# CSCU9N5 Design One

The first two design practicals are to make you think about user interface design as a user again. They will use two popular (free) image programs: Paint, and GIMP. The point is to make you think about the design principles from the lectures, although learning GIMP will probably be useful in other ways. It would be useful if you took the time to familiarise yourself with the interfaces of Paint and GIMP before the practical session: then we can spend more time in discussion.

## Register your attendance

Make sure we check your attendance.

## Design Analysis and Discussion:

In this practical, there is a suggested task overleaf for you to acquaint yourself with Paint and GIMP, but please feel free to experiment. GIMP in particular is a big package with lots of features!
**As you use these tools, try to monitor yourself objectively as a user: and consider the following points.** For everything, keep in mind how Paint (or GIMP) is helping you figure out its interface. Take notes as you go.

## Mental Models

You will, of course, form your own mental model of exactly what is going on as you use Paint and GIMP more and more, but part of your mental model is presumably going to relate to the image you see on screen and how it corresponds to the underlying stored image.

What sort of mental model is this? (structural or functional?)
How well does Paint or GIMP help you develop that model?
Do the tools do anything to violate the model?
(And if so, is this a fatal flaw, or merely annoying?)

## 'Know thy User' / GOMS

What different user groups are Paint and GIMP aimed at? Consider the Shneiderman principle of "Know Thy User". How does Paint (or GIMP) cater for different sorts of user? Eg Novice vs Expert. What about other nationalities or cultures? What about different educational backgrounds? What about different ages of user? Consider these points in terms of GOMS (goals, operations, methods, selection).

## Affordances

Identify affordances in the Paint (or GIMP) interface. Most of the affordances you will have used already, but if there are ones you haven't, first try guessing what they do, then try them out. Were you right?

If you find a feature in Paint (or GIMP) difficult to use, consider how you would have designed it. You will probably need to take into account how your approach might affect other features and potentially make them more difficult to use or very hard to implement. There is frequently a trade off in design where making one aspect easier affects the usability of other aspects.

**When you've done a bit of exploration, talk about your conclusions with your discussion group.**

## Practical Task One: Make a Logo (GIMP)

Traditionally in computer graphics, painting programs have either been of the variety that create new images, or that manipulate existing images. Adobe Photoshop is historically the one for manipulating existing images (photographs in particular!); however, Photoshop costs a lot of money. GIMP has many similar features to Photoshop, including the use of layers in an image to give you some control over individual objects, much like vector-based graphics, while still being oriented to pixel maps. The other nice thing about GIMP is that there are many tutorials available to teach you new skills. See http://www.gimp.org/ (under documentation).

We'll start with a simple task involving choosing colours, making shapes and using layers: making an image which could be a logo, or a button. There's a very nice tutorial on this. See http://www.gimp.org/tutorials/Floating_Logo/ for more detail. Otherwise, see if you can figure out the following steps:

**⇒ Create a new image, 200 by 100 pixels.**
**⇒ Set the foreground colour to black, then use the paint pot tool to fill your image.**
Notice that GIMP provides a variety of ways to select colour. You're probably most familiar with RGB (with a variety of selection approaches, including typing an HTML hex code or colour name), but you can also use CMYK and HSV. There's a built-in palette of web-safe colours.

**⇒ Be sure to try all the colour choosing methods, to ensure you understand the relationship between them.**
**⇒ Flip the foreground and background colours, and make sure you have a good (strong contrast) between them.**
**⇒ Now add some text. Use the Text tool to insert text on a separate layer (this makes it easier to handle different bits of the image). Use the tool options to choose font and size etc.**
**⇒ Follow the instructions in the Floating Image tutorial to add additional layers to make the effect of raised text and a drop shadow.**
**⇒ Lastly, you probably want your logo to be in some shape other than plain rectangle. See the tutorial on drawing shapes http://www.gimp.org/tutorials/Borders_On_Selections/**
**but note that the details here are for an earlier version of GIMP. You'll find "stroke selection" under the Edit menu. You may also find "Fill with FG" or "Fill with BG" useful.**

**Be sure to save your work.** GIMP uses its own xcf file format by default. You can export to other formats (GIF, JPEG, PostScript, etc).

## Practical Task Two: Make a Logo (Paint)

Can you do the same task in Paint?