Crowdsourcing an Infrared Street View

Citizen Scientists Survey Humanity's Last Line of Defense against Extreme Climates with Infrared Thermography

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The Infrared Street View Project aims to create an integrated formal-informal learning pathway that prepares youth with science knowledge and inquiry skills and entices them with opportunities to apply science to solve critical environmental problems. Learning in formal and informal settings is enhanced and connected with the same technology based on infrared thermography, a powerful method for visualizing heat flow and distribution in the real world. The Infrared Street View Project is the Winner of U.S. Department of Energy's 2016 JUMP Innovation Challenge for Smartphone Applications for Energy Efficiency, sponsored by the National Renewable Energy Laboratory and CLEAResult.
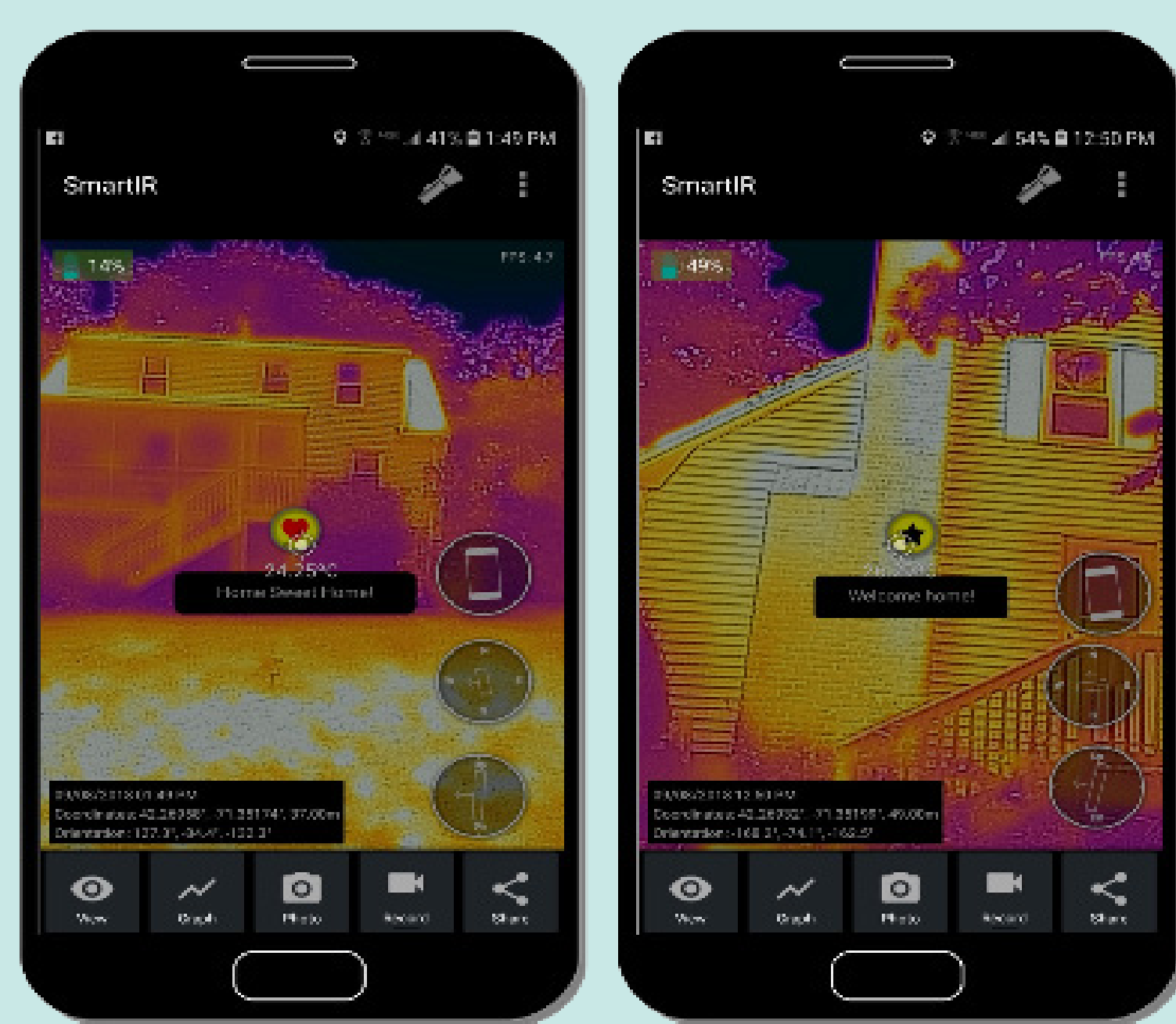
Four operational modes of the SmartIR app that support citizen science

