

6.111 Project Abstract + Proposal

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Abstract

We propose to implement a computer vision pipeline for motion tracking. This pipeline will read input from a camera, extract features relevant to object detection, and display the results on a VGA monitor. Our approach will use traditional computer vision features - hue histograms, FAST keypoints¹, etc. - as opposed to modern convolutional neural networks due to time and resource constraints. The basic user experience is as follows: the user presses a button and a box appears on the screen - the user holds an arbitrary object in front of the camera so that it shows up in the box. When the button is released, the user can move the object around and the box will follow its motion. Additional optional enhancements include features such as multiple object tracking and movement-triggered events (i.e. virtual whiteboards).

¹ https://en.wikipedia.org/wiki/Features_from_accelerated_segment_test