Team/Instructor scrum #4.1

Preliminary

Team member & project re-introduction.

Name of the team: **Master Calculator**.

Team member: **Philip Anyuon.**

Project Idea

The master calculator will help user understand the problem better by **associating the problem with the process**. It will provide the **better interface** to user, and it will **contain most of the engineering calculation formulas.**

Project need /innovation

The problem to be solved are:

1. To solve the problem of crowdy symbols on the buttons of the calculator.
2. To introduce a simple interface that include the problem's formula and requirement variables.
3. To introduce a simple calculator that is open ended for the future development.

Project Scope

The project scope will include:

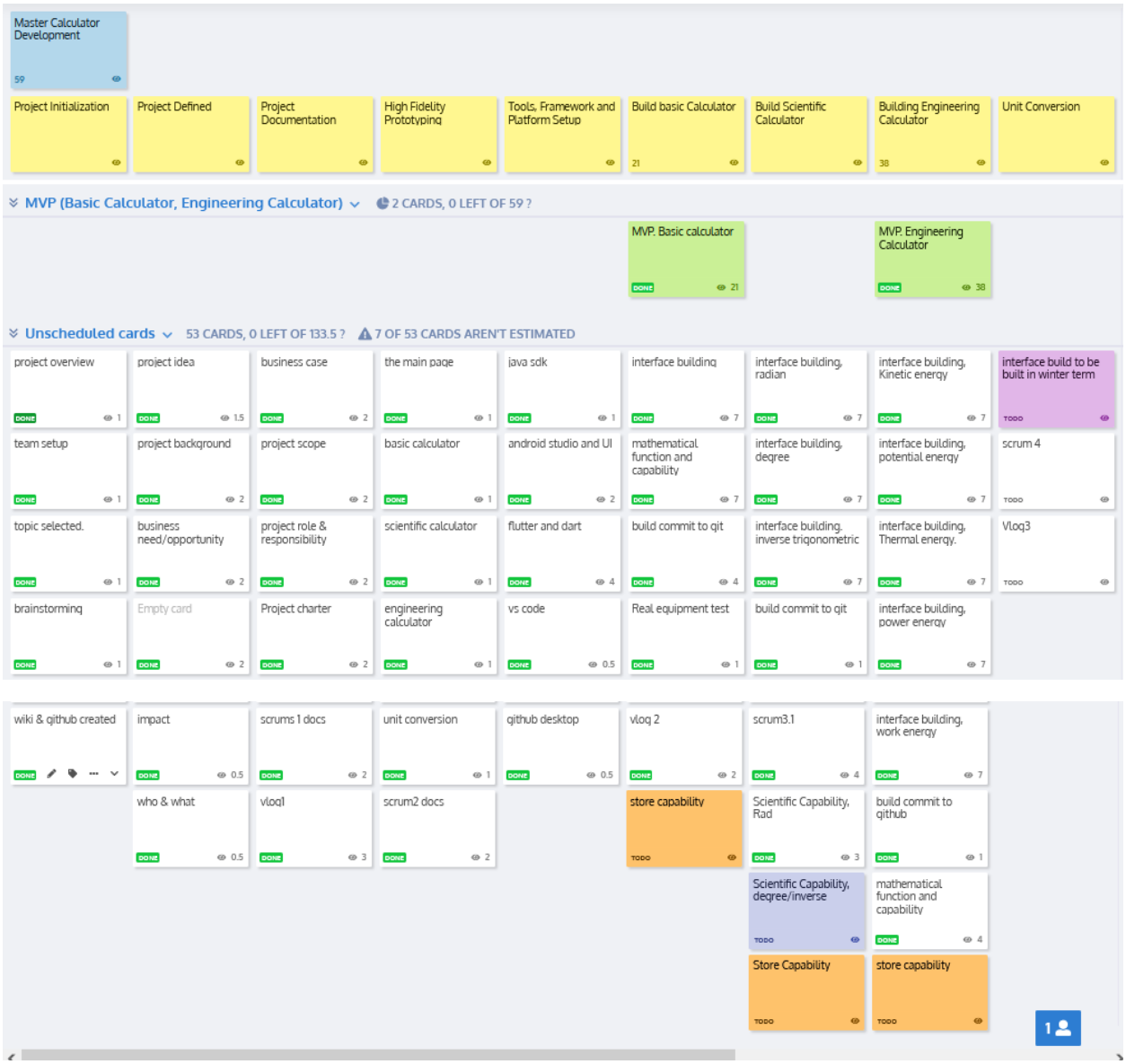
1. Basic Calculator
2. Scientific Calculator (Radians)
3. Engineering Calculator
    a. Kinetic Energy
    b. Potential energy
    c. Thermal energy
    d. Work
    e. power

Technology and tools to be used.