Online Instruction
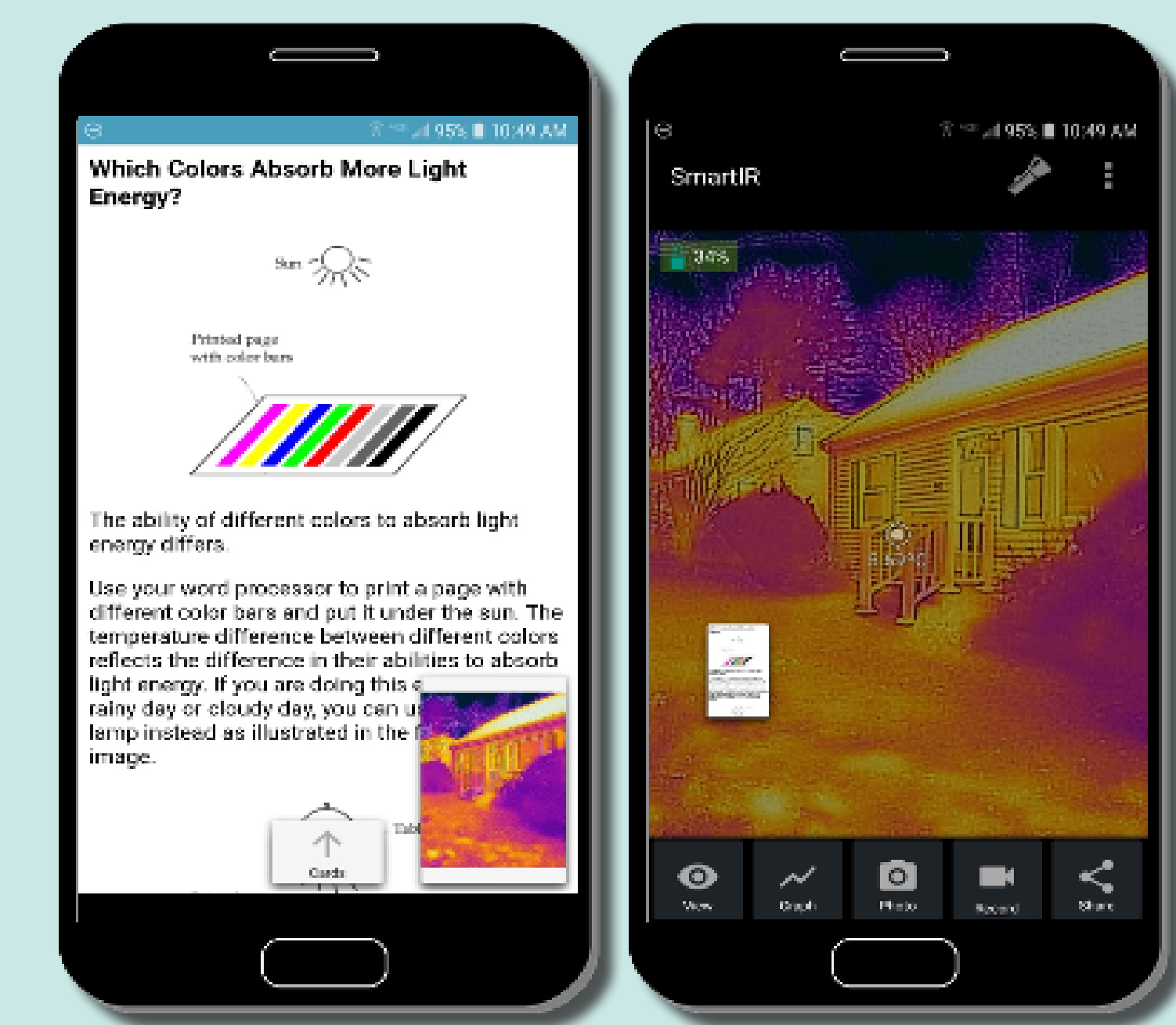
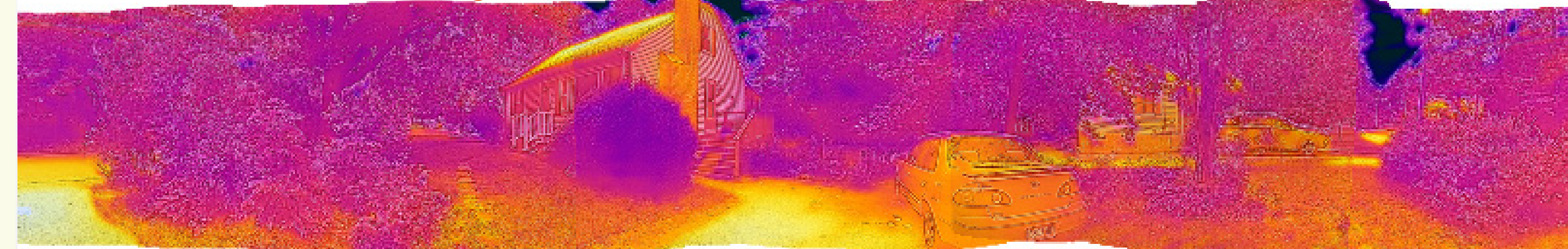### Augmented Reality

