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Application: Anwaa

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1 CHAPTER INTRODUCTION

1.1   Introduction:

The General Authority of Meteorology and Environmental Protection in the Kingdom of Saudi Arabia offers a mobile application called" Anwaa," which aims to provide high-quality weather and climate services to support development, protect lives, and enable users to make informed decisions about their daily lives. The "Anwaa" meteorological application offers a variety of features to help users stay informed about weather conditions in the Kingdom of Saudi Arabia, as the application includes accurate forecasts, severe weather warnings, interactive maps, and other useful features. Thanks to its simple and easy-to-use interface, users can easily access the information they need and plan their daily activities according to the weather forecast. The application also provides the ability to customize notifications and select favorite areas, making the user experience more personalized. Based on a recent survey conducted with 10 users of the application, it was found that "Anwaa" has succeeded in establishing itself as an effective and easy-to-use tool for managing daily weather-related tasks. It indicated that the accuracy of forecasts, especially regarding rainfall, was one of the most important features that caught their attention. They also praised the ease of use of the application and the ability to customize it to suit their individual needs. While users have been impressed with the application, they have pointed out some suggestions for improvement, such as providing more detailed forecasts and the ability to customize notifications more. But with its current features, the application is a great option in the weather application market. Given its accuracy and reliability, Anwaa Weather is a very important application for many individuals in Saudi Arabia. However, there is always room for expansion and improvement to meet the ever-growing desires of users.

1.2   The purpose of Anwaa

Providing accurate weather forecasts, the application provides detailed information about the current and expected weather conditions, including temperature, humidity, chances of rainfall, wind speed, and other weather-related data.
Sending early warnings, the application sends instant notifications to users when there are bad weather conditions, such as thunderstorms, heavy rain, and strong winds, helping them take the necessary precautions.
Facilitating access to weather information, the application makes obtaining weather information easy and fast, as users can access this information anytime and from anywhere using their phones.

1.3   Existing Programs

There are many weather applications available on the market, including popular options like AccuWeather, WeatherPro, Yahoo Weather, The Weather Channel, and Google Weather. Here's a table explaining the important differences between them and why Anwaa is the better choice.

Applications	Advantages	Disadvantages
AccuWeather	Provides detailed hourly weather information, early warnings of weather events, and interactive maps	It contains a lot of annoying ads in the free version. To avoid these ads, you must subscribe to the paid version of the application.
WeatherPro	Provides accurate long-term forecasts, interactive radar, and advanced features such as air quality index	Some features may only be available in the paid version
Yahoo Weather	Known for its beautiful interface and unique design, it provides basic weather information	Features may be limited compared to other apps
Google Weather	Integrated with Google Assistant, it provides quick information about the current weather	Doesn't offer many advanced features
The Weather Channel	Provides comprehensive weather information, including videos and weather news	The application may be a bit heavy on devices with modest specifications

Table 1: Comparison Table

1.4 Comparison of Anwaa with Existing Programs:

For Anwaa, it is considered ideal in terms of long-term forecasts, as it features many accurate details about the current and expected weather conditions in different regions of the Kingdom, including temperature, rainfall, and others. The application also protects lives and property by sending instant alerts when severe weather conditions such as thunderstorms and heavy rain occur. The application helps individuals plan their days better, whether it is choosing the right clothes or planning trips. Anwaa also contributes to raising awareness of the importance of monitoring weather conditions and taking the necessary precautions. The Anwaa application also provides accurate information about the weather conditions in the holy places, which helps pilgrims and Umrah performers plan their visit. Anwaa is also characterized by being completely free and integrated with Saudi government services, and it includes all cities in the Kingdom of Saudi Arabia with the possibility of adding many other cities. Simply put, the Anwaa application has made obtaining accurate information about the weather and climate easy and fast, which has contributed to improving the quality of life for citizens and residents in the Kingdom of Saudi Arabia.

1.5 Conclusion

Chapter 1 provides a comprehensive introduction to the Anwaa weather application, explains its importance and features, compares it to other weather applications, and reviews users' opinions about the application.

2 CHAPTER ANALYSIS

2.1   Introuduction:

At this chapter contains a detailed summary of the functional and non-functional requirements for the "Anwaa" application.

