MCGILL UNIVERSITY

DEPARTMENT OF ELECTRICAL & COMPUTER ENGINEERING

ECSE 457 - FINAL REPORT

Research & Development of a Real-Time Object Tracking System

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ANALOG DEVICES

Abstract

Hello World

Acknowledgments

Hello World

Contents

1 Abbreviations & Notation

FPGA - Field Programmable Gate Array

VGA - Video Graphics Array

2 Introduction

Hello World

3 Background

This section contains the prerequisite information regarding video tracking needed to understand the system architecture and design. For background information regarding the basics of video processing, Kalman filtering, fixed-point representation, and optical flow, please see [15].

3.1 Determining Position

The algorithm implemented in software, and presented in [15], for determining the (x, y) position of an object in the delta frame used a rastor scan technique to determine the leftmost, rightmost, top, and bottom pixels. By intersecting two lines formed between these points, the center of the object can be estimated. It was found that despite the success of this algorithm in software, it would not be conducive to hardware implementation.

3.2 Video Pipeline

Describe a video pipeline and common components.

3.3 The VGA Interface

Discuss the timing signals

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Appendices