The effect of climate change on our everyday mobility activity - Designing a mobile-application platform

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Abstract

This paper shows how art and technology can be of great importance in this era of climate change, although the weather forecast for each day can be predicted with modern technologies that have been developed and newer technologies are been developed to predict the weather. The goal of this conceptual project is to generate images from the data received through APIs for the weather forecast the user can use that image to test drive on their mobile device for better understanding of the terrain which they are about to drive to. With the aid of newer technologies, the project can be further developed to use virtual reality and augmented reality to get better view of the mobile application to show how the climate will be so hazardous impact on the everyday activity of the user.

Keywords

Interaction Design, Climate Change, Mobile Application, Driving, Augmented reality

Introduction

Climate Change is an occurrence where the earth systems change to form a new weather patterns that remain in place for an extended period can be as short as few decades to as long as millions of years. Climate change has affected a lot of things in recent years from agriculture transportation, even the way of life of people and many more.

The focus area of this project is how climate change has affected driving and causing series of accidents on major roads due to bad weather.

Using information on 46.5 million accidents from the State Data System of police reported accidents for 20 states and travel demand for 207,455 households included in the National Household Transportation Survey, we find unanticipated effects of weather on accidents and their severity. The application of these results to middle-of-the-road climate predictions suggests that weather patterns for the end of the century would lead to 603 additional fatalities per year. Between 2010-2099, the present value social cost of all types of accidents caused by climate change is $58 billion.

This project is to build a mobile application that will help users test drive on their mobile phone while real time weather condition is of a particular place at the exact time is been simulated into the phone to allow the users know how the weather condition of the area is at that particular time, the user can now determine if he/she can embark on that journey after the result of the has been displaced on the mobile phone.

Furthermore, to improve the quality and experience in giving out the best analysis of the best driving situation for the weather condition of a specific area by this mobile application an augmented reality technology will be developed in such a way that the camera of the mobile device will be activated to give better view.

With this mobile application put in place and well utilized by the users the level at which road accident will occur due to climate change will be reduced and the social cost that will be incurred will be reduced to minimal.

Concept Description

According to "Katie Patrick" in her article of urban canopy – terminal, the article talks about how energy is been consumed in San-Francisco and other part of the united states with the dash board showing the influence on the environment. In creating an application that will show the effect of the energy that is been consumed and how it can be corrected, an application was created with the aid of augmented reality incorporated into the application that can enable users to artificially plant a tree where the energy consumption is high.

Figure.0.1. *A description of the mobile interface with augmented tree placed on a nice spot.*

Similar to the urban canopy project, this project is to build a mobile application platform that will help users test drive on their mobile phone while real time weather condition is of a particular place at the exact time is been simulated into the phone to allow the users know how the weather condition of the area is at that particular time, the user can now determine if he/she can embark on that journey after the result of the has been displaced on the mobile phone.

Furthermore, to improve the quality and experience in giving out the best analysis of the best driving/walking situation for the weather condition of a specific area by this mobile application an augmented reality technology will be developed in such a way that the camera of the mobile device will be activated to give better view.

Technical Description of the Mobile Application Platform.

The mobile application platform will be developed to function well on both android and IOS operating system, when it is downloaded an installed is to help user understand the weather conditions of an environment before driving out or embarking on a journey. The users of this mobile application will have to grant access to this application to source weather information online through API (Application Programming Interface) to gather weather information of different location to the mobile application and enabling the GPS (Global Positioning System) on the mobile device will allow the application give exact weather of where the application is to be tested.

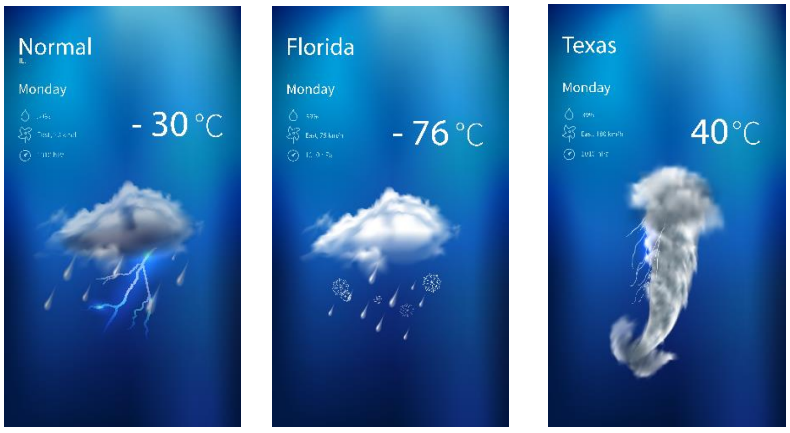

Figure.1. *A description of the mobile interface with temperature of different location*

After the exact location and weather condition has been defined by the application, the user can now test drive on the application as it has been simulated to look like the weather of the location that driver will drive and to location where the user is heading. The test-driving scene was created after to look like the need for speed mobile game where the users drive through different environment within a city. The application will also be great use to pedestrian that will want to want down the stores or bus-stop.

