

STATS 220: Some Lessons Learned about Web-Based Teaching

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Introduction

- Course Overview
- Why Web-Based?
- Tour of STATS 220 Web Site
- Successes & Failures
- Some other stuff



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Course Overview

- Computer technologies for entering, storing, retrieving, and processing data
- Introduction to computer languages
- Awareness of potential gains from electronic storage and automation of tasks
- Nudge from computer user towards computer programmer



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- HTML
- XML
- Databases
- SQL
- PHP
- Regular Expressions
- Two lectures and one lab per week



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- Distance-learning, self-paced learning: only time students have to attend campus is for test and exam
- Electronic submission: standardisation of submissions; automation of marking
- Efficiency of communication: electronic notices and announcements; electronic resources; availability of course material
- Students do not need to install any software: only assume browser, text editor[, internet connection]
- Scalability



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Why not Cecil?

- Lack of flexibility (especially for on-line assessment)
- Needed a database server anyway
- Megalomania/Masochism



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Tour of the STATS 220 Website

... via Internet Explorer ...



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Successes

- Low tree consumption
- Distance/self-paced learning
- Automated marking
- Checking for copying



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Non-Successes

- If the network goes down, nothing works!
- Lack of submission feedback
- Lack of feedback from automated marking
- Providing “target” answers that were not “model” answers
- Standardising/advertising the submission routine



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SECURITY Issues

There are two main issues:

- (i) only allowing access to enrolled students
- (ii) limiting the damage that enrolled students can do
 - Password access for class to certain areas
 - Password access for individuals to certain areas
 - Isolating `stat18`
 - Students dropping files onto `stat18`
 - Students dropping files onto `stat18` and running them



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Required Computer Technologies

- Apache server
- MySQL server
- PHP scripts
- (Linux shell scripts)



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Relevance to Other Courses

- Standard format for submissions
- Automated marking for code submissions
- An R practice page?



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Looking Ahead

- Making electronic resources available after the exam.
- More serious security (e.g., Secure Sockets Layer?)
- Modularising PHP scripts (maintenance and reuse)
- MIT's DSpace software (<http://dspace.org/index.html>):
“DSpace is an open source software platform that enables institutions to: capture and describe digital works using a submission workflow module; distribute an institution's digital works over the web through a search and retrieval system; preserve digital works over the long term”



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