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PORTUGAL

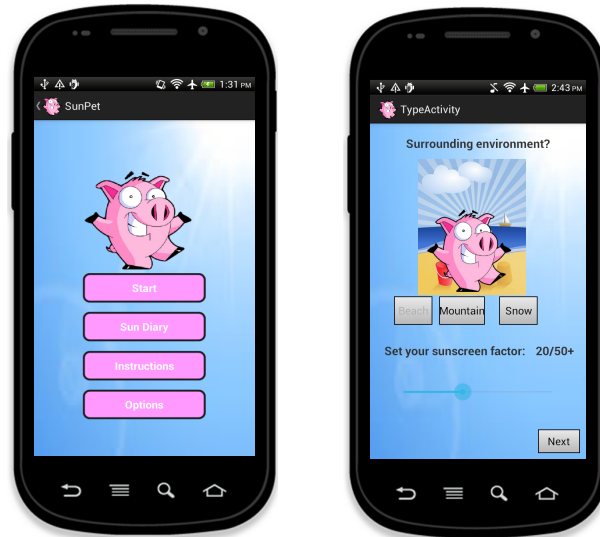


Fig1. Main menu (left), Surrounding menu (right).

SunPet

REAL-TIME SUN EXPOSURE MONITORIZATION USING SMARTPHONES

The main objective of this project is to create an Android application that detects in real-time risky behaviors regarding sun exposure.

Motivation

The rise in the incidence of skin cancers over the past decades is strongly related to increasingly popular outdoor activities and history of sunburn.

In 2012, around 232,000 new cases of malignant melanoma were detected worldwide.

SunPet application emerges with the aim to detect in real time risky behaviors, working on prevention of future skin diseases.

Description

The application provides a personal assistant service to monitor the sun exposure of the user in real-time, by merging personal information, UV radiation level, GPS location and exposure time. Moreover, SunPet is able to recommend the user a safe sun exposure time and generates warnings when the sun exposure becomes dangerous.

Layout

Being the main objective the prevention regarding sun exposure, a funny and animated layout will capture the user's attention, thus motivating him/her to reuse the application.

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Features

- Real-time Ultraviolet monitorization
- Automatic localization of the user
- Warning system produce visual and sound effects
- Personal sun exposure history20

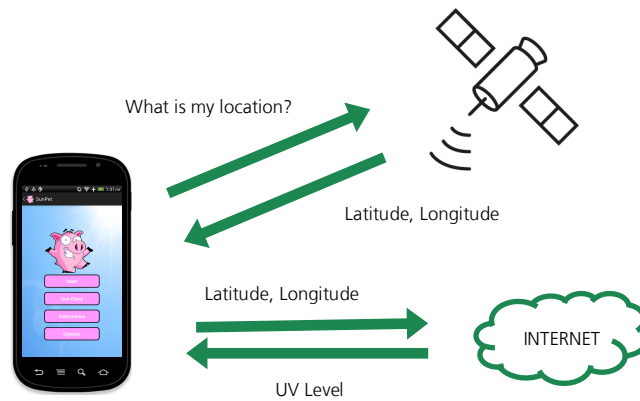


Fig2. Communication diagram.

Partners

- Cooperation with IPATIMUP

GPS technology

The use of GPS coordinates give us a greater accuracy to determine the user's location, thereby achieving precise values for the UV radiation levels on the sun exposure location.

Fitzpatrick Skin Type

Different behaviors have to be taken considering the different type of skin. The skin classification is based on *Fitzpatrick Skin Phototype Classification*, the most commonly used scheme to classify a person's skin type.

Using a quick questionnaire, some personal information is collected in order to determine the skin type of the user, which will be later used in the calculation of the safe sun exposure time.

Safe sun exposure time

Due to environmental factors, the safe exposure time is highly affected.

Aspects as altitude, snow, water and sand reflexion, have direct influence in the amount of UV rays absorbed by the population. All this variables are taken into account to perform efficient calculations.

To avoid the sunburn and consequent skin damage, SunPet gathers location, environmental and personal information in order to calculate the user's safe sun exposure time.

Warnings System

One helpful feature is the creation of a personal history. By allowing to save the sun exposure history, the application gives the possibility to see if there was risk behaviors, and allows the user to understand how should his/her attitude according to sun exposure be, adding an educational component.

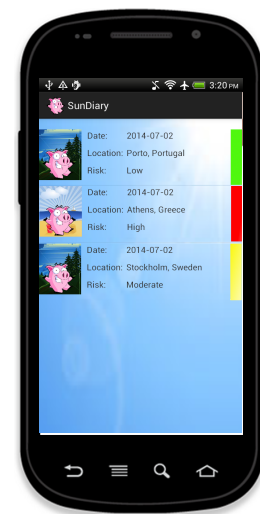


Fig3. Personal sun exposure history.