



THERMAL IMAGING SMARTPHONE CAN BE USED FOR TEMPERATURE SCREENING OF PEOPLE

Infectious and communicable medical conditions, including Covid-19, are easily spread where people congregate. But it can be tough to identify people exhibiting symptoms that cannot be seen, particularly fever.

The Cat S60, and its successor, the Cat S61 are the first smartphones with integrated thermal imaging cameras. Designed, engineered, and manufactured by the UK-based, market leading rugged device vendor, Bullitt Group, these products form part of the company's successful Cat phones range of brand-licensed products. The embedded FLIR Lepton thermal cameras have proven to be an indispensable tool in a host of contexts, from industrial to recreational.

All physical things, including people, radiate infrared energy. This can be detected by a thermal camera, with different surface temperatures visualised and represented as different colours on a display. The technology requires no natural light and does not require physical contact with the target to read temperature.

This makes thermal imaging an ideal technology for initial triage screening of groups or lines of people as they pass by a thermal camera, as elevated skin temperatures that could be the result of a fever will show up clearly as a contrasting colour on the display. This allows for individuals exhibiting elevated temperatures to be quickly identified with relative ease and without interaction, after which, additional information can be gathered or tests performed to ensure that the individual does not pose a risk to the health of others.



BENEFITS OF A SMARTPHONE SOLUTION

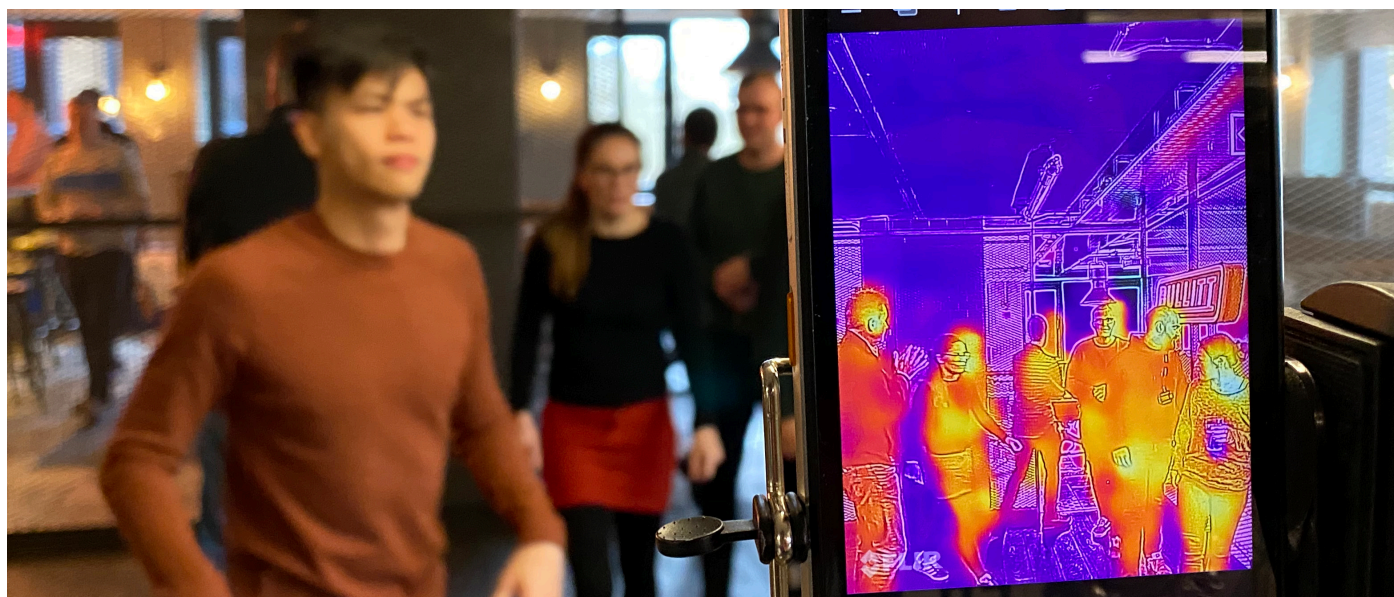
Though standalone thermal cameras are available, the thermal camera integrated into the Cat S61 and Cat S60 offers a number of key advantages:

1. Cat phones are military spec 'rugged' devices. This means they are tough and robust, making them suitable for use in any environment, indoors or outdoors. They are rigorously drop tested onto steel, tested in temperature extremes, resistant to scratches and damage, and built to survive.
2. They can be properly cleaned and disinfected periodically, or after use. The Cat S61 and Cat S60 are IP68 certified, meaning they are fully dust and dirt proof, and can be fully submerged in liquid. They can be cleaned with hot or cold water and soaps or detergents, or disinfected using alcohol gels.
3. They are connected devices. As smartphones, thermal imagery or other data collected can, where necessary, be shared, streamed or mirrored via USB connection, or via WiFi or cellular data connections.

KEY USE CASES

Thermal imaging screening can help by providing a first line of defence against individuals with communicable illnesses remaining unchecked, in close proximity to other people, by identifying those exhibiting an above average temperature. Any scenario in which controlled access is given to groups or streams of people – whether they are employees, authorised persons, or members of the public – can benefit from preventative temperature screening at entrances and exits.

