

Pervasive Play for Everyone Using the Weather

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ABSTRACT

Casual and pervasive games are difficult to merge. It would be interesting to bring the advantages of pervasive play to the mass market to which casual games are designed for. In this article, a merge of pervasive and casual is proposed through the influence of real weather in the games. A framework that integrates a Weather Module, which retrieves and processes weather data, will be tested with two games: Weather Wizards and Real Farming.

Categories and Subject Descriptors

K.8 [Personal Computing]: General – *games*.

General Terms

Experimentation, Human Factors.

Keywords

Weather, pervasive gaming, casual games, mobile devices.

1. INTRODUCTION

Casual games are nowadays an appealing area that can offer a happy escape and distraction to the necessary, but sometimes dull and tedious, chores of everyday life.

Causal games are easy to play. They should require no more hardware than the one necessary to run a word processor. They have simple rules and intuitive interfaces [1, 2]. This type of games are also discrete and should be easily interrupted and hidden if the boss enters the room, or the teacher peeks at the student's computer, or the phone rings, or some other more important event to the player happens [2]. Nowadays, work demands increasingly more hours of people's time. This means that player sessions should be fast [1].

A pervasive game is one that expands the magic circle of play [3]. In typical computer games the player's attention is focused on the screen. A pervasive game steps outside this limitative barrier so that reality is also part of the game. To achieve this, investigators and the industry resort to technology like cell phones, GPS, Bluetooth, WLAN, RFID or even custom made equipment [4].

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We propose a merge of casual and pervasive through the influence of real weather in the game. The next section describes how the weather is incorporated in the games.

2. WEATHER MODULE FRAMEWORK

The weather is both a casual and a pervasive element. It is casual because everybody understands what it is and it is pervasive because it is available everywhere. Weather processing will be handled by the Weather Module (Figure 1). The Weather Module is inside the server and is responsible for retrieving and processing the weather data and providing it to the games that need it.

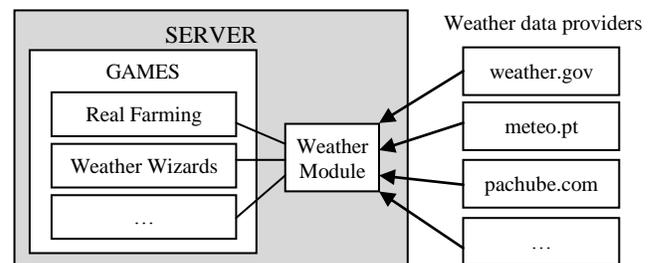


Figure 1: Weather Module Framework.

Weather data providers' sites are used to check the weather by the Weather Module. Some of these sites even provide an RSS feed or a XML file that can be parsed in order to know the weather in a specific location.

Some of the weather data providers' sites supply meteorological information about the same locations. The Weather Module will be prepared to access several sites so that if one is down the other can supply the necessary data for the games to continue. The Weather Module will deal with various types of weather elements like wind speed, rain, cloudiness, snow, temperature, luminosity and moon phases.

Real Farming and Weather Wizards are two examples of games that demonstrate the Weather Module functionality. However, other games that also need weather data can also connect to the Weather Module.

3. THE GAMES

Both Real Farming and Weather Wizards obtain the weather data through the Weather Module (Figure 1).

Players use the Internet to access the games with their browsers. A mobile client will also be developed so that players can access the games through a cell phone.

3.1 Real Farming

Real Farming is inspired by the popular game Happy Farm. In the mentioned game the user has a terrain and plants vegetables. When the vegetables are fully grown the user harvests them and gains a certain amount of virtual money. In Real Farming, after registering, the user chooses a place for his farm in a global map. The game suggests the player a farm location near to his real location. The physical location of the player will be determined through his IP address. The player will then plant vegetables in that farm.

In Happy Farm the vegetables always grow. However, in Real Farming, the vegetables growth will be influenced by the weather. If the climate is humid then it is a good time to plant vegetables that benefit from humidity like, for example, rice. If the user plants rice in a dry climate the plant risks dying or the resulting crop will be small. Real Farming is therefore an adaptronic game, a subgenre of pervasive games, because it is situated between the virtual and real spaces and because it simulates “*life processes observed in nature*” [5].

3.2 Weather Wizards

Weather Wizards is a competitive game. Here, the player is a wizard. He duels the other wizards in the game and his goal is to defeat them. The wizards’ strength in combat varies according to the weather conditions.

For each duel, the player chooses a fight location in a globe map that also supplies weather information about the locations. After that, he chooses the wizard he wants to battle.

Each wizard has jewels that increase his powers in certain weather conditions. The available jewel types are: sun, night, wind, rain, cloud, snow, clear sky, hot, cold and full moon. The jewels increase the wizard’s power if the weather element they refer to is present in the duel location. So, if the wizard has a wind jewel and he fights another wizard in a windy location his strength will increase.

3.3 Influence of the Weather in the Player

According to [6] a good game takes into account the following elements: concentration, challenge, player skills, control, clear goals, feedback, immersion and social interaction. The use of real weather elements will contribute, mostly, to the concentration, immersion and social interaction elements of a game.

To favor concentration, a game should provide a lot of stimulus from different sources [6]. Inside the magic circle of play, typically, we have stimulus like video and images, on the screen, and sound, from the speakers. The weather is an additional real stimulus that is always present and influencing the games.

In what concerns immersion, the weather provides a simple and effortless form of interaction. By just looking out the window the player may decide if it is a good moment to play and how to play. For example, in Real Farming, if the user picks a farm location that is the same as his real location he can check the current weather and decide what to plant. The same happens in Weather Wizards. If it is a windy day, and the player has a lot of wind jewels, then he may pick a duel location that is the same as his location to take advantage of the current weather conditions. As the game will also be available to cell phones the user will be able to play not only at his desk but also outside, anywhere and anytime (as long as there is cell phone coverage).

The player can, in addition, help friends by telling them the weather at his current location, resulting in a form of social interaction.

4. RELATED WORK

Casual and pervasive are hard to mix [3]. Insectopia is one example of this mix where players use their cell phones to hunt for rare bugs. Bluetooth devices around the player, detected by the phone, are the sources of the bugs [7]. In what particularly concerns tending farms, Veggie Diaries is a game where players grow a seed by taking pictures of road signs [8].

5. CONCLUSIONS

In this paper, a way to merge casual and pervasive games using the influence of the weather was proposed. The Weather Module interfaces with weather data providers’ sites to retrieve and process the weather data. The games that need this data connect to the Weather Module to obtain it. Two games that show the functionality of the Weather Module were presented: Weather Wizards and Real Farming. Weather Wizards is a competitive game where players battle each other. Their powers are influenced by the current weather. In Real Farming players tend a farm where crops growth is affected by the weather.

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