Voting Project

This project is designed to help you apply the voting methods we’ve learned in class in a real life setting. You are to work in groups of 3 or 5 students. You will create a preferential survey and have people take your survey. You will then analyze the results by using the specified voting methods and provide a final report. The survey can be anything you like (subject to approval by Dr. Csima). Most importantly try to have fun with this project!

- **Project Components:**
  1. Group formation
  2. Project Proposal
  3. Final Report

- **Submissions and Due Dates:**
  1. Group member names must be handed in to me by Monday February 23rd (one paper per group).
  2. Project Proposals must be emailed to me and also handed in on paper by Monday March 9th (one paper per group).
  3. One hardcopy of the Final Report per group must be handed in by Monday April 6th. The Final Report must also be submitted by each student and uploaded to Blackboard. You will be given instructions on how to do this.

All submissions must be typed and available in an electronic form (.pdf, .doc etc.)

- **Survey Requirements**
  1. Must consist of 4 options which are to be ordered according to preference.
  2. Must be given to at least 100 different people.
  3. Results are to be summarized in a preference schedule.
  4. Be informative. I want to learn something about you and your peers. Whether it be how you have fun, what your interests are or how you feel about more serious issues.
  5. Be interesting. Asking students what their favorite color is would be an example of a boring survey. Asking students “If your hair had to be red, orange, green or blue for the rest of your life which would you choose?” is a little more interesting. Be creative!

- **Voting Methods**
  1. Plurality
  2. Borda Count
  3. Pairwise Comparison
  4. Plurality with Elimination
  5. Invented Method. You will come up with a new voting method of your own.
• **Group formation** (5 points possible)

Group member names, student IDs, email addresses and section numbers are to handed in to me by Monday February 23rd. If you are having trouble forming a group email me by Friday February 20th, 5 pm.

Late penalty: 1 point for each day late.

• **Proposal** (10 points possible)

Your proposal must be both emailed to me and handed in on paper by Monday March 9th. It should include:

1. A short description of your planned polling method. (3 points)
2. A draft of the survey you intend to take. (4 points)
3. A description of the invented voting method you intend to use. (3 points)

Late penalty: 2 points for each day late.

Proposals will be evaluated and are subject to approval. Once it is approved you can go ahead and start polling!

• **Final Report** (35 points possible)

The final report is due on Monday April 6th in class. The final report is to consist of the following items:

1. Cover page: This page should include a title and your group member’s names, Student ID numbers and Section Numbers. (5 points)
2. Survey: This section should include the survey question, the survey options, the total number of people surveyed, and the preference schedule generated from the survey. A brief description of the method you wound up using to collect the results. (5 points)
3. Results: (10 points possible, 2 points for each method)
   - Plurality results. Plurality-with-Elimination results, which should include the order in which choices were eliminated with preference schedules for each round. Borda Count results, points must be computed for each choice. Pairwise Comparison results, must include a pairwise comparison chart. Invented method results, must show computations.
4. Summary/Analysis (12 points possible, 3 points each)
   Answer the following questions:
   
   (a) What conflicts (if any) were there between the various voting methods? Did the same option win every time?
   
   (b) What can you tell me about your invented voting method in terms of fairness criteria discussed in class?
   
   (c) Were you surprised by the results of your survey? Which voting method did you think was best?
   
   (d) What changes in your polling method or survey would you make if you did this again and why? (If you would not make any changes explain why.)
Three or more additional points will be awarded for style, entertainment value and creativity.
Late penalty: 7 points for each day late