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Weather Notifier

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Abstract: - In this paper, we developing a web application which is used to notify the user about the weather conditions. The user must specify the time to the application to notify the user about the weather conditions. The user must have an active internet connection to track the location of the user. The weather conditions are displayed according to the location of the user. The weather conditions of the user are derived with the help of weather application interface (API). The API is invoked when an user opens the application it asks for the user location. The notification of the weather conditions are notified to the user according to the time set by the user. So, with this application the user need not to check the weather especially because the application will notify the user. There will be a notification for the user about weather conditions at the specific time mentioned by the user.

Keywords:- Application Programming Interface(API),Quich Reaction Force(QRF),UHF Satellite communication(SATCOM),Wireless Sensor Network(WSN),Software as a Service(SAAS)

I. INTRODUCTION

People can get various kinds of weather forecast apps, but those apps are all the same thing, except their design elements like color, icons, etc. Basically, it's not a big problem. Their main purpose is to inform how the weather like today or this week is. However, research shows that there are still some problems like:

1. Users easily **forget to check today's weather**. Imagine you have date at night with your gf, without knowing the rain is coming…
2. Even if people checked for today's weather forecast yesterday, It's **too easy to forget that (how's the weather like today)** after they wake up!
3. For sure, those applications are beautiful. But it's still **bothersome** to check today's weather forecast **every morning, right after you woke up**.
4. Some weather applications notify users about today's weather forecast, but it's kind of somewhat annoying thing to get push notification **everyday morning when they're still on bed**. Even when you don't want to be notified!

Fig: 1.1

The figure1.1 shows % of Nielsen recent downloaders who have used each category of apps in the past month

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Fig: 1.2

The above diagram shows the percentage of people who have not checked the weather when the leave home to work and it shows that 87.5% of people have not checked the weather.

II. RELATED WORK

Samy El-Tawab; Mahmoud Abuelela ; Yan Gongjun [1] introduce a real-time weather notification system in which drivers are notified with any bad weather conditions on the road including icy conditions or foggy conditions. Different type of bad weather requires different type of detection. We combine all cases by placing sensors uniformly to the road with an intelligent vehicles that communicate with the surrounding vehicles and the road itself. Our system depends on the spread sensors placed uniformly on the highway to monitor the road traffic. Cat eye's on the road which has been used for years as a reflectors to help drivers over night or at bad weather conditions can be more smart or intelligent by adding sensing capabilities. Intelligent vehicles can help in detecting some types of bad weather conditions and with the help of the sensors over the road using a combination of vehicle-to-vehicle communication and vehicle-to-infrastructure communication, we can reach a system that gives real-time notice for the drivers. Embedded processors are built inside the sensor over the road to allow the node to process these information.

Takanobu Otsuka ; Yoshitaka Torii ; Takayuki I [2] to introduce anomaly Detection Algorithm for Localized Abnormal Weather Using Low-Cost Wireless Sensor Nodes we have witnessed an unpresented increase localized heavy weather phenomena such as tornadoes and localized heavy rain which cannot be expected by the conventional weather forecast system. However, the number of observation posts is few little for forecasting for tornadoes and heavy rain. It is necessary to increase dramatically the observation points in order to perform ware correct prediction using real data. We have developed a compact and low-cost pressure information acquisition system, to detect the signs of localized abnormal weather. This research proposes an algorithm to predict local weather by detecting anomalous pressure values in the time series of the pressure sensor information, and then to notify users.

Michael A. Kelly ; Joseph M. Comberiate ; Ethan S. Miller ; Larry J. Paxton [3] introduce progress toward forecasting of space weather effects on UHF SATCOM after Operation Anaconda,UHF SATCOM outages that occurred during repeated attempts to notify a Quick Reaction Force (QRF) on board an MH-47HChinookto avoid a “hot” landing zone at the top of Takur Ghar. During a subsequent analysis of Operation Anaconda, these outages were attributed to poor performance of the UHF radios on the helicopters and to blockage by terrain. However, it is also possible that ionospheric anomalies together with multipath effects could have combined to decrease the signal-to-noise ratio of the communication links used by the QRF.

Arjun D S ; Arunachalam Bala ; Dwarakanath V ; Sampada K S ; Prahlada Rao B B ; Haribabu Pasupuleti [4] introduce integrating cloud-WSN to analyze weather data and notify SaaS user alerts during weather disaster, enhanced architecture for integrating cloud with wireless sensor networks to analyze weather data and notify SaaS users alert during weather disasters at low cost. The occurrence of natural disasters affects lives, damages property and changes our lives completely. Existing system does not support node and network level virtualization for weather sensors. The proposed system overcomes the above limitation by deployment of WSN infrastructure for multiple weather applications using virtual sensor and overlay concept. Monitoring weather data and providing SaaS and social network disaster alerts based on decision ID3 technique and provide cloud authentication using secure shell. These factors improve and provide high quality disaster alters to users and weather analysts at low cost.

