Term Project

1   Introduction:

The purpose of the term project is to practice embedded application development. There are various I/O interfaces on the E9V3 board, you need to use some of these interfaces to develop an application. The basic requirement is to get input, process it, and generate an output that may be used for a certain predefined purpose. For example, taking a video signal, processing it, and do something based on the processed result. In this project, you need to implement a system that performs object detection task.

2   Requirements:

2.1   Successful and accurate identification of items. (50%)

1 kind	25 points
3 kinds	30 points
5 kinds	35 points
7 kinds	40 points
9 kinds and more	50 points

2.2   Performance: Class-wide ranking, utilization of 5 or more kinds of items identification is required for performance comparison. (25%)

2.3   Utilization of a camera for real-time identification of items: identification of keyboard, mouse and screen; identification of one kind at the same time earns 5 points, two kinds earn 10 points, three kinds earn 15 points. (15%)

2.4   Report. (10%)

You also need to hand in a project report (either in English or Chinese) that describes your system, including how you implement object detection on the board, same as Lab5. It does not need many pages but should be concise and easy to understand by readers.

2.5   Upload your source code to E3.

3   Notes:

3.1   We will provide an image for you to test your program, but use a different one to demo. It is also recommended to save the resulting image in the SD card.

3.2   For **Requirement 2.3**, you need to display the result on the monitor (HDMI

or LCD).

3.3 You can prepare different programs for each requirement.

3.4 Deadline: 12/28