2.2   REQUIREMENTS

2.2.1   Functional Requirements:

The application provides detailed information about the current and forecasted weather conditions, including temperature, hourly weather forecast, humidity, wind speed, and chance ,dew point,pressure,visibility and UV index.
The application provides detailed information about the current and forecasted weather conditions, including temperature, hourly weather forecast, and Map of Mashaer locations and prayer timing for Mashaer sites.
The application displays animated images of weather radars that show the movement of clouds, precipitation, and wind.
The application sends notifications to warn users of thunderstorms, hurricanes, and other severe weather events.
The application allows users to customize the notifications they receive, such as the type of alerts they want to be notified about.
The application provides a tool that enables users to share pictures of the weather conditions.
The application provides a tool to determine the user's location automatically or through the search tool.
The application also allows users to add and edit multiple locations to follow the weather and conditions in them.
The application provides a daily report on the weather conditions in your city and allows you to share this report.

2.2.2   Non-Functional Requirements:

Performance: The application should respond quickly to user actions.
Scalability: The application should be able to handle a large number of users concurrently without performance degradation.
Availability: The application should be available to users 24/7.
Usability: The application should be user-friendly and easy to navigate.
Dependability: The application should function consistently and reliably.
Compatibility: The application works well on a variety of devices and operating systems.
Accessibility: The application is available in multiple languages (English, Arabic).

2.3   Conclusion

Chapter 2 provides a detailed analysis of the functional and non-functional requirements for the Anwaa weather application. The chapter outlines the specific features and functionalities that the application must provide to meet the needs of its users.

3 CHAPTER DESIGN

3.1   Introuduction:

At this chapter, the interfaces will be presented with a detailed explanation of them.

3.2   Interfaces

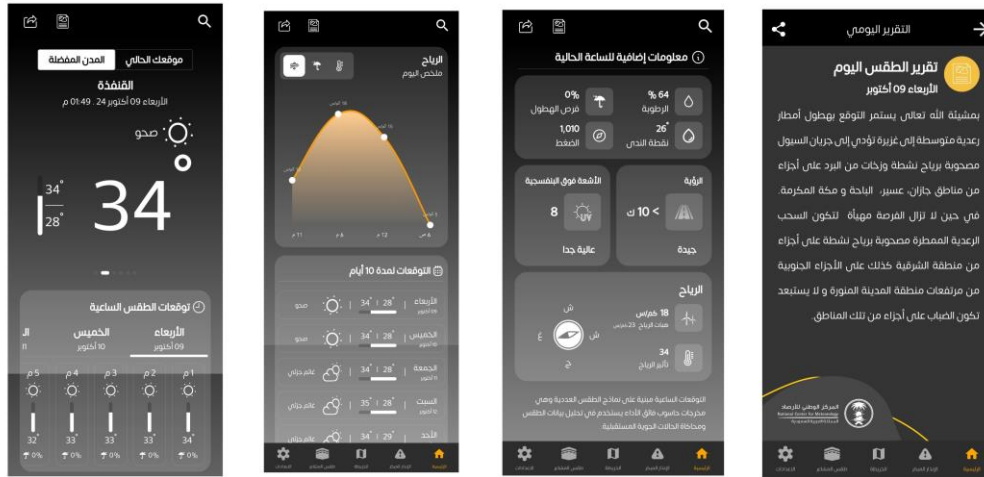Figure 1:

3.3   Main Interface:

The main interface displays current weather information for your location and hourly forecasts for today and the coming days. It also displays temperature and a summary of today's temperature. It also provides other information for the current hour, such as humidity, chances of rain, visibility, UV radiation, wind speed, and direction. It displays more customized options, such as adding favorite locations. Search interface allows the user to search for cities and get weather information for them. It displays a daily weather report.
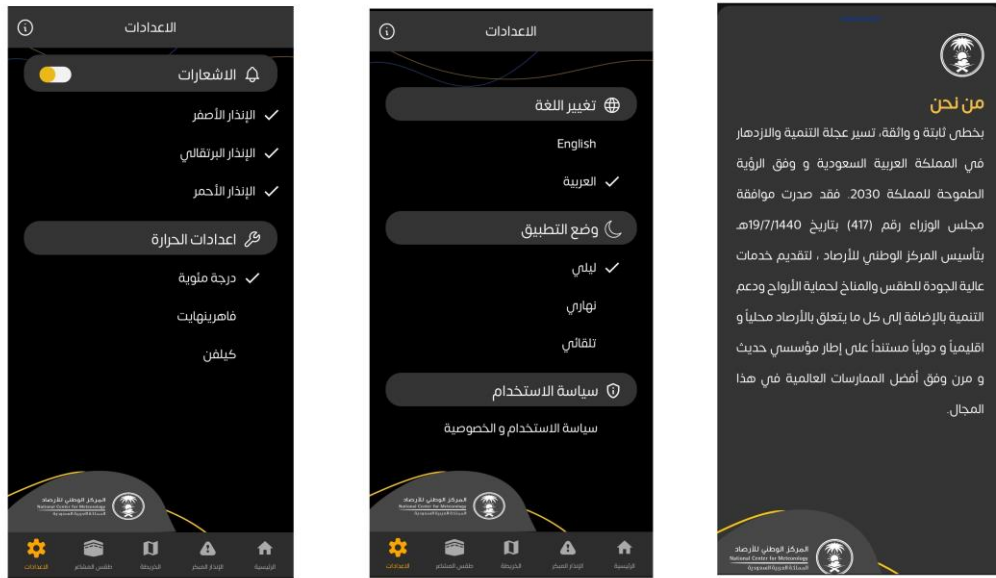
Figure 2:

