

## Set them free...

Experiences with Building Intrinsic Motivation Through Self Directed Projects

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## Project Based Learning

- Well researched in the literature
- Widely used in Engineering courses
- ...But, due to (primarily assessment) constraints
- Controlled
  - Product focused
    - Reports, presentations
  - Specified by lecturer/supervisor

## The “real” world

- “Real World” Computing Projects
  - Are often ill defined
  - Aren't generally something we've done before
  - Have work environments that assume we can “work it out”
  - May change direction due to new requirements or information
- We want to give students the skills to deal with such projects. But such projects can be demotivational!

## Building Intrinsic Motivation

- *Let the students define their own projects and groups*
- A simple, well-known idea; but not widely used in practice
  - Difficult to assess [Eris, 2006] [Biggs, 1999]
  - Problems with group allocation [Mitchell et al., 2004]
  - Student resistance
  - Concern over student ability to work independently and manage time

## Making it happen....

- Mobile and Wireless Networks
  - 30-50 students
  - Elective subject
- The project
  - Self formed groups of 3-5 students
  - Self selection of project and definition of project scope by week 4
  - 20% of summative assessment
  - Work presented to classmates/staff in an open, informal poster session at end of term.
  - Supported by forums (and this year wikis)
  - Focus and assessment on process

## The Good

- Evidence of a high level of student motivation
  - “The project was a definite highlight of the course, along with the presentation session. It was good to see what other groups had done, and also just to be able to show off what we'd achieved. The other staff and students coming along added to the atmosphere as well.”
  - “Enjoyed freedom for project work”
  - “Projects helps to know more about the course”
  - “The project she started in MWN is fantastic. Should start for the other level 4 courses as well.”
  - Significant use of group forums
- Staff recognition
  - “It [Mobile and Wireless Networks] is one of the rare opportunities for them [students] to discuss their works as peers within the community. I consider this course a significant contributor to training for their Masters thesis and similar to a minor thesis for the MIT students”

## The Bad...and how to make it better

- Fear of the unknown
  - Providing a “learning community” or better yet a “community of practice”
  - Providing support for project selection
- Lack of information literacy
  - Sources of information
  - Basic research skills
  - Examples of expectation

## The Bad...and how to make it better

- How to assess fairly?
  - Focus on process - how did students tackle the problems/challenges of their project.
- Feedback
  - Peer-review for reflection
    - Student’s need guidance for this!
  - Significantly higher than average satisfaction with feedback.

## Conclusions

- Give students the meta-cognitive skills they need to address “real world” problems
- Motivate by letting them choose their own areas of interest to do this.
- We can deal with the “problems”
- More details in the paper
- Further work to be done on
  - Group selection (or individual projects in a “community”)
  - Formal Assessment criteria
  - Earlier Feedback