

## Mobile Weather Alert Application Using Weather Application Programming Interface (API)

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**Abstract.** Nowadays, weather prediction is easier due to the available technologies. However, weather information is not widely accessible especially in a customized form. Thus, many people become unprepared when bad weather happens. The aim of this project is to help the people be alert with weather situation around them especially bad weather that might be coming to disaster. Mobile Weather Alert Application Using Application Programming Interface (API) is a mobile application that will notify and give an alert to the user. The system will alert the user based on the data that provided from weather API. Furthermore, this system will develop using the agile methodology since it is easier to develop this kind of system. This methodology will help the developer to create quality and more efficient product. Finally, this system that will develop is, hope can help many people out there to become more aware and alert about the weather so that can avoid from bad thing happen.

**Keywords:** Weather, Alert Notification, API

### 1 INTRODUCTION

Because of the lack of information and alert about the weathers, many people do not know the danger about it that may cause serious problem. Not alert with the current weather situation may become one of the factors that many people could not avoid the natural disaster may approach them.

With this mobile application, the people to receive an alert about the current weather related disaster situation in their place by implementing the GPS system and also can read the information about weathers or disaster that happened around them. This application will use weather API that enables to access the data about the weather from around the world and also can access the data from the weather station to provide the information to the users. The widget will provide the notification to the user about the all-day weather information and the widget will update real-time.

## 2 Problem Statement

It is difficult to know the current weather situation just by looking in the sky. Some of the mobile applications just show the weather status and not know what will happen after that. In order to overcome this problem, Mobile Weather Alert Application is the most suitable solution to solve this problem. Objectives of this project is as stated below:

- i. To develop an application that may notify the subscribers (or public) about the risk of natural disaster based on weather information.
- ii. To provide the real-time information about the current weathers.
- iii. To test Mobile Weather Alert Application based on the selected application scenarios.

## 3 Methodology

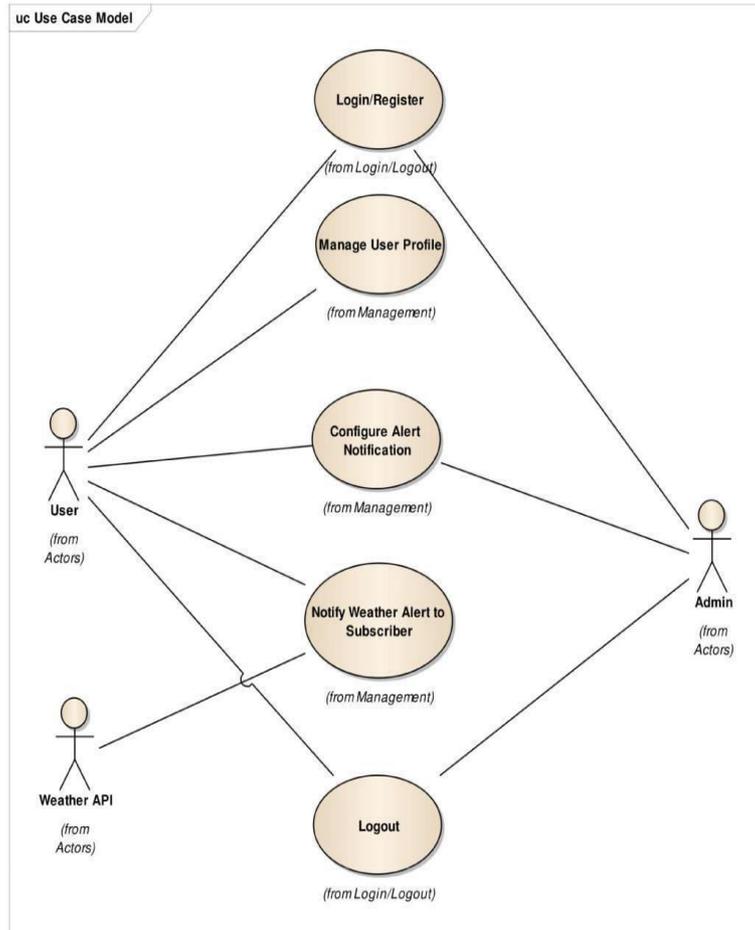
Agile methodology is chosen after research and comparison with other methodology. Using scrum to show the agile methodology into develop this application. Thus, it is easy to develop the application with a dynamic requirement or any features that need to add or remove from the application by iteration. Besides, by using the agile methodology, it provides opportunities to assess the direction throughout the development lifecycle and reduce the development cost and time.

