

## Security Camera System Using Raspberry Pi

### *Overview of the Project:*

- A USB webcam connected to a powered USB hub connected to a Raspberry Pi will supply a video feed.
- Running the Raspbian OS for the RPi, multiple video streams will be viewable from any web browser (on any network).
- As this is a security camera system, security will be ensured via SSL (Secure Socket Layer) protocol to prevent unwanted access to the video stream.

### *Some Specifics (subject to change):*

- Based on compiled lists of peripherals that are compatible with the RPi (and specifically Raspbian), the webcam used will be a Logitech Webcam C300 - 1.3MP
  - Relatively inexpensive, USB, compatible, and can run on multiple resolutions (max 1280x1024).
- A package named “motion” allows the streaming of video to a web server. It takes pictures at short intervals whenever motion is detected in the feed.
  - Can be accessed via web browser by entering the hostname (IP) and port (default 8081). Settings such as frame rate and resolution can be easily adjusted.
- Also experimenting with “mjpeg-streamer”, supposedly allows for higher frame rate/resolution with a shorter delay in the stream in addition to reducing stress on CPU.
  - Could be used in conjunction with something such as VLC, but this would most likely cause a large delay.
- There is also the issue of port forwarding on the school’s network. This would allow access to the stream from somewhere other than the home network.