3.4   Settings Interface:

The settings interface allows you to enable and disable notifications and also gives users the option to enable notifications with the choice of the alarm you want to activate the notification for. It displays temperature settings and allows users to choose any type of temperature they want (Celsius, Fahrenheit, Kelvin). It also allows users to change the language (Arabic and English) and change the application mode from night to day or automatic. It also displays the terms of use and privacy policy so that users can view them. The About Us interface displays information about Anwaa and its launch and an explanation of the services it provides.
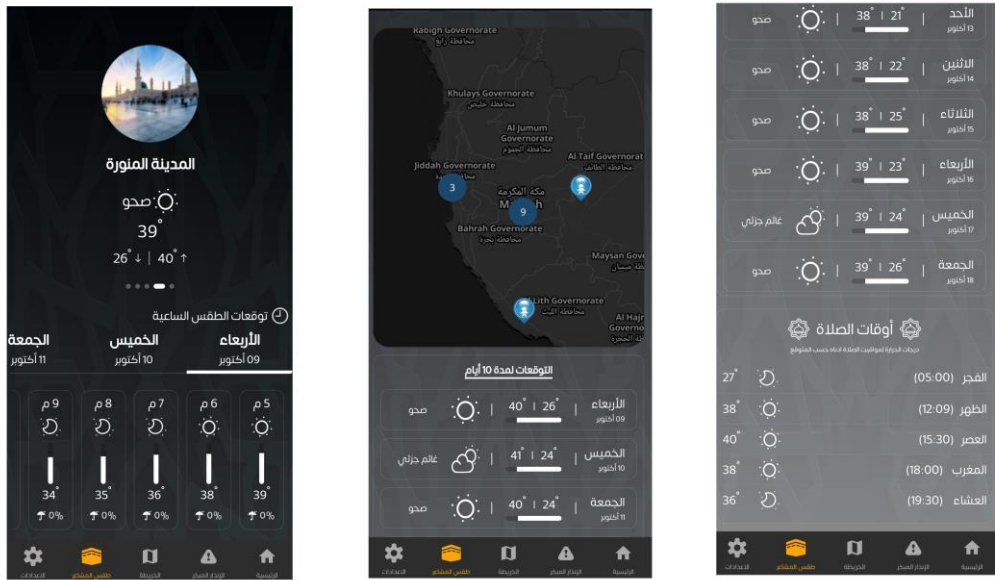
Figure 3:

3.5   Mashaer Interface:

The mashaer interface displays the temperature and weather conditions in the holy sites (Makkah, Madinah, Arafat, Mina, and Muzdalifah) and displays hourly weather forecasts and weather forecasts for the coming days. The map also displays weather forecasts and temperatures for the places from which the pilgrim or Umrah may enter ihram. It displays prayer times and expected temperatures for users.
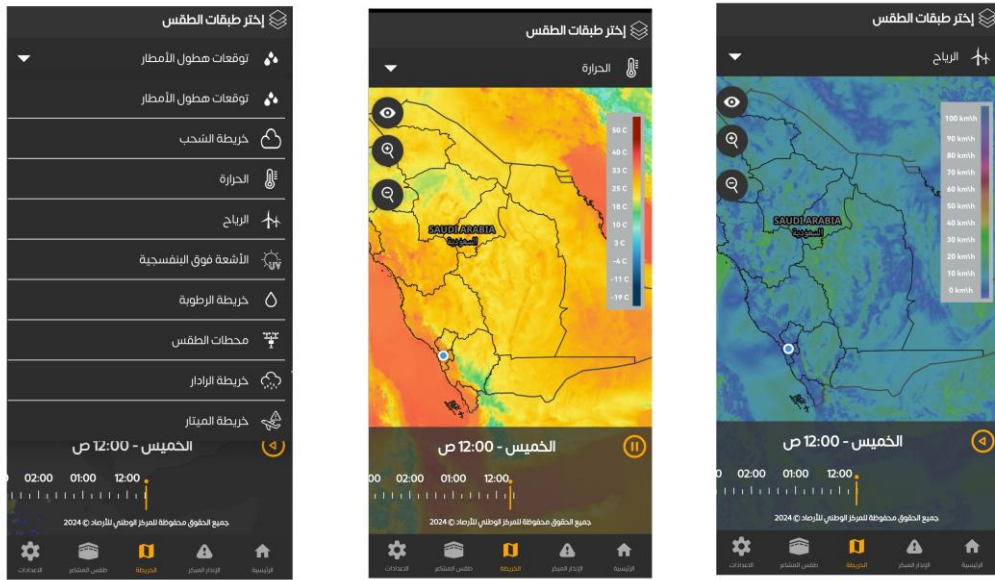
Figure 4:

