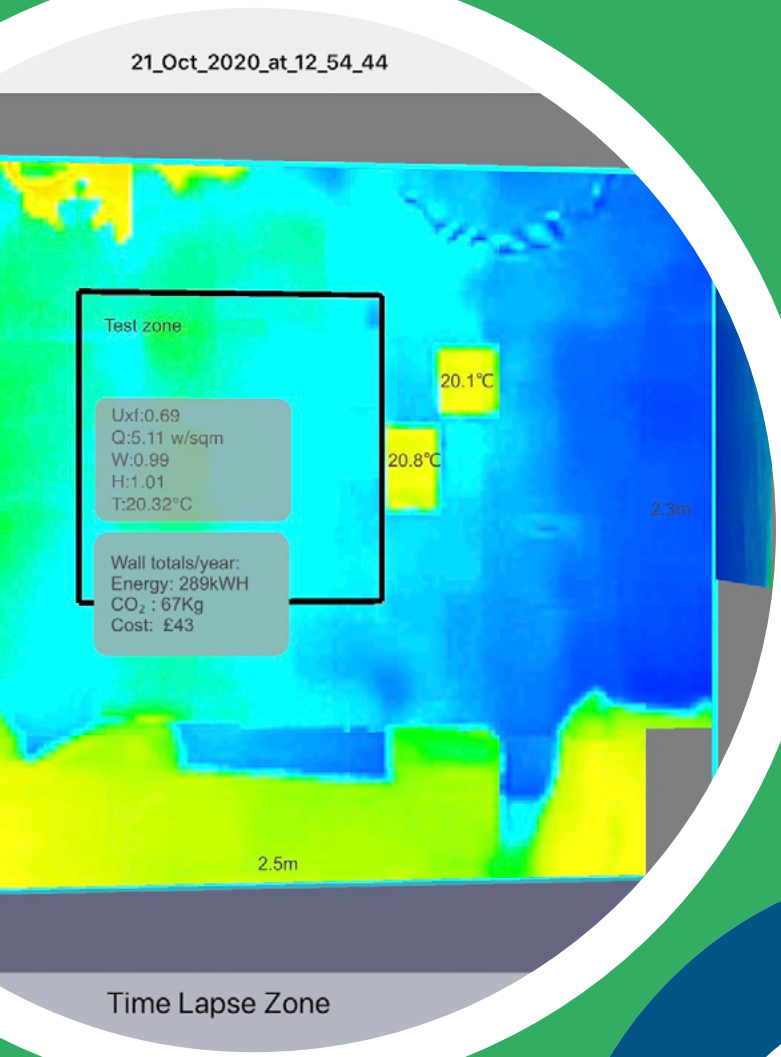
HEAT3D

RAPID U-VALUE
MEASUREMENT



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Heat3D is an innovative mobile app which allows you to precisely measure heat flow and U-values of building elements using a low-cost, quick and non-invasive method.

Heat3D is designed to work on iPhones and iPads and uses a portable thermal camera to obtain results in a matter of hours as opposed to days or weeks using traditional techniques. The rapid nature of the measurement enables quantified U-values that are more accurate than manual calculation methods.

Applications

As-Built Performance Measurement

Conduct quality assurance testing to check that desired outcomes are being achieved. Improve quality and save costs by identifying issues early to prevent late-stage remedial work.

Retrofit Performance Improvement

Quantify the baseline vs the actual delivered performance. Determine the true energy, running cost and CO_2 savings delivered by improvements.

Key Features

3D Model

The app produces a 3D model of the room being surveyed allowing you to inspect areas of interest later and quantify improvements.

Quick and Easy

The fast and intuitive app allow measurements to be carried out with minimal training and supervision.

Low Cost

Only requires a portable thermal camera and is significantly more affordable than traditional techniques that use expensive specialist equipment.

Energy Costs

Energy, running costs and CO_2 emissions of the heat loss area being measured which allows cost savings and RoI to be determined after improvements have been made.

Mobile Based

Works on wide range of iPhones and iPads and doesn't need lots of bulky additional equipment to be carried to site.

Cloud Based

All measurement and survey data are saved into the cloud.

Technology

The Heat3D iOS app uses Apple ARKit to detect room features such as walls, floors and ceilings and construct a 3D model. When combined with a FLIR portable camera, infrared thermal images are projected on to the 3D model showing the heat signature through each surface. Quantitative infrared thermography is used to calculate the heat loss through these surfaces and, using temperature sensors, a U-value is calculated and presented on the device.

