A New Web Based Teaching Tool for Engineering Surveying
NEST
Nottingham e-learning Surveying Tool

Dr Gethin Wyn Roberts and Joshua Gray

• Large teaching groups 146 civil engineering students
• 2 x 2hour practical classes, simultaneously to lectures
• 1 week field course
• Need an appreciation of the equipment and techniques
• Computer Aided Learning (CAL) packages previously developed, 1993 onwards
• Using Authorware
• PC based, stand alone
• Successfully used for many years
• BUT, Outdated in look and feel as well as the equipment used

SurCAL, plate bubble levelling tutorial and “parts of the theodolite”
SurCAL levelling tutorial and angle measuring tutorial

Looking through the telescope at the rocking staff, the lowest staff reading is the vertical height. The staff is rocked slowly through the vertical in order for the true vertical reading to be taken.

TrimCAL and AshCAL
Easier to animate, boxes with buttons

A fast static survey is started from the main menu. This is called up with the “Logdata” key if the power is already turned on or by pressing the POWER key.

This section is a simulation of each of the receiver’s screens. The information consists of a screen of particular interest.
NEST

- Developed by Josh Gray
- University of Nottingham development grant
- Using Xerte toolkit and flash

NEST – basic principles
NEST – Levelling; parts of a level and tutorial

Angle Measurement procedure and tutorial
Conclusions

• Currently being implemented with first year civil engineering students
• Feedback to be sought for evaluation
• Previous experience shows usage and improvement in students’ abilities