Assignment 3 – Reptile Bird Game

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## 3.1 Requirement View an Unhappy Reptile Flying Across the Screen

### 3.1.1

I had all of the code from the previous assignments, so I just made small changes. I created a random number between -8 to 8. As you can see in the bottom that is my random number generator for the bird for each time it moves.

birdVelocity = rand() % 17 + (-8);

### 3.1.2

Similar to 3.1.1 I had this for the previous iteration of the project. I did not change anything because I kept the same variable name. I just change the values from the previous interation. It was still under the same function that I had. As you can see at the bottom that function is what I created to regen my bird position.

void Bird::SetUpReferencePoints(int screenHeight, int screenWidth)

{

xBirdPos = rand() % ((screenWidth-30)+30);

yBirdPos = screenHeight\* .85;

SetUpBirdMovement();

birdHitBoxX = xBirdPos + (xBirdPos \*.1);

birdHitBoxY = yBirdPos + (yBirdPos\*.1);

pointOfNoReturn = screenHeight \* .88;

}

### 3.1.3

All I did for this part of the code was instead of loading one bird images I load 4 bird images and put them in an array. Then I just iterate though the array changes the bird images each time. This part was fairly easy the most annoying part was trying to find sprite and make it transparent. The code bellow will change position then display the new bird flying sequence.

bird.changeFlyPos();

drawGraphics.DrawImage(gifOfPiggy[bird.getBirdFlyPos()], bird.getXBirdPos(), bird.getYBirdPos(), (int)(xWidth\*0.06), (int)(yHeight\*0.06));

## 3.2 Requirement

### 3.2.1

Every time the left button is shot I check to see if the bird gets hit or not. After that if the bird gets hit what I do is change the bird images with it roated 180 degrees and then the bird will start spinning 5 degrees similar to assignment 2. For the cross hair that I have implemented is the OnSetCursor. All I did was load the crosshair file was a .cur file. Bottom code is the code for the spinning and for the new image for the bird. The picture that get loaded is deadBird variable. The other part is showing the function that I load the cur file for my cursor.

Part 1:

drawGraphics.TranslateTransform(bird.getXBirdPos(), bird.getYBirdPos(), MatrixOrderAppend);

if (spin >= 360)

{

spin = 0.0;

}

drawGraphics.RotateTransform(spin+=5);

drawGraphics.DrawImage(deadBird, -15, -10, (int)(bird.getScreenWidth() \* 0.06), (int)(bird.getScreenHeight() \* 0.06));

drawGraphics.ResetTransform();

Part 2:

SetCursor(myCur);

### 3.2.2 Shoot the Unhappy Flying Reptile

Every time there is a left click, I change a bool to indicate to display an explosion. That explonsions is one of the last thing I display as I want to the explosion to appear in the front where everyone can see it. Inside the if statement checking the bool I change I toggle it so it will not come into the function again. The bellow code will show two snippets the first one is the explosion in the on paint. The second part is just a bool that I change in the left click function.

Part 1:

if (explo == true)

{

drawGraphics.DrawImage(logoDontSueMe, 0, 0, (int)(bird.getScreenWidth()), (int)(bird.getScreenHeight()));

explo = false;

}

Part 2:

explo = true;

## 3.3 Watch the Unhappy Flying Reptile Die

## 3.3.1

I created two class which are Box and Stack. Box is an object that will represent a box on the screen. Stack contains 6 box in a vector which has supporting function for each of the boxes. In the constructor what I do is initialize 6 boxes in a loop. In the Childview I have a point to a vector which will contain 6 of the boxes. There is 3 part that I will include in bottom the first part is the creation of the 6 box, the second part will be a little bit more information about the box class and the last part will be about the Stack Class information about resizing.

Part 1:

Box box = Box();

box.setBoxPosX(width \* .9);

if (listofBox.size() ==0)

{

box.setBoxPosY(height \* .9);

}

else

{

int tmp = listofBox.at(i-1).getBoxPosY() - 50;

box.setBoxPosY(tmp);

}

listofBox.push\_back(box);

Part 2:

Box Attributes:

int boxMovementY;

int boxMovementX;

int boxPosX;

int boxPosY;

int boxWidth;

int boxHeight;

bool hit;

int boxXVel;

int boxYVel;

Part 3:

listofBox.clear();

for (int i = 0; i < 5; i++)

{

Box box = Box();

box.setBoxPosX(width \* .9);

if (listofBox.size() == 0)

{

box.setBoxPosY(height \* .9);

}

else

{

box.setBoxHeight(height\*0.072);

box.setBoxWidth(width\*0.05);

int tmp = listofBox.at(i - 1).getBoxPosY() - box.getBoxHeight();

box.setBoxPosY(tmp);

}

listofBox.push\_back(box);

}

## 3.4 Watch the Unhappy Flying Reptile Die

## 3.4.1 Scoreboard

For this requirement I decided to do a scoreboard. For the scoreboard was fairly easy, all I need was font, color, a rectangle and the string that Is need to be displayed. All I did was use was a drawGraphics function in order to draw to scoreboard. Every time the bird gets hit you get 100 points and 50 points if the bird touches the box. I also have a bool so I do not need to change the score everything only when I need to. The bellow code will show the implementation in how I display the text.

if (printToScreen == true)

{

swprintf(wcScore, L"Score: %d", points);

printToScreen = false;

}

Font myFont(L"Arial", 16);

SolidBrush color(colorTextPoint);

drawGraphics.DrawString(

wcScore,

-1,

&myFont,

layoutRect,

&format,

&color);

# Bibliography

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