Sprint 1 Retrospective
TEAM 16
WeatherPipe

Stephen Harrell, Lala Vaishno De, Hanqi Du, Xiaoyang Lin

1. What Went Well

In this sprint we were able to get most user stories finished and created a working prototype. We were able to create many prototypes for pieces that we were not sure were even possible. Although the build system didn't come together till the end of the sprint we used the time to to explore our options and try different ways of coding up what we needed.

a. We completed user story one which allows users to choose specific time periods from the data such as a range of dates and time and a station name so that I can limit and choose the data set to the sample for my calculations.
b. We completed most of user story two which allows users to do their analysis from the command line with a command line tool.
c. We completed the user story three which allows users to do a simple analysis on the chosen data set so that users can analyze historical data.
d. We completed user story four which allows users to save the results in a file from a certain run so that users can user it later.
e. We completed user story five which allows users to retrieve radar data from s3 so that users can do analysis.
f. We completed most of user story six which allows users to authenticate AWS accounts and get access to compute resources.
g. We completed user story seven which allows users to use EMR so that users can do analysis.
h. We completed most of user story eight which allows users to handle failures by reporting so that users can figure out the failure.

<u>Additional feature:</u>

i. We created a build system using gradle that allows an Eclipse project to be built using the java files in the codebase. Additionally, the build system downloads the required dependencies and libraries, puts the files into a JAR and compiles the code. This would strongly help us move towards an independent-running program without the need of any or very little required installed software on a user system.

2. What Did Not Go Well

Because of the amount of prototyping we needed (no one on our team had ever done anything like this) we were unable to get the finished prototype started in time. It was put together quickly towards the end by one person integrating prototypes instead of everyone writing their own piece in a more agile fashion. Although we finished most of our user stories some of them were incomplete :

a. We didn't complete part of user story two, which allows users to do the argument type and correctness checking.
    i. We ran out of time, we were able to get flags working but the type checking was not finished.

b. We didn't complete part of user story six, which allows users to add statistics feature to the AWSInterface such as cost of running the job.
    i. We also ran out of time here. Most of the AWS interface was completed but we were unable to finish the statistics in time.

c. We didn't complete part of user story eight, which allows users to handle failures by error reporting and using a general pattern for error reporting.
    i. We also ran out of time here. Since AWS S3 and EMR come with their own set of error messages and codes, we used them in most of the development process. We need not have the need to build our own error reporting system.
    ii. Though using the in-built system with AWS seemed like a good idea, different classes were producing errors in different formats and sometimes, lacked enough detail to be meaningful.

3. How we can improve

In Sprint 2, we hope to use different ways to be more productive individually and as a team by focusing more on communicating and helping each other as well as by limiting or not using prototyping to make a piece of the system work.

a. We will be creating function headers for everything we need to create so everyone understand how the classes interact. This will help communication and interaction within the group.

b. We will be using a shared code base that would be void of prototypes. This way not only would we be able to test the system with all the latest additions but it would also save the huge effort in integrating the prototypes and making it run without errors.

c. We will be communicating more and using Trello Board to keep track of our own as well as one another's goals and to-do tasks for every meeting. This could help highlight potential difficulties individual members might be having and fuel others to support or help in completing that task.

d. We will be finishing up the user stories from the last sprint and adding new stories that are yet to be completed from the product backlog. Additionally, as we gain more knowledge about this system, we would like to keep the sprint documents updated when we make changes to our sprint goals.