Assignment 6: Team Presentation 5 and Report

1   General Directions

This homework must be done in a group of two people; we will use the same groups as for the previous homework.

See Webcourses and the syllabus for due dates and presentation schedule.

Your presentation will be made in the zoom meetings scheduled for the class (unless the university reverts to face-to-face meetings in the future). See the announcement in webcourses about the zoom meetings. Your team will share their screen (see https://support.zoom.us/hc/en-us/articles/201362153-Sharing-your-screen) with the class meeting.

2   What to Turn in

The topic selection is an email to the instructor.

The report draft report and final report are to be uploaded as a Word document or a PDF document.

For the presentation, upload a PowerPoint file (or a PDF file if you are using some other presentation software such as Keynote) to Webcourses.

3   The Assignment

Select a topic, confirm it by email, and then write a draft report, make a presentation (ideally of 20 minutes, which must be at least 18 minutes long and no more than 22 minutes long on a topic of your choice), and revise your draft into a final report.

Your presentation must be delivered jointly by your group, with all group members speaking an approximately equal amount of time.

3.1   Topic Selection and Confirmation Email

By March 15, you must email the instructor with the subject "Topic selection for homework 6 in COP 4910". This email is worth 5 points and must contain the following information:

1. Your group members names.

2. The problem that your report and presentation will address.

3. The specific innovation that you will be discussing.

4. The enterprise (or kind of enterprise) that has this problem and that would pay for the innovation.

5. The title of your presentation and report, which should explicitly mention the problem to be solved, the innovation, and the enterprise. (or kind of enterprise). Be as specific as possible

6. A ranked list of 3 dates that you would like to present on (see the online syllabus for the possibilities), with the first being your most highly desired presentation date. (Note that there are bonuses for the first and second days of presentations.)

After receiving your email, your instructor will (promptly) email you back to either confirm the topic selection by your group or to ask for changes or clarifications.

Be as specific as you can be about the topic, problem, solution, and enterprise.

To avoid duplication in topics, you will be required to change your topic if some other group is presenting on the same topic. If two or more groups want to present on the same topic, the first group to send in the email

about that topic will be allowed to proceed, and the others will need to make a change. Presentation date preferences will also be honored as best as possible on a first-come-first-served basis.

The problem selected (see above) must be a specific problem that affects the kind of enterprise (or kind of enterprise) that you have selected. Ideally it should be an important problem that affects the enterprise in a measurable way, or an important ethical or societal problem that affects that enterprise or its customers. There must be a business motivation for the enterprise in the sense that they would potentially pay for the innovation.

The innovation should be specific, not something general (such as "AI"), and it should be something that is not widely known (so that we will all learn something from your presentation). The innovation need not be some new hardware or software, it could be a new process (way of working).

The enterprise could be either a business (e.g., Lockheed Martin) or a non-profit organization (e.g., the Red Cross), or a government agency (e.g., the Department of Energy) or it could be a category of businesses (such as automobile manufacturers). It is best if you pick a particular enterprise and a focus (sector) within that enterprise (especially if the enterprise is very large). If the enterprise or focus does not yet exist, you will need to define it clearly.

The kind of consequences your group discusses should be directly affected by IT practices. Consequences could be ethical or social effects of IT practices. However, they should be specific, such as "loss of location privacy" instead of "loss of privacy."

Ideally, the class will learn something new from your presentation, so it is best to choose a consequence and innovative solution that reflect recent innovations.

The course resource page has information that may be helpful for finding topics.

To find innovations, the Gartner Hype Cycles and Technical Insights can give some ideas. Other sources for innovations include journal articles and online resources.

After settling on an innovation, you may need to backtrack to find the kind of problem that this innovation will aid in solving and its consequences. Some useful resources for that include the Gartner Magic Quadrants and Critical Capabilities available when logging in on campus (or through logging in to the UCF library) has various use cases that can be read to understand problems and ranks vendors that provide solutions. These include problems and use cases in the following broad areas:

- Software Infrastructure

- IT Services

- IT Management

- Business Applications

- Operations Management

- Communications Services

Other sources for problems include journal articles and online resources.

