Fire Prevention Device

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***Abstract*—Wildfires are a continuing danger in today's era, having the ability to reduce risk is a significant help in this battle against fire. This work defines the process of research, development and implementation of a fire prevention device. This device implements IoT technologies, such as temperature, humidity and gas sensors, as well as an Arduino as the central core. With the help of a Bluetooth module, the device sends the data to an Android device. This Android device receives the data and analyzes it through a native Android application, thus obtaining the content required by the app. The results obtained from the device correspond to a test stage, so information corresponding to situations of use in real circumstances is not provided.**

***Index Terms*—IoT; Wildfire; Forest fire; Arduino; Android; 4.0 Industry**

I. Introduction

In the current century there is a large presence of forest fires throughout the planet, this due to modern problems such as global warming, deterioration of the ozone layer among others. This is why there is a high risk of unexpected and fast-spreading wildfires. Providing high-speed responses to these wildfires is a difficult task, so thinking about a better way to detect a wildfire as soon as possible is a potential solution to reduce the number of wildfires around the world.

The objective of this paper is to provide one of these solutions, it seeks to implement a device for the detection of forest fires in early stages. To achieve this objective, an investigation of the current state of the technologies available for fire detection is carried out, seeking to implement systems with autonomous operation.

Throughout the article the development process of a fire prevention device is detailed. Implementing an Arduino as the core and with the incorporation of temperature, gas and humidity sensors, in addition, a Bluetooth module is used for data transmission between the device and an android application designed to visualize the data obtained.

II. State of Art

There is a large number of investigations dedicated to the detection and eradication of forest fires in early stages, but nevertheless, those that seek to solve the problem by implementing the most efficient technologies providing greater security are at the forefront. This section provides a state of the art corresponding to those innovative solutions that seek to reduce forest fires.