1. Project Description

The goal of this project is to build a Web-based, real-time, and researchers, user-oriented data explorer. The weather stations send near-real-time climate data to Queen's via a satellite network. The website should share data from 4 High-Arctic weather stations with other students, researchers, or the scientific community to facilitate their research. This website should implement several functions.

Firstly, it is necessary to securely access and modify the information in the Drop Box and the Queen's computer. Customers want to keep track of who accesses their data, including names, identities, and IP addresses. In addition, anyone who wants to modify the data needs authorization. Second, users can decide to view or download the weather data, such as the temperature and humidity they need for a specific day, or they can click the weather station on the map to get the information they want. They should be able to view statistical analyses for a specific period, such as mean, standard deviation, or viewing image results through the website. Third, the website's main interface needs to be user-friendly and creative. For example, the World Map-Shaped Home Page and button-style data access page. Fourth, the website should provide a Q&A session to answer frequently asked questions that users may have. The site selects a pre-prepared answer by identifying the user's question, or by jumping to another page to find the right tool to help the user answer the question. Fifth, the site should be scalable. In the future, it may not be just weather data, but other data such as soil.

2. Project Schedule

Below is a description of each assignment deadline, our milestone goals, and what we will be doing roughly on each assignment:

ID	Date	Milestone	Description
M1	09/21	The Initial project plan by contracting the customers	The project should be selected and discussed between group members. A meeting is held between group and project customers and an agreement is reached with the customer that the project is to proceed. A supervisor will have been found for the project. All parties will have signed the project contract, based on the form provided on the CISC 498 web site. A project plan will have been created based on the project plan guidelines provided on the CISC 498 website.
M2	09/26-10/02	Define problem and processes by analyzing project	Analyze the scope of the project and identify the target users. Define the problem with these users as the core. At the same time, the issue needs to be broad enough to cover the project itself. In addition, by understanding the content of the project, we need to address the sequencing of the process, the range of the process, the resources required, and the results.

M3	10/03-10/09	Meet customers to identify aspects, limitations and acceptance criteria	Through the communication with the customer, understand the core and secondary parts of the project. Make a note of these two parts and distinguish them. Ask the customers about possible resource requirements for executing the project to mark the constraints of the relevant resources. In addition, recognition of acceptance criteria is achieved by understanding the customers' goals.
M4	10/10-10/19	Create requirements document/ Present Requirements	Hold a meeting with customers and listen to their software requirements. We use a notebook to write down some key problems they are facing. We then come up with a feasible solution and discuss with customers. After several solutions are drawn, they will be documented into a google share doc in order to refer in the future. We also provide our customers with a low-fidelity prototype drawn from figma.io in order to give them an initial idea about the product and help us elicit further requirements. During the requirement elicitation, we will follow the bullet points listed in the requirement document, identifying: user group, context of operation, current processes, roles, functional requirements, non-functional requirements and academic glossary.
M5	10/20-10/23	User interface design based on the user	According to the user's situation, targeted to design the user interface. This requires understanding their goals, abilities, and preferences. In addition, attention should be paid to the simplicity and consistency of the interface during the design process. When designing the user interface, we should also ask customers for their opinions so that problems can be corrected in time. We will bring up an low-feildty model used by customers to have an initial impression about what the product will look like.
M6	10/24-10/30	Communicate with customers to design prototype	At this stage, the prototype of the design should be a low-fidelity prototype. The initial prototype was designed using a combination of pen and paper and the website Figma.io. After that, we should present the prototype to customers. Customers will give us advice on how to improve the initial prototype design.
M7	10/31-11/06	Data design using diagram	First of all, ask the customers to know the meaning and purpose of each data. Draw diagrams such as ER diagrams to relate the relationships between the various data. After that, we need to discuss and decide on the format and specification of the data. At the same time, we should also decide how to query and import and export data based on relationships.
M8	11/07-11/13	Notable tradeoffs and risks discussing with customers	Review and summarize the trade-offs made during the design process, based on previous conversations with the customers. And analyze the reasons for these trade-offs. Write this down in text. At the same time, there are also various risks during designing. Again, we use the text to explain how these risks were overcome.

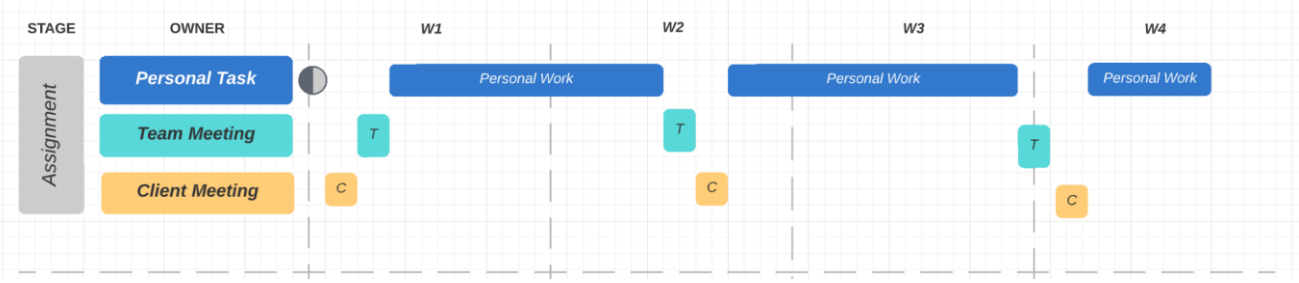
M9	11/14-11/23	Design document - Presentation	Based on the above external and internal designs, we summarize them by writing at least 20 pages of documentation. In addition to the user interface, prototype, data design, and trade-offs and risks, the documentation should also describe the project's usage scenario, feedback from customer, programming environment, algorithms, and so on. After that, we will divide the essay into five pieces as much as possible to prepare the content of the presentation.

3. Logistics

Since there are around 27 days between assignments, we choose to break each assignment up into three parts, each of which includes a meeting. In the first stage, we will personally meet with the client for around an hour in order to confirm their needs, ask questions and address them, and define the initial concepts. Additionally, our team will get together the next day to discuss, double-check the specifications, and assign duties. We hope three days after the assignment start, all of this will be completed. Also, each of these will be divided as fairly as possible into 5 equal parts to ensure that everyone has an equal amount of work. We also used the task breakdown method to break down each big problem we were responsible for into specific actions so that the execution would be more manageable.

The second group meeting will take place a week after the first, where everyone will report on their progress, any challenges they had, and a summary. In order to confirm that we are presently on the correct track and to solicit the client's comments and suggestions for improvement, we will then plan a second meeting with the client, to which the entire team will be included.

At the end of each Assignment, we will make sure that everyone has finished the material three days before the due date, and we will then meet with the client a third time to make any necessary corrections and finalize the draft. We intend to work together this semester to accomplish the following four objectives: First, there has to be a clear division of labor, with each team member aware of their specific job and the team's general objective. Second, the timetable is precise, and each stage's duties are clearly laid out. Third, there is prompt communication, and team members are aware of one another's progress. Finally, good communication enables timely recognition and resolution of project issues. We hope that we can have an enjoyable semester together while completing our tasks efficiently.



4. Feedback

1. What are the main functions of the designed systems? Could you please list the key features, instead of a long sentence that introduce some properties.
2. How to test the system? What criteria are used to evaluate the success of the system?
3. The milestones are well defined, but is it a project the deliverables are requirement and design documents? When will you deploy the system?
4. The responsibility of each group member is not very clear.
5. It is suggested to think about what the deliverables of each milestone are.