Turning Old Smartphones into IP Cameras with Python

Hannah Turk April 18, 2016

Robotics Research with Prof. Dodds

Image processing & computer vision

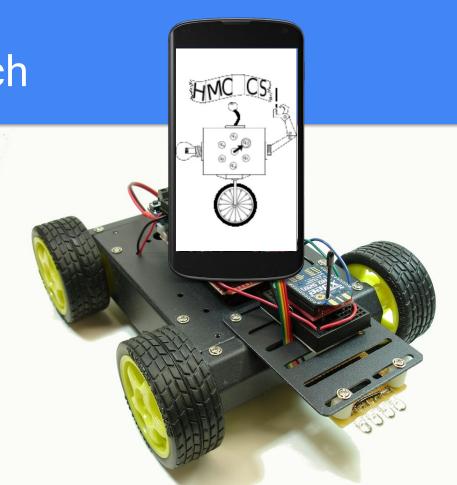
Expand the system's functionality to a variety of accessible hardware



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!



Home Security Alfred Labs Inc.



Mobile Security DriveH0.com



AtHome Camera Chano



Security Cam Konrad Reiche



tinyCam Monitor Tiny Solutions LL



Picket Home Vid

WardenCam360

Security Camera Stefan Wagner



WardenCam Hot SecuCam - Secur WardenCam360



AtHome Video St Chano



SalientEye Home Salient Eve. Motio



Motion Detector Alfred Labs Inc.



Mods Kit



Live Camera View WEB HOST, LLC



Robert Chou





Mobile Video Sol







Viewer for Securi IP Camera Viewe



IP Webcam Video Monitor Pavel Khlebovich TrackView



**** FREE

CM Security Appl Cheetah Mobile (



iCamViewer IP C CCTV Camera Pr





**** FREE



Spy Camera HD UsefullApps



360 Security - An 360 Mobile Secu **** FREE



Security Camera promobile droid



CM Locker (Secu Sentinel Security Cheetah Mobile (Evgeni Ganchev



Cristian

WatchDoing Sec Developians corp. **** FREE



Maginon IPC Viel

supra GmbH

gDMSS Lite Zheijang DAHUA **** FREE **** FREE



Security Camera 20:20 Camera Se **** FREE



Security Camera DriveHO.com



DroidCam Wirele Dev47Apps **** FREE



**** FREE

Pena Antai

Bosch DVR View BoschSecurity *** FREE



Y-cam HomeMo Withings Home 5 Y-cam Solutions Withings **** FREE



FLIR Cloud™ LOREX TECHNOL

































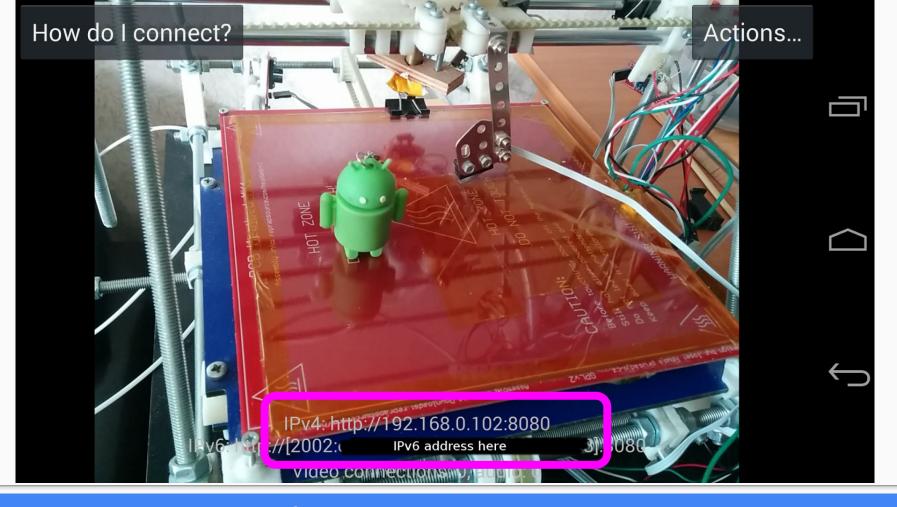












IP Webcam App: send video feed to given IP address & Port 8080

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.png