you get the best vehicle in your budget which will contain all your needs in an automotive you would like to have, also the system provides with the comparison of vehicles of different or same brands.

Through the use of the automotive site, vehicles are only allocated when need arise and requested. The requests have to be approved by the admin panel and the company panel administrators for the vehicle to be given out. The vehicle is delivered to the customer only if it is not on maintenance, break down, appropriate document verification and is readily available for delivery. The system admin is able to perform the Read, Update, Delete and Edit Operations on Users, Company Departments and Vehicles it also have rights to approve/decline requests from users depending on the status of the vehicle or nature of

the procedure included in automotive system. The users of automotive system are able to login with the specified credentials and request the vehicle from the system. The only entry by the user is through unique id number, pass-key else the users cannot access the profile. The system has been designed on the client-server paradigm having HTML, CSS and JavaScript on the front-end and MySQL on the backend.

INTRODUCTION

In pandemic situation going out was not safe while buying things as automotive vehicles, we have to step out, also in the busy schedule we all don't have much time to visit the showroom for buying automotive like four wheelers and two wheelers. To resolve this problem, we decided to develop a web-based application through which we can Buy, Sell and Rent automotive sitting at home using a laptop or desktop to save our time and keep us safe in the pandemic as well.

This web-based application will help the customer as well the company to Buy, Sell and Rent the vehicle on the same platform. The section of the application will be provided to the company and its users to add information, new, old and up coming vehicles. The users will be able to see the vehicles displayed on the site and getting the choices between them provided by the company. In this application different companies will be enrolled with the separate database in which the company can store their vital information and have the access with the security login id number and passkey created by the company administrator.

The users creating their profiles can Buy, Rent or Sell an automotive where they will be getting quotation of a vehicle online, documents verification will be done users will be allowed to get a free test ride on demand, receiving vehicle at their place, also can review choice of vehicle and compare using comparator feature provided in the application. The application also rent the vehicles

with minimum procedure and documents verifications done, user renting a vehicle can choose location nearby to pickup and drop service enable through the company. User can sell vehicle on the same platform by sharing the price after the overall valuation on the vehicle the automotive will be sold with the best price will be responsibility of automotive system user have to enroll their vehicle and share the estimate price of selling. The automotive system also delivers the step-wise details to the users if they bought, enrolled for selling, or have rented the vehicle.

Automotive is designed for the user and companies for time and work management, providing the platform which can give updated information and keep users, companies happy and hikes in market.

Literature Survey

A) PURPOSE –

The purpose of the literature survey is to resolve an issue of customer related with the buying, selling and renting of automotive vehicle i.e. A random customer having a business startup wants to buy a vehicle and rent it through a certain company e.g. Zoomcar, Ola Rental, Drivezy etc.

System provides with a garage where user can modify interior/exterior of the vehicle. It helps to customize vehicle as per need of the user. It also provide renting and selling service where vehicle is easily available for rent with exclusive subscriptions, vehicle enrolled in the system for sell will be evaluated with over all valuation and then displayed for sell with value it is worth.

B) Design/Methodology/Approach –

To resolve the issue mentioned above we decided to use the waterfall model and agile methodology approach which seems to be more relevant solution for this issue. Requirements, Analysis, Designing, Coding/Implementation, testing,

Operation/deployment, Maintenance will be followed by this method.

Methodology

Waterfall Model

The waterfall technique has long been the undoubted manner of developing websites. This method consists of a series of phases, with developers beginning one and finishing it before moving on to another. None of the phases are tweaked or revisited till all phases are completed.

In comparison to agile vs waterfall development, you'll think about it as if you were building a house. you need to pour a foundation before you begin framing or roofing. however, you wouldn't attempt to change the inspiration throughout the framing process. Rather, you'd complete the house before deciding to feature to its footprint. Otherwise, it'd need you to tweak all sections of the building, not simply the foundation.

In essence, the water style works in the same way. you progress from one phase to the next, then inspect the finished project as an entire before creating associate degree adjustments. similar to an actual waterfall, you can't go "upstream" to figure on previous elements of the project; solely by returning to the highest are you able to bear the method again.

