

## Public Abstract

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Graduation Term: SP 2012

Department: Computer Science

Degree: MS

Title: INTERACTIVE WEB-BASED TRACK EDITING AND MANAGEMENT

Image and video analysis is the process of extracting useful information from an image. With advances in **optical** and computational technologies, image and video analysis is becoming an increasingly important tool in biological, medical and defense applications. **Motion** characteristics and behaviors of objects can be studied from image sequences, such as the spatio-temporal behavior of cells and organisms in microscopy videos or vehicles and people in surveillance videos. Manual supervised and automatic object tracking are used to study migration, lineage, cellular events and population scale dynamics in microscopy applications and multi-target behavior in defense applications. FireFly is a rich multimedia web-based tool based on Adobe Flash and Flex with server side PHP and MySQL, for managing image collections, collaborative ground truth generation, manual and supervised analysis of images and video including labeling, annotation, ground truthing, algorithm output inspection, comparison and correction, etc. The main objective of this project is to extend FireFly and add interactive editing and updating tracking information by automatically propagating the track information to upstream and downstream frames in the annotation/ video event database.