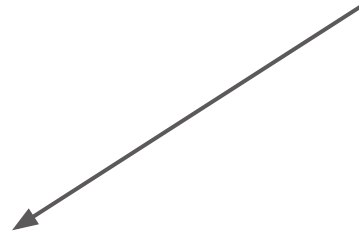


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# Target Hunter - The Best Game for Hicks



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Austin & Casey

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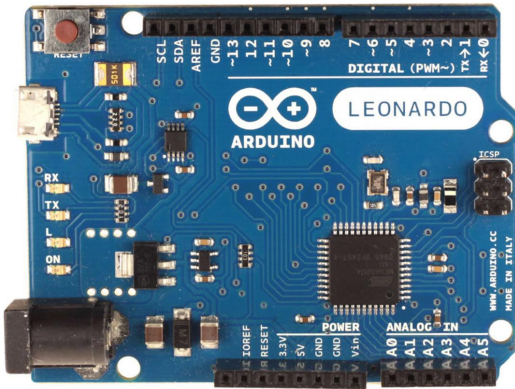
# An Overview

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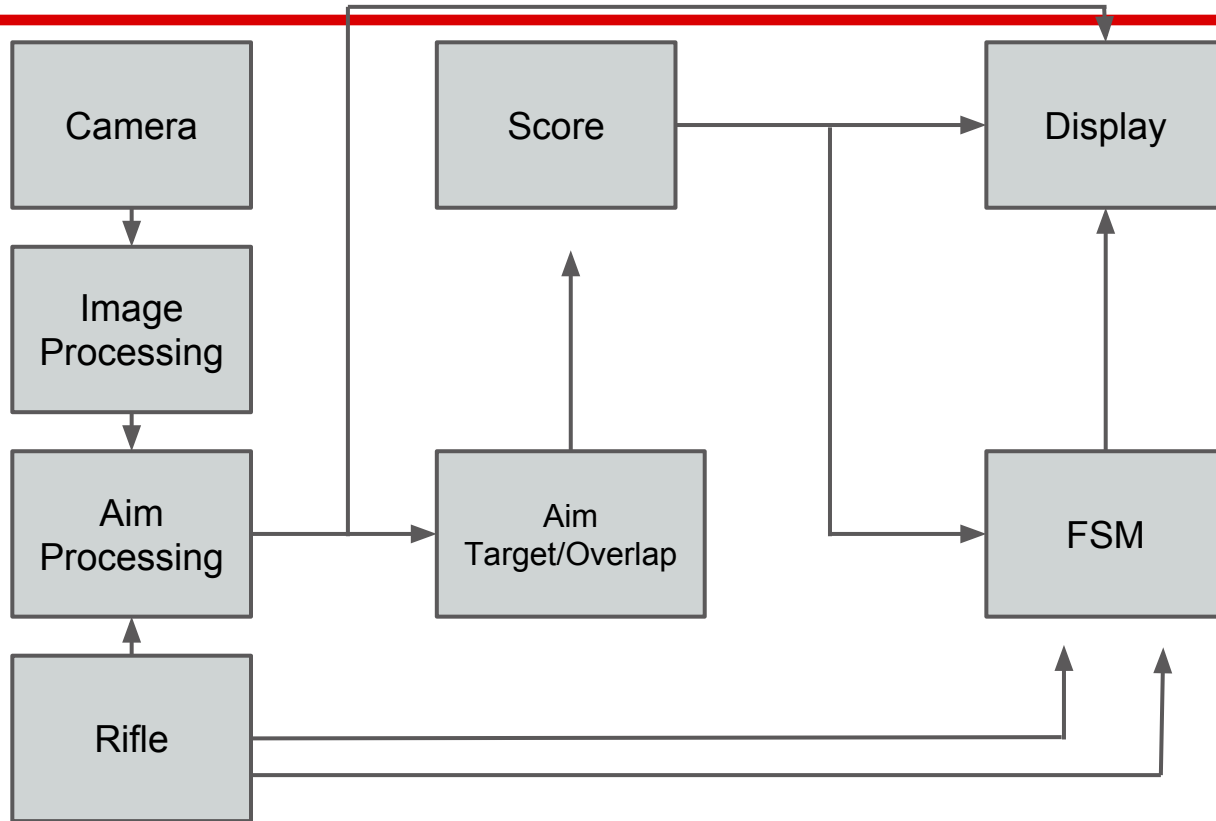


