Encouraging groups to take responsibility for learning
First steps in EBL

Graham Gough
School of Computer Science, University of Manchester

International Symposium in Engineering Education
Loughborough: January 2008
Why?

- Desire to encourage independent working and team working skills
- Signal change of expectations at start of university life
- Start to break ‘spoon-feeding’ culture
What is it?

- two semester, compulsory, 20 credit course-unit in the first year
- self directed learning: no notes on course technical content, only structure and process
- tasks much more open ended than is our usual practice
- final deliverable: database driven web application (php, mySQL)
What is it?

- occasional support lectures (eg project management) and guest lectures
- takes over weekly tutorial meetings
- 250 students, 42 tutors
- mixed tutorial groups by: gender, culture, ability
- supported by use of VLE Moodle
  - information repository (almost exclusively organisational)
  - discussion forums, course unit, group and staff
  - wikis, group and staff
- developed with support of Centre for Excellence in Enquiry Based Learning, University of Manchester
Aims

- to encourage students to be more actively engaged with, and responsible for, their own learning;
- to increase student engagement and motivation;
- to encourage individuality and ambition;
- to develop skills in problem solving, communication, independent learning, and group work;
- to give students the opportunity to be creative and to set their own goals.
- to signal importance we attach to independent learning
- to develop skills and working practices required by self-directed, reflective learners.
- to develop some web related knowledge and skills
Outline structure

Five phases, of increasing length and complexity

**Phase 0**
CEEBL organised workshop  
(2 hours in registration week)  
group ground rules and skills audit

**Phase 1**
Software Patents (2 weeks)  
2 teams in debate

**Phase 2**
Ethics: Crawling Eye  
(3 + 1 weeks)  
group presentation and selection of ethical framework
Outline structure

Phase 3
World Wide What? + choice of web application (6 weeks)

Phase 4
Application building (11 weeks)

- group presentations and poster event
- presentations and demos

Computer Science First Year Project
Graham Gough
Loughborough: Jan 2008
Changed role of tutor

- personal academic tutors, responsible for supporting students’ personal development,
- group facilitators (*not information providers!*)
  - help students to make sense of the information found, point out gaps that need more research, ask helpful questions to prompt them to think more carefully or deeply
  - not to give predigested info-dumps.
Evaluation and Reflection

- evaluation of unit built in throughout
- regular, focused, prompts for reflection
  - individual - private
  - in pairs - shared with the group
- Questionnaires
  - Individual Learning Profile - students reflect on their own strengths and weaknesses
  - CLASS - learning style questionnaire at UCLAN
  - Survey - student reaction to course unit
Assessment

- All continuous
- Group oriented, with peer adjustment, but with individual components
- Based on tutor’s assessment of tutorial contribution plus deliverables
- Assessing both product and process
Assessment difficulties

- matching assessment to course aims
- much easier to assess product than process
- how to assess how effectively expertise is shared amongst group members, rather than product being produced by ‘experts’?
Feedback so far

Students
- Division between students engaged in process and those who see it as diversion from ‘real work’
- Most in former category

Staff report
- Greater level of engagement
- Students operating at a higher level than previous years
- Improvement in attendance at tutorials

Some pressure from staff and students to lecture core material – strongly resisted

Hoping for broader impact outside course unit, too early to say
Groups comment on each others’ posters and nominate best in three categories:-

- Best concept or idea for an application
- Most visually appealing and imaginative poster
- Most carefully thought out application and plan

Several social interaction sites - events, music, dating
Second hand books, lending library
Support for existing artist’s business
Grub on a Grant
Turn based strategy game
Support for building own computer
Background
Blurred Reality is a hobby business run by Josh Oldham. Josh takes an image from a customer which he modifies using an image editing suite to a style akin to that of Julian Opie (julianopie.com). He then uploads the edited image to an online printing site (posterprinting.co.uk) with the required size of image (e.g., A2, A3, postcard) along with the customer's address for postage.

Thus far he has operated this business through eBay.co.uk where the winning bidder/buyer pays the final amount through PayPal and emails Josh the image files which will be edited.

This is inefficient in many ways such as eBay sellers fees, direct email contact with customers in case of a problem, having to search for a customer's email and the restriction of only one email account means other individuals couldn't contribute to the business without access to Josh's personal email account.

Aims
We intend to solve many, if not all of Josh's problems for him with the combination of an online store (GUI for database) which customers use for order purposes to upload images they wish to have processed, and a background database which stores user's information along with their uploaded images, order progress and transaction history. This database is accessible by Josh and any potential employees through a login. They can then view any user info, download images to process, update order progress and other such actions.

The store site will be coded using PHP linked to the database which will be made using mySQL.

Other features may be added later at the team's discretion.

Test your compatibility with other members using our unique LOVE-o-METER!

Looking for your perfect pea? Then Peas in a Pod is the place for you! Search through our database of potential peas, sharing photos, videos and who knows, maybe even phone numbers!

Easy to use and customise. Sign-up includes free Pea-Mea, a custom pea based avatar!
Poster examples: Dec 2007

**Moodr™**
How are you feeling today?

Tutorial Group · X5

Group Members
Elham Ibrahem · Jaffar Khorshidi · Ian Arundale

Poster Design · Jaffar Khorshidi
> IT’S 14:32

> DO YOU KNOW WHERE YOUR EMPLOYEES ARE?

> Todays information workers need to know where their co-workers are and to easily access contact information. Our application will effortlessly facilitate the access of this important time critical information.

> X2

> PEOPLE

Abraham Tiyamiyu
Christopher Hackett
David Kellegher
Ehsan Masaud
Rory McKeown

Upload your favourite pics and watch them get transformed into Stunning Flowers!

When you’re flower is ready you can invite friends to unsramble it!

If you really wanna have some fun, you can attack other flowers with weapons from AmmuNation!
Example sites: April 2007
Example sites: April 2007

blurredreality

Welcome

Email
Password
login
forgot my password
register
Contact details

Graham Gough
School of Computer Science
University of Manchester
graham@cs.man.ac.uk
www.cs.manchester.ac.uk