Augmented Reality Weather

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0 Executive Summary

Nowadays there are many mobile applications (apps) that provide weather information. Recently some social networks apps have started to use **Augmented Reality** to allow their users to modify their photos by adding stickers and/or using face recognition to set visual effects on their faces, e.g. mustaches or hats. Last year one of the biggest social networks, Instagram, started to use the augmented reality features also allowing the user to put a sticker with the current temperature, but basic information is not enough as users always want more and more.

As there is not an app that can provide more detailed weather information using augmented reality, users "solved" this **Problem** by getting the weather information from one app and using it as a sticker-text on the social networks apps to share it with their contacts and the world.

climAR offers a **Solution** to this problem. It is a fast and easy-to-use Augmented Reality Weather app that provides weather information around the current location. It gives the option to choose between the Metric System (ºC) and English System (ºF), and it shows more detailed information such as humidity, wind speed and pressure.

climAR uses the phone cameras, either for a nice landscape photo or to take a selfie and share in social networks the weather information, e.g., when traveling and discovering new places around the world. It currently works on Android and iOS devices and more features shall be implemented according to the users' needs and wishes.

1 Business Model

The **Value Hypothesis** is related to the final costumer, which are all users who enjoys traveling and/or sharing photos on social networks. This kind of user will download, install and use the app whenever sharing information about the weather is required or wished.

The **Growth Hypothesis** is based on the fact that many users want to share detailed information about the weather in a particular location using only one app and in the simplest possible way. Using climAR will help them to solve the problem and achieve what they want, giving the option to provide feedback to continuously improve the app and gain more users.

The **Project Success** will be if the app is downloaded and used constantly by the users, and they recommend it to other users talking about the app or sharing the photos in social networks. Key indicators shall be:

- Number of downloads in the app stores
- Monthly growth (number of active users)
- Recommendations and positive comments (4-5 stars rates)
- The app being used in different countries
- Sharing in social networks the taken photos using the app

2 Functional Design

The **Minimum Viable Product (MVP)** is a mobile application to be developed for Android and iOS devices, and the main functional requirements are described in the list below.

- The app shall show the current city name and country using geolocation.
- Based on location, the app shall display detailed weather information including temperature, pressure, wind speed and humidity.
- The user shall select the desired unit system (ºC, ºF).
- The app shall use the cameras (back, front) of the device and allow the user to take a photo.
- The saved photo shall contain the location and detailed weather information.
- The user shall choose which information should be saved on top of the saved photo.
- The app should allow the user to simulate some types of precipitation, e.g. rain, snow or hail.

The initial prototype of the app

is shown in the image on the right.

3 Marketing and Operations

The **Target Market** is formed of people of ages 18 to 35 which have a medium-high socioeconomic level and have one or more mobile devices with camera. This people use constantly their devices and are able to travel and share content in social media.

The **4Ps Analysis** is shown in the table below.

Product	Price
climAR is a fast and easy-to-use Augmented Reality Weather app that provides the weather information around the current location. It uses the phone cameras, either for a nice landscape photo or to take selfie and share in social networks the weather information, e.g., when traveling and discovering new places around the world.	• The model will be In-App Purchase • The app will be free to download and use the basic features • The app will have a price of 1,99€ to get all the functionalities
Placement	**Promotion**
First versions of the app will be developed for Android and iOS, but distribution will start on the Play Store for Android due to its easier process for publishing compared to the App Store.	• Social Networks • Person to person • Email marketing campaigns (medium term) • App's webpage (medium term) • SEO and SEM (medium term)

3.1 Competitive Analysis

	Instagram	Messenger	climAR
Implement Augmented Reality	✓	✓	✓
Show the current city using geolocation	✓		✓
Display detailed weather information	Not detailed		✓
Select the desired unit system (ºC, ºF)	✓		✓
Use both cameras (back, front)	✓	✓	✓
The saved photo contains the location and detailed weather information	Not detailed		✓
Simulate some types of precipitation			✓
Change the color for different backgrounds			✓
Integration with social networks	✓	✓	Medium term

Below the screenshots of the competitors app interfaces: Instagram (left) and Messenger (right).

4 Risks

The following risks have been identify and could affect the project and/or the quality of the app.

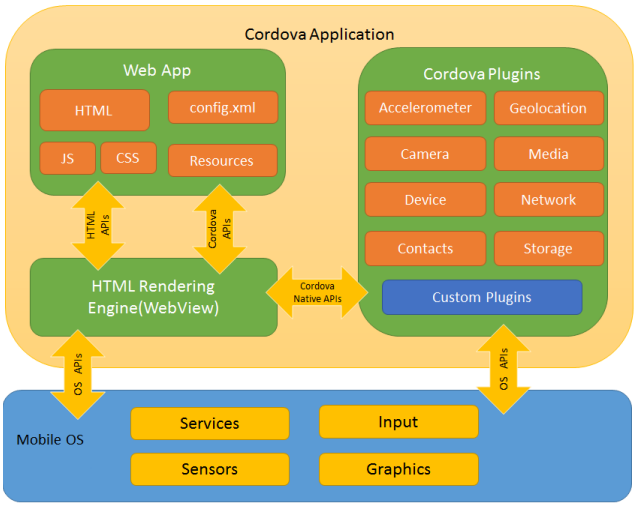
- Code not compatible in all platforms (Android, iOS)
- Cordoba plugins not compatible in all platforms
- App working properly in one platform but misbehaving in another
- Android OS segmentation
- GPS/Geolocation not precise on all devices
- App layout not rendering correctly in different screen sizes
- Third-party software not available when the app requires its information (e.g. Yahoo Weather)
- Test devices not available
- App lacking good usability
- Costumers not satisfied with the MVP

5 Implementation

The non-functional requirements are described in the list below.

- The app shall be a web application and shall work with Wifi and/or Mobile Data
- The app shall target Android and iOS platforms and be wrapped using Apache Cordoba
- The app shall render correctly for different sized screens
- The app shall be very easy to use and intuitive, and no prior training shall be required to use it
- The language used on the app interface shall be English
- The app shall implement Framework7 to provide Android and iOS native look and feel
- The app shall include ezAR™ plugins to implement augmented reality
- Yahoo Weather API shall be used to get up-to-date weather information

The app architecture is based on Apache Cordova's, and it's shown in the image below.



To keep the app compact and the code simpler, no third-party libraries were used to implement a simple rain effect, only JavaScript and the power of CSS3 Animations which render without problems on Android and iOS devices.

6 Production

In the initial fase, the CEO, CTO and COO roles are under the same person: Manasés Galindo.

The app was developed, signed, packed, installed and tested on the following devices:

Android

Sony Xperia E (version 4.1), Samsung Galaxy Ace 4 Lite (4.4.2),
BenQ F5 (4.4.2), Samsung Galaxy S4 (5.0.1), Huawei P8 Lite (6.0)

iOS

iPhone 4S (version 9.3.5), iPad Mini 2 (10.1.1), iPhone 7 (10.2.1)

As expected, the app worked without problems on all iOS devices. For Android devices, the OS segmentation caused problems, e.g., for version 6.0 the status bar was visible and extra Cordova plugins are needed to solved this visual issue.

For the initial phase, only the Android app has been released and published on the Google Play Store.

climAR

Manasés Jesús Weather

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6.1 Future Steps

The app shall be improved based on user feedback, and for medium term it shall be released and published on the App Store.

Social Networks integration is one of the features to be added in short term. Additional features such as changing the size of the sticker-text shall be also implemented.

Based on the 4Ps Analysis, Promotion shall start in short term.