# The Breakdown

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# The Block Diagram



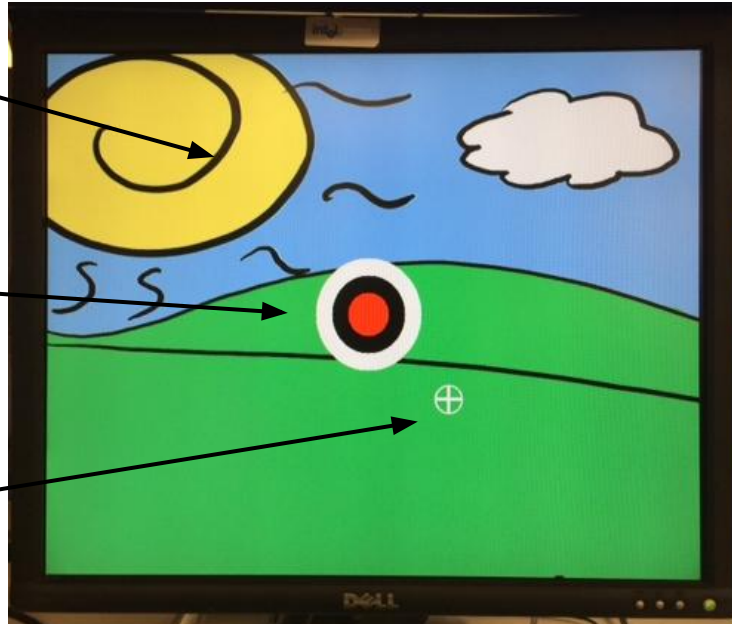
# The Display Module

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Background Image  
from BRAM

