

# Smasher Video Game Design

## CSEE 4840 Spring 2012 Project Proposal

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### *Abstract*

Our team proposes to implement a video game named smasher. This is a game in which the player controls a board to bound the ball and break as many blocks as he can. There are four boards in the four sides of the screen. If the ball fails to bound and goes out of the screen, the game over. We plan to set several missions to complete the game.



The picture above is just to show the basic idea of our design. We will do some upgrade and the final result will be different. Detailed description is as follows.

### *Design features*

- Players control the board using PS2 keyboard.
- Game interface is shown on the VGA
- Two pairs of boards located on four sides of the screen. Each of them can bounce the ball.
- The ball bounces back when it hits the board according to the reflection law.
- If the ball hits the block, it also bounces according to the reflection law, and the block breaks. The goal of a mission is to break all the blocks.

- We plan to place different kinds of blocks in the game.
- There can be a “worm-hole” in some missions, which is an invisible pipe. If the ball appears in the entrance of the hole, it will immediately be transported to the exit of the hole. The motion status will remain the same.
- When the ball breaks the block, gifts may randomly appear in screen and gradually fall out of screen. If the board touches the gift, It can be up-graded or down-graded.
- Scores will be calculated, and the high score will be recorded.

### *Milestones*

#### *Milestone 1 (March 27)*

- Set up peripherals of the project and hardware.
- Establish the models of the ball, the board, blocks and the back ground.

#### *Milestone 2 (April 10)*

- Balls can move according to reflection law in the screen, and when it hits the blocks, blocks can be destroyed.
- If the ball falls out of the screen, the player loses one ball. If all the balls are lost, the game over.

#### *Milestone 3 (April 24)*

- The gift would randomly appear when blocks are destroyed.
- Add other features, including different kinds of blocks. Such as moving blocks and long life blocks, etc.
- Add “worm-holes” to each mission.