#include <iostream>

#include <fstream>

#include <string>

using namespace std;

const int MAXSIZE = 1000;

int main() {

int sensorNumber[MAXSIZE];

string timestamp[MAXSIZE];

int sensorReadings[MAXSIZE];

int numReadings = 0;

double totalReadings = 0.0;

ifstream inputFile("datafile.txt");

if (!inputFile) {

cerr << "Error opening file." << endl;

return 1;

}

while (numReadings < MAXSIZE &&

inputFile >> sensorNumber[numReadings] >> timestamp[numReadings] >> sensorReadings[numReadings]) {

totalReadings += sensorReadings[numReadings];

numReadings++;

}

inputFile.close();

if (numReadings == 0) {

cerr << "No data found in the file." << endl;

return 1;

}

double averageReading = totalReadings / numReadings;

cout << "Overall average reading: " << averageReading << endl;

int selectedSensor;

cout << "Enter sensor number to display reading: ";

cin >> selectedSensor;

for (int i = 0; i < numReadings; ++i) {

if (sensorNumber[i] == selectedSensor) {

cout << "Reading for sensor " << selectedSensor << " at " << timestamp[i] << " is " << sensorReadings[i] << endl;

}

}

return 0;

}

A screen shot of a computer program

Description automatically generated