02207 : Advanced Digital Design Techniques

Low-pass Filter (2 x 1-D)

Examination Project

Group *dt07*

Markku Eerola (s053739)

Rajesh Bachani (s061332)

Josep Renard (s071158)

December 9, 2007

Contents

1 Introduction

The project that we have implemented is a 2x1D filter of size 3x3 for convolution of an image of size 256x256 pixels.

2 Design Architecture

3 Sequencing of Operations

3.1 Memory Initialization

3.2 Memory Read and Write by Processor

3.3 Memory Access Sequence

4 Finite State Machines

4.1 Input Controller

4.2 Output Controller

5 Synthesis

6 Results

7 Discussion