Assignment (group assignment)

Total Points: 100

Office location: CAED 210H

Instructions

Collaboration Policy: For "Individual assignments," Collaboration is expected within the limits of discussing concepts and problems. However, each student must produce his/her own solution to the problems. For "Group assignments," each student should have specific contributions to the homework –by default, the instructor assumes equal contributions; if any disagreement between team members about the contributions of individuals, please talk to the instructor to initiate a peer evaluation process.

ChatGPT Policy: In general, please be transparent if you use ChatGPT and highlight the parts of the homework generated by ChatGPT. When you choose to use ChatGPT to provide some answers, please *1) use an online document to save the ChatGPT sessions that helped you produce the answer*; *2) critically review the answers generated by ChatGPT, highlight the parts that you found that ChatGPT's answer needs improvements*.

General Expectations and Requirements for Homework:
- Please use considerable and uniform font sizes throughout the document to maintain consistency of the document. You may choose to highlight subheadings with either a bold or underlined feature.
- Please use bullet points wherever possible to make the answers clear and easy to follow by an educated reader.
- Please do not forget to reference additional data, hyperlinks or literature used as evidence or background information to support your claims and solutions in the document. Please list those references below your answer or at the end of the document.
- Please refer to the textbook and provide descriptive answers wherever possible.
- <u>Please communicate with the instructor to clarify questions about the homework description BEFORE the submission</u>; after the homework submission deadline, the students are responsible for the point losses due to different ways of interpreting the homework requirements.

All homework submissions should be submitted electronically on Canvas.

Project Report Structure
1. **Title Page**:
    o Project Title
    o Course Name
    o Instructor Name
    o Team Name and Members
2. **Abstract**:
    o Summarize the project objectives, methods, key findings, and conclusions
3. **Introduction**:
    o Provide background information on the use of Raspberry Pi for data sensing.
    o State the objectives of the project and the significance of the chosen locations.
4. **Team Members and Contributions**:
    o List all team members and their roles in the project.
    o Describe the specific contributions of each team member (e.g., "Ruoxin Xiong: Data visualization and analysis").
5. **Location Selection and Justification**:
    o Detail the chosen locations for data collection.
    o Justify the importance of each location with logical reasoning (e.g., environmental variation, relevance to building operations).
6. **Experimental Procedure**:
    o Outline the step-by-step methods used for setting up the equipment, collecting data, and managing the workflow.
    o Include information about the equipment used (e.g., sensors, Raspberry Pi model).
    o Insert photos of the data collection process and a picture with all your team members!
7. **Data Collection and Analysis**:
    o Present the data collected using appropriate visualizations (e.g., graphs, charts).
    o Discuss trends, patterns, or anomalies observed in the data.
    o Provide interpretations of the results in the context of your chosen locations.
8. **Conclusion**:
    o Summarize the key findings of the project.
    o Highlight the significance of the results and any challenges faced during the process.
    o Discuss potential improvements or extensions for future work.
9. **Appendices**:
    o **Code**: Include the Python or other programming code used in the project.
    o **Experimental Data**: Provide raw data files, photos of the experimental setup, and any other relevant data.
    o **Additional Materials**: Any other supporting documents, such as manuals

Submission Guidelines
- Ensure the report is well-organized and professionally formatted.
- Submit both a digital copy (PDF format) and any supplementary materials (e.g., code files, raw data) to the designated platform by the specified deadline.
- Late submissions will be subject to grade deductions as per course policies.
- Each team only has to submit one report, but please include all team member names on the report.