Design of an Electronic Device to Measure Environmental Variables and Inform the Effects of Those Results on Health

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The growing industrialization in the last decade, has increased, on the one side, the acoustic pollution or noise that considerably affects human beings in their bio-phsyco-social aspect and, on the other hand, the ultraviolet radiations of the sun light, today, with more forcefulness, because of the weakening of the ozone layer cause melanomas and other types of cancer. In the face of such a problem the Solar One team developed a device which in its structural side consists of a head, a trunk and base made of wood. An electronic component with sensors that capture the info of the variables, an Arduino that processes and shows people the data obtained through the device, by means of color code similar to the one in a set of lights. Additionally it has installed a solar panel which generates electric energy that provides complete autonomy to the device. The programming of the device was designed in an open platform for the creation of prototypes based on flexible software and hardware and of easy use (Arduino); in it, the info shown on the device is integrated with a web page and with an application for mobile devices through which people receive information, in real time, about the environmental variables and some preventive recommendations. The project sets out an innovative technological development, because it articulates areas such as electronics, programming and art, which in sum produces new knowledge related with the prevention and the care of the health of people who inhabit the planet.

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