

Massachusetts Institute of Technology
Department of Electrical Engineering and Computer Science
6.111 - Introductory Digital Systems Laboratory (Spring 2007)
Final Project (1984: An Object Tracking Surveillance System) Check Off Sheet

Student Names: Lyric Doshi and Rob Crowell

TA Signature/Date:

Be Able to Demonstrate Your Working Final Project

- Track laser pointer after it has been acquired
- Obtain and track a target when the laser pointer is turned off

Rob Must Be Able to Demonstrate

- Decode the NTSC signal (detect SAV, field #, blanking) and produce a 24-bit YCrCb signal
- Demonstrate a ZBT controller clocked 2x that simulates a dual port RAM supporting either two reads or a read and a write in a single clock cycle
- Demonstrate a VGA controller that displays a crosshair overlaid on the image stored in ZBT

Lyric Must Be Able to Demonstrate

- Show the servo moving the camera back and forth
- Demonstrate a working particle filter:
 - Show that particles are updated correctly based on their velocity and location
 - Show that new particles are spawned to replace dead ones such that there are always 169 particles alive
- Detect the presence of a red laser when it appears within a designated box drawn on the VGA display
- Obtain a target by capturing pixels around the laser pointer's last location when it is turned off