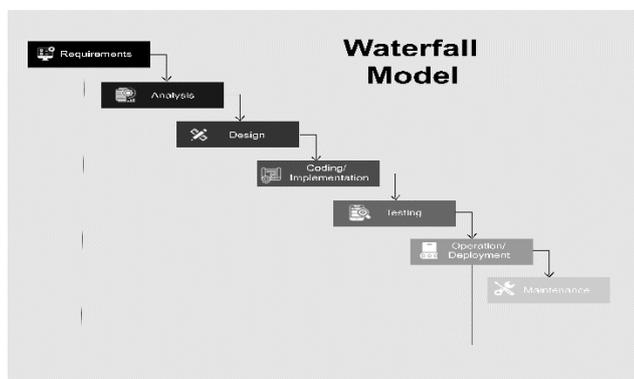


Fig (a): Waterfall Model

The predecessor of the 2 methods, water net development may be a linear and structured approach wherever a full specification is developed with phases (conception, initiation, analysis, design, construction, testing, implementation, and maintenance) occurring within the order they were planned. The waterfall is more practical once you have parts of the project already in place; thanks to its predictability, you'll recognize precisely what you'll be getting, from size and timeline to price projections.

The side is, with Waterfall, you finish up with a clean-cut and clear project path that rewards meticulous recordkeeping and permits for a straightforward prediction of the final product. However, once a step is finished, it can't be altered while not disrupting the process, creating any kind of alteration problematic. As a result, water processes are sorely tested once the fact, therefore if mistakes are found, we have a tendency toll...it's too late. In our project, we use this technique to create the website we initial check the necessity of the field. Then we analyze all the sectors and realize the problems. And its solution. once analyzing the project, we designed the full website and explore all the details to plan the website. Then we code the website and use Html5, CSS, and additional tools for the frontend. we have a tendency to use JavaScript, node js, Mongolian monetary unit DBMS, and lots of more tools within the backend. we tend to check the website and located that we get the output. this is often however we implement the waterfall model.

Agile Model

When we talk to potential clients about web development, we are often asked about agile web development methodologies. A slightly newer game in custom web development, Agile is an incremental design process that arose in response to the lack of leeway offered by the waterfall method. It is an adaptive process as the project is split into several models that are run for a period of time and then tested and evaluated.

This allows for a more evolutionary style of development where programmers and customers work together over time to achieve goals. The client retains the services of a team, which can vary in size depending on the project. Instead of an overall project plan, the team will move forward through micro-projects or "sprints." As the project progresses, there is constant interaction with the customer, allowing faster response to changes in direction and resulting in faster delivery of a Minimum Viable Product. Agile shines brightest on a project that doesn't have clear goals or might require major changes or revisions over time.

While Agile allows for a lot of flexibility, it's a fast-moving, ever-changing approach that doesn't require precision in goals or records. In a way, this is a blessing, but if the project lacks a clear direction for too long, it can quickly falter and cause more heartache (or wallet pain) than it was worth. This method works best with a group of experienced programmers and a customer who invests enough to devote time to it.

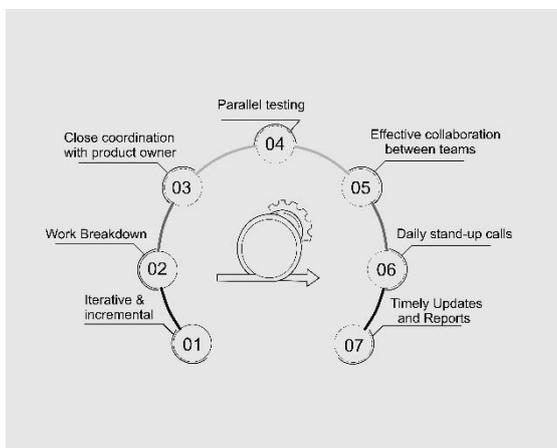


Fig (b): Agile model

If you compare agile development to waterfall development, you can see that this process focuses on adding, testing and fine-tuning the functionality of a project. The team can explore potential changes as development progresses. Testing and reviewing process in weekly or fortnightly "sprints" that mark details rather than finalize t Whole project is discussed prior to reviews. These

session-based sprints are becoming increasingly important when it comes to creating responsive designs that look good and work well across devices.