Consequences that matter are ultimately those that affect people. For example "loss of X privacy" where X is some particular attribute, such as "location," "political viewpoint," "gender preference," or "religious preference." Consequences could also be about employment, especially if these involve adding or subtracting jobs in IT. Other consequences might be about health (e.g., worker injuries) or environmental issues (e.g., climate change). Consequences might also affect society at large, such as inclusion or civility of discourse, although such issues tend to rapidly become political, and we would prefer to have a reasoned analysis of consequences rather than empty political statements.

Other broad areas to think about to find more specific problems include:

1. Accessibility and inclusion issues

2. Security issues

3. Privacy issues

4. Customer Experience issues

5. Healthcare and wellness issues (both for customers and employees)

6. Competition and disruption from use of AI

7. Competition and disruption from use of DevOps or Cloud Computing

3.2 Draft Report

The draft report is worth 35 points, which will be 5 points for being on time, 10 points for the formatting, and 20 points for content and clarity. When writing your draft, be aware of both the formatting and the grading criteria for the final report (below).

The draft report should be 3-5 pages long (although note that the final report will only be 4 pages long), excluding the bibliography.

The format should be that used by the IEEE Computer Society journals. The Word document article template is at http://ieeeauthorcenter.ieee.org/wp-content/uploads/Computer_Society_Word_template.zip. You are also welcome to use the LaTeX article template if you wish.

The paper should thus be structured to have the following parts.

1. A title, list of authors, and date.

2. A brief abstract, which should be no more than 2-3 paragraphs (aim for less than 500 words).

3. An introduction that describes the problem and its importance and the (kind of) enterprise affected by the problem.

   The introduction is also the place to describe any related work (papers or other solutions that attempt to solve the same problem or part of the same problem).

4. Optionally, a section that gives any necessary background.

5. Optionally, a section that defines the problem more precisely or in more detail.

6. A section that describes the solution approach, in enough detail that someone working in IT in the enterprise could implement the solution.

7. A section that describes the consequences of the approach.

   This should include a cost analysis in as much detail as possible.

   If there are significant other consequences for humans or society (e.g., loss of privacy or health issues or environmental damage), these should also be described.

8. A brief conclusion, that summarizes the main recommendation (whether to use the solution and how to use it) and reasoning behind that recommendation.

9. A bibliography of references cited.

The paper should follow the IEEE Editorial style, especially as regards to citations and bibliography. See the IEEE Editorial Style Manual at the linked URL for guidance.

The paper should be written for a reader who understands IT (or Computer Science) at the bachelor's degree level.

Note that all sources used should be cited. If you copy words or phrases from a source, be sure to use quotation marks and a citation to the original. However, don't overdo quotations; that is, most of your article should be your own words, not quotations.

3.3 The Presentation

Your talk for this homework will be about the same topic as your report. You can use your talk to develop your thinking about the report. You should practice your talk and aim to be able to deliver it in the allotted time. Note that you may tend to talk more quickly in front of the class, so allow for that.

Have a backup presentation (on a memory stick or in an online storage service like OneDrive or in email), so that you will be sure to be ready to present when called on.

The presentation itself is worth 50 points distributed as:

- 5 points: length of time (neither too long or too short, as specified above); for every minute over the maximum you will lose 5 points and for every minute under the maximum you will lose 5 points.

- 5 points: eye contact with audience and voice volume; we will take points off if you read from your slides, depending on the severity of the issue. We will take points off if you do not speak loudly enough or speak too loudly.

- 5 points: presentation slides; if slides are too wordy or have other distractions, then we will take points off, depending on the severity of the issue.

- 30 points: clarity of presentation and analysis with

    - 10 points for a clear presentation of the problem
    - 10 points for a clear presentation of the solution (approach)
    - 10 points for a clear and thoughtful presentation of the consequences of the solution on the enterprise and on society (or the world).

- 5 points for the bibliography.

Both group members will receive the same points for the presentation.

3.4 Final Report

The final report is worth 100 points.

The draft report should be 3-4 pages long, excluding the bibliography. It should follow the same format as for the draft report (see above).

The grading criteria for the final report will be as follows.

- Format (10 points).

- Abstract (10 points).

- Introduction, which clearly defines the problem and background section, including any related work (15 points).

- Solution approach section, with enough detail and specificity (15 points).

- Consequences section, with a cost analysis (15 points) and consideration of other consequences for humans and society (10 points).

- Conclusions (15 points).

- Bibliography (10 points).

There will be the usual penalties for being late or not prepared or missing class.