

Title: **Wireless security device with thermometer**

Inventor: Jacobo Oscar Miranda Zacarias

Age: 17 years old – Nationality: Lima, Peru

Problems:

In Latin America, citizen insecurity is a very constant and devastating problem, many times it takes innocent lives. One of those problems is femicides, in which there are innocent women victims who are murdered in savage ways and found in an indescribable state, usually being a very strong problem, it was not considered that there could be a technological and viable solution for people in vulnerable situation in the face of this problem.



According to statistics in Latin America every 3 hours 1 woman is killed by femicide, however, there are many cases that are not counted, reported or that have not been discovered, which would increase this figure. Likewise, an attempted femicide brings terrible consequences such as irreversible physical and psychological damage.



From this, it is expected that the responsible murderer will be captured and have received the weight of the law, but when the criminal is located, many times he is declared innocent due to lack of evidence or because of the search for them, there is a long delay in his process. judicial to be able to arrest him which makes it easy for him to escape or escape to commit greater femicides.

Likewise, there is a great lack of any device designed for people with disabilities, who cannot defend themselves or act with the same facilities as others when facing a crime and putting their lives in danger. Since when someone enters their homes, they will be more vulnerable to suffering some damage due to the physical or mental difficulty that they may present for a situation of serious risk. As, for example, people who use a wheelchair or who cannot walk, they will not know when the criminal enters their home and when they find out it would be too late.



During the pandemic, these problems worsened, and the COVID-19 virus (SARS-CoV-2) was added as one of the protagonists, currently it continues to be a very big problem in Latin America and many countries around the world, where the populations vulnerable are the most

affected. Since they have no ways to find some characteristic to recognize if a family member or guest is a possible contagion and take the corresponding measures.

It's important to mention that there are no devices suitable for people in vulnerable situations, which are portable and easily used.



Many of the strongest crimes of citizen insecurity occur within enclosed spaces, many occur within the victims' own homes and result in human losses, material losses, and physical and psychological damage to those around them.

Solution:

After studying common factors of many of the crimes that occur within closed spaces such as establishments, with special emphasis on femicides, studying very closely the needs of people with disabilities and the shortcomings that existed for the reduction of the spread of COVID-19 in public and private spaces I decided to invent a viable and effective solution.

My invention is titled: "Wireless security device with thermometer", it's an integral security device which alarms, evidences, prevents and detects.

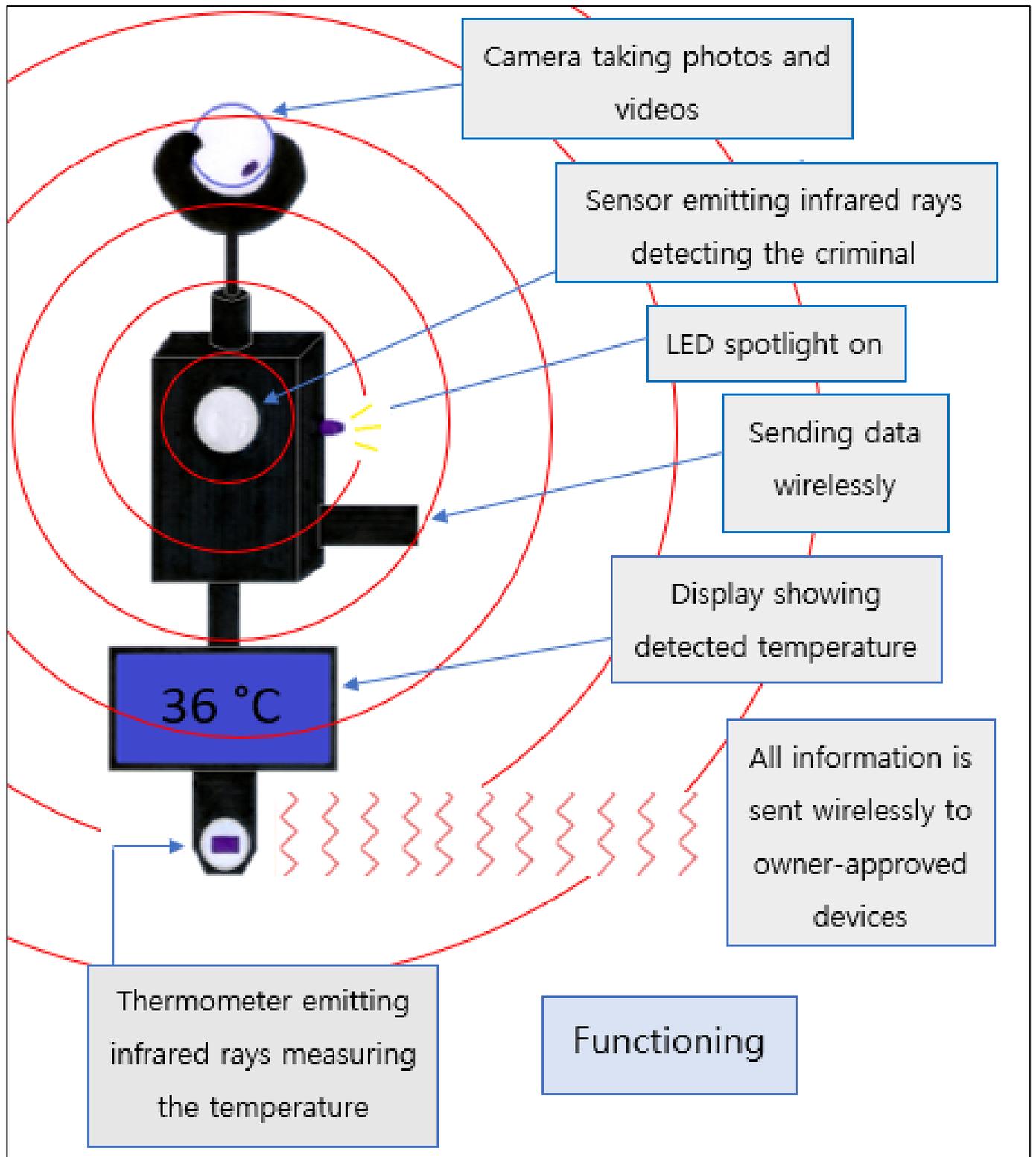
It is finishing its official patent process with the file number 001319-2020 / DIN in INDECOPI (National Institute for the Defense of Competition and the Protection of Intellectual Property).

