**DECISIONS**

**1. Description:**

FactFun is a mathematics practice program in C++ that is used by students to practice their multiplication facts. The computer screen displays two integers being multiplied and asks the student to type the answer. The student enters his or her answer, hits the enter key and receives either “Correct” or “Incorrect”.

**2. Area:**

Mathematics practice

**3. Audience:**

The targeted audience is elementary students so the language and level of multiplication is written for third and fourth graders. However, anyone can use the program for practice to increase their speed of recall and their accuracy. For example, the program would be useful for review practice in the Fall at the start of school for fifth and sixth graders. Teachers can use it for remediation for a struggling student at anytime during the year and parents will find it an easy and practical way to keep their children mathematically active during Summer break.

**4. Device:**

The program is web based. This will enable students to use the program wherever they have internet access. It will also allow multiple teachers to use it in their classrooms. The program can be used on any device that can access the internet.

**5. Interface:**

User Interface Ideas:

Landing Page: Title of Program (Fact Fun?.... Yes) with button that says “Let’s Get Started!”

Next Page: Instructions at the top “Type your answer to the multiplication problem and click submit or press enter to see if you are correct!” with the multiplication fact with a blank after it printed below.

Next page:

Option 1: Correct! Click here for another problem

Option 2: Incorrect! Click here for the correct answer. Click here to try again.

**6. Program Blocks**

Main Function

Multiplication Function

Compare Function

**DISCUSSIONS**

**Input: Please sign your input, even if you use a color Please!**

**If it is okay with everyone, I will try to keep this organized.**

**Once a question has input from everyone and a decision is agreed upon I will move it to the top of the document under DECISIONS and archive the discussion to the bottom.**

**Everyone must contribute, so please try to give input on every question. Even if you just say “agree”. That way I will know when to add it to the slides.**

*Will there be a standard number of problems given or will it just keep giving problems?* **Tonya**

**//** *The program should only given commands when prompted.. so that should be mentioned in the interface portion of our presentation. No program should just run rampant, and spit out math problems. Seems rather rudimentary.* Agreed, added to slides

I agree that it seems rudimentary. Should we have the program keep track of how well the student does? Or give progressively harder problems? Tonya

Ideally, I would like for them to be able to choose 10, 20, or 50 problems but I didn’t know if we could make it do that… As for keeping track of the difficulty, we could have them select levels like practice 2-4’s. 5-8’s, 9-12’s, or all… I don’t know about tracking… I want them to practice all their facts :) **Michelle**

**Eva** is using blue: Do you think we can write it so that one number is one digit and the other two? (i.e. 5\*12)

or cut the two digit numbers off at 12 or 13… I feel like that should be semi easy to accomplish. I think it would be great to start with simple and be able to go all the way up to 12x12 at least. Tonya

*Question to the group: so will the student/parent/teacher be given a link to click on and that will go to the program? Do we have to actually show this works or is this just “desired design”? Tonya*

I think this is all just the pretty… but we can’t do all of this… so our program is basic, our dream is big :) MICHELLE

Should we have a character (like a cartoon dog or something) that gives the answers in a speech-bubble? It may be a tad “too cute” but it’s for kids… Plus we can go all out since we don’t physically have to program that part ;) Eva

*// it seems as though she just wants the program to be able to run, the implementation of the program into a website, android device and so on are way past our expertise currently. So that would not seemingly be expected of us. Once we are at the end, the “desired design” will be expected to be shown though. But in a perfect world, an app website and other means would be used. endl; ;)*

After reading this, I think there needs to be just a bit more past option 2. Once they have decided that they either want the correct answer or to try again, there needs to be a click here for another problem or a return to the main menu. After option 1, there should be click here for another problem or a return to the main menu. MICHELLE I agree, looks like this should go in the algorithm.Tonya

*// This looks good here, and it will just loop all over again.*

**\*\*\* New Discussion \*\*\***

We were informed in class on Wednesday that everyone has to write a line in the code. This means we all need to study the code and find something constructive to add to it. So far I know we need:

* if/else to fix the input of words killing the program
* the animation code.
* something to get it to skip spaces so someone could enter their value with spaces in it and it not mess up the program (we learned about this on Wed cin.ignore) I just tried it and it already skips the space (michelle)
* possible loop for the animation - we discussed the possibility of just having a happy char and a sad char for them getting them right and wrong

// So what size of an animation are we looking at, and because I wasn’t there wednesday and just now am seeming to get over this cold I will let you guys let me know how the animation portion should look like. (I don’t think the size matters… it was you find that is appropriate or that we are comfortable coding… I don’t want it to be huge, but I think an inch by an inch is a minimum… just pulling that out of nowhere… anyone else's input??? - Michelle)

* some sort of tracking program or points program to help this be more game like and fun to meet our metaphor of a tutoring program of sorts.
* Something that makes sure to redirect the user if they don’t reply correctly to the y/n would you like to try again problem

\*\*\*second point \*\*\*

We need to decide on our metaphor/theme so we can implement it.

A few ideas I have come up with include:

* in the intro
  + Welcome to Math Fact Fun! I am “Name of Tutor that we make up,” your Fact Fun Tutor! Let’s Get Started!!! (happy animation of tutor)
* Based on the program keeping score:
  + If the user hits a certain level of points, their animation changes
    - maybe they get different positive animations when they get different amount of questions correct like a small smiley, a big smiley after 10 right, after 10 more they get a star, then after that they balloons… etc
* What does our tracking of points look like so we don’t waste time writing code that doesn’t work for what we want to track… Do we want +5 per correct and -1 per wrong, do we want them 1 for 1?

// I think our punishment system should be mores severe, like no dinner or something. But really does she really expect all of this implemented into the program before its done? (I don’t know if she really wants it all done before the project is complete but I know she does want some sort of animation and ‘metaphor” - MIchelle)