- Companies should deploy thermal cameras in office buildings or on work sites to monitor workers as they enter, aiming to spot anyone showing signs of a fever. Places of business that customers visit such as shops, shopping centres and supermarkets, banks, hotels, libraries, gyms, and leisure centres, would similarly benefit from screening those entering the buildings.
- Schools, universities, and other educational institutions should use cameras to check students and staff for elevated temperatures as they enter campus buildings.
- Deployed in transport hubs like bus and train stations or airports, or on buses or trains themselves, thermal cameras would help in spotting people that might pose a risk to the health of others.
- Facilities such as prisons, as well as hospitals, care homes, and doctors' surgeries, should use the technology as an easy and non-invasive means of quickly spotting someone with a suspected fever.
- Police officers issued with thermal imaging devices would be able to check groups of people quickly and easily to spot anyone with an anomalously high temperature.



USING THE CAT S61 OR CAT S60 FOR TEMPERATURE SCREENING

The Cat S61 or Cat S60 are best used as one aspect of a wider temperature screening program, in which anomalies identified using the thermal camera can then be verified or explored further with the individual through additional questions, or by offering further checks or tests.

A Cat S61 or Cat S60 can be mounted on a tripod or stand and directed at a space through which people would be directed or required to pass through, ideally within 1.5 metres of the camera. The thermal camera can be configured with a fixed temperature range to ensure that anomalies stand out clearly from those within the expected range. This means that anyone passing the camera with an unusually high temperature, outside this defined normal range, will show up clearly as a contrasting high temperature colour.

For the additional safety of the operator, the thermal camera feed can be mirrored or streamed to a remote display. This can be done via USB cable connection to a laptop or tablet, or via a WiFi or cellular data connection.

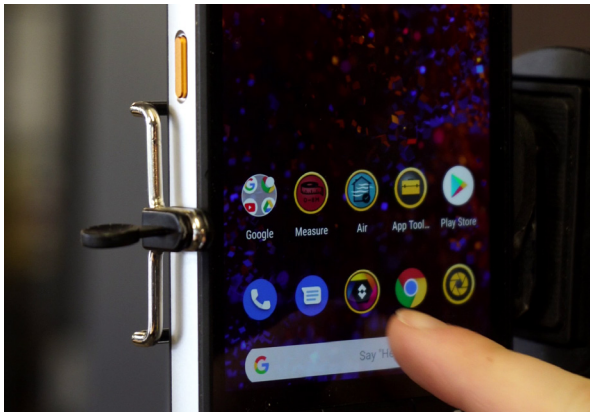
While this is not a technology best suited to taking precise measurements of individual's skin temperature due to environmental condition variables that can affect the accuracy of measurements, for screening groups of people to identify those with anomalously high temperatures, thermal imaging on mobile devices represents an effectual, affordable, scalable, and easily deployable solution.

CAT® S61

EASY TO USE MASS SCREENING DEVICE



ONE

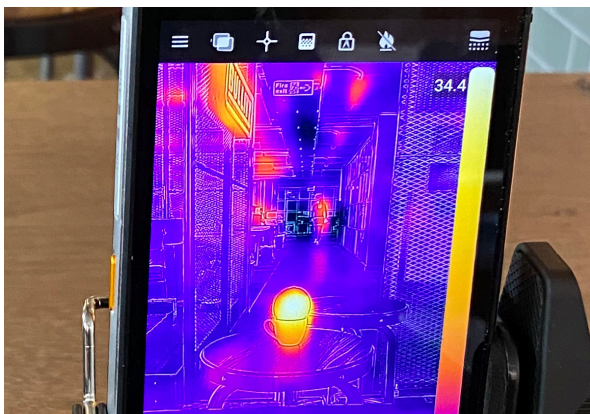


OPEN THE MYFLIR APP

Mount phone into monitoring location / tripod that will allow people to pass by at a maximum of 1.5m away facing the camera as straight on as possible.

Set colour palette to 'Iron' if it is not already selected.

TWO

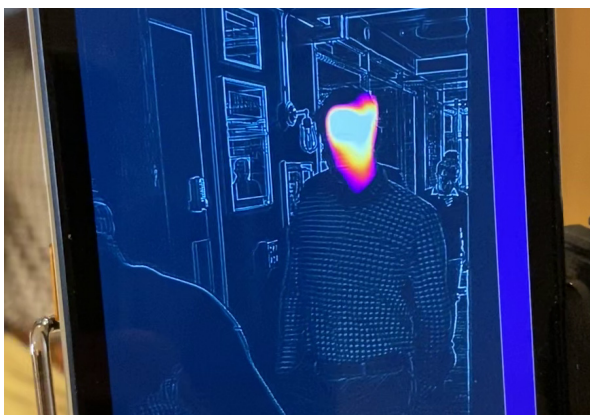


TAP THE CALIBRATE ICON

Tap the temperature gradient icon (fourth icon in from top left) so the visible temperature bar appears to the right of the screen.

(top right icon) – the sensor will now automatically calibrate.

THREE



TAP THE TOP TEMPERATURE

Enter 34°C or 93°F and tap the tick icon to confirm.

Tap the lower temperature at the bottom of the chart to edit and lock it. Enter 32°C or 89°F and tap the tick icon to confirm.

Wait for 2-3 minutes before use as the accuracy will increase as the sensor warms up.

The display will now only show temperatures between these two temperatures. Anything lower will be black, anything higher will be white. Anything showing up with a colour or white will be highlighting an elevated temperature.