III. METHODOLOGY

Relevant details should be given including experimental

Pseudo Code:-

Step-1: At first when the user opens the application it asks for user to turn on the location.

Step-2:.It then gets the latitude and longitude of the user by the following code:-

latitude = position.coords.latitude;

longitude = position.coords.longitude;

Step-3: It then calls API which is present in the code which accepts latitude and longitude as inputs and provide the user about the current weather conditions.[5]

https://ajax.googleapis.com/ajax/libs/jquery/1.10.2/jquery.min.js"

Step-4: API can be called in different ways:-[6]

a) By city name

api.openweathermap.org/data/2.5/weather?q=London

b) By city ID

api.openweathermap.org/data/2.5/weather?id=2172797

c) By geographic co-ordinates

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api.openweathermap.org/data/2.5/weather?lat=35&lon=139

d) By ZIP code

api.openweathermap.org/data/2.5/weather?zip=94040,us

Step-5: So, when the user just opens the application user gets the current weather conditions and user can also get the notifications of the weather conditions specified by the user in the application.

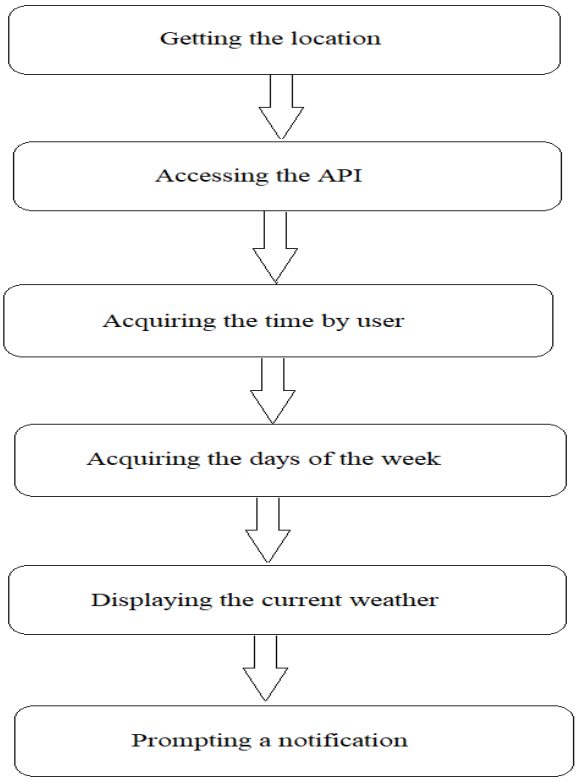

Fig:-3.1

3.1. Getting the location:-

This step explains us that when the user opens the application it asks permission from the user to access the location of the user.

Accessing the API

This step explains that after getting the location the weather API which is present in the code activates and perform the process and gets the weather of that particular location.

Acquiring the time by user

This step explains about the getting the time of the user and it depends on the user. The notifications are shown when the user sets the clock at particular time.

Acquiring the days of the week

This step explains about the getting the days of the week only in these days at the specified time the notifications are shown.

Displaying the current weather

This step explains after getting the time and days by the user it will show the time at the particular moment along with the latitude and longitude.

Prompting the notification

This step explains about the displaying the notifications to the user at the specific time and day mentioned by the user in earlier stages.

IV. Results and Discussion

Fig: 4.1

Fig [4.1] this step allows the user to set the alarm according to the users wish.

