SPS120 - Project 2 Instructions

Be sure to read all instructions carefully as missed components will results in lost marks

Problem Solving

Select **one** of the technical problems listed in the "Project 2 Problems" document posted on Blackboard. Use the problem solving method we have discussed in the problem solving lecture and tutorial to:

1. Define the problem (what, where, when, who)
2. Create an Ishikawa Diagram
   a. At least 10 possible causes must be provided. They can be categorized as you see fit but they must be logical to the problem you are solving.
   b. Following the diagram, provide a 1-page (double-spaced) write up explaining your rationale for the possible causes you have included
3. Create a Mind Map diagram
   a. Mind map must include at least 20 "bubbles"
4. Provide Multiple Solutions
   a. At least 5 possible solutions must be provided.
   b. Each solution must be accompanied by a short explanation (2-3 sentences) on the rationale for why each solution is appropriate.
5. Provide a trade off analysis of your chosen 5 solutions
   a. Trade off analysis must be 1 full page (double spaced)
6. Create a flow chart to show how you will implement your solutions
   a. Flow chart must implement at least 3 of your chosen solutions which address at least 3 of the most likely causes you provided in your Ishikawa diagram
   b. Following the flow chart diagram, provide a 1-2 page (double spaced) write up, explaining the logic behind your flow chart (why you chose the order of your flow chart, which solutions had priority and why, which 3 probable causes to the problem you are addressing and why you chose them, what possible changes you might have considered etc.)

Documentation

Create a clear, well-formatted document package that includes all aspects of the problem solving process for this problem. Be sure to use consistent formatting, label your diagrams appropriately (Ishikawa, Mind Map, Flow Chart), and use proper headers or titles. All pages must be numbered.

Your documentation package must be in either **MS Word or PDF** format and must include the following pages:

1. a cover page that includes all group members' full names, student numbers, group name, and **a link to your MS Stream hosted video presentation**. – 1 page
2. Your problem defined (answer the who, what, where, when about the problem) – 1 page
3. Ishikawa Diagram showing the possible causes to your problem – 1 page
4. Write up explaining your rationale for the possible causes you have chosen – 1 page
5. Mind Map diagram showing your brainstorming for the problem, possible causes, and potential solutions – 1 page
6. 5 potential solutions accompanied by a short explanation for why they have been chosen – 1 page
7. Trade off analysis for your chosen solutions – 1 page
8. Flow chart of how you would implement your solutions – 1 page
9. Explanation of your flow chart – Minimum 1 page, maximum 2 pages
10. A copy of your group's script for your presentation (see "presentation" section of this document for more info) – as many pages as necessary

You are also required to submit your completed Project Management document alongside your documentation package.

Diagrams must be clean and professional looking. You will be marked on this! It is suggested that you use draw.io. This is a free, simple to use diagram creator. You can also use MS Visio if you have it but draw.io has everything you need to create simple, clean, and professional looking diagrams.

Spelling and grammar matter! While some consideration and leniency will be given in this area, an abundance of spelling or grammatical errors will result in lost marks.

Whether you use MS Word or PDF as your chosen document format, you must use the following naming convention for your documentation package and MS Stream video title:

"SPS120*XX-GROUPNAME*-PROJECT2"

"XX" will be replaced by your course section (AA, BB, CC, DD, EE, FF)

"GROUPNAME" will be replaced by your group name.

Marks will be deducted for not following the documentation file naming convention!!

Presentation

Create a video presentation that walks the viewer through your problem solving process and rationale.

It is up to you how you divide up screen time but all group members should appear on screen for (roughly) an even amount of time. All presenters must introduce themselves.

Video must be **10 to 15 minutes** in length and should cover the following:

1. Overview of the Problem
2. Ishikawa Diagram
3. Multiple Solutions
4. Trade Off Analysis
5. Flow Chart of Solution Implementation

Videos must include an intro *and* outro graphic that shows your class section, group name, and group members' names.

Videos must include graphics that help show the information you are discussing. Graphics need to be easily readable. It is up to you to decide which graphics you use and how you present them.

Write up a script for your video. This should take the information you've written in your documentation package and condense it into presentable chunks. A well written script is easy to rehearse and memorize. Marks will be deducted if it is obvious you are reading while presenting. Your script must be attached to the end of your documentation package as per earlier instructions in this document.

DO NOT SIMPLY COPY AND PASTE WHAT YOU HAVE IN YOUR DOCUMENTATION. There should be far too much information in your original documentation to fit into a 15 minute presentation.