Its operation:

By means of motion sensors it detects when the femicide criminal enters or is about to enter the home, company or any type of establishment, instantly its rotating camera up to 360 ° takes photos and videos at different angles, when it detects the femicide it sends these evidences and alarms wirelessly to different environments of the house previously approved by the owner. By doing this, the victim will have the necessary evidence such as photos and videos on their electronic devices to exercise justice soon against the criminal and will be alarmed when the criminal is committing his crime. This is important because a part of the crimes happen at night, while the victim sleeps, so by having the alarms they will know what is happening and will be able to contact the corresponding authorities and take the appropriate measures to act at the moment.

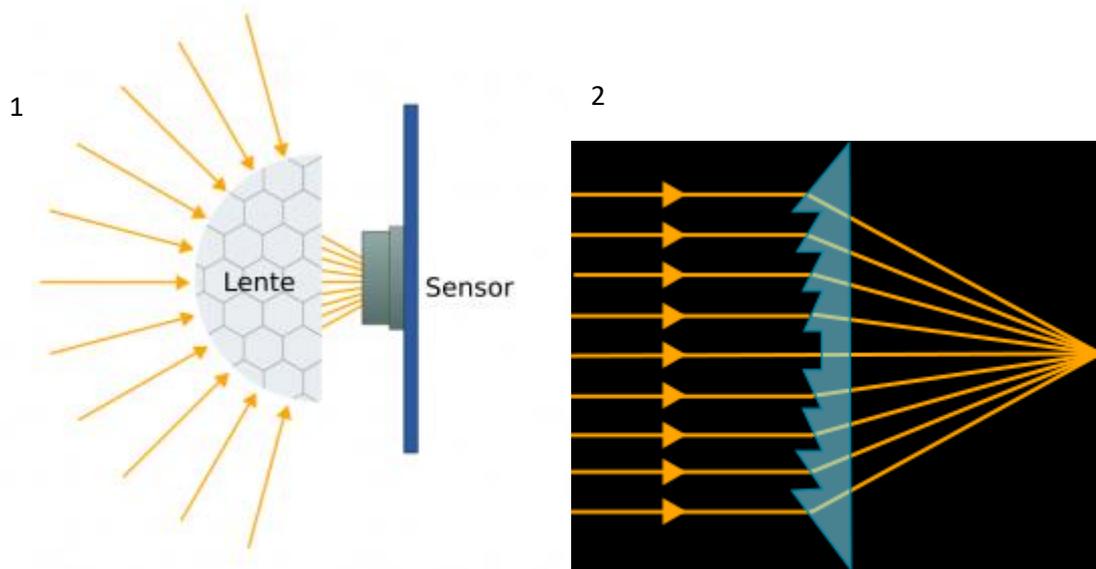
By means of its infrared thermometer it detects the temperature of a person, animal or thing, in this case a person, the detection is carried out without physical contact but by infrared rays, which prevents the spread of the virus by physical contact. Once the temperature is detected, the device compares it with its previously established allowed temperature limit for virus prevention, if this limit is exceeded it will classify it as COVID-19 or some possible contagion of another virus, also, it will send prevention alarms to take the corresponding isolation and disinfection measures, at that moment the detected temperature will be displayed on its screen to give knowledge of the data obtained. If required by the owner, the device can also take photos and videos of the possible case of virus infection through its rotating camera and send these wirelessly.

