

# An Interactive Web-based Learning Environment for the Presentation of Sustainable Development Case Study Material on Contaminated Land

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# Scope of Presentation

- Why land remediation?
- The Edinburgh team
- SD in Civil and Environmental Engineering Teaching
- The Web-Based Case Study Tool
- Future development



# Why Land Remediation?

- Ten years ago no such market, in 2000 the annual turnover about £300M, now nearer £1B
- Now a heavily regulated market with risk assessment a key component
- Multi-disciplinary business with engineering a core activity
- Contaminated land/sites still a sensitive issue

# The Edinburgh Team



# SD in Civil and Environmental Engineering Teaching

- Civil Engineering 1h
- Second Year Courses
- CE3.11 Environmental Issues and CE3.15 Sustainability
- Honours Modules and Designs
- Other Engineering Disciplines



# The Web-Based Case Study Tool

- Principles
- Implementation
- Testing
- Feedback



# Principles

- Replicate Design Office Experience
- Budgeting and Costing
- Seeking and Interpretation of Data
- External Modelling/Spreadsheet tools
- Assessment of Solution
- An x,y,z,t problem

# Implementation

- Simple, Portable, Open Source
- Perl and PHP Scripts
- Run from see.ed.ac.uk Web Server
- No reliance on downloads
- No reliance on specific modelling tools etc
- Links to helpful sites



# Testing

- 12<sup>th</sup>-23<sup>rd</sup> May 2003
- 15 Honours Students in Civil and Environmental Engineering
- Wide-Ranging Project based on Clophill Case Study
- Case Study adapted for educational reasons

# Feedback

- No problems with use
- Favourable comments
- Borehole/Trench worked well
- Excellent Quality of Reports



# Future Development

- MySQL Database
- Budgeting needs refinement
- Clickable Maps for Borehole and Trench
  
- Widening Application Area
- Promote in Schools

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