## 4 Result

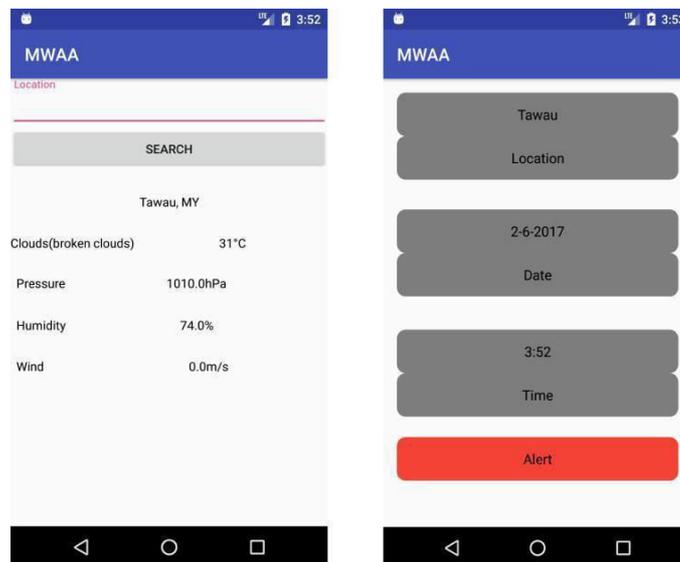
The Table 1 below shows the comparisons for each of the existing system. Figure 1 shows the use case diagram of the mobile application system. Figure 2 shows the user interface of the application.

**Table 1** Comparison between existing systems

<b>Name of System/Application</b>	<b>User Interface</b>	<b>Platform</b>	<b>Programming Language</b>	<b>Third Party Contribution</b>
First Alert Weather	Mobile-based application	Android	Java	GPS
The Weather Channel	Mobile-based application and Web-based application	Web Browser, Android and IOS	Java, HTML, JavaScript	GPS, Weather API
NWS Weather Alert	Mobile-based application	Android	Java	Weather API
Pro Weather Alert	Mobile-based application	Android	Java	GPS, Information provide from National Weather Service (NWS)
Weather XL PRO	Mobile-based application	Android	Java	Google Maps, Weather API



**Figure 1** Use Case for Mobile Weather Alert Application



**Figure 3** User Interface for Mobile Weather Alert Application

## 5 Discussion

The Objectives of this project are as stated below are to help user to alert more about the weather around them by receiving the alert notification, to provide a mobile application for the user easy to planning their daily life by display the real-time information about the weather, and to test the developed mobile application based on the selected application scenarios.

The first objective is achieved when the system may be able to send the alert notification to the user. Secondly, the information objective is met when the real-time information is providing and display to the user is happening. The last objective is met when the system is done and testing using black box method is done.

## 6 Conclusion

The main outcome and achievement of this project is to achieve all the objectives. Therefore, Mobile Weather Alert Application is developed as mobile based system to help user alert about the current weather situation with will be easier and faster. This mobile application will alert user based on the information provided by the weather application programming interface (API).

## References

- Xiaobing Han, Jinpei Yan. Application Research of Weather Forecast Query System Based on Cloud Computing. College of Communication and Information Engineering, Xi'an University of Science and Technology, Xi'an 710054, China, 2003
- Pro Weather Alert. Global Can of Worms, LLC, 2015 Emergency Alert System (EAS). National Weather Service, 2003.
- Software Engineering, Pearson Education Limited. Summerville, I., 2011.