Dept of Computer Science and Information Systems

BSc Final Year Project Form (2015/2016)

1. Proposal

The student should complete parts 1(a), 1(b) and 1(c) below, and then agree the maximum pocket values with the supervisor and put these in part 2(a) below. An electronic version of this form should be uploaded to the Final Year Project page on Moodle no later than **Monday 2nd November 2015**.

(a) Student details

Name: **Email:**	**Project BSc Computing (COIY039S6)**

(b) Project details

Title: IP camera home security system
Objectives: Create a program to consume video from an IP camera Create a website which a user can sign in to (using social media third party logon) Allow the user to stream real time footage Save video to a server to allow the user to review past footage Implement motion sensor functionality which alerts the user on movement
Description: Design a low cost home surveillance system using an IP camera(s). The program will detect and connect to IP cameras on the LAN. The footage will be streamed and saved in video format for later viewing. The program will monitor feeds in real time to determine whether any movement is happening with the video. The sensor will be benchmarked and tested and will aim to detect the difference between natural movement in the video, such as wind or light changes, and actual movement. The program will log any movements and provide alerting. I will create a website that will support Facebook or Twitter authentication. The website will allow the user to configure and control many elements of the system (such as altering preferences and motion sensor sensitivity).

Title:
IP camera home security system

Method:

The elements of my system will be built and tested in isolation with portability a key concern. The system should allow for adding another alerting system (such as SMS) simple. I will use test driven development at all times.

I will try and avoid using pre-built libraries wherever possible. Although I will of course require the use of low level libraries, such as being able to parse an image, I will try to design aspects like the motion sensor using my own code and methodology.

I will connect to and control the IP camera(s) using the SDK provided by the manufacturer.

Work plan:

1. Connect to IP camera using SDK
2. Stream video, save video and stills
3. Create, test and benchmark motion sensor functionality
4. Design website
5. Integrate and test

College equipment required:

Web server

(c) Supervisor details

Name:	**Date agreed:**