Deliverables

Sensors and Control for Mechatronic Systems (University of Technology Sydney)

Deliverables

At the end of this project, our team would deliver an eye-in-hand, or end-point closed-loop control program which will be coded using various programming skills such as MATLAB/C++ programming, image processing, visual servoing.

This program will do:

- User can pick an object(design or patter) in the image
- Calculate the position of the camera
- Calculate the position of object in the image
- Calculate linear and angular components to the object in camera's point of view
- Display which direction (angular, linear) the camera should move on the screen
- Keep updating the position of camera and objects

This project we will be delivered using laptop webcams as a visual servoing camera, and objects with simple shape (ball or square) to be an object in the image. To use this program, user will pick an object in the image and algorithms and calculation will determine where the image is, and also calculate the direction to the object displaying it with some indication to the target object.

The project can be further developed to make eye in hand system where robotic arm can rely on camera attached to it's end to find and pick up an object.