Target Hunter Checklist

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Modules

1. Display Module
   All elements of the display module are easily demonstrated by playing the game on VGA
   a. Commitment:
      i. Display of background image and target sprites
      ii. Menu Start Screen
      iii. Have the target sprites shrink in size based on Level
      iv. Have target sprites move around the screen
   b. The goal:
      i. Moving target
         1. Speed of targets will increase as level advances.
      ii. Timer countdown display and ammo display
         1. Timer countdown and ammo used will display in corner.
   c. The Reach:
      i. Change sprites to be images stored in BRAM
         1. The sprites will be realistic images, rather than simple sprites that are generated in real time.

2. Rifle/Aim Calculation Module
   a. Commitment
      i. Accurate interpretation of rifle aimed position
         1. If the player moves the tip and angle of the rifle, the sight display on the VGA should move as well.
   b. The Goal
      i. Module is sensitive to changes
         1. If the player moves the rifle slightly, the change is reflected in the sight sprite location.
   c. The Reach
      i. Wind Skew
         1. In the higher levels of the game, a wind skew will make a bullet hit appear slight off from the sight location.

3. Camera/Image Processing Module
   a. Commitment
      i. Accurate interpretation of rifle pointing position
         1. If the player moves the tip of the rifle, the sight display on the VGA should move as well.

        ii.   Transfer coordinates to 800 by 680 resolution
            1.   The place that the player aims at should be very close to what the sight shows on the VGA

  b. The Goal:
        i.   Have 1:1 movement between rifle tip and sight on screen
            1.   If the player is still, the sight should not "roam" due to noise

  c. The Reach
        i.   All functionality for this module is required for the project. Therefore all the tasks have been listed under Commitment and Goal.

4. Sound Module
  a. Commitment
        i.   This is an extra module that does not impact whether the project works. Thus, it has no commitment.

  b. The Goal (Playing through the game should show this functionality)
        i.   Have sounds matching the actions of the player - Shooting rifle, winning a level, etc.
        ii.   Have background music

5. FSM Module
  a. Commitment
        i.   3 Levels of Play
            1.   Player has three choices of level on menu screen and can advance through all three levels.

  b. The Goal
        i.   6 Levels of Play
            1.   Player will only have three choices of level on menu screen but each skill level will have two different levels. Player will be able to complete 6 levels if starting from beginner level.

  c. The Reach
        i.   9 Levels of Play
            1.   Player will only have three choices of level on menu screen but each skill level will have three different levels. Player will be able to complete 9 levels if starting from beginner level.