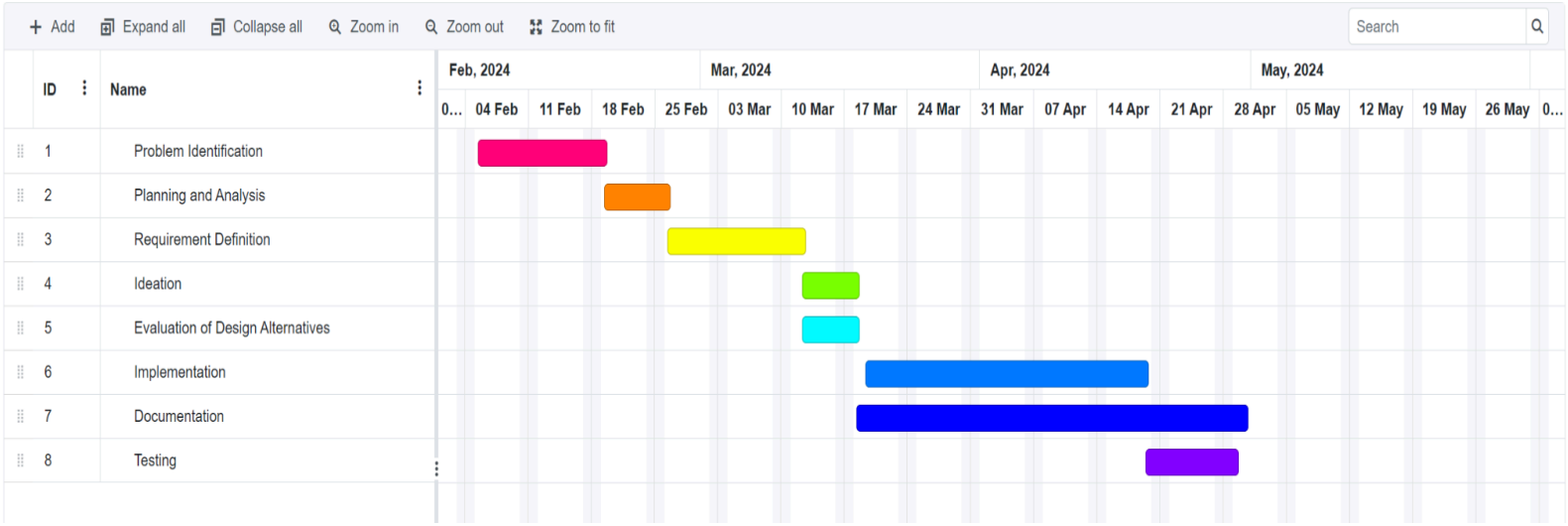
Part I. Gantt Chart



NOTE:

In the above picture, each of the eight stages of the engineering design process are planned using a Waterfall Methodology. Since documentation is likely to be occurring as problems and subgoals in the design of a weather monitoring system, it is concurrent with implementation and testing. Additionally, color coding for the eight stages of the engineering design process (as shown above) is given as follows

1) Problem Identification — Red/Hot Pink
2) Planning and Analysis — Orange
3) Requirement Definition — Yellow
4) Ideation — Green
5) Evaluation of Design Alternatives — Teal
6) Implementation — Light Blue
7) Documentation — Dark Blue
8) Testing — Purple

Part II. Background Research

Source: Weather Prediction: A novel approach for measuring and analyzing weather data (**link**)

Authors: Sunil Navadia, Pintukumar Yadav, Jobin Thomas, Shakila Shaikh

Context: The given document is an academic paper made to forecast the likelihood of rainfall through the use of predictive analysis. Knowledge of existing methods of data collection discussed in the article may be of use when evaluating ways we would want to collect data.

Source: A Low-Cost Microcontroller-based Weather Monitoring System (**link**)
Authors: Kamarul Ariffin Noordin, Chow Chee Onn and Mohamad Faizal Ismail

Context: The document seeks to develop an appropriate weather monitoring system that is based on microcontroller embedded systems and details the process and systems used to create the weather monitoring device. This is of particular relevance since it is written by Electrical Engineering faculty and thus contains information on how the system has been engineered given in highly technical details.

Source: Identifying Potential Refugia From Climate Change in Wetlands **(link)**
Author: P. A. Raney

Context: This is a PhD dissertation aimed at developing temperature models across landscapes and microclimates in order to collect and analyze data on the impact of climate change on survival of organisms in wetlands. The paper provides relevant forms of data collection that may be of importance, as well as data on New York State climates including wetlands from several years ago since all data measurements were taken from climates in New York State.

Source: Real Time Weather Monitoring System using IoT **(link)**
Authors: Puja Sharma, Shiva Prakash

Context: The above academic paper details the methods and processes of developing hardware/software systems using an Internet of Things (IoT) approach in creating a weather monitoring system to measure humidity, precipitation, and air pressure in real time. The paper is of relevance because it uses an alternative approach from the paper given above on developing a weather monitoring device, and thus provides alternative methods we may want to consider when implementing a system to solve our given problem.