Turning Old Smartphones into IP Cameras with Python

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Robotics Research with Prof. Dodds

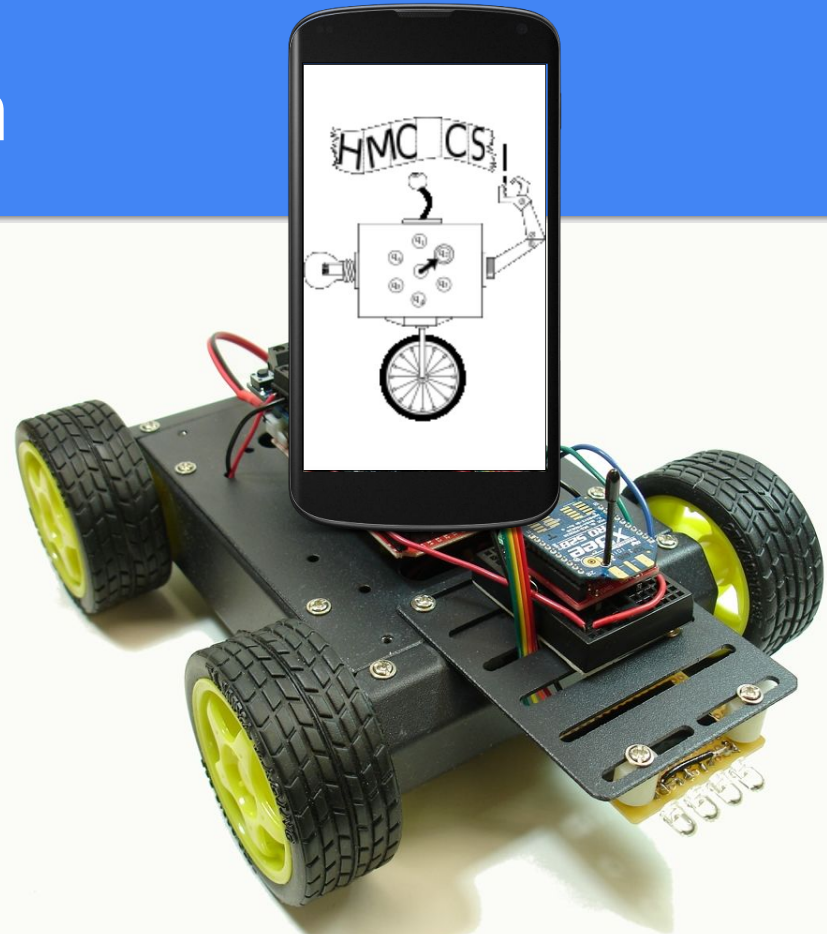Image processing & computer vision

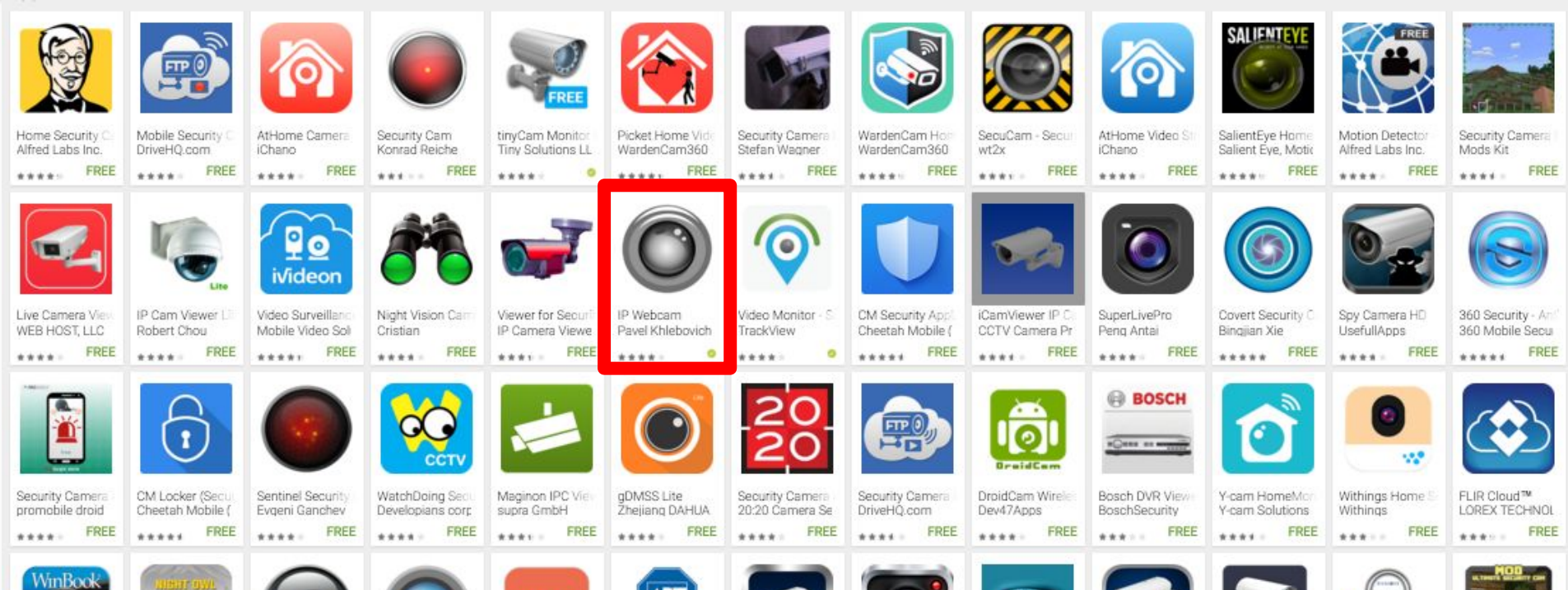Expand the system's functionality to a variety of accessible hardware

