Introduction

This document is a summary for a technical design for a small scale system, which is a temperature data collection and communication between a source and a destination.

Problem Description

A company has decided to invest into forest fire forecasting. The first step is to gather data about the temperature from the sensory node located in the forest. The node will be acting as a server sending temperature grades (Celsius), each one second to a client.
The client shall calculate the following , as it gets the data:

- Average over time
- Accumulation over time

The client shall print the calculations each 5 seconds. Server is communicating with multiple clients.

Design Description

The system consists of a program acting as a server communicating to a number of clients through **TCP/IP** protocol. The server handles multiple clients communication through the use of **Forking**. The clients output the temperature reading **to a file**. Following is a summary of technical details of the system.

- The system was developed on Linux environment (Ubuntu 20.04.4 LTS)
- The system was developed using C++
- The system is built using CMake
- Client-Server Model uses TCP/IP communication Protocol.
- Server implements forking to handle multiple client communications.
- The temperature reading is simulated through the use of srand number generator

Design Diagram