The following graphic shows how its components can be located and the function of each one of them:

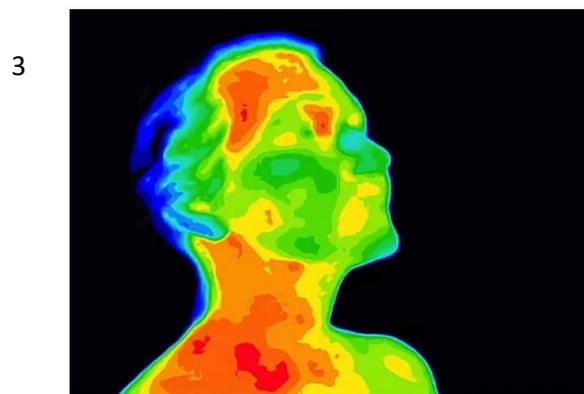


As can be seen, the sensors emit infrared rays for the detection of movement and temperature, this due to its extensive range, non-harmfulness and the difficult perception of its presence, which is key to detecting an upcoming crime, since being an innovative device and due to design characteristics, that will be mentioned below, it is not easy to recognize its location and how to evade it, so it is an essential factor to achieve alarms when detecting the criminal.

Next, the operation of the sensor is shown, the sensor uses Fresnel lenses, which have the purpose of maximizing the detection field through infrared radiation, in image 1 you can see the location of the sensor and the lenses of Fresnel, which are a dome that surrounds said sensor. In image 2 you can see the operation of an individual Fresnel lens.



When a hot object (a person or an animal) enters the sensor's field of view, a potential difference occurs between the two halves of the sensor. This difference in potential helps us to know when there is movement. Image 3 shows the warm body of a human being.



Due to the aforementioned, the device has a large detection range, of more than 20 meters at 120 ° towards all possible directions for motion detection. .

Regarding its wireless functions, it sends alarms, information and evidence at all times through its wireless communication module, either Wifi or Bluetooth for devices previously approved by the owner in different environments of the home. It is considered that it may have one of these two types of wireless connection since many homes in a vulnerable situation do not have Wi-Fi, however they do have Bluetooth or vice versa, so it again fits with the circumstances in which the user lives.

Regarding its design characteristics, it is generally considered that the device is inside a black protection, since it would not be visible in the dark, but it is also considered that said protection is the color of the surface where it will be located to avoid some kind of color contrast that would make it noticeable in the eyes of the criminal.

Another important factor that is rescued is that the device can be located in a space that is considered feasible for the criminal to enter, so it is transportable and does not require a rigorous installation, in this way it can be adapted to the various situations of homes and in any case transporting with the user to where they want to be counting on the integral security offered by the device, that is, families and the user have integral transportable security.



the following benefits will be presented and / or have already been presented:

The number of femicides in Peru and Latin America is reduced.

This also reduces the number of attempted femicide.

Crime in enclosed spaces is on the decline.

People living in vulnerable situations have a device that they can carry in their homes and to the home of their relatives, friends, etc. And easy to use.

The spread of COVID-19 is reduced and it is easier to take isolation and sanitation measures with people infected by COVID-19 or a virus.

People with disabilities will be able to be safer in their homes by having a device that alarms, warns, evidences and prevents without the need for them to be present in the place and during the entry of the criminal, this greatly avoids risk situations.

Crimes against homes at night, companies or all types of establishments are highly reduced since they have access to alarms, warning, prevention and evidence when the criminal enters or is about to enter, providing security, even if the victim is sleeping and completely avoids the loss of human life during sleeping hours due to murder or related.

Regarding femicides, the criminal of femicide is easily located thanks to the exact evidence provided by the device and the murder of next innocent victims by the same criminal will be quickly avoided. The same happens with related crimes within closed spaces, including rapes, extortions, house robberies, etc. Where the criminal will be caught more easily and justice will be directly effective.

It highly contributes to social tranquility, social development and encourages the generation of technological alternatives to solve insecurity problems.

Awards:

It is a Gold Medal winner at the Global Youth Scientist Challenge (GYSC) 2020, receiving the awards: Creative Genius Award Trophy, Gold Medal and Special Invitation to E-NNOVATE 2021 Poland.

It is a Gold Medal winner at the Korea International Youth Olympiad (KIYO) 2020, receiving the awards: Special Award, Gold Prize and Invention and Innovation Award from the China Association of Inventions (CAI).

Distinguished by the mayor of the city of Miraflores, Lima, Peru. And winner of the Entrepreneurship Fair of the city of Miraflores.



To future:

The majority of people in Peru, including citizens in vulnerable situations, will have a device that sends alarm signals, warnings and evidence to local authorities, such as the police, firefighters, municipalities or hospitals. That is, they will have my invention. My invention has great exploration potential and I will add newer functions to it in the face of different circumstances where global security has not arrived, whether it is devices that withstand the weather or the conditions of the place where it is located to provide integral security.

I'll add new functions to my invention related to the proportion of safety and contribute to the tranquility of people's lives through technology.

I want to study my university undergraduate in a university and do what I am passionate about to make a great positive change in the world and contribute to human, social, technological and scientific development.

I will invent new security devices that combat citizen insecurity to achieve social and technological development and help vulnerable populations to develop by reducing serious insecurity problems.

Thank you