Bytes and Billiards II

by BOB JEWETT

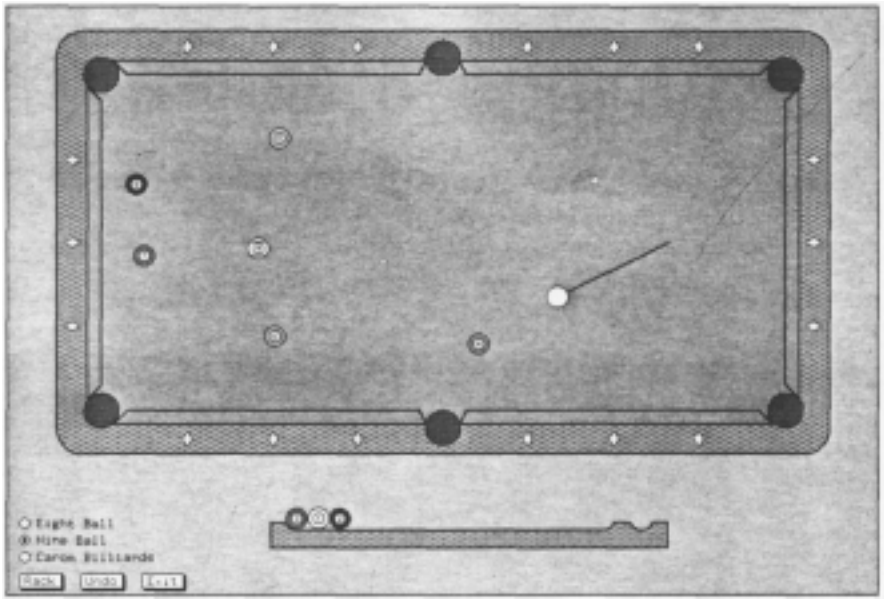
WILL THE COMPUTER screen replace the baize-covered table as the preferred venue for billiard competition? The idea is not as far-fetched as some might hope — look how quickly chess-playing computers have surpassed all but a handful of human players. Computer networks already flash scores between equal offense competitors on different continents.

High-resolution computer graphics combined with the amazing computing power found even in many home computers have already resulted in some entertaining and educational programs. In this column, I'll describe two quite different programs that simulate colored spheres on green cloth. In a future column, I'll review the features of a dozen or so programs now available for personal computers.

The guts of any pool program is the part that calculates the paths of the balls when set in motion by the cue stick. None of the programs available take into account all the minor details, but some are complete enough to have masse and jump shots. Others omit basics like side spin — such a program might be fun, but you can't learn much about banking when all the balls reflect perfectly from the rails. Especially important are the mechanics of aiming and choosing speed and English. This aspect is as important as the physics content.

The diagram shows the screen for the program Xpool by Charles Bulkeley, that runs on Unix workstations with X11 Windows. A game of 9-ball is in progress. To shoot the 4 in the side, the mouse has been clicked to create the line coming out of the cue ball. This line represents the cue stick. A shorter line gives a softer shot. The mouse is adjusted until the speed and angle look right, then the button is released to shoot.

Some other features of Xpool are visible in the figure. The pocketed balls below the table can be spotted by clicking on them, and any ball can be repositioned with the mouse. If you don't like the way a shot came out, you can "undo" it and try again. Eight-ball and carom billiards are also available.



Xpool lacks several important features. There is no spin — no English, no draw, no follow. The balls move like hockey pucks and rebound perfectly from the rails. The aiming method is crude; attempted thin hits often miss the object ball. Even with these faults, Xpool is reasonably entertaining; just don't expect to learn much about real pool from it.

There is another billiard program called Xpool. This second Xpool comes in a version for the Microsoft Windows platform called Winpool. The two Xpool's and Winpool are "shareware," which means that the author requests a donation.

For serious students of the game, the program Carom Simulator for Microsoft DOS systems is far more realistic. A fairly new product, it was being demonstrated at the 1994 BCA Trade Show by Hans de Jager, a world-class Artistic Billiards player. As the name of the program suggests, the table won't have pockets. What you will get are calibrated numerical settings for speed, aim, spin and elevation.

Aim is set in two ways. First there is a phantom cue ball that is set on the table anywhere along the line of aim. The exact location is shown numerically to allow very fine adjustment. A separate small aiming window shows the "tip's eye view" of the overlap of the cue ball on the object ball with calibration marks.

Spin is set by moving a small blue dot around on the cue ball in the aiming window. A numerical readout shows how eccentric the hit is, both up/down and right/left, and if you exceed the safe limit of spin, the computer beeps at you, signaling an impending miscue.

Elevation is set by rotating a small cue stick in the aiming window. A slider with a numerical readout sets the speed.

One very nice feature of the the program is its ability to save table positions to be recalled by the name of the shot. The installation includes all the shots from the Artistic Billiard competition and an automatic mode that demonstrates each shot, showing power draws, jumps, masses and kiss-backs.

A "try again" feature makes it easy to explore variations. A little more speed might lengthen an angle on one shot, while adding draw and English to another might avoid a kiss. The high quality of the simulation and the precise control of the parameters make the results useful.

The bad news is that Carom Simulator costs real money — $149 list. Write to European Billiard Products, 1406 Sycamore Drive, Simi Valley, CA, 93065 for more information.

Bob Jewett (Internet: jewett@hpl.hp.com) is a former ACU-1 billiard champion and is now an engineer at Hewlett-Packard.