
FPGA Air Brush

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Overview



In one sentence...

We are creating a hardware-based drawing application which used human hand gestures as inputs to control the position and stroke style of a simulated paint brush.

Features

Default Features

X & Y Position
Tracking

Erase

Save / Load
Drawing

Brush
Thickness

Brush Color

Later Implementation

Brush Opacity

Sprite Strokes

Easter Egg
Game

Multi-Player

Overview

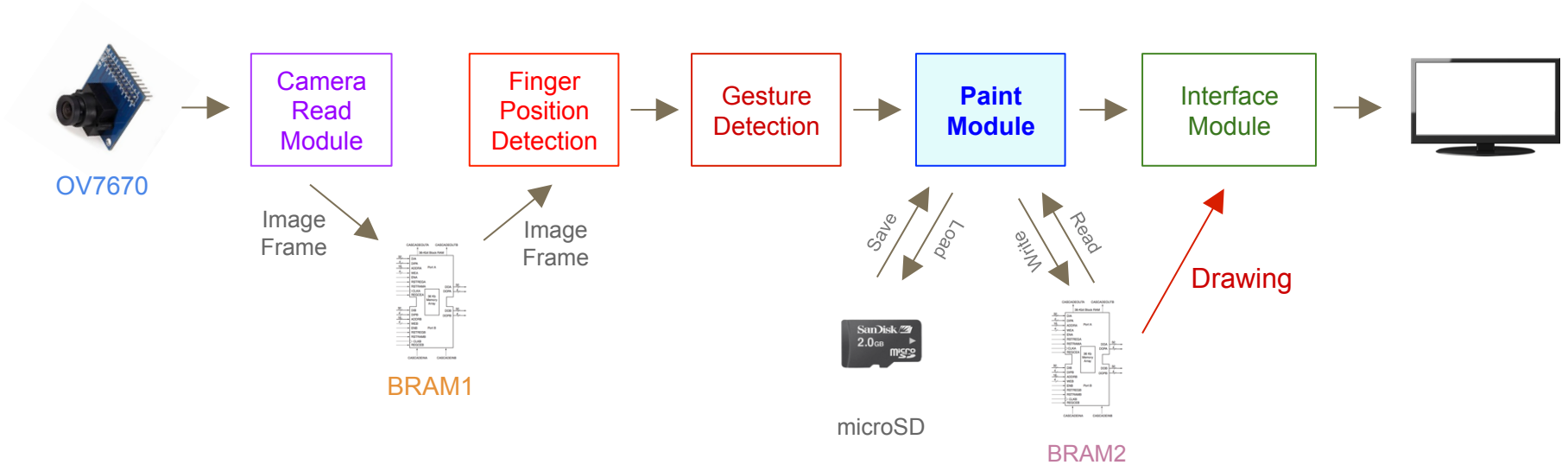
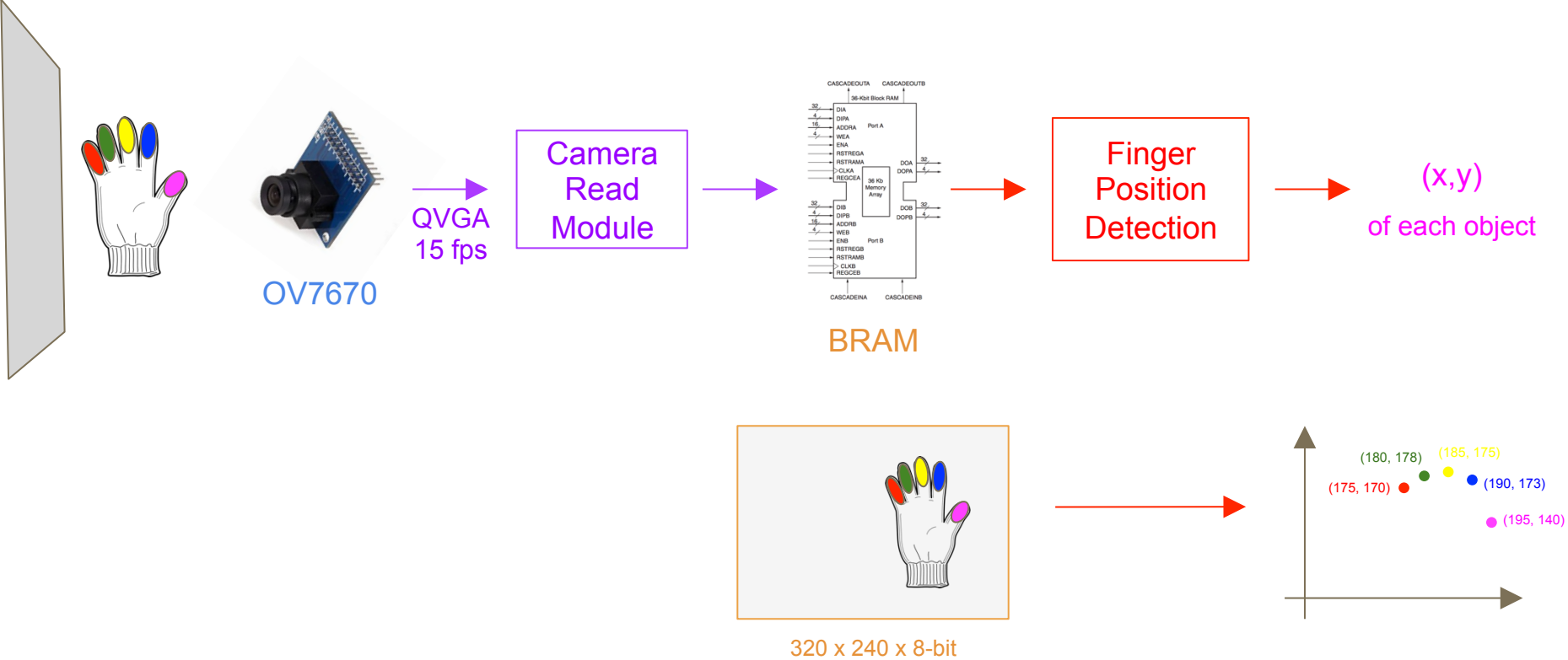