The advantages of an agile approach are almost directly opposed to the disadvantages of the waterfall method. Agile development combats some of the most costly and time-consuming factors in the waterfall process. This gives companies a more flexible approach to web development.

Working:

If you run a automobile franchise then a automotive concern electronic computer is supreme for you. the correct fairly web site helps to seek out the success of associate degree agency. these days people would like the experience of a car dealing from the comfort of their home. shopper interest in YouTube videos that covers the review of design, options, and road test, send shoppers to car dealing websites.

For a automobile Dealership, a car dealing website is very important but that's not enough, you'd sort of a car dealing website that' well equipped to sell cars. A car dealing website got to embody features akin to effective management, Sales, product, and inventory data and jointly has got to not sleep to this point with the modification in pricing, minor upgrades, and new listings. Functions of a automobile dealing electronic computer got to be implemented in an exceedingly} very due to offer End-users with a simple and easy-to-use habitat.

1. Multiple Users AND Access Level System:

Multiple users like dealers, customers, sales teams, and admin can now manage data smoothly and gain a quickly entrance to the information with the use of multiple users and access level systems. associate degree admin will access, edit or change a database. whereas the sales teams can management the valuation and listings. A multi-

user and access level system makes operations of automobile dealing websites easy.

2. Search and filtering:

smart search and filtering is that the foremost essential perform for a dealer website. With the help of good search operatality, a user will presently quest for the foremost relevant result from thousands of product at a similar time. The smart search function can technique an oversize amount of data among a seconds and see the most relevant search inside the shortest time possible. On the opposite hand, the filtering operate allows a user to filter searches by adjusting price, category, mileage, and color, simply a name of few.

3. Wishlist and notifications:

Wishlist performs permit a user to remain a track of their favorite automobile listings, Users will manufacture profiles or charts of their desired vehicles and should get a notification on each occasion constant automotive is listed. Not exclusively that but a quality-designed wishlist function can track the data to easily establish trends and later answer them with offers regarding their product with custom notifications.

Notifications are helpful in belongings the user comprehend the value changes, new listing, ANd new features.

4. beautiful Galleries:

associate degree honest optical presentation of a automobile is that the foremost very important feature of any automotive sales website. with none visual presentation, a client wouldn't wait a second. as a results of an evolving marketplace and new technologies, end-user can transfer high-

definition footage inside constant quality and precise format. within the sector of automobiles, the first impression of a car is that the last, whereas not a decent design, there would be no sales. significantly once the merchandise isn't cheap.

5. automobile Compare & Email:

The automotive compare feature permits end-users to examine specifications with a pair of or a great deal of cars whereas viewing snapshots. that helps the user in shopping for alternatives with ease and brings success to the website. A car compares feature could also be a vital a region of a car dealing website. once making the decision, a potential client will reach resolute sellers via email. This feature winds up in user satisfaction and should be accustomed generate potential leads.

6. the nice Inquiry kind:

good Enquiry type or Contact kinds permits the tip shopper to easily request a brochure, information regarding the car, Franchise, availability, or offer feedback. associate degree interactive inquiry kind or contact form could also be an exquisite due to capture leads, which could be regenerate to purchasers later on. Also, it'll be terribly simple to contact potential patrons with an inquiry or contact form. This feature got to be implemented on a website, to look out out the varied queries a client comes up with.

7. smart AI Chatbots For Sales, Booking, And client Support:

Science has changed the world. instead of humans, AI will solve queries now. Implementation of AI in an exceedingly} very electronic computer can profit a user in many meanss. A chatbot can solve user queries, offer an exclusive account bookings and sales and even offer shopper support. A

chatBot not exclusively captures the leads but jointly helps with client retention. it' extraordinarily prompt to avail of Custom web site Development Services to implement AI and magnificence condition-based queries inside the best approach possible.

8. excellent responsive style for mobile and pill:

nobody likes a slow loading or extra-fancy website, particularly within the case of a automobile dealing web site. an ideal responsive website that a whole lot fast and delivers prime performance is supreme for automobile dealing websites. A style that' easy to know and solves users' problems can attract new clients. A recent Google survey shows 80% of automotive dealing starts with car dealing websites. Therefore, it' necessary to rent an avid internet Developer or agency to vogue an online site that performs remarkably regardless of screen size, whether or not or not it's viewed on a portable computer or a mobile device.