***The point of this video is to give the viewer a summary presentation on your problem, probable causes, solutions, and your rationale for them. Effectively, **you are trying to convince the viewer that your choices of probable causes and solution implementations are logical and practical.** ***

A note on audio, filming, and aspect ratios:

It is understood that not all students have access to high quality recording equipment. Using your phone to record your presentations is fine but consistency is important. It is fine to record in portrait or landscape ratios but make sure that each group member films the same way. Likewise, with regard to your audio, professional level audio recording is not expected but all audio should be clearly audible.

Pro tip: Explore the video and audio manipulation tools in Adobe Premiere Rush to really polish your presentation videos.

Project Management

Use the Project Management Document to track your group's work throughout this project. See Project Management Document for more details.

How to Submit

Project 2 Preparation Plan

Your "Project 2 Preparation Plan" will be submitted via Blackboard using the "Project Management Document". You can find the "Project 2 Preparation Plan Submission" link under "Projects".

For the Project 2 Preparation Plan, groups must submit a copy of their Project Management Document (the template can be found in Blackboard) with the following sections filled in:

- *Project Team page (all info)*
- *Project Execution page*
    - Student names, target sprint #
- *Plan and Retroperspective*
    - Planned start, planned finish, what is to be completed for each sprint

Submissions must be named as "SPS120*XX-GROUPNAME*-P2PREP".

When you are ready, submit your Excel file by clicking on "Browse my computer" in the "Attach Files" area.

Project 2 Final

Your "Project 2 Final" documentation packages will be submitted via Blackboard. You can find the "Project 2 Final Submission" link under "Projects".

The Project 2 Final is your fully completed documentation package including everything listed on page 2 of this document. **Please double and triple check that you have not missed anything in the package!** Remember to use the correct file name – "SPS120*XX-GROUPNAME*-PROJECT2".

When you are ready to submit your completed documentation package, submit your **MS Word or PDF file** and your **Project Management Excel document** by clicking on "Browse my computer" in the "Attach Files" area.

Due Date:

Project 2 Preparation Plan: Week 7 (End of day on the same day Project 2 is assigned)

Project 2 Final: Week 9 (See Blackboard for exact date)

Please be aware that there is a late penalty of 20% per day up to a maximum of 5 days after which you will receive a mark of 0 across all components of the project.

Marking Rubric – 30% of Total Grade

Mark Breakdown:

<u>*Problem Solving – 20 marks*</u>

Problem is defined (What, Where, When, Who answered) – 1 mark

Ishikawa Diagram completed with enough causes – 2 marks

Explanation of possible causes in Ishikawa Diagram – 3 marks

Mind Map completed with enough "bubbles" – 1 mark

Multiple logical and practical solutions provided – 2 marks

Ample explanation of rationale behind each solution provided – 3 marks

Trade Off Analysis Completed with proper explanation – 3 marks

Logical Flow Chart of Implementation Completed – 2 marks

Detailed explanation of flow chart – 3 marks

<u>*Documentation – 20 marks*</u>

Complete document package with all sections – 2 marks

Documentation is well formatted – 4 marks

Documentation is clear and concise – 3 marks

Documentation contains proper spelling and grammar – 3 marks

Diagrams are clean, clear, and professional – 3 marks

Diagrams are labeled appropriately – 1 mark

Documentation includes cover page with necessary information – 1 mark

Documentation pages are numbered – 1 mark

Documentation is in PDF or MS Word format – 1 mark

Documentation uses specified naming convention – 1 mark

Presentation – 20 marks

Presentation Video is 10 - 15 minutes long – 2 marks

Presentation Video visuals are clear – 2 marks

Presentation Video audio is clear – 2 marks

All presenters introduce themselves – 1 mark

Presentation Video includes explanations and graphics for:

- Overview of problem – 1 mark
- Ishikawa Diagram – 1 mark
- Multiple Solutions – 1 mark
- Solution Trade Off Analysis – 1 mark
- Solution Implementation Flow Chart – 1 mark

Presenters have rehearsed and memorized their parts, are not reading from a script – 3 marks

Presentation video contains intro and outro graphic with necessary information – 1 mark

Presentation includes readable graphics of information being discussed – 2 marks

Overall professionalism of video – 2 marks

Project Management – 20 marks

Project Preparation Plan with required info submitted – 5 marks

Project 2 Checkpoint – 5 marks

Completed PM Document submitted with Project 1 Final documentation package – 5 marks

Project Management post-mortem provides sufficient detail on project process – 5 marks