Class: CS 1401 – Introduction to Computer Science

Length of session: 50 minutes

Topic: Programming

Programming a simulated treasure hunt

Introduction: I am dividing an ambitious programming assignment into smaller parts, giving one part to each group. Students will get some extra-credit for the class after completing this assignment.

Activity: Quick Lecture
Time allotted: 3 minutes
Content:
      I will briefly explain the concept of Positive Interdependence, then explain the program they will be working on today, a simulated treasure hunt! In a handout, I will explain how the program will work. Then…

Activity: Flowchart
Time allotted: 5 minutes
Content:
      The groups will design an algorithm for the program in the form of a flowchart. (They did a very good job of this last session.) One person will be assigned the task of drawing, one will keep time, and the last one will encourage participation.

Activity: Discussion
Time Allowed: 8 minutes
Content:
      One member from every group will go up to the board and together (!) they will put together a flowchart to solve the problem. They will choose someone to explain the algorithm to the other student, and (more importantly!) me.

Activity: Breaking up the project into smaller parts
Time allotted: 4 minutes
Content:
      Given the flowchart, I will give suggestions on how to attack the program by breaking it into smaller parts. I will then give the class the opportunity to decide what group is responsible for what part of the program.

Activity: Work!
Time allotted: 15 minutes
Content:

Each group will work on their part of the program. The members of the group will have assigned roles based on some social criteria to be determined later. The roles are: programmer, researcher (using the textbook), and timer/encourager of participation. With any luck, all the groups will finish up by the deadline. I will go around and point people in the right direction. If one group finishes early, they are more than welcome to help other groups. After all, it's all or nothing! All groups will e-mail me a copy of their code.

Activity: Group Processing
Time: 10 minutes (at most)
Content:

Like last week, part of my handout will contain questions about how well the group worked together, what contribution everyone made, and what they might try differently for a future project. In the meantime, I will cut-and-paste the program bits together and (hopefully) come up with a working finished product.

Activity: Group Processing Questions
Time: 5 minutes
Content:

I will have a brief discussion about the group processing questions. I will try to get a feel of how they are working together and gather ideas for next time.

If there is any time left, the groups will be more than welcome to play the game they all helped create!