

User Manual: Brick Breaker

Background

For my final programming project, I created a program that plays the popular *Brick Breaker* game using Java. *Brick Breaker* is a game that comes preloaded on BlackBerry smartphones and is a derivative of the game *Breakout*. Both of these games are based off of the original classic ball and paddle of Atari's *Pong* and Magnavox's *Tennis* games. In *Brick Breaker*, the player must smash walls of bricks by deflecting a bouncing ball into them with a paddle. The paddle moves horizontally at the bottom of the screen and when all of the bricks have been destroyed, the player wins and advances to a new level.

Overview

My program starts by displaying a dialog box telling the user of their goal "Break those Bricks!" Once the user clicks "OK" the wrecking ball starts moving upwards at a randomly generated velocity as the game begins on Level 1. Every time the ball collides with something (the paddle, a brick, or a wall) it will ricochet off of that object at an angle opposite to the angle it was previously travelling at before the collision. Every time it hits a brick, the ball does "damage" to the brick by making it disappear and the player's score is incremented by 50 points.

The player interacts with the game by using the arrow key of their keyboard to control the paddle. Jump back and forth, left and right to juggle the ball and prevent it from falling out of bounds.

The player must be careful, however, as the more the ball hits the paddle, the more the game's difficulty increases. This causes the velocity of the ball to change or increase or both! Hit the ball enough times, and it may start zipping around the screen at a rate that is too much for the player to handle! If the player allows the ball to slip past the paddle and through the bottom of the screen, they will see a warning message that shows them that they've lost a life. Lose all the lives, and get the dreaded "GAME OVER!" When there are no more bricks left on the screen, the program displays a congratulatory message and proceeds to the next level. If the player beats the final level, they win the game and their score is displayed.

Hints

As in the original *Brick Breaker* game, the player can guide the direction of the ball by hitting it on the corners of the paddle. If the ball hits the paddle on the paddle's left corner (as in Figure1 below), then the ball will ricochet towards the left, regardless of what angle it was previously travelling at (as in Figure 2 below).

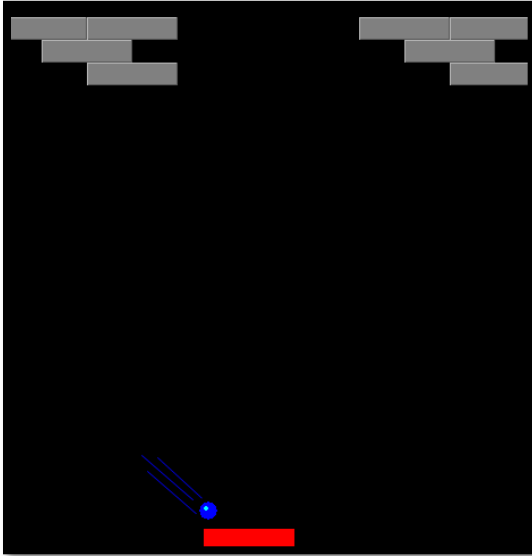


Figure 1

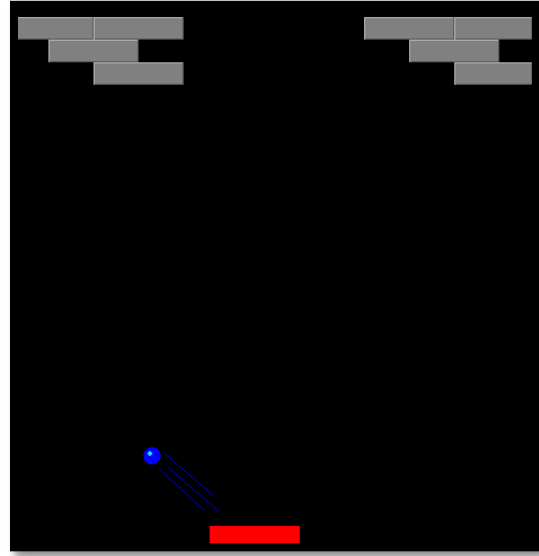


Figure 2