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Flight Price Prediction Using AI-ML

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Flight Price Prediction using AI-ML and Web

Abstract-

The cost of an airline ticket is always get changed by a number of factors, such as flight kilometers, flight time, fuel price, etc. So, in that case people are always misjudged about the price of the fare which they will be going to paid at the time of booking. Each model has its unique and authentic rules and algorithms to set the price accordingly. But now things are dependent upon the festivals and many others factors too, which is not been considered earlier.

Most current developments in Artificial Intelligence (AI) and Machine Learning (ML) make it a reality to find such rules and model cost and variation patterns.

People those who will buy flight tickets frequently shall be able to guess the right time to procure a ticket to obtain the good and best deal. All the airplane make difference in ticket cost for their money management. To cure, we will be working on different data sets for getting the optimum results. We have also added the discount prediction page to make things more enjoyable for the user.

Tools which we are using is Wamp server for database, web development technology to make things virtually attractive, Data Models and Machine learning algorithms to train our data sets and make the proper use of it.

When we talk about the scope of the future, we can say that there may be many different things to be added such as flight delays or cancellations or to make things more digital like face scanner etc.

Keywords— Login System, Book Now Page, Special Discount Page, Bill Payout data page, Gallery Page, Log Out.

I. INTRODUCTION

This project is basically based on aircraft pricing estimates using Machine Learning and web technology. We are using web technology for the betterment of users as we are going to provide a full service as a travel agent. In our product we are going to train data and then give all the facilities to the user like gallery page, prediction page, discount prediction page, contact page etc.

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II. EASE OF USE

A. Background -

I. In Our Paper we face the challenges like getting good price opportunity from the different well application.

II. In this paper we look at the problems user face while making their plans with their family and also all alone and then deny

at the last moment because of the wrong or different price issue.

III. The main method or we can say the using of model like data analysis model with the help of Machine learning.

IV. The outcome and conclusion of the study on this topic gives us a brief overview of the framework and knowledge of the concept about the performance of different web applications and their algorithms.

V. This publication can help many hospitals in to understand the basic needs of the user so that he can also help them out of their places.

III. REQUIRED TOOL USED IMPLEMENTATION

- Wamp servers:

A WAMP server is a server used to handle PHP pages. WAMP stands for - Window Apache MySQL and PHP. Basically, it is used to store query data and user details.

- SQL:

SQL is an abbreviation for Structured Query Language. SQL is used to communicate with websites. SQL statements are used to do things like change data on a website or retrieve data from a website. Saving User Metadata and User Receipts.

- HTML/CSS:

HTML and CSS are used to keep websites knowledgeable and efficient. It helps to create opportunities for web content creation, assist in web project management, and provide support for website operations. We made our entire set with the help of HTML and CSS and a different web framework.

- Algorithm:

To predict the amount of data used in this. A different ML algorithm has been used and included in this paper such as: Linear regression, Multiple regression, K-Algorithm etc.

- AI and Machine Learning:

ML + User development using web technology: By building a web client application. Based on Google's material guide and uses the latest web architecture pattern for efficiency and segment development.

IV. METHODOLOGY -

A. PROBLEM:

Expertise is challenging because predictive mathematical solutions are often designed for data scientists with in-depth understanding of mathematical modeling, R, and Python. This is a natural limit. In fact, many app groups can't even begin to approach predictive analysis without hiring a dedicated data scientist (or two or three!).

No important information in the blank. And that is one of the reasons why forecasting statistics fall into empowering end users. The problem is that forecasting statistics tools provide information and detail, but they fail to allow users to do something. As mentioned above, if users want to do something with the data, they have to jump to another application — ultimately wasting time and disrupting their workflow.

Basically, you can say there are many different factors which are been put under consideration when the whole system is been made.

