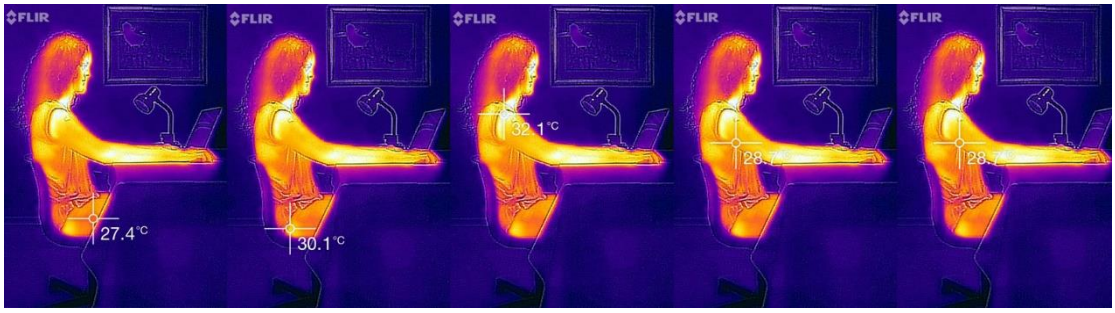
Visualization of Body-Posture in office environment

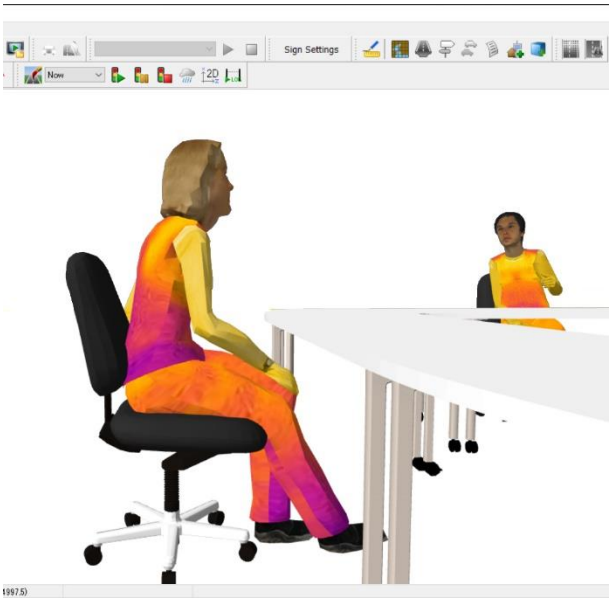
Ruth Ron- Senior Lecturer, Shenkar College of Design and Engineering, Israel

This research focuses on documenting and analyzing the posture and range of motion of office workers. Its goal is to visualize the factors that impact their comfort and well- being, and lead to better ergonomic design of the work space.

It explores the visualization of body posture in 2D and 3D, the use of "thermal photography" and VR models to improve data display. The research tests if thermal images of workers can expose relevant data. It examines the thermal images both as 2D and in 3D, by modeling, texturing and presenting it in UC-win/Road for real–time 3D visualization.



The research demonstrates the integration of 3D human-models into analysis and design process. It suggests that VR visualization of body posture can assist in ergonomic improvement of office spaces.



This research is part of Shenkar College of Design and Engineering Ergonomic and Motion Research Lab.