Target Sprite

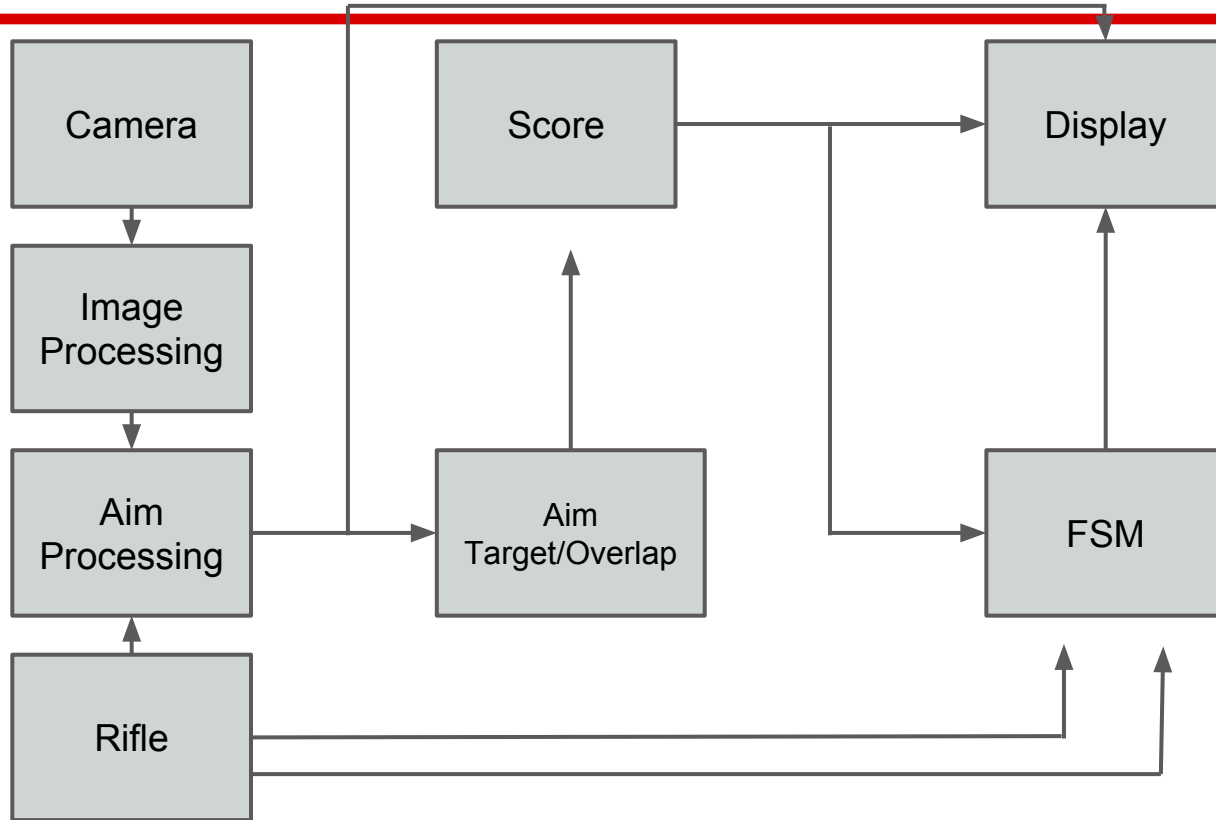
Sight Sprite



To be Added:

Timer Countdown  
Ammo Display

# The Block Diagram



# The Rifle Module

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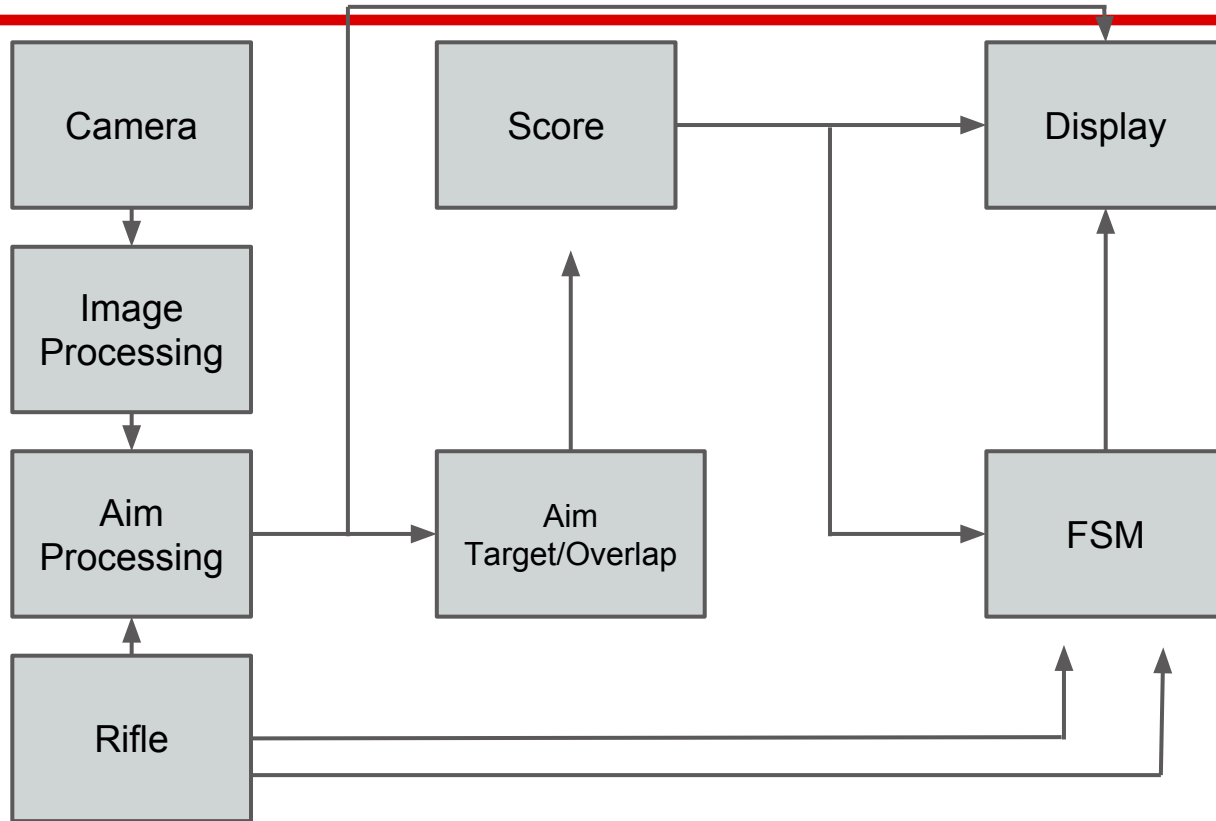
Safety Switch