3.6   Maps Interface:

The maps interface displays interactive maps showing the current weather conditions and future forecasts for the regions of the Kingdom of Saudi Arabia, where there are many weather layers (precipitation map, cloud map, temperature map, wind, UV index, humidity map, weather stations, radar map, and metar map). Here is an example of a temperature map and wind.
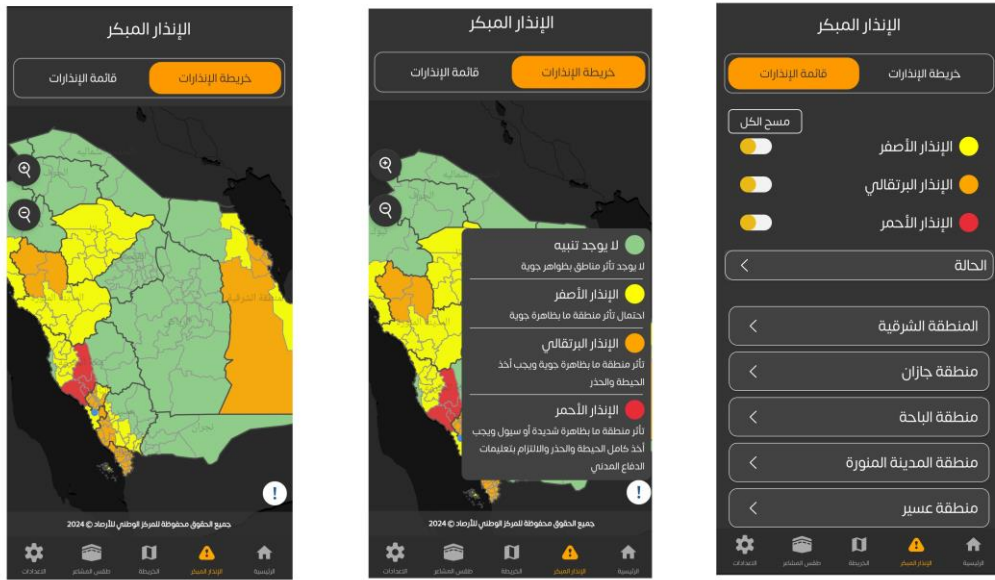
Figure 5:

3.7   Early Warning Interface:

The early warning interface displays a map of the Kingdom of Saudi Arabia with a warning mode for each region. This is done by setting a specific color that indicates the warning within the region. A light green warning indicates that there are no areas affected by weather phenomena. A yellow warning means that a region may be affected by weather phenomena. An orange warning indicates that a region is affected by weather phenomena and caution must be taken. As for the red warning, it indicates that the region is affected by severe weather phenomena or floods. All caution must be taken, and adherence to the instructions of the Civil Defense must be adhered to. Users can choose the type of warning they want to receive notifications for by activating the toggle icons for the types of warnings, they want to receive. This list allows you to choose the areas you want to receive warnings for. It includes several areas, including administrative areas such as governor at or cities. And geographical areas, such as coasts or mountains.

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3.8   Conclusion

In this chapter, we have given you a detailed look at the Anwaa application interfaces that are designed to meet the weather needs of users. With an intuitive design and easy-to-use user interface, the application provides you with all the information you need to make your daily decisions. Whether you are planning a trip or want to know the weather conditions in holy places, Anwaa is your perfect companion. We are constantly striving to improve your experience, and we look forward to introducing more features and improvements in the future.