

# VGA Game

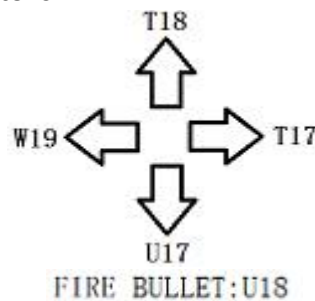
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## BREAKING BRICK

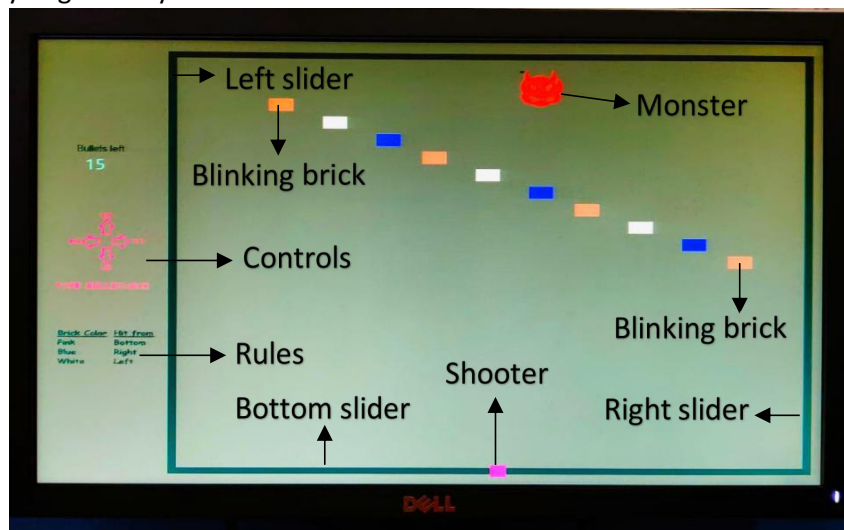
### How to play:

- Use the controls to move the shooter and fire bullets to hit the bricks.

**Control: Using pushbuttons**



- The shooter can move along the bottom slider, left slider and right slider.
- Different bricks can be hit from a particular wall only.  
Pink bricks can be hit from bottom, blue bricks from right and white bricks from left slider only.  
Monster can be hit from bottom only.
- You have limited bullets i.e. 15, so play judiciously. The number of bullets left is displayed on the game screen.
- Escape from the monster's attack.
- Once all the bricks are hit, the monster starts to move.
- You win if you break all the bricks and then hit the monster.
- You lose if you get hit by the monster's bullet or if the bullets are over.



## Controls:

- BTNL (W19) – To move shooter to the left
- BTNR (T17) – To move shooter to the right
- BTNC (U18) – To fire bullet from the shooter
- BTNU (T18) – To move the shooter up
- BTND (U17) – To move the shooter down
- SW15 (R2) – Instructions – To view the game instructions, make this high
- SW14 (T1) – Game\_on – To make the game screen on, this should be high
- SW13 (U1) – Game\_start – To start the game when in the game screen, this should be high
- SW12 (W2) – Clear – To reset the game. The switch should be made high for a moment and then low again to reset the game state.

## Features:

- There are ten bricks and bullets are provided to the user to shoot.
- The counter on the left top of the screen shows the number of bullets used by the user.
- Once a bullet hits the brick, the brick vanishes.
- The monster is displayed using BRAM IP.
- The bullets are shooting from the monster position in all directions with different velocity.
- The shooter can move on three sides along the boundary displayed – bottom, top and left boundaries. The shooter can shoot only from the bottom boundary. The shooter can use the left and right boundaries to save from the monster's attack as safe zone.
- The shooter will continuously move in the corresponding direction if BTNL, BTNR, BTNU, BTND are continuously pressed for easy movement of the shooter.
- The bullet is fired only once even if the BTNC is continuously pressed. This is to avoid unintended firing of the bullet.
- On game over, a thumbs down is displayed. This is done using BRAM IP.
- Once the user wins, a thumbs up is displayed. This is done using BRAM IP.
- Front screen with animation and instruction screens are added.
- Additional text is added on game screen and end screens.
- Control buttons have been added to the game screen for easy navigation for the user.
- The shooter can fire bullets from all the three sides – bottom, right and left sliders.
- Number of bullets increased to 15 and counter on the screen shows the number of bullets left.
- Different bricks can be hit from a particular wall only.
- Blinking bricks are added which should be hit only when they are visible.
- Monster starts moving when all the bricks are hit.
- Monster shoots bullets in different directions even when moving.
- Monster should be hit in order to win the game.