Technical Specification

OVERVIEW	
Mobile Device	Apple iOS with GPS Basic: A9 processor, WiFi + Cellular Advanced: A10X processor, WiFi + Cellular
Thermal Camera	Basic: FLIR ONE iOS Advanced: FLIR ONE Pro iOS
Temperature Sensor	Blue Maestro Bluetooth Tempo Disc

OVERALL ACCURACY	
Physical Dimensions	±10mm
Heat Flow	±4 W/m²
Air Temperature	±0.5°C
Surface Temperature	±1°C

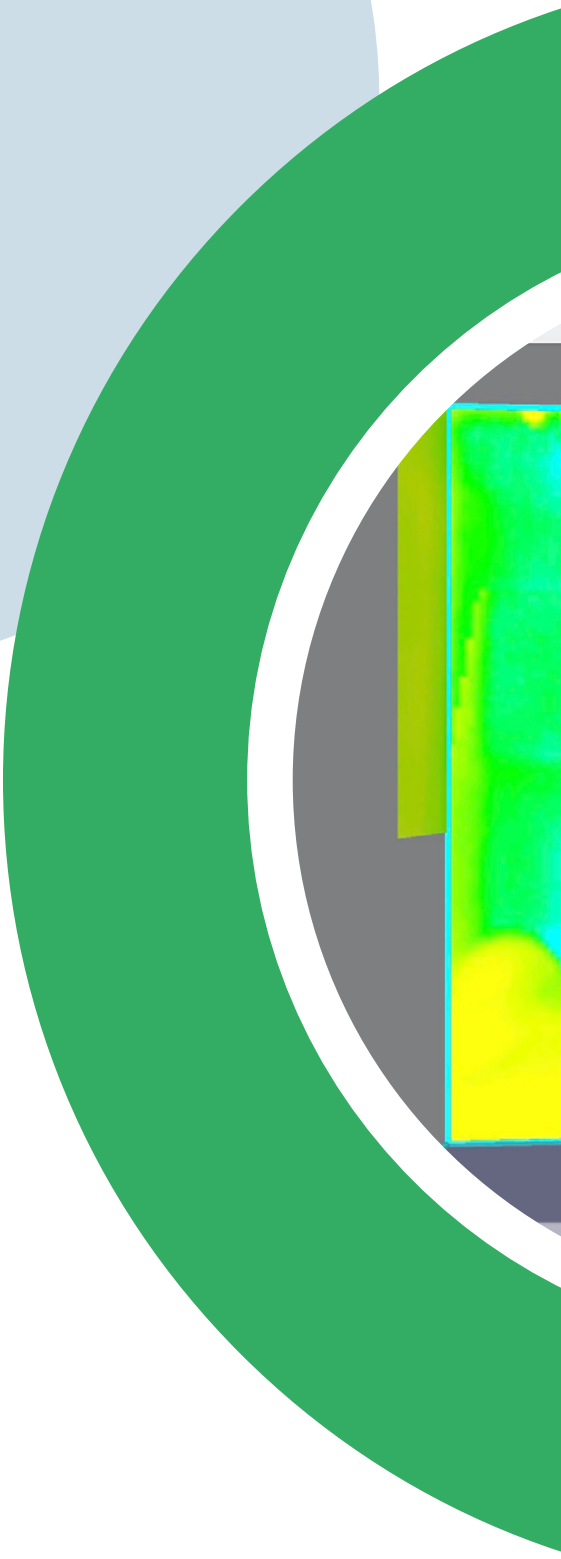
What's Included*

- FLIR One Pro thermal camera
- Tripod and device mounting solution
- Temperature targets
- Mono pole target mounting solution
- PID controller and portable heater

**Apple device not included*

THERMAL CAMERA	
Thermal Resolution	Basic: 80x60 (4,800 pixels) Advanced: 160x120 (19,200 pixels)
Thermal Accuracy	±3°C / ±5%
Thermal Sensitivity	Basic: 150mK Advanced: 70mK
Battery Charge Time	40 mins
Battery Life	Approximately 1 hour

THERMAL SENSOR	
Temperature Accuracy	Typical: ±0.3°C Maximum: ±0.4°C
Temperature Resolution	0.1°C



Contact

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