

FallDown Screen Specification

Project 09, CSCI 410

Brandon Vargo

1 Overview

FallDown is a simple game where the player, represented by a ball, falls down an endless hole full of obstacles. If the player does not fall fast enough, such as the case where the player encounters an obstacle and cannot move out of the way in time, then the player dies. It is impossible to win.

2 Use Case Scenarios

Yong is stuck on the moon in a broken spaceship. Since it will be some time before Congress can authorize money to retrieve Yong, he needs something to do. The *Elements of Computing Systems* course is born. The hack computer platform is designed so that Yong can build the system using only the parts he can scavenge from the circuit boards of the space capsule.

Inspired by the depth of the moon craters and the size of the rocks surrounding the craters, Yong creates the FallDown game for his hack computer platform. Not only must the game run on the homemade (well, moon-made) computer, but it must also fill Yong with glee for months as the politicians back on Earth squabble over funding for the rescue mission. As a result, the game must be both simple and fun to play. In addition, it is impossible to win the game; this way, Yong cannot beat the game and subsequently be bored sitting on the moon without a game to play.

FallDown is better for Yong than other games, such as Galaxian, which may incite violence in the hitherto-unseen population of moon aliens. Interstellar war would be exciting for Yong, as he would be on the front lines, and the entire Department of Defense budget would be allocated to the war effort, but interstellar war is also known to the state of California to cause cancer. FallDown is a safer game to play, from a cancer perspective, leading to its rating of E for Everyone (except moon rocks, for which it is deadly). Galaxian is only rated E for Cockroaches due to the cancer risks.

3 Non-Goals

- Winning is not a goal. Unlike other games, this game does not make the user feel good about themselves thanks to easy levels that are trivial to win. Also, if Yong were to win the game, then he would be bored sitting on the moon.
- As stated in the use case section, inciting interstellar war is also not a goal of this game.

4 Program Flow



5 Individual Screen Specifications

5.1 Title Screen

The title screen is the first screen that the user sees. This screen displays the name of the game, instructions for playing the game, and instructions for starting the game. The user is able to press the enter key or the spacebar in order to start the game.

5.2 Game Screen

The game screen is the main action screen that provides excitement to all players. There are two main actors on this screen: the ball and the obstacles. The player is the ball, which is falling through the obstacles. The “camera” is in a reference frame that “falls” at a constant rate. As a result, the obstacles appear to move toward the top of the screen. The ball falls faster than the camera.

The player is able to move the ball left and right using the arrow keys. Gravity affects the ball; after all, if there is no gravity, there is no falling. The ball cannot move below the bottom of the screen, and the ball cannot move through obstacles. As a result of not being able to move through obstacles, the ball will be pushed upwards as the platforms move toward the top of the screen. If the ball moves off of the top of the screen, then the ball is squashed, and the player dies.

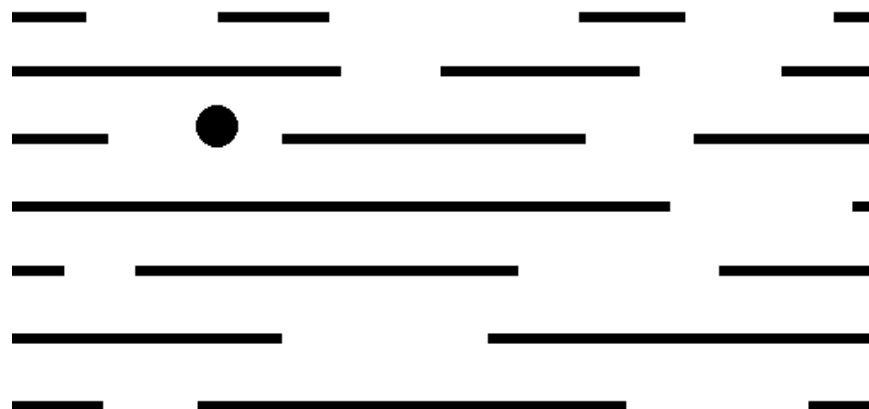


Figure 1: An example game screen.

5.3 Loser Screen

This screen appears after the player loses. It displays a message notifying the user that they have died. Any keypress allows the user to proceed back to the title screen to begin a new game. There is no cake at the end of the game.