B. SOLUTION:

The different AI and ML algorithm are used to make our operations work in our paper. As we all know the most important thing each person wants save their time by any means. As we all know whenever we enter a flight booking application there are many different time stamp and different price of different flights. Imagine if an application predicts our price and give the response as early as possible and also a section is been there which gave the discount over the given price gives more advance and good options to user to adapt this application. For making this cleaner we have proposed different section which will make this more attractive like gallery portion and different predefined base packages for travelling which will lead to our application more grow.

(1)

C. PART OF LIFE

The current manual has many pages. Keep sales and service records manually, i.e., a very time-consuming task. With data growth, it will be a huge data storage task lots of file cabinets, large and in need plenty of space in the office, which can be used for storage past data records. Recovery of records of pre-existing patients will be a daunting task. If someone wants to view the details of existing / cost-effective doctors the previous system does not provide the necessary details of this nature.

D. NOVILTY FOR THIS PAPER:

The IT system has transformed this AI-ML field. In this fast-paced world, it is a daunting task to manage all the work and flight management in very easy manner. This paper model is a computer or web program that assists in managing all the price booking operation and different unique package setup. This program or software will help to make all applications paperless. It covers all information about user, time stamp, packages, discount, staff, logout system, payment system, management information etc. It has categories of different specialists who build the particular fully trafficking web-application.

B. SCOPE OF THE WORK-

In this paper we help the users to check all his rightful information from online portal. We need to collect information from the best source in the company. It was very difficult to meet with the top officials because of their busy schedule schedules. Most reviews and explanations, for this report, based on the second data obtained. Finally, despite the usual care of those who tend to type and integration errors within the report itself. Jobs the specified was not well defined because there is nothing claims regarding system validation

1) Due to very short of time available, our survey could not design for 20 target consumers so it should have been limited to 12. There are huge communication gaps between employees as well management, as adults do not share the problem with it subordinates leading to breach of psychological contract.

2) Good reward system (slow)

3) Negative working conditions.

C. OUTCOME:

This paper is adapted to the proposed program in VS Code IDE which make daily shifts of services such as chamber services, registering of New Patient, Discharge, appoint a doctor, and finally lists bill etc., Internet properties in file for multiple users.

a) Our paper provides a quick overview of the Automatic AI and web frameworks.

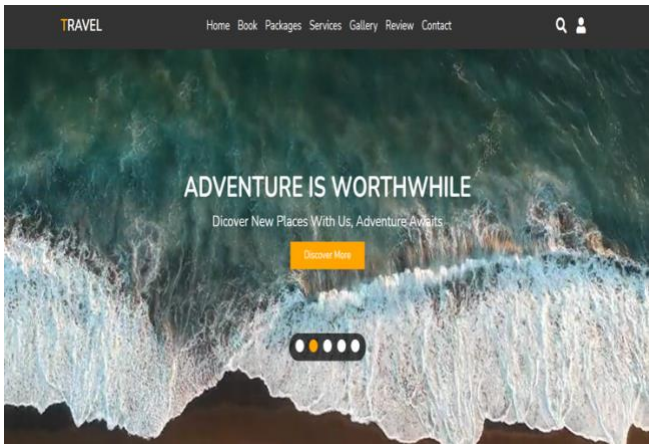
b) Manual record keeping takes time and is prone to make mistakes. Improvement implementation of the flight prediction system, an electronic management system will be used. The paper of an electronic flight prediction is completely computerized and it is useful even for any user members who can see the report and therefore the discount report and many other options.

Efficiency: The most necessary requirement for system performance. The system should work well for whenever new user accepted, discount should be given automatically and the user is given all the details regarding the flight. And if there is another record then new data will be stored in the databases.

Controls: The complete control of the system is in the hands of authorized person. All control is under the controller and members you have the right to simply see the records not to change anything transaction or entry.

Security: Operating systems used. Since illegal access can damage the database and will affect not only application abuttal. So, it also affects the worth of the time and money. So, security has who will be assigned to this task.