Image Processing

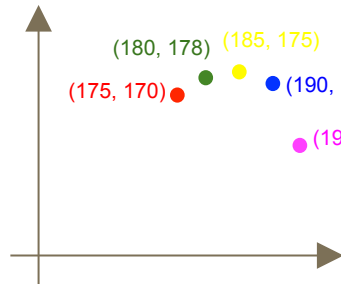


Gesture Detection

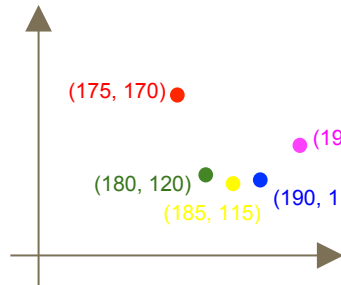
(x,y)
of each object

Gesture
Detection

Command
(X-coor, Y-coor)



Draw
(180, 178)



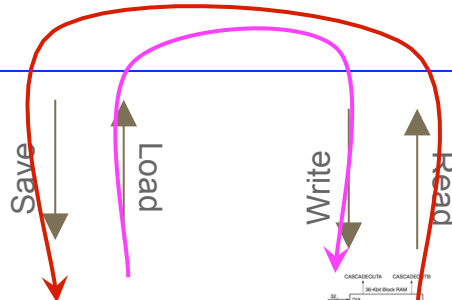
Save
(180, 120)

Paint Module

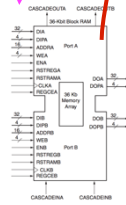
Command
(X-coor, Y-coor)



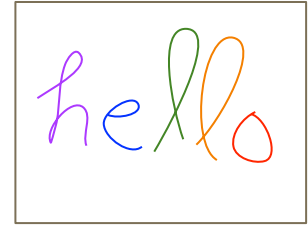
Parameters
(thickness, color)



microSD



BRAM



Drawing

Graphical Interface

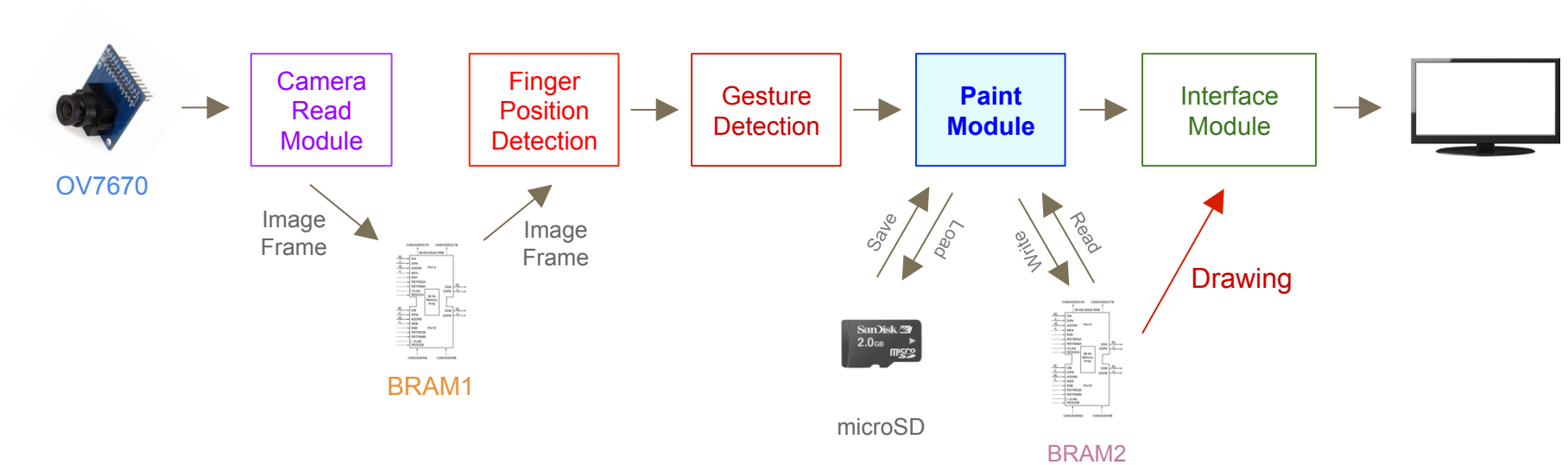
Parameters



Drawing
from BRAM



AirBrush 1.0



Demo

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