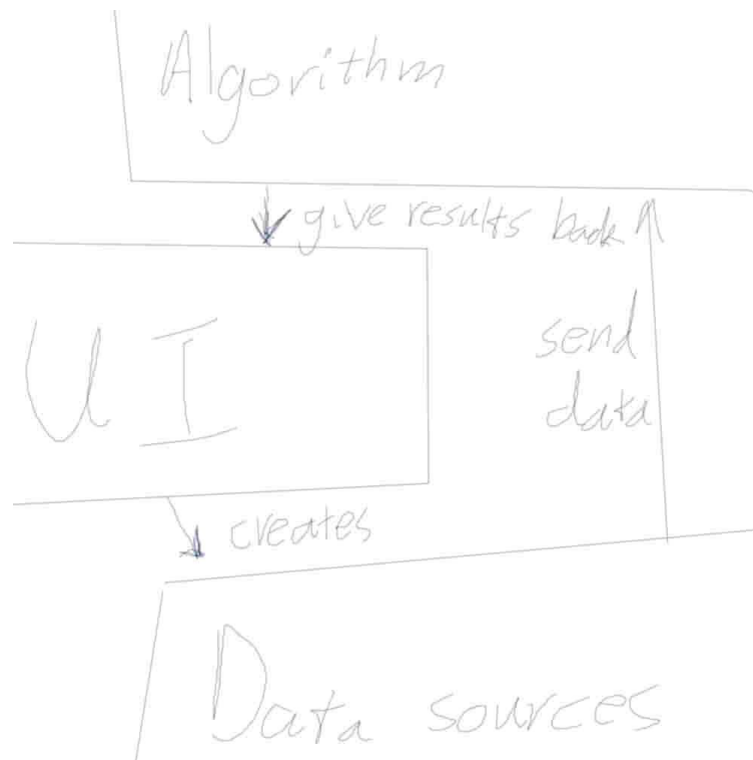Description：

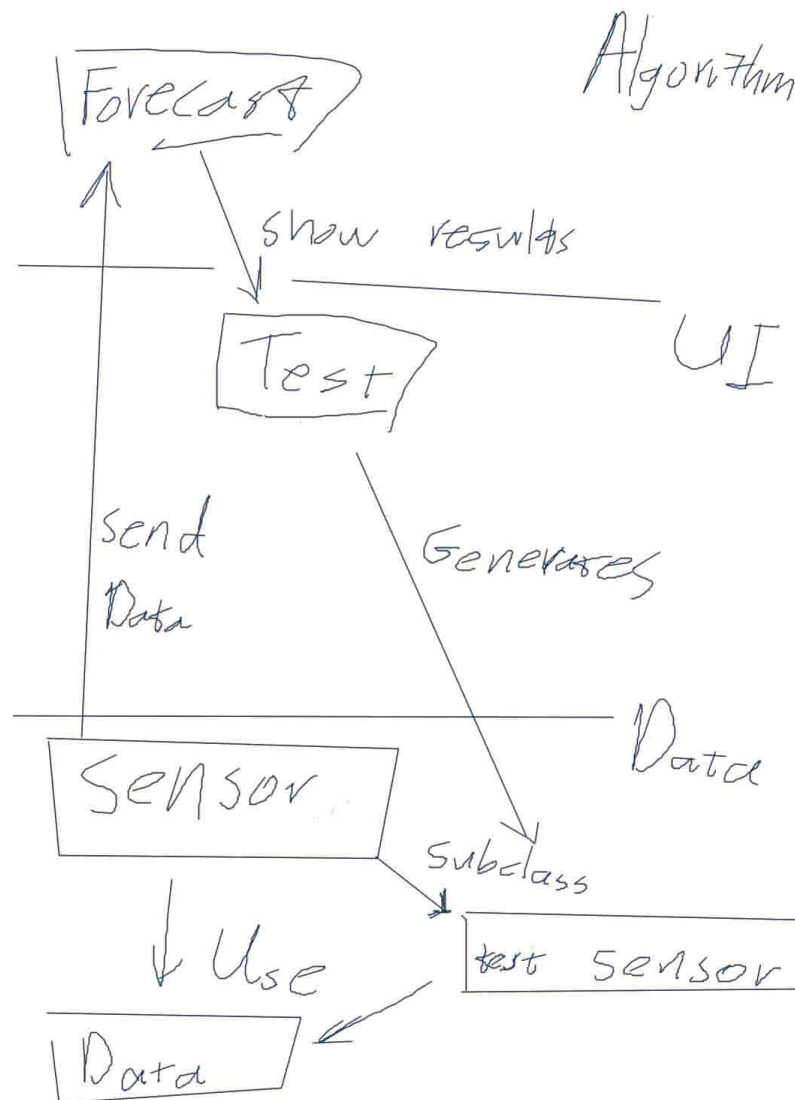This is a software to forecast weather based on temperature and humidity.

I designed a fake sensor class to generate data automatically every 10 seconds and a test-sensor class for people to use it from UI.

High-level software architecture

Detailed design

Class diagram and design patterns:

Algorithm

Forecast

↑ show results

Test

UI

send Data

Generates

Data

Sensor

↓ Use

Subclass

test sensor

Data

I use Test Class to drive Sensor classes only because they are fake sensors. The real sensor are supposed to drive themselves instead rely on other classes.