

Unix Tools
Courant Institute of Mathematical Sciences
Project
Due: April 27, 2007

The objective of this project is to design a web-based minesweeper game. If you are not familiar with the game, you can first consult:

[http://en.wikipedia.org/wiki/Minesweeper_\(computer_game\)](http://en.wikipedia.org/wiki/Minesweeper_(computer_game))

Your programs should be written as a series of CGI scripts. The instructions for using CGI scripts on i5 are given under:

<http://i5.nyu.edu>.

0. Familiarize yourself with writing CGI scripts under i5.
1. Design a module for username registration and authentication.
2. Write a module to maintain and display user statistics (e.g., number of games played, score, best scores across users) in an ascii file.
3. Write a module for selecting the game level (beginners, intermediate, expert) and creating an instance of the game for that level. The level should be based on the density of mines.
4. Write a module implementing the game. Clicking on a field should produce the appropriate outcome according to the rules of the game. This module should be the back-end called by the browser interface when the user clicks on a field.
5. Create or use existing images available on the web for different configurations of each field (e.g., mines, numbers, flags).
6. Create a browser interface for the game. The interface should allow the user to click on a single field. This action will call the game back-end module, which will return a new configuration to be displayed by the browser. The interface should include a button for “new game” and one for “score”.
7. Use your creativity and programming skills to create the most elegant and effective game. Anything beyond what was mentioned above will give bonus points.