D. Figures


TRAVEL
Home Book Packages Services Gallery Review Contact
ADVENTURE IS WORTHWHILE
Dicover New Places With Us, Adventure Awaits
Discover More

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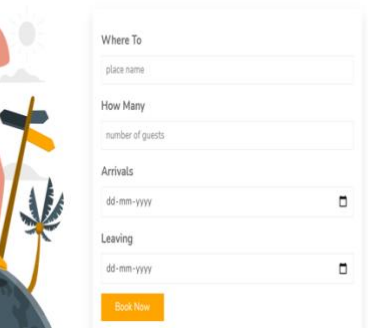
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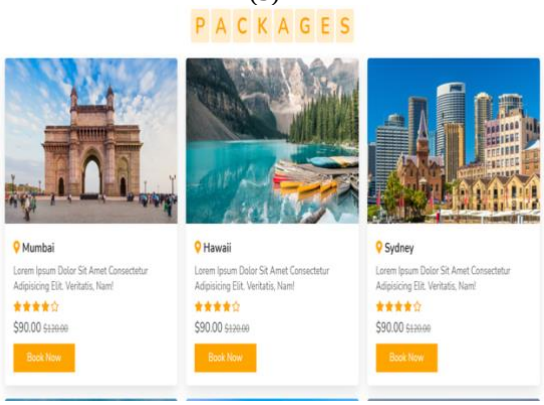
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GALLERY
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See More

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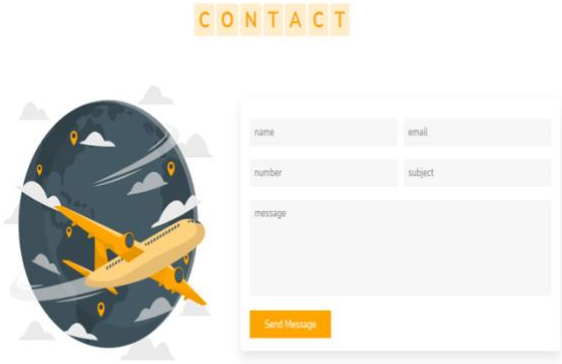
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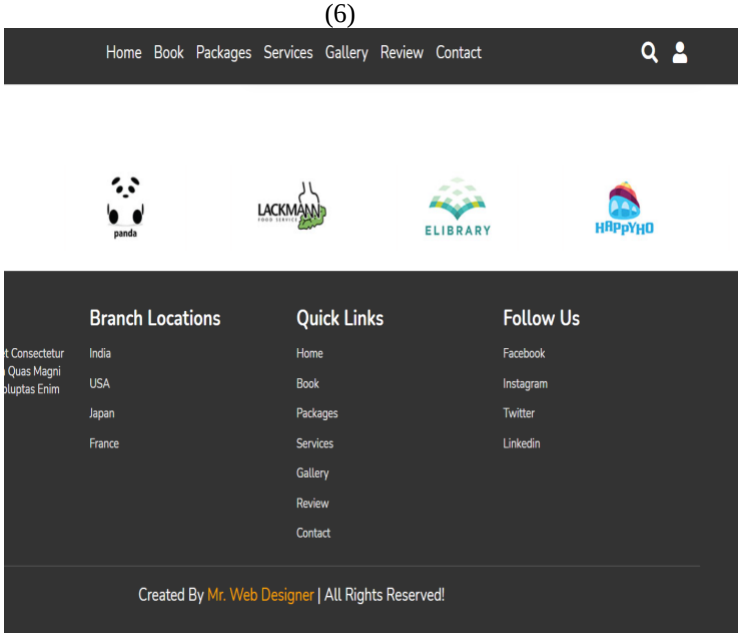
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Instagram
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E. PERFORMANCE METRICES

Performance study are stats models which will be used to differentiate the accurate part of the ML models trained by different algorithms. Different module will be used to implement the functions to measure the errors from each model using the regression metrics. Following metrics will be used to check the error measure of each model.

MAE (Mean Absolute Error) Mean Absolute Error is basically the sum of average of the absolute difference between the predicted and actual values. MAE = 1/n[∑(y-ý)]

y = actual output values, ý = predicted output values n = Total number of data points
Lesser the value of MAE the better the performance of your model.