Trigger Button

Gyro Sensor

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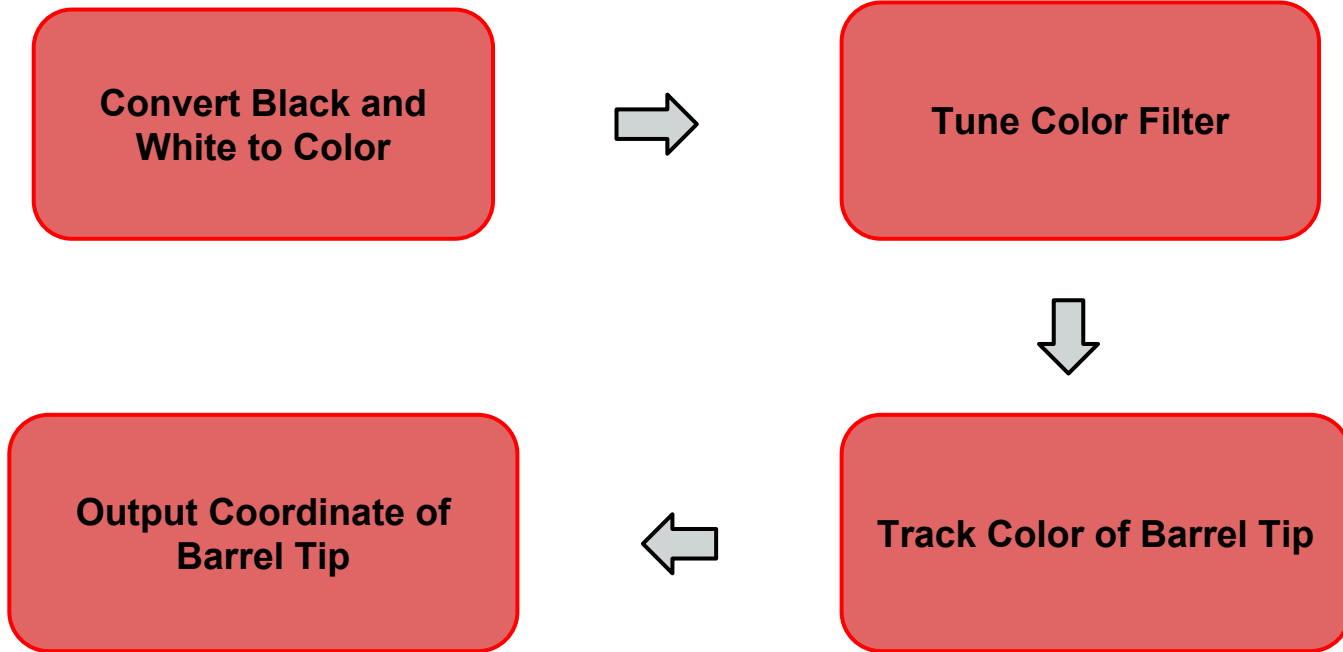
# The Block Diagram



