Weather Application

Diksha Jha[1], Sakshi Yadav[2], Yash Mane[3], Mrs. Swati Patil[4]

Student, Computer Technology, BVIT, Navi Mumbai, India[1-3]

Guide, Computer Technology, BVIT, Navi Mumbai, India[4]

Abstract: This Project is based on the idea of making an application which makes it easier to find the weather of any location. The Application will be created by using JAVA, so that it remains platform independent.

Keywords: Weather Application, Weather Report, Weather Forecast, Location based.

I. INTRODUCTION

Weather forecasting has been one amongst the foremost scientifically and technologically difficult issues round the world within the last century. Weather Forecast systems are among the foremost advanced equation systems that computer needs to solve. This most advances scientifically and technological modification is attributable to two factors: 1st, it's used for several human activities and second, attributable to the resourcefulness created by the varied technological advances that are directly associated with this concrete analysis field, just like the evolution of computation and therefore the improvement in activity systems. Sometimes beauty cannot be defined in just words and statements. Those lovely flowers and blossoms in the spring, warm sunshiny days in the summer, freezing mornings and the beautiful snow in the winter. Certain changes in weather are always wonderful and cherishable. In some or other way our daily lives are dependant on the weather conditions. It has been always essential to know the regular updates of weather, as it continuously varies with every passing day.No one can imagine how the weather is going to be on a subsequent day. Definitely, the Weather forecast is a big thing that enabled many of us to stay notified about the changes in climatic conditions beforehand. It can be said that it is one of the greatest advancements of all time, mothered by innovative technologies and creative thoughts. The furtherance of the weather forecasting is the weather app development.

II. PROPOSED SYSTEM

A. Exciting Features
Under web based Weather Report project application, some exciting features has been added such as managing and handling exception error directly by the system which will be not visible by the user to make it bug free. We will also try to provide many more exciting features in the upcoming updates for our weather application

B. Multiple Choices
Multiple choice provided to the user by which they can even select different weather channel as per their requirement and interest in it. They work better, have more detailed and accurate information, and the weather widgets generally look better and more modern. There are a ton of great options, but we think we narrowed down the best of the best. Our weather application will provide the best weather widgets currently available on Android.

C. Pattern Recognition
Its pattern recognition system will able to notify abut bad weather condition previously before it begins with digital graphics is another added advantage of this system. A major component of flood alert broadcasting is the short-term prediction of extreme rainfall events, which remains a challenging task, even with the improvements of numerical weather prediction models. Such prediction is a high priority research challenge, specifically in highly urbanized areas like Mumbai, India, which is extremely prone to urban flooding.

D. Default Location
Once location selected by the user for its system use, it will make it default location and remembered by the system so that users do not have to change every time they use this system.Whether you're planning a trip or just like to keep tabs on the weather in other places, our Weather app allows you to bookmark multiple cities so you can flip through forecasts with just a few swipes. Here's how to add, delete, and rearrange cities in the app.

E. Higher Accuracy

On a worldwide scale, large numbers of attempts have been made by different researchers to forecast Weather accurately using various techniques. But due to the nonlinear nature of Weather, prediction accuracy obtained by these techniques is still below the satisfactory level.AccuWeather is also first in high temperature forecast accuracy measured through mean absolute error and forecasts within three degrees, in addition to the #1 ranking in low temperature forecast accuracy measured in mean absolute error (tied) and forecasts within three degrees.

