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# CSCI 162 Lab 10

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**Purpose:** Obviously a good video game needs an interesting and engaging main character, but another important factor is making sure that the aspects of the game that user does not consciously notice most of the time (like the background and the music) is also interesting and fun.

Walt Disney was a master of special effects, and he was always concerned that they not become predictable and stale. He was often quoted as saying: "Change the trick before folks catch on."

In this lab we are going to create a sun rise using several layers with different tricks used in different layers in order to give a 3D effect that is both dynamic and interesting, but still able to fade into just being part of the background.

Gaming history have been developed a lot, as we can see now 3D games are more the most modern games.

**Objectives:** After this lab you should be able to

- Create an impressive looking graphical display of a sunrise.

**What to hand in:**

- ScreenShot\_123456789.jpg - A screen-shot of your game being successful says "your lab is done"
- Board\_123456789.java - Your submission of the Board.java file.

## Background:



**How it works:** There are five layers running on the background that are on top of each other. The furthest layer back is skyMode. It covers the entire screen and changes color from black to red as the sun comes over the mountain and then from red to blue as sun rises high in the sky.

On top of this layer the sun is drawn. Notice that sun is not simply a circle. It has an aura of partially transparent glow around it. Notice that this glow is partially smudged at the edges to give a smooth transition. It is also not fully transparent so it picks up the current color of the sky as it rises.

On top of the sun we have a cut out of some mountains that the sun will come up behind. These mountains are completely opaque where there are mountains and completely transparent where the sky shines through behind them. Notice they are moving left to indicate the car is moving right.

The cloud layer is on top of the mountains and like the mountains it is a mixture of transparent and opaque, but it is moving left at a different speed than the mountains to give the impression that there is a strong wind blowing.

On top of this layer comes the road and the main character (in this case a car).

**Drawing on screen order:**

- SkyMode rectangle,
- Sun,
- Mountain,
- Clouds,
- Roads,
- Car.

**Instructions:**

Go to your csci162 fold and copy the files for lab 10 with the command:

```
cp -R ~beestonj/csci162/lab10 .
```

Edit board.java and complete the two functions labeled

HELPMEIMPLEMENTINGTHIS:

- drawskyMode(Graphics g)
- drawSunRising(Graphics g)

When these function work properly you will see a nice looking sun-rise and a message when the sun-rise is complete.

To compile your code type

```
javac *.java
```

To run your code type

```
java Board
```

Once your code is running if you click on the screen to give it focus you can move the car using the arrow keys.