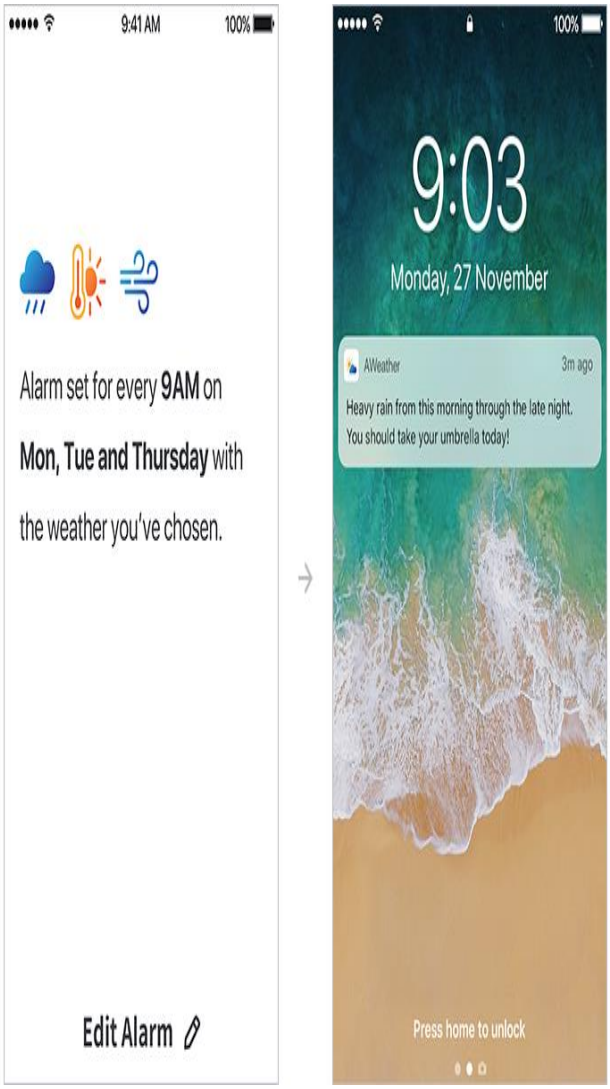

Fig: 4.2

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Fig [4.2] This step explains about the when the user set the alarm to be notified and giving the notification at the time of the users specified.

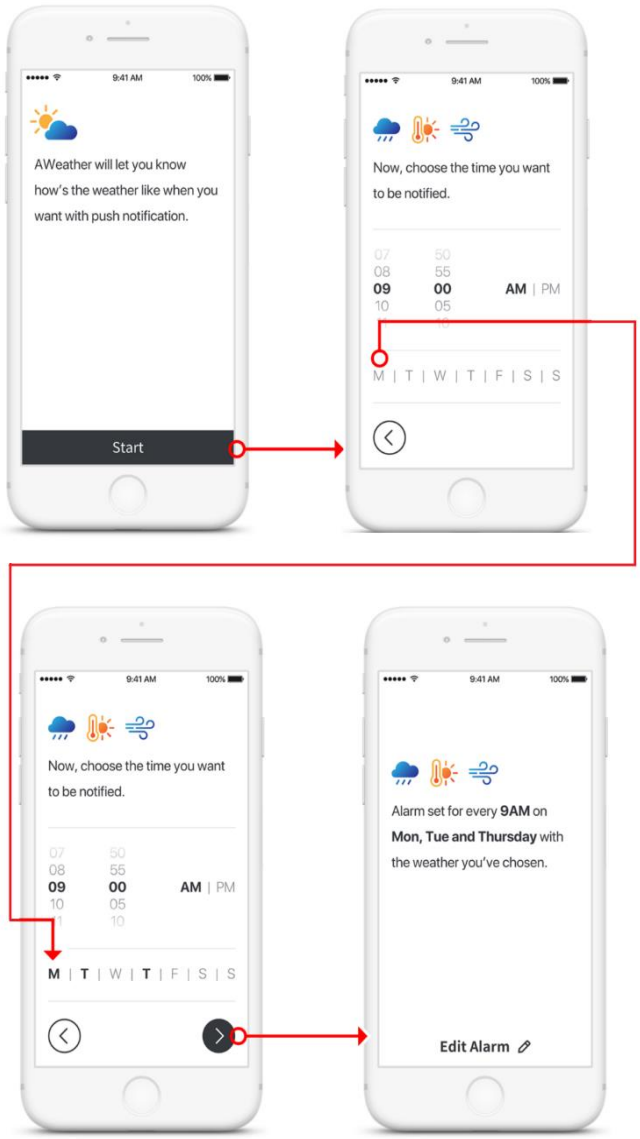

Fig: 4.3

Fig[4.3]This step explains about the flow of the application at the beginning of the application the user has to set the alarm with a specified time and days of the week and then shows the timings and days selected by the user.

Fig: 4.4

Fig [4.4]This step explains about the weather conditions at the particular location of the user.

V. Conclusion and Future Scope

To develop a web based application about Weather notifications. To bring awareness among people about the Weather conditions because now-a-days people are completely neglecting the information regarding the Weather conditions. To provide the accurate value of the weather conditions. To make sure that the applications do not contains errors. To make sure that people must know the weather conditions of that particular day by giving notifications.

Future Scope:-The future scope of the project will make sure that this will predict the following:
1) Hourly Forecast
2)16 day forecast
3)5 day forecast
4) Historical Data

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