CS 2720 Software Engineering
Team Risk Assessment
Team 4
March 9, 2012

1. Getting Webcam feed-
    - We have discovered a few libraries that will help with this. The first being the Python Imaging Library. The other helpful library is called VideoCapture, for python. We have successfully retrieved images from multiple webcams, and have saved them as .jpg files.
    - VideoCapture is compatible with different types of webcams. The RocketFish webcam we were provided with and a built-in webcam on an HP laptop. Compatibility is not something we are necessarily striving for, but is a bonus of this library so far.
2. Motion Detection-
    - The motion detection risk has been somewhat alleviated. We have found a Python library that will detect motion, given two images. This library file is called Motion.py. We have successfully detected motion with a webcam feed through consecutive image comparisons with Motion.py, and we have considered this to be a very viable option for our security software.
    - Motion.py is also capable of computing thresholds. This has been minimally tested, but seems to work.
3. Email Integration-
    - The core Python programming language provides a library “smtplib” for handling SMTP protocol communication. This includes the sending of email messages.
    - An email mock-up has been created as a layout for the emails VSAS will send. This was shown at the last interview with the customer.
    - For code, see file titled ”email_testScript_RiskAssessment.py” for test script used to create email.
    - Code imports language integrated smtplib file, sets up the header and body sections of email through simple variable bindings. Then smtp object methods take care of the rest of the work for us. The only other configuration needed was for team to create email address that will be used for all email sending.
4. Online Hosting Provider Integration-
    - Dropbox Python API will be used in process of uploading recorded motion detection footage. Link to video will then be emailed to end user.
    - The ability to upload files to a Dropbox account has been accomplished. After file is uploaded, a link to the file is returned for user to view video file online. All tasks are completely automated in Python.
    - Test script code has been provided in the following two attached files: “dropbox_requestToken.py” and “dropbox_sessionUploader.py”
5. GUI-
    - We have created a prototype GUI for VSAS already. This was done with TkInter, and the Python Imaging Library. This GUI had buttons that are capable of

activating events when pressed. An image displayed in the frame. We are still unsure about how this will integrate with our motion detecting system, but we are confident that we can get it working.