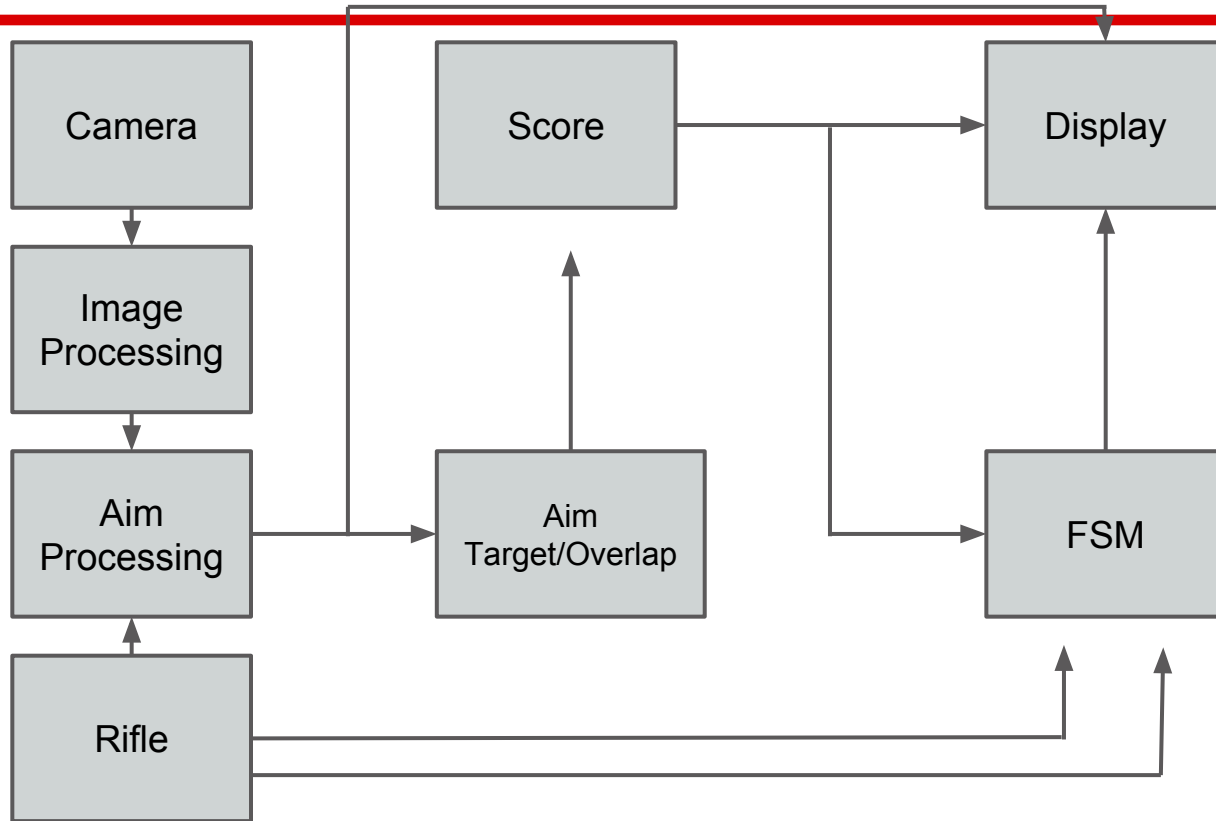


# The Image Processing Module

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# The Block Diagram

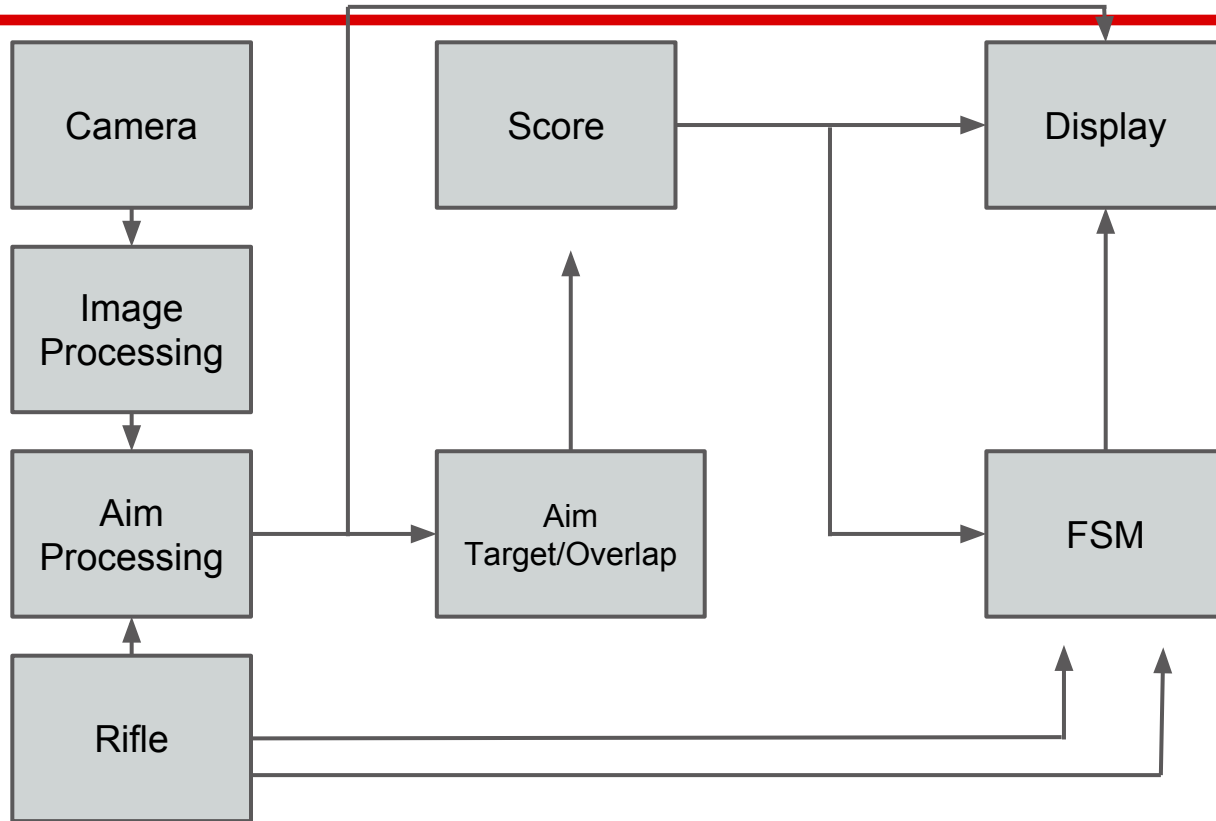


# The Aim Processing Module

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- From Image Processing Module
    - Location of Barrel
  - From Gyro Sensor
    - Pitch Angle
    - Yaw Angle - Side to Side
  - Geometry
    - Distance Variation
-

# The Block Diagram



# Extra Modules

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- **Target/Aim Overlap:** Detect if/where on the target the player hits
  - **Score:** Keep a running score for that level
  - **FSM:** Keeps track of game level and whether the player has enough points to advance
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# The Risks and Challenges

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- Interfacing Gyro with the FPGA
  - Accuracy in Aim Calculation
  - Sound Module if extra time
  - Build More Challenging Levels
-

# Timeline

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|  | 10/31 | 11/7 | 11/14 | 11/23 | 12/10 |
|--|-------|------|-------|-------|-------|
| <b>Display</b>                             |       |      |       |       |       |
| <b>Image Processing Module</b>             |       |      |       |       |       |
| <b>Gun Wired, FSM Module, Score Module</b> |       |      |       |       |       |
| <b>Gyro Sensor, Aim Calculation</b>        |       |      |       |       |       |
| <b>Module Integration</b>                  |       |      |       |       |       |
| <b>Sound Module</b>                        |       |      |       |       |       |