Weather Application Implementation

The methodology discussed above in system approach for website is implemented in Visual Studio with Javascript.
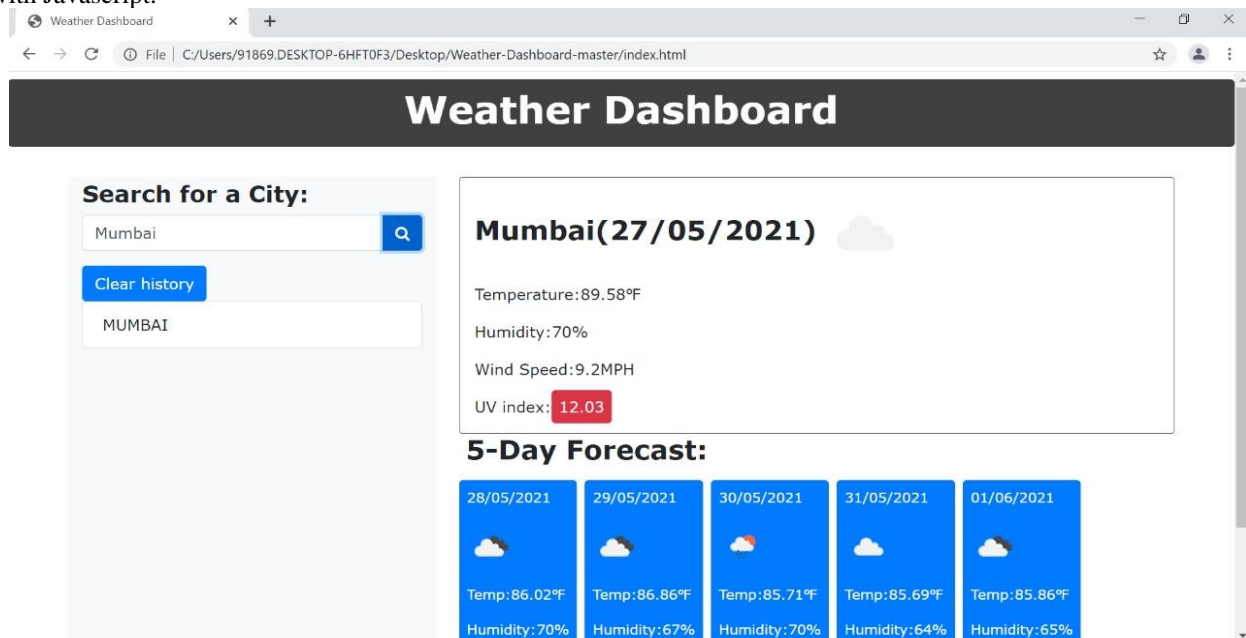
After searching the city at top it will display todays weather and also forecast the next 5 days weather at the same time .

III.MAIN OBJECTIVE

A. Earth timelapse:

The changes in the weather conditions across the globe are simply displayed by using images and pictures. This feature explains the previous climatic conditions, at the present moment and how it will be in the next consequences. For the past 15 years, billions of people have turned to Google Earth to explore our planet from endless vantage points. You might have peeked at Mount Everest or flown through your hometown. Since launching Google Earth, we've focused on creating a 3D replica of the world that reflects our planet in magnificent detail with features that both entertain and empower everyone to create positive change.

B. Predictions about the rainfall:

This is another fundamental attribute that shows the forecasts for the rain. It also showcases the percentage of likelihood of the rainfall and it is classified into various elements like cloudy, sunny, semi-cloudy, etc. We compare our results with various deep-learning approaches like MLP, LSTM and CNN, which are observed to work well in sequence-based predictions. Experimental analysis and comparison shows the applicability of our proposed method for rainfall prediction in Rajasthan.

C. Time of sunrise and sunset:

This feature shows the duration of day and night. It will also mention the sunrise time and the sunset time.
Predictions of Wind: This feature is an added benefit for the fishermen, sailors, windsurfers, paragliders. Also, people who are planning to spend their weekends in outside places are also profited. For general users, this attribute is not that useful.

D. Updates about Humidity:

For, the people who are planning for a long drive or to have a long journey. It is always essential to monitor the humidity level and to start the journey. Beyond sunshine and rain, our Weather application can give details on wind speed, solar ultraviolet radiation (UV) levels, humidity, cloud cover, visibility, and more. It's undoubtedly one of the best weather apps out there for the depth and precision of its

E. UV Weather Map:

This attribute displays the ultraviolet radiation of the sun across the globe by the Solar UV index. This is one of those unique features of the weather app development and it is generally most helpful in the summer season.

F. Map about Climatic conditions:

You can get a clear picture of the climate data with this feature. It comprises of humidity level, the temperature of the surroundings, and level of carbon dioxide. This attribute is highly beneficial for scholarly people who are carrying out scientific experiments.

Weather Forecast: It is a fundamental factor of any weather app. This feature displays the prevailing status of the weather on a weekly, monthly, daily and hourly basis.

IV. ADVANTAGES

A. Understanding the behavior of the customer:

In this competitive market, it has become essential for business organizations to understand the requirements of the customers. Furthermore, designing the applications that satisfy their demands helps you to generate high revenue for your business.

B. Build Customer Loyalty:

The primary aim of your weather app development Company is to obtain customer loyalty. By using the intuitive user interfaces you can engage your users efficiently.

C. Amplify your profit rate:

You can simply notice the escalation of traffic to your application, with the increase in consumer satisfaction. One simple thing that you have to follow is to render your customers with the best services.

D. A powerful tool for marketing:

An application is always a great medium to market your business. By justing offering the users with the fundamental features that can be easily understood by them, you can amplify your business.

E. Forecast:

Indubitably, this is the most popular and widely used type of weather application. Using location services, forecasts provide weekly and daily weather report. Some of the apps offer numerous added widgets, including hourly forecasts as well. Generally, the basic features are free, but for some additional ones, you will have to pay.