Panoramic Maker

Computer Vision

Panoramic view in visible light

Panoramic view in infrared light

Teacher Workshop (October, 2018)

Massachusetts pilot tests (planned for 2019)

Arlington High School, Belmont High School, & Winchester High School (formal-informal integration)
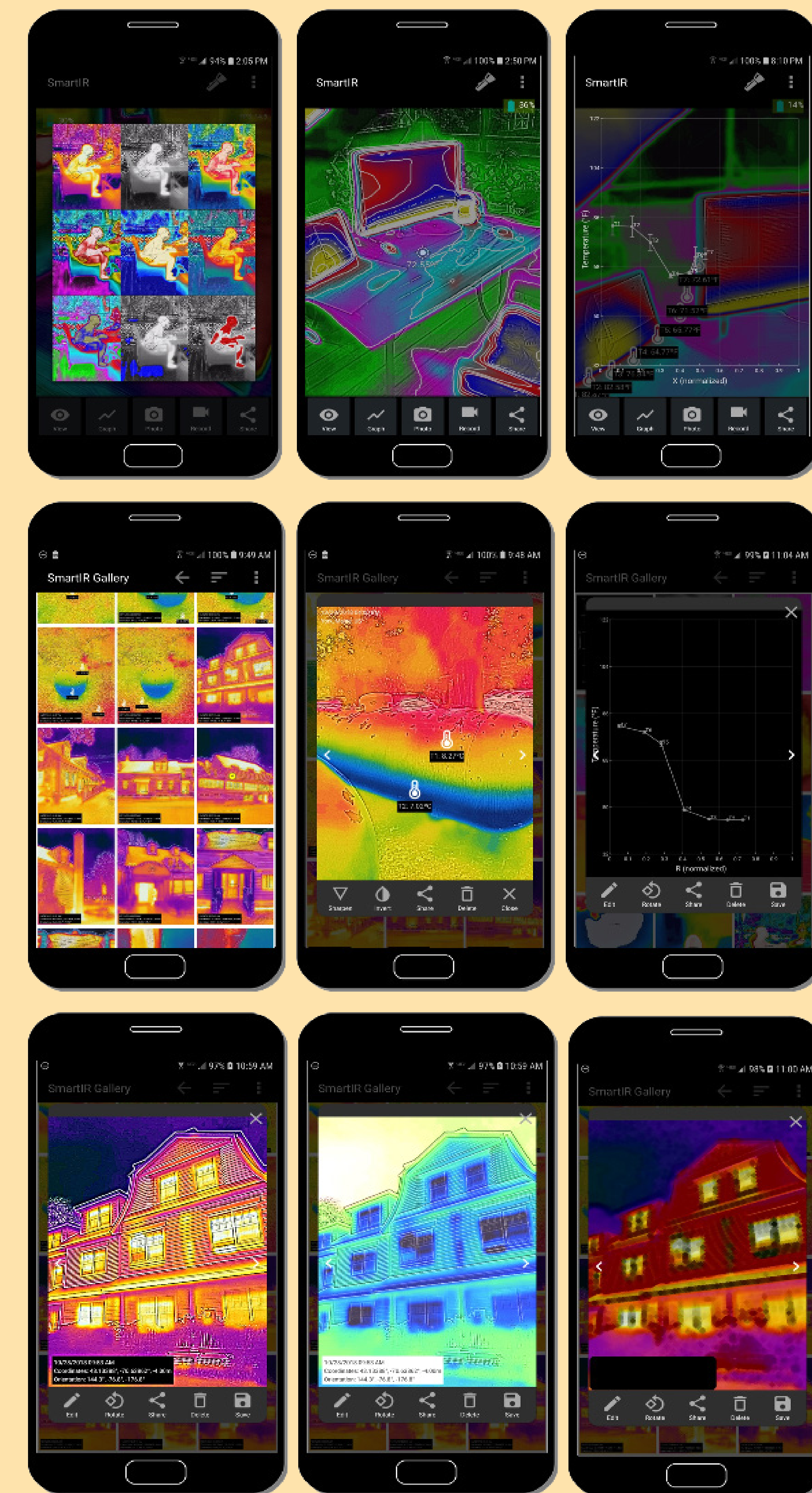
An integrated pathway

Formal
Informal

School: Students learn thermal science in the classroom with SmartIR.

Homework: Students use SmartIR to scan their own home or school buildings.

Citizen Science: Students conbribute images to crowdsource Infrared Street View.

Features of the SmartIR app

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NSF