- Development Stack:
    a. Dart platform
    b. Tools for development: flutter
    c. User interface framework: Android UI, visual studio code

Work done so far

- Basic calculator interface and functionalities
- Engineering interfaces and functionalities
- Scientific interfaces.



Scrum dates

Oct.22, 2021 - Nov.19, 2021

Status description

The status of the project is green. Coding part has been completed.

Comments on previous scrum/meeting time

Meeting with Mentor: Tuesday Nov. 16, 2021

Topic of discussion:

- Progress of the project
- Renewal of communication way.

The Mentor gave team access website where the team can book an appointment every week to let the Mentor know how far the project has gone.
The Mentor and team check the capabilities of the calculator using the numbers.

a. Checking the mathematical operator's sequential rule (ok)
b. Using operators and getting correct result (ok)
c. Power rule (ok)
d. Square root (ok)
e. Clear screen (ok)
f. Store the value (not ok)

Mentor recommendation

- Adding the unit in engineering interfaces.
- Adding the capability of storing the value for the next operation.
- Changing the name of Engineering calculator to elementary calculator.
- Using the input key button to calculate specific parameter, for example, $Ke = ½ mv^2$ but if the required is mass or velocity then the user should input the two, Ke, mass, and square root them to get velocity.

Team response

- Units as been added not on the display screen but into the problem information

- Storing capability, team will be working on that problem to make calculator more powerful.
- Changing the name of the Engineering calculator to elementary calculator. No change will be made to the name because elementary school, although they are the included audience, not all elementary school students go to engineering or in faculty of science to study power, kinetic, thermal etc. changing the name to elementary calculator will bring a great confusion. In addition, the calculator will not stop on the current state, but it will evolve into a complex engineering calculator. For that reason, it is necessary to leave the name as it is.
- Using the input key button to calculate specific parameter. That recommendation is good but there are two reason that it should not be done.
    1. In the previous high fidelity prototyping there where buttons to be pressed if you want one parameter for example, PE = Fd. If you were given PE and F, then you need to press d to show that you are intended to calculate the distance. That idea was removed during the calculator design because it will bring the confusion to the user if a user is calculating a problem with a complex formula. For example, Ke = 1/2 mV^2 a user may think that the way of getting velocity may be the same as the way of getting mass or Kinetic but fail to consider that he or she need isolate V and square root the whole others.
    2. If we say let develop a calculator which may recognize a parameter, for example, if we need a velocity, a mass, or a kinetic we just pressed a button and get the result, then we need to discard the keyboard and use a pressed button only and get the answer. We may be wondering away from the goal of making keyboard clean and not crowded.

In the previous scrum the goal was 75%. At this point the achievement is beyond 75%. What is left for this semester is just to correct and to adjust some functionalities and capabilities of the calculator.

Project issues

- The issue is that I am using window instead of Mac. So, I cannot run the app on ios equipment, but it is working fine on the Android equipment, and on web for instance, Microsoft edge, google chrome and many more web browsers. If I can transfer my code on Mac, I think it will run on ios equipment also.

Project changes

Some of the changes that happened during the app design are:

1. In the high fidelity prototyping the Scientific calculator was just interface. During the design, the scientific calculator was divided into three interfaces. These are Radians, degrees and inverse trigonometric. This change was made so that the scientific calculator keyboard should not be crowded.
2. Some indication buttons like Pe, F, and d buttons for indicating PE as potential energy, F as force, or d as distance were removed to prevent some confusion.
3. Keyboards were modified a little bit to increase capability.

Documentation overview and/or project demo

Project demo part:

- Going over basic calculator and check some capabilities
- Going over Scientific Calculator and check some capabilities (radians).
- Going over Engineering calculator and check some capabilities.

Next up

- Working on documentation
- Fixing some minor problems on calculators

Team reflection

Discuss:

- Does the team feel "on track"? **Yes, the team is on track. The status is green**.
- What progress does the team particularly feel good (great) about? **The accomplishment of minimum viable product.**
- What barriers (if any) does the team feel are a current impediment to success? **No barrier that can prevent success.**
- What help (if any) does the team require to move positively forward? **Positive ideas.**
- What questions or concerns does the team have (if any)? **There is no concern.**