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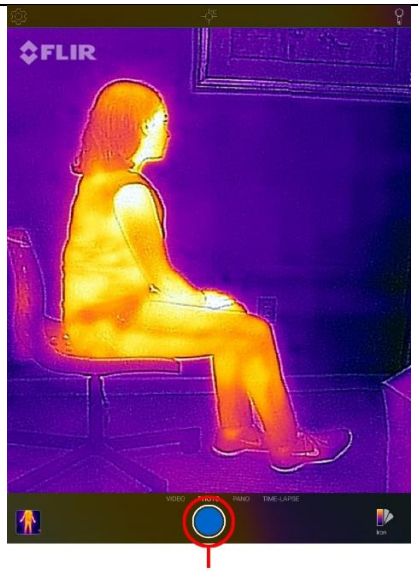
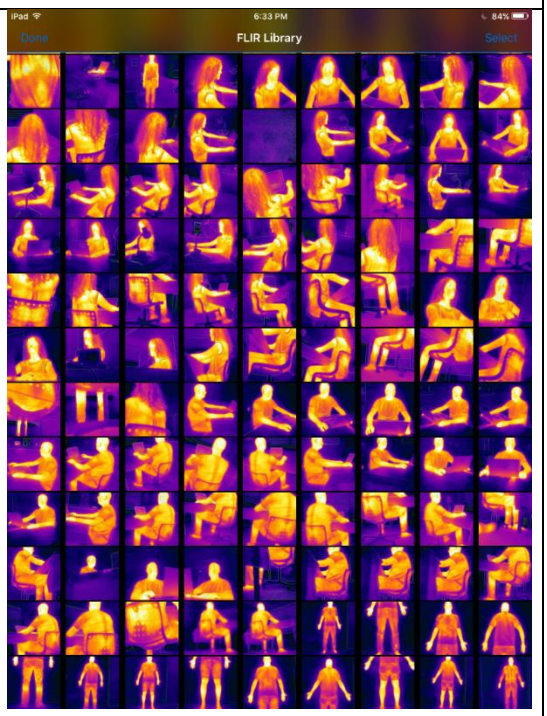
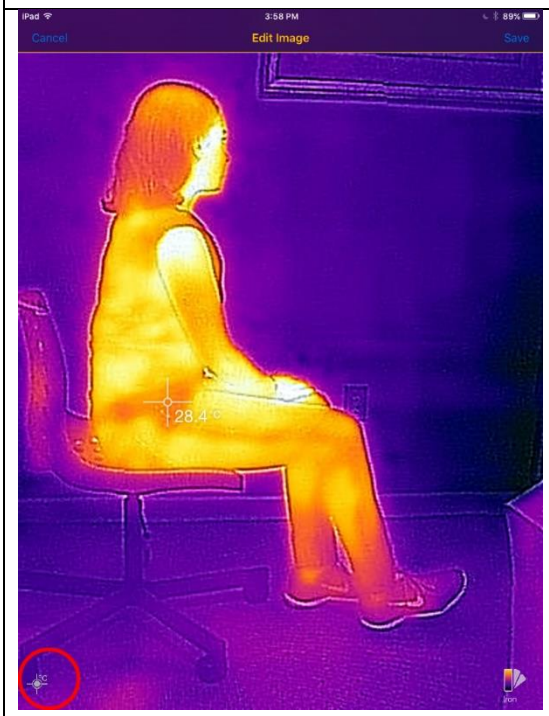
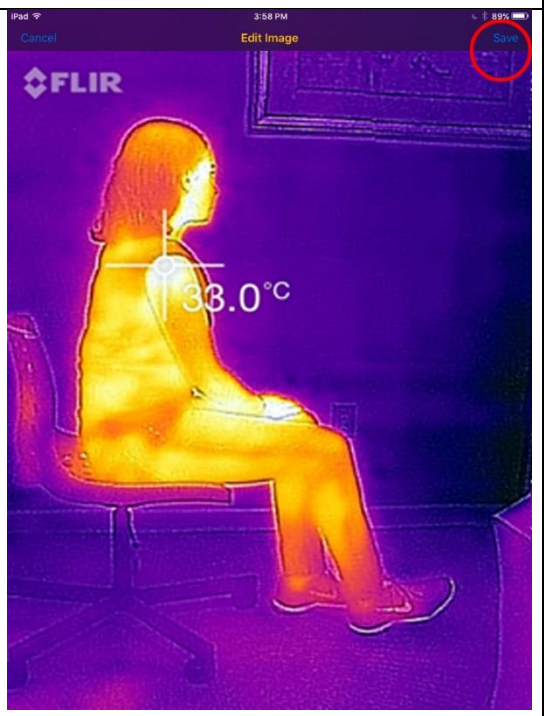
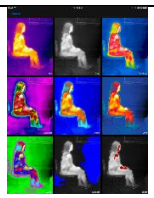
Thermal Photography tutorial with Flir-ONE camera

