CS422 Assignment 3

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For this assignment, I created a hot-cold game. The player listens to sound cues to determine how close or far they are from the desired object. Audio was played using the NAudio library and using a Loopstream class found online, to achieve looping audio.

The distance from the cursor to the object was calculated using Pythagoras' Theorem: $x^2+y^2=r^2$

```
double dx = Math.Abs(x - sharkX);
double dy = Math.Abs(y - sharkY);
double distance = Math.Sqrt(dx * dx + dy * dy);
```

The object has 3 radii, and when the cursor is within each one it plays a different audio loop. The closer the cursor is, the faster the loop. When the cursor is within the final radius, the object is collected, the score is incremented and the object is sent to a random location.

```
//If at a certain radius, play the first loop
if (distance <= sharkRad2)
{
   //if closer, play the faster loop
   if (distance <= sharkRad1)
   {
      //if within a small radius, "catch" the shark, increment the score, play the audio and reset the shark
      if (distance <= sharkRad0)
      {
         isActive = false;
         jaws[0].Play();
         jaws[1].Stop();
         jaws[2].Stop();
         score++;
         label2.Text = "Score: " + score.ToString();
         timer2.Start();
         resetShark();
      }
      else
      {
         if (currentLoop != 1)
         {
            currentLoop = 1;
            jaws[1].Play();
            jaws[2].Stop();
         }
      }
   }
```

```
    else
    {
        if (currentLoop != 2)
        {
            currentLoop = 2;
            jaws[2].Play();
            jaws[1].Stop();
        }
    }
}
else
{
    jaws[2].Stop();
    jaws[1].Stop();
}
```

The UI in the game is minimal, as it relies on audio cues to play.