

Imaginary IoT Camera System

Threat modeling example target



An imaginary home surveillance IoT camera system

You are in the design phase - how to build security in?

Laptop for camera configuration

Home or small business network

Surveillance camera (no audio) © Nixu 2020 Acme.io corporate network

New software versions monitoring

Uploading videos to cloud (username and password)

Local temporary storing of videos

- WLAN access
- Browser-based UI for configuration (rotating camera, cloud account name and password, network settings)

Acme.io server cloud service

Remote storage of videos

Database

Viewing videos

Login with username and password

Any Internetconnected browser



Viewing videos stored in cloud



Application

What threats can you find from the video cloud access?

- Camera owners can view the videos recorded by their home surveillance camera also while travelling or when at work
- Using a browser, they simply login to their Acme.io cloud account
- Authentication with username and password

Acme.io cloud service

• The own

Any internetconnected browser

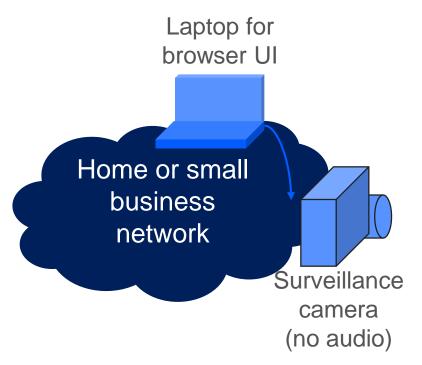


- The owner of the camera can watch videos uploaded by the home camera
- Login with username and password
- Anywhere in the world



What threats can you find from the camera features?

- Camera is connected to the home network with WI AN or Ethernet cable
- Camera has a web-based configuration interface
 - Network settings
 - Camera UI username and password
 - Rotating the camera
 - Video storage options (cloud account username and password, how many days the videos are kept before removal)
 - Updating firmware
- Recorded videos are stored temporarily on the device until storage limit is reached
 - Videos are uploaded to cloud when there's internet connectivity



- Local temporary storing of videos
- WLAN access
- Browser-based UI for configuration (rotating camera, cloud account name and password, network settings)

What threats can you find from development and operations?

- Drew is a new developer and is not familiar with all procedures yet
- Olive has been in the operations for ages and does not like the job
- SSH remote access to the servers

