Collective Problem Solving, Part 2 & 3: Information gathering, cross validation and final proposals

CS-234: Technologies for democratic society, Fall 2022

NOTE: If you have **any questions regarding this assignment**, please **do not hesitate to contact us** by starting a discussion on Moodle so that (1) we can help you and (2) your classmates who might potentially have the same questions benefit from our answers.You **can also always contact the CS-234 staff** at: *cs234@groupes.epfl.ch*

Introduction

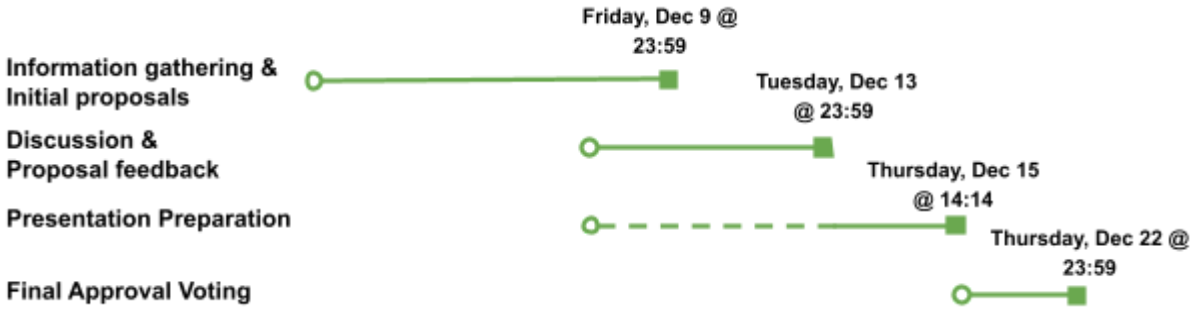
You have collectively decided to work on one these proposals:

- Absence of a one week break during the fall semester (+ Midterms weeks: a brutal amount of work for EPFL students, The fall semester without any breaks)
- Overpriced food everywhere (+ Meals at EPFL: too expensive given the quantity, Lunch and Snacks are too expensive: The case for subsidizing student lunches)
- EPFL : The Woke Virus.
- Courses that don't include an online version
- Too many classes per semester at EPFL
- Vegan Day imposed on all EPFL students

You will **work in teams** on **one of the above problem proposals** and devise a solution. To this end, you will: (1) gather information about the problem, (2) propose an initial potential solution to the problem, (3) engage in discussions over both your and other teams' proposals (and optionally merge your proposal with others'), (4) refine your proposal by incorporating feedback that you receive from other groups, (5) present your final proposals, and (6) participate in an approval voting over all the proposed solutions.

Your first task is to form teams of **9-10** students. Please form your teams and fill out the following spreadsheet by **Wednesday, November 30 @ 23:59**. Teams cannot have less than 9 students or greater than 10 students. Additionally, each team will consist of 3 sub-teams of 3-4 people. Sub-teams are going to work on different aspects of the same problem (more on this later). In this same spreadsheet, open the **Proposals** sheet (bottom left) and choose the problem you will work on. Only a maximum of two teams can work on the same problem, which is set on **a first-come, first-served basis**.

Timeline for Part 2 & 3



Information gathering and initial proposals

Before you start the information-gathering stage, each team decides on which one of the proposals they want to work on and how they are going to investigate and address the chosen problem. For example, for the food problem at EPFL, you can focus on the availability of vegan options, food prices, food quality, sustainability or something else.

After you have decided which problem and on what aspect of the problem you want to focus on, you can start gathering expert information that will help you come up with a proposal for a potential solution to this problem. Information gathering is a standard process in problem solving, *e.g.,* data collection in science. For this assignment, you can choose from a variety of sources of information, such as interviews with experts, questionnaires with EPFL students & staff, literature studies (preferably peer-reviewed material such as academic papers) and surveys. **Although you are free to choose from any of the aforementioned sources of information, in your proposal, each sub-team has to contribute information from at least two sources**. So, in a team of nine with three sub-teams, there should be at least six sources. It is a good idea to choose your sources such that the collected data can justify different parts of your proposal, e.g., you can find out the severity of the problem in one part, search for its root cause in another part, and finally support your solution with the data from a third source. Note that conceptual separation is not a requirement, you could as well use all three information sources to refine your solution. **Also note that the list of suggestions we make above is neither comprehensive nor restrictive**. You can choose whatever aspects of the problem you are interested in and collect information in a way that helps you justify your proposed solution the best.