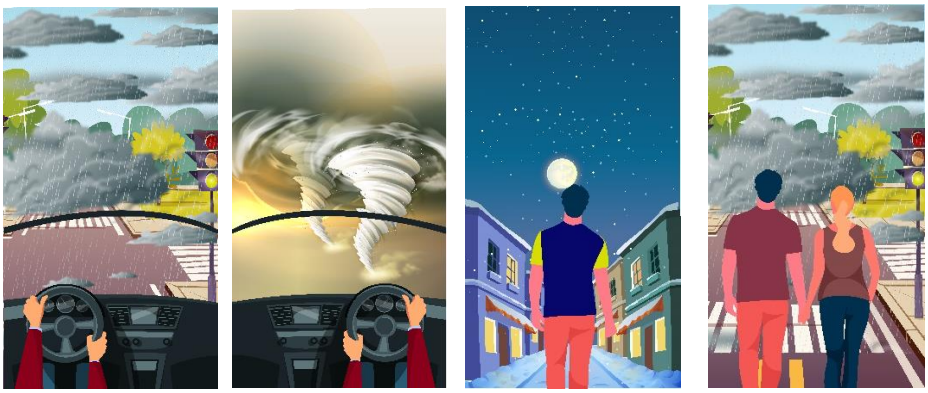

Figure.2. *A description of the mobile interface where the user can test drive to check the weather condition.*

Furthermore, in studying the recent trends and technology that have been developed to solve day to day challenges and having to include artistic aesthetics, augmented reality and virtual reality has played a good role. To help improve more on this mobile application platform augmented reality will be incorporated at the click of the test-drive button it triggers the camera of the mobile phone is activated to allow the users experiment, instead of the computer-generated image.

Figure.3. *A description of the mobile interface where the user has triggered the augmented reality to test drive.*

When the user has successfully completed the test drive the result will be displayed on the screen where the user can make a final decision if to proceed on the journey or for the user to stay back

and carry out another test couple of hours to ensure safety of the user. Even though the users that will drive/walk in this condition will be advised by this application about the hazardous effect of climate on the environment and how dangerous it is.

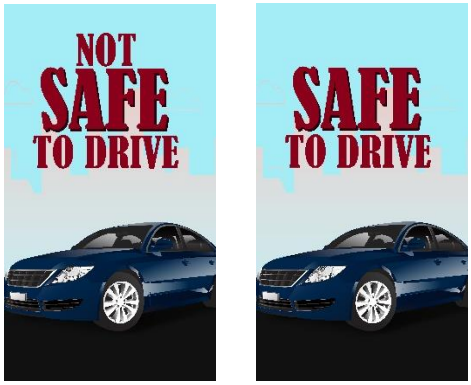

Figure.4. *A description of the mobile interface showing the result of the user test drive.*

The mobile application will be using different gestures available to different brands of mobile phones like the vibration, shaking, voice recognition and facial recognition to enhance and predict better results. A prototype demo of this application can be tried on here to have an experience of how the application works.

Budgeting

In creating the mobile application, there will be need for hiring services of a developer, UI/UX Designer, UX strategist and testers. Since the mobile application development does not involve in buying heavy equipment, just skilled services that will be needed.

Developer	**$94/hr**
UI/UX Designer	**$80/hr**
UX Strategist	**$40/hr**
Tester	**$35/hr**

Discussion/Conclusion

The issue been raised with this project concept have users focus on how to stay safe with the ever-changing climate conditions and how it influences our everyday lives. With 46.5 million accidents from the State Data System of police reported accidents for 20 states and travel demand for 207,455 households included in the National Household Transportation Survey, this project does not stop vehicle drivers from driving through the harsh weather that the could be predicted by this applications but it can help to give more information on how the climate change is dangerous to our environment as well.

This discovery over time will be well developed that it can predict future climate conditions and not just the present and the addition of augmented reality can help in visualizing the adverse effect of climate change on our environment. Over times, spreading awareness about the adverse of this climate change on our everyday life and how it is going to cripple most of the things that we enjoy doing and could not be done at ease that might trigger more actions on how people will react to how dangerous it is that the climate change as affected our lives individually and collectively.

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