Automated Safety System and Smart Phone Application

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I would like to build an automated safety system using a Raspberry Pi along with the following sensors modules:

- Smoke detector
- Carbon monoxide reader
- Temperature and humidity sensor
- Nitrous oxide sensor
- Infrared motion sensor
- HD camera.

These sensor would provide real time data to an Android application which can notify the user of any household issues such as high levels of smoke/carbon monoxide/nitrous oxide, activity when the house should be vacant, a live video stream from the camera and still images on demand, as well as provide arbitrary data on temperature, humidity and air quality levels.

I would also develop a web interface utilizing the accumulated data, giving statistics on air quality over a number of weeks. The Raspberry Pi should provide enough computational overhead to allow for the sensor input retrieval, it's processing and storage, in parallel with a lightweight web server, NGINX or Lighttpd.

I would use Python for I/O handling of the sensor data, and the Django Framework for building the web interface. For the Android application, I

would like to use the latest API version 21, which is to be fully released in the next few months, but a developer preview is currently available.

If time limits allow, I would also like to develop an Android smartwatch companion application to compliment the phone app.