

Introduction to the X Window System - Chapter 7, Color

This chapter describes how colors are used in the X window system. In order to manipulate a color on a display device, we need the following information:

- Pixel value - to designate the color of the pixels of the display
- RGB value - the red/green/blue value of the color
- Visual class - describes the color capability of the display
- Colormap - used to translate between pixel values and colors

There are 3 major visual modes available, each with 2 classes defining whether colormaps are read/write or read-only.

- DirectColor/TrueColor - A pixel value is decomposed into separate red, green, and blue subfields. Each subfield indexes a separate colormap.
- PseudoColor/StaticColor - A pixel value indexes a single colormap that contains color intensities.
- GrayScale/StaticGray - A pixel value indexes a single colormap that contains monochrome intensities.

There are three strategies described in this chapter on how to get and work with pixel values:

- Shared color cells
- Standard color maps
- Private color cells

ISVis uses the third strategy, creating its own private color map. For this reason it must always be used with a read/write visual class - either PseudoColor (what it was originally coded in) or DirectColor. Consequently it can only be run on displays with those classes available (you can use the 'xdpyinfo' command from the command line to query the display device to see the visual modes that are available).

For more complete details about this chapter please see the Spring 2009 Term Paper.

```
@book {
  Jones:XIntro,
  author = {Oliver Jones},
  title = {Introduction to the X Window System},
  publisher = {Prentice Hall},
  year = {1989}
}
```