Summer 2016 Research

Image processing & computer vision tasks with old smartphones
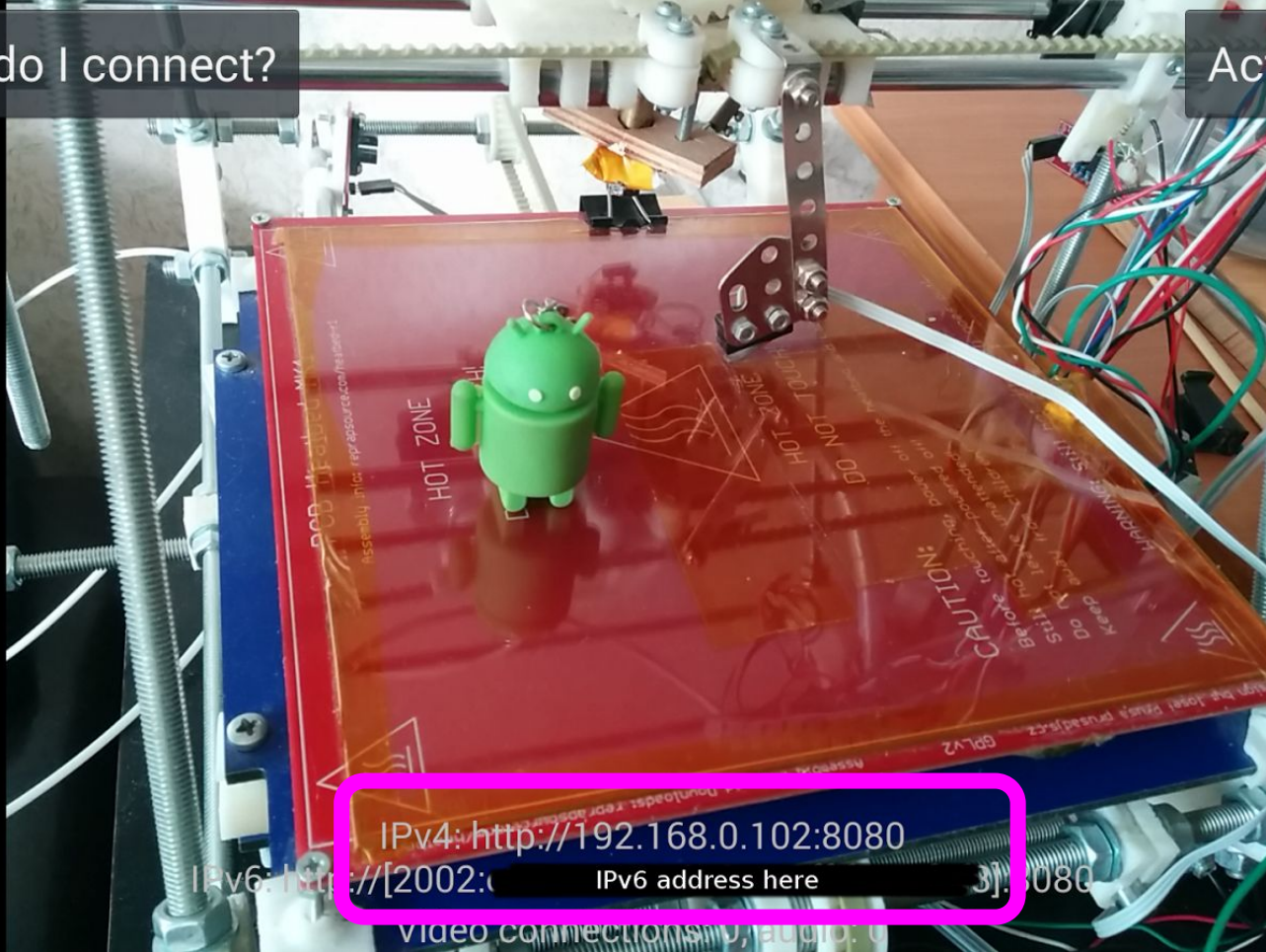
We want the smartphone to act like a webcam

In CS, never design what you can steal!

How do I connect?

Actions...

IPv4: http://192.168.0.102:8080

IPv6: http://[2002: IPv6 address here 3]:8080

Video connections: 0, audio: 0

IP Webcam App: send video feed to given IP address & Port 8080

System Overview

Demo

Questions?

Image Sources

Laptop on Roomba: https://www.researchgate.net/profile/Omair_Khan/publication/228774537/figure/fig1/AS:300888431317001@1448748800428/Figure-1-Apple-MacBook-laptop-mounted-on-top-of-an-iRobot-Create-The-MacBook-provides.png

RC vehicle: http://nootropicdesign.com/projectlab/wp-content/uploads/2012/02/roboticsPlatform.jpg

Android phone: http://io13-high-dpi.appspot.com/images/n4_large.png

HMC CS logo: https://www.cs.hmc.edu/style/cslogo_vector_2in.gif

Python logo: http://mall.rusrek.com/files/item_2658897.png

OpenCV logo: https://upload.wikimedia.org/wikipedia/commons/thumb/3/32/OpenCV_Logo_with_text_svg_version.svg/2000px-OpenCV_Logo_with_text_svg_version.svg.png