# BTH745 Lab 1

## Learning Outcomes

- Learn how to critically examine an application for usability
- Learn the usability goals
- Learn to write critiques of user interfaces or user interface features

The goal of this lab is to investigate some UI features as to their usability. You should write your findings on each issue and submit it to Blackboard. You only need 1 submission per group. BE SURE TO INCLUDE the names of all group members at the top of the submission!! If I don't know who did the work, you don't get any marks.

## Problem

Evaluate each of the following UI features with respect to the usability criteria discussed in the lectures. Write 1 or 2 sentences about each of its

- learnability,
- efficiency,
- memorability,
- effect on error rates,
- the mental model the user builds and
- the overall user experience.

If you find problems, discuss why there is a problem in terms of usability criteria and suggest how it might be improved.

a) typing on your phone or tablet using the autocorrect feature.

b) typing on your phone or tablet with a teammate shaking you to simulate being in a moving vehicle.

c) typing equations into Microsoft Word.

d) Using the tools in Microsoft Word to draw a flow chart.

e) Using Adobe Photoshop, find an image with obvious perspective, like this one:


Now, place some graffiti you find on the internet on the building on the right and make it look right so that it follows the perspective of the buildings.

# Exemplar

## Creating a drawing in MS PowerPoint

### *Learnability*

There is a set of drawing tools which are relatively accessible from the main interface. The drawing tools are largely self-explanatory. Repositioning and editing most objects is obvious. You need to left click to show a property sheet and this is not obvious. While there are pre-configured arrow heads, you need to go through property sheets to get less combinations of arrow heads. There are problems like having one object underneath another and having to find it and bring it to the top which is not obvious. Selecting multiple objects can be done by dragging a selection box around them. This is not difficult but not obvious that it is possible and it takes a little practice to select exactly what you want.

### *Efficiency*

The interface uses direct manipulation for the creation and manipulation of objects. This is a very efficient way of laying out an interface.

### *Memorability*

Since the interface scores well or learnabilty, this contributes to its memorability. Many of the operations are obvious with the result that there is less to remember. There are only a few inobvious operations which can be easily remembered.

### *Error Rates*

There are a few features which can cause errors but they can easily be undone with the universal undo facility in the tool. This ease of undoing errors encourages the user to explore the interface. The interface does little to encourage the user to make errors.

### *Mental Model*

The mental model that most people construct is of a 2D surface on which they are drawing. Many users can go for some time before discovering that objects can be placed on top of each other, hiding the objects beneath them. A better model is of a series of cardboard shapes on a desktop where one shape can be placed on top of another. There is nothing in the interface to convey this more advanced model to the user when they first use the tool.

### *Overall Usability*

With a few minor problems such as the ease of forming an incorrect model and the less than obvious property sheets, the tools are generally intuitive. The direct manipulation interface is obvious and very easy to use. It also resembles many other tools which makes it even more usable. Overall, I would rate the usability as high.

## Deliverables

Each group should submit 1 copy of your answer as a word document. Only 1 copy of the document per group needs to be submitted so only 1 group member needs to do the submission. The submission MUST include the names of all group members.