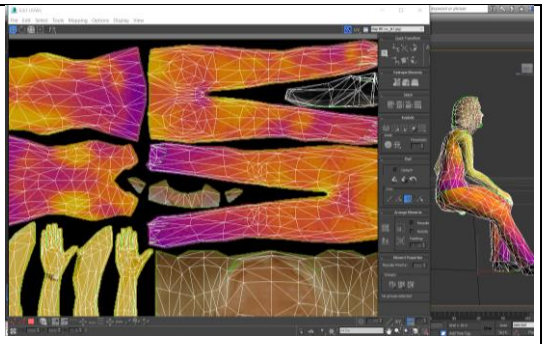
FLIR_ONE is a **Thermal Imaging Camera Attachment** (to Phone or Tablet)

FLIR ONE features both FLIR's revolutionary Lepton thermal camera and a VGA visible light camera. Using MSX Technology, FLIR ONE blends images from both cameras to create thermal images with enhanced detail and resolution.

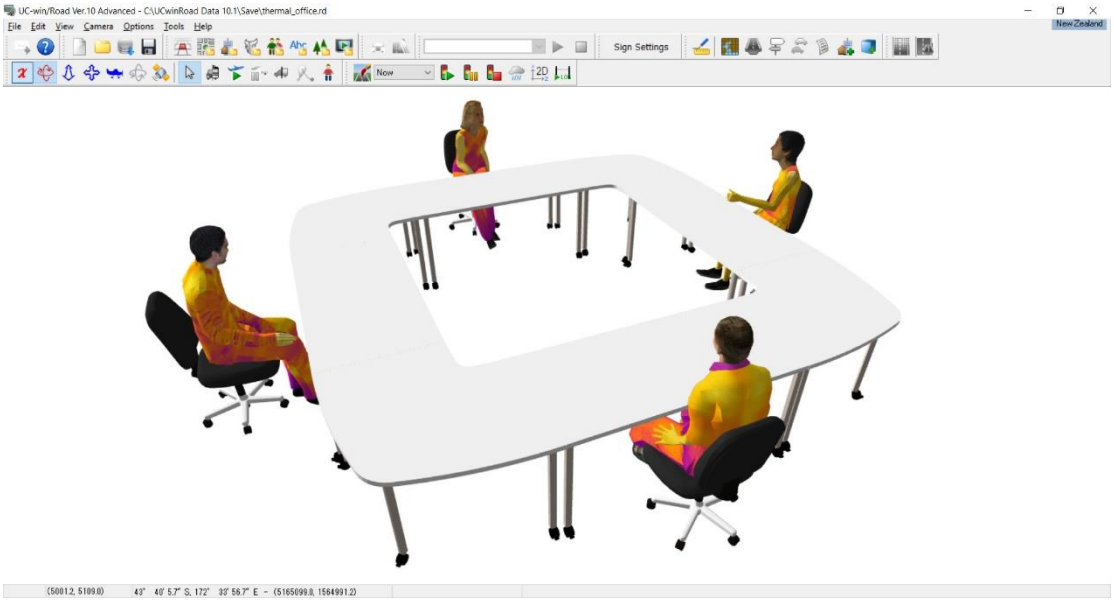
To photograph with Flir_ONE:

1. Charge the battery	
2. Download FLIR_ONE App: http://www.flir.com/flirone/display/?id=69356	
3. Connect camera to phone and turn-on the App and the camera 4. Take photos	

To find temperature data: Click on bottom icon to go to gallery	Pick a picture- click "EDIT"
	
Click on "temperature" right icon- click on point	Click "SAVE"
	
To change color pallet (B/W option)	 

Exploring multiple ways to map thermal-photography on a 3D character, Testing software and online tools	

Export to **UC-win/Road** as .3DS format. Upload 3DS into file and "ADD DETAIL" icon:



Future Sitting Posture Analysis

Using 3DSSPP software to analyze the posture, getting report on stress to skeleton and joints.

http://c4e.engin.umich.edu/tools-services/3dsspp-software/