9. Payment access integration:

Payment entrance integration is to boot essential perform for on-line automotive sales web sites. A can finance website which can} smoothly integrate with every payment access contains a better likelihood to convert leads into clients. whereas not hiring an online site development company, issues like broken looking out carts can arise and you'll be able to lose potential clients. Having all the key and customary payment entrances could also be a decent thanks to attain the trust of end-consumers or potential customers. The payment gateway uses company customary cryptography that protects the sensitive data of end-users and seamlessly protects each emtpor and merchant from frauds.

10. SEO friendly:

Search engine optimization pleasant in keeping with a survey, top rating webweb sites have a tendency to attract in extra leads than that of low rating webweb sites. search engine optimization pleasant webweb sites that rank pinnacle on google searches now no longer totally can entice new leads but moreover helps in constructing internet webweb sites call and entire value, which may assist in setting up emblem awareness. search engine optimization optimized internet content material are clearly accessed through the specified consumer cross-sectional demographics. search engine optimization is taken into consideration as a Primary deliver of Leads.

11. Landing Pages:

Landing pages are an extraordinary way to create your commercial enterprise appearance greater professional and your internet site greater consumer pleasant. Having all of the listings in a very unmarried web page can bored to death the purchaser and is probably a ache to scroll through. Having them categorized can be a much higher way to provide capacity clients with a easy to use, clean environment. Landing pages are normally direct and deliver to the motive information. Relevant touchdown pages are the most vital part of a car dealing internet webweb page due to the fact it's far that the first impact of your commercial enterprise. Also, The Landing pages have better opportunities in rating top in google searches than internet pages.

12. Default expanded cellular pages (AMP) assist Accelerated Mobile Pages :

(AMP) is AN all-new framework that guarantees the only capacity consumer information for cellular users. AMP is supposed in a very way to assist cellular-pleasant pages, With expanded cellular pages (AMP) a consumer will assume speedy-loading cellular-pleasant pages with minimal jump rates. Thus, Enhance the pc programme optimisation overall performance of a

internet site. the maximum gain of enforcing expanded cellular pages is velocity, those are lightweight pages designed to deliver lightning-speedy velocity to cellular users.

13. Effective help and FAQ:

Effective facilitate and list Effective assist sections are any other appropriate manner to engage a patron in the websites. Effective facilitate or list pages are the most unnoted pages for car dealing websites. A consumer normally comes with this kind of big quantity of queries and a right away solution to their queries, enables the patron in shopping for picks and gives a handy information to the consumer. These contents are also searchable in the serps and efficaciously assist in webweb sites search engine optimization. it will additionally enhance income as oldsters could have the crucial records to shape a decision. FAQ pages play an essential position in converting effects in paying clients. it is extraordinarily counseled to speculate in pinnacle first-class and marvelous fashion in your list web page.

USE OF TECHNOLOGY

The website will be accessible using a browser with internet connectivity only. The website is compatible with all browsers so user can access it from any browser and it is mandatory for user to login to get the benefits of the website because without login id and pass-key user won't be allowed to purchase automobile. This website is build using HTML, CSS and JavaScript as frontend programming language and MySQL as a backend for the database purpose.

Conclusion

The proposed paper shows the flow, structure and working of the the automotive management

system which is a web-based application, here we have digitalized the automotive showroom, which enables the purchasing of automotives in automobile industry in india is eradicated so providing facility to allow people to carrying out there transaction conveniently and without leaving their comfort zone at the homes and office. so they can easily check their vehicle without lossing their comform by using this web-based application, also we have scheduled and divided the system in mutiple sections and manage it efficiently . Automotive system is a user-friendly web application i.e. easy to use for it's users . Thus, it is time saving cost efficient website as well. We can conclude that the proposed website can be used to to reduce the human efforts and luxuriate human lives, hand in hand with the modern technologies , navigating between the mutiple Buying, Renting and Selling Sections in the System is one of the important feature of our project which provides the good service to it's users and is efficient and 100% guaranted, legal to browse,use srvcies provided within the application .

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