When you have gathered all the precious information and come up with a proposal for a solution, it is time to prepare a write-up so that other teams can also learn about your findings and provide you with feedback on your proposal. **The write-up must include a one page (i.e., concise) executive summary** detailing the problem, the motivation behind the problem, the information gathered by each sub-team, a brief synopsis of each information and the proposed solution (not necessarily in this order). **The write-up must follow with a half page introduction** where you state the problem and what aspect(s) of the problem your

team is looking into and describe the motivation. **Each sub-team then provides an individual write-up that includes: (1) the information that the sub-team collected** and **(2) an analysis/description of the information collected. The length of this part must be between 2-3 pages PER sub-team. Finally, the write-up must include a half page conclusion** where you summarize the report, reinforcing the team's proposed solution. A conclusion should not introduce any new information. We leave the placement of the team's proposed solution at the team's discretion.

Please create a thread on Loomio and attach your write-up and any additional supporting material that you have. You should name your thread as: ***[Team Name]: [Title of your proposed solution]***. The deadline for submitting your solution proposal is **Friday, December 9 @ 23:59**.

Discussion and feedback on proposals

Once every team has created a thread on Loomio with their write-ups and the supporting materials, the discussion about the proposals can start. The goal of this stage is to discuss and argue about the proposals presented by the different teams. The requirement is that each **sub-team** must give feedback on **all the other proposals**. To do so, you are going to comment under teams' threads that contain write-ups with their proposed solutions. You can either split the proposals between the sub-team members or go over all of them together. The feedback should be **constructive** and **argued.** You are supposed to ask questions, to suggest improvements and to link the proposal with your own proposal (if possible) or with other proposals.

This stage is not limited to participating in discussions on other teams' proposals. You should also interact with others to discuss your own proposal. As a team, you are supposed to moderate the discussion about your own proposal, to answer questions and to provide any necessary detail about your solution. This will allow you to improve your proposal, by taking into account the feedback from other people.

To summarize, the crucial point of this stage is to use the insights that you have learned during the information gathering stage to: (1) help other teams with their proposals and (2) use the information gathered by other teams to improve your proposal.

During this stage you can also merge your proposal with another team's proposal. If the two directions are close and you realize that the approach and the solutions are compatible, you can propose to work together and merge the proposals.

The deadline for this stage is **Tuesday, December 13 @ 23:59**.

Presentation

After the discussion phase is over, you can finally present your solution proposal to your classmates and the CS-234 staff. Each **team** is going to do a **10-minute presentation**

(there will be an additional 3-4 minutes for Q&A) with a summary of your information gathering approach and results, your proposed solution and the results of the discussion/feedback phase. In the overview of the discussion/feedback phase you can, for example, answer the following question: Was the feedback phase useful for my group? Did we incorporate feedback from others into our proposal? Did the discussion on other proposals help us to improve our own proposal? For efficiency reasons, each team will select 3 to 4 representatives (at least one representative per sub-team) to present the team's work.

The presentations are on **Thursday, December 15 @ 16:00-17:30 and on Friday, December 16 @ 08:30-09:45 during the exercise sessions. Please try to attend both sessions unless you have an important conflict.** In the spreadsheet used earlier, select the "**Final Presentation Schedule**" sheet and enter your team name next to a slot. This is also on a first-come, first served basis although we reserve the right to make adjustments as needed.

The deadline to upload your slides to Loomio (under the same thread as your write-up and supporting material) is **Thursday, December 15 @ 14:14.**

Final voting & Peer Evaluations

We conclude this assignment with a final poll conducted on Loomio over your solutions. This time, we are going to use approval voting so that you can express whether or not you approve the presented solution proposals.

In addition, each sub-team member will evaluate themselves and each member on the same sub-team. You will also, more generally, evaluate the other sub-teams on your team. More information will be provided in mid-December.

The deadline to submit your vote & evaluate your peers is **Thursday, December 22 @ 23:59.**