Using the Accumulation Buffer

Mike Bailey
mjb@cs.oregonstate.edu
Oregon State University

Using the Accumulation Buffer to Achieve Motion Blur

1. Multiple the Accumulation Buffer by (1 – K)
2. Draw the new frame into the Back Buffer
3. Multiply the Back Buffer by K and add it into the Accumulation Buffer ("accumulate")
4. Return the Accumulation Buffer to the Back Buffer
5. glutSwapBuffers()

The first frame results in: FB1 = K*F1 + (1-K)*Black
The second frame results in: FB2 = K*F2 + (1-K)*FB1 = K*K*F2 + (1-K)*K*F1 + (1-K)^2*Black
The third frame results in: FB3 = K*F3 + (1-K)*K*F2 + (1-K)^2*K*F1 + (1-K)^3*Black

glAccum( GL_MULT, 1.-K );
glAccum( GL_ACCUM, K );
glAccum( GL_RETURN, 1.00 );
Using the Accumulation Buffer to Achieve *Motion Blur*

\[ K = 0.10 \]