F.Climate apps:

Climate apps come with a hub of functions such as displaying the climate changes, current earth's climate map around the globe etc. Apart from this, they show air temperature, sea level, percentage of CO2 in the air, gravity field, etc. some of the advanced apps also come with a feature of hurricane tracking.

G. Image of changes:

This type of app is much less popular in comparison to the above mentioned two, however it is quite fascinating. It displays the overall climate change that has taken place over the years or a specific period of time. It is mostly used for learning purposes.

V. COST CONSTRAINTS

A. Actual motive and functionality of the Application:

The weather apps are excessively broad and the principal objective of the application basically directs the budget of the development of the application.

B. Design of the application:

You cannot neglect the design of your app. UI/UX designs always play a key role when designing an application. So consequently it demands some huge chunks. But there are many mobile app development companies that can provide you the best services at an affordable price tag.

C. App platforms:

The platform on which you are going to launch the application also determines the cost. For example there are two types of devices Android and Iphone. Android is the open source software so the cost will be less as compared to the Apple's Iphone devices which are not open source.

D. Post-Developmental Updates of the application:

When your app is live on the play store, customers will be coming up with the defects and bugs in the application. In order to solve these, it demands some amount of time and money.

E. Security of your Application:

Security and privacy are always of primary concern these days. Nobody wants to expose the data of their application so it is better to take some measures in order to maintain perfect privacy and secure the information. So, assign some budget for security purposes beforehand.

VI. CONCLUSION

So we conclude that we made a useful application for day to day life uses through which people can choose where and when to take their holidays to take advantages of good weather. Regions can be evacuated if hurricanes or floods are expected. Farmers can known when to plant or harvest their crops. As our aim to is to provide the better weather forecasting than other platform so to take a edge we will not charge and it will be free of cost. So here we conclude that we have made a successful application

VII. REFERENCES

[1] Agrawal, R., Jain, R.C., Jha, M.P. and Singh, D. (1980): Forecasting of rice yield using climatic variables. Indian Journal of Agricultural Science, Vol. 50, No. 9, pp. 680-684.
[2] Lee, S., Cho, S.& Wong, P.M., (1999) : Rainfall prediction using artificial neural network.― J. Geog. Inf. Decision Anal. 2, 233–242 1998. [10] Wong, K. W., Wong, P. M., Gedeon, T. D. & Fung, C.
C. ―Rainfall Prediction Using Neural Fuzzy Technique.
[3] C. Hamzacebi, "Improving artificial neural networks' performance in seasonal time Series Forecasting", Information Sciences 178 (2008), pages: 4550-4559.
[4] Lin, Long-Ji. (1993): Scaling up reinforcement learning for robot control. Proceedings of the tenth International Conference onMachine Learning.
[5] G.E.P. Box, G. Jenkins (1970), "Time Series Analysis, Forecasting and Control", Holden-Day, SanFrancisco,CA.
[6] Chatfield, C. (1994): The Analysis of Time Series-An Introduction. Chapman and Hall.
[7] Sivakumar, B. (2001): Rainfall dynamics in different temporal scale: A Chaotic percepective. Hydrology and Earth System Science, Vol.5, pp. 645-651.
[8] Guhathakurta, P. (2006). Long range of monsoon rainfall prediction of 2005 for the districts and sub division in kerala with artificial neural network. Current science, Vol. 90, pp. 773-779.
[9] Saima, H., Jaafar, J., Belhaouari, S. and Jillani, T.A. (2011): ARIMA based Interval Type-2 Fuzzy Model for Forecasting. International Journal of Computer Applications, Vol. 28, No. 3, pp. 17-21.
[10] M.Tektas, "Weather Forecasting Using ANFIS and ARIMA (2010): A Case study of Istanbul," Enviornment Research , Engineering and Management , vol. 1(51), pp.5-10.
[11] Mahmudur Rahman, A.H.M. Saiful Islam , Sahah Yaser Maqnoon Nadvi , Rashedur M Rahman (2013) : Comparative Study of ANFIS and ARIMA Model for weather forecasting in Dhaka" IEEE.
[12] Sarah N. kohail, Alaa M. EI-Halees(2011): "Implementation of Data Minning Technique for Metrological Data Analysis",IJICT Journal Volume 1 No.3, july .
[13] S.A. Shamsnia, N. Shahidi, A. Liaghat, A.Sarraf and S.F. Vahdat. 2011. Modeling Of Weather Parameters Using Stochastic Methods. Internat. Conference on Environment and Industrial Innovation, IPCBEE, Singapore, 282-285.
[14] R Development Core Team (2008). R: A language and environment for analytic computing. R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0, URL http://www.Rproject.
org.
[15] Montgomery, D.C., and Lynwood A.J. (1996): Forecasting and Time Series Analysis, Mc. Graw-Hill.