MSE (Mean Square Error) Mean Square Error squares the difference of actual and predicted output values before summing them all instead of using the absolute value.

MSE = 1/n[∑(y-ý)2] y=actual output values ý=predicted output values n = Total number of data points

MSE punishes big errors as we are squaring the errors. Lower the value of MSE the better the performance of the model.

RMSE (Root Mean Square Error) RMSE is measured by taking the square root of the average of the squared difference between the prediction and the actual value.

RMSE = √1/n[∑(y-ý)2] y=actual output values ý=predicted output values n = Total number of data points

RMSE is greater than MAE and lesser the value of RMSE between different model the better the performance of that model

F. FUTURE SCOPE

Currently, there are many fields where prediction-based services are used such as stock price predictor tools used by stock brokers and service like Zestimate which gives the estimated value of house prices. Therefore, there is requirement for service like this in the aviation industry which can help the customers in booking tickets. There are many researches works that have been done on this using various techniques and more research is needed to improve the accuracy of the prediction by using different algorithms. More accurate data with better features can be also be used to get more accurate results.

G. INCREASE OF AI-ML IN INDUSTRY

The global artificial intelligence market size was valued at USD 62.35 billion in 2020 and is expected to expand at a compound annual growth rate (CAGR) of 40.2% from 2021 to 2028.

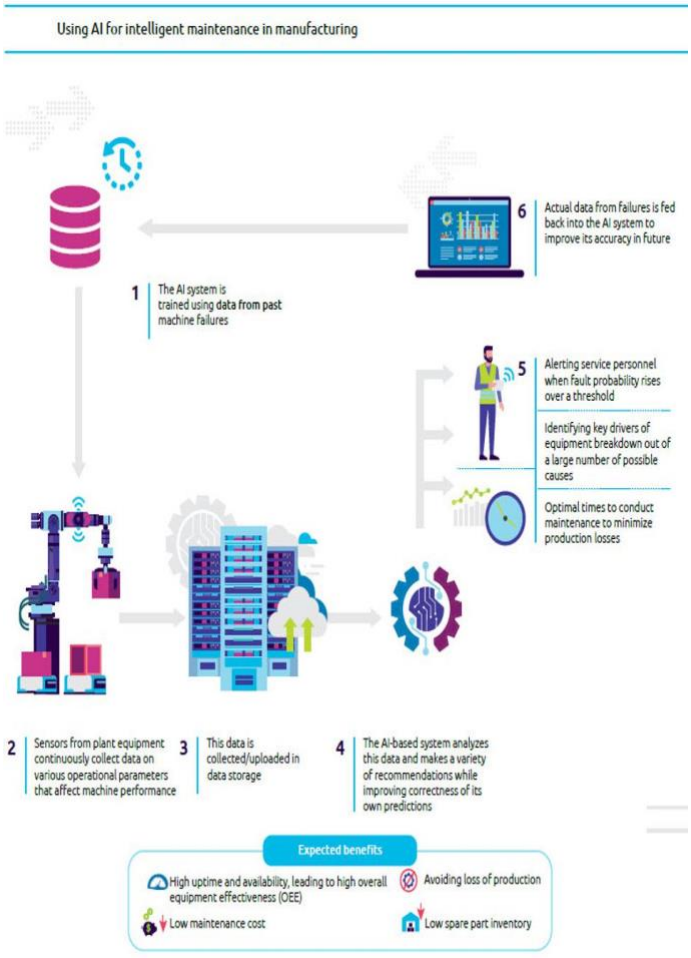

Fig (8)

CONCLUSION

Proper implementation of this project can lead to the savings of inexperienced people by providing them with information related to airline trends and giving them a predictable price, they use to decide whether to book a ticket now or later. I conclude that this type of service can be used with good predictive accuracy. As the predicted value is not completely accurate there is a huge scope for the development of this type of service.

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