Remix #2

Missions 6-8
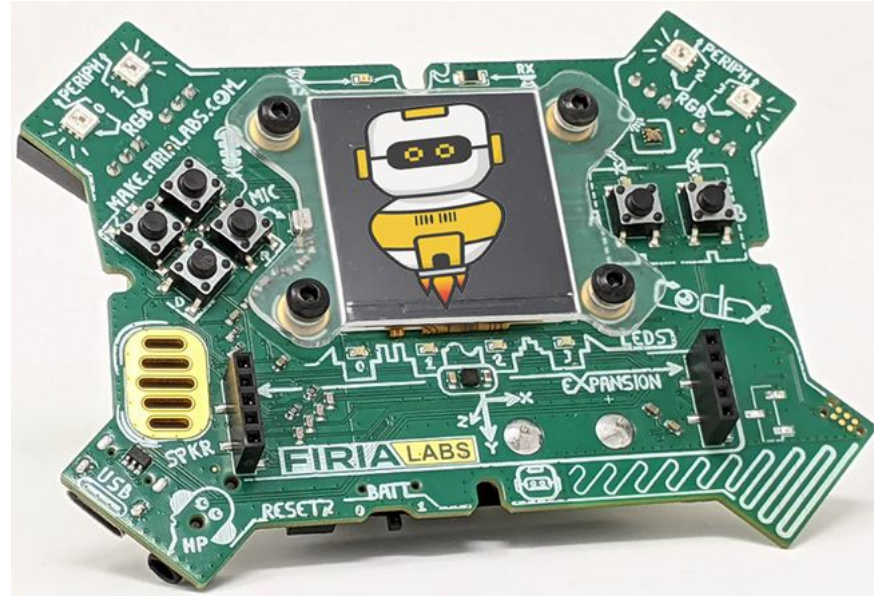
Project Remixes

Creating a remix of your projects will let you:

- Master the skills and concepts practiced in the missions
- Be creative
- Increase your understanding of programming
- Collaborate with your peers
- Design an original program and write the code all on your own

Project Remixes

- A new program is created by adding new code and using parts of code from programs you already created
- You can combine parts of two or more programs in a remix
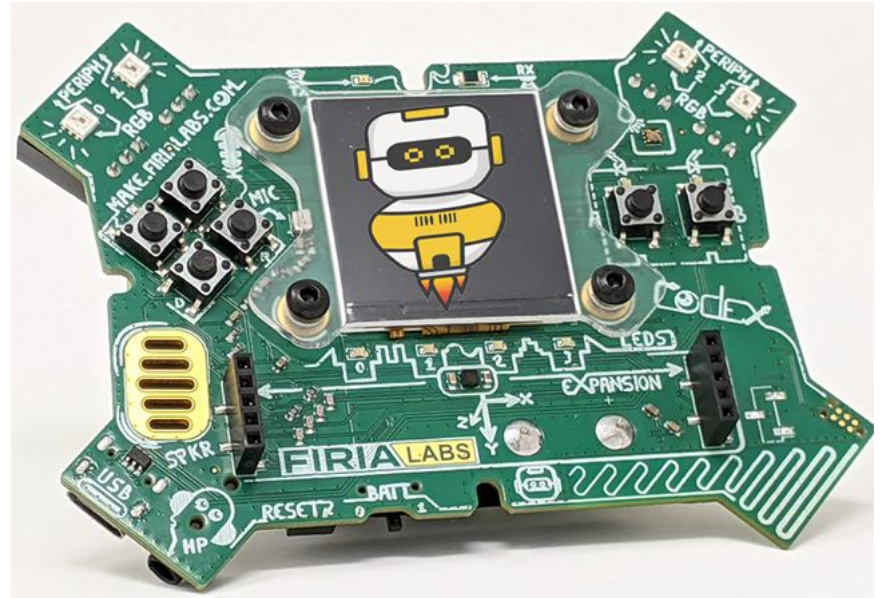
How to get started

Step #1

- Open your projects from the most recent missions
  - Review what each program does
  - Review the programming concepts and skills used

```
1   '''
2   Mission 8 -- Answer Bot
3   With 2 extensions and 3 challenges
4   '''
5
6   from codex import *
7   import random
8   from time import sleep
9
10  answers = ["The odds are yes",
11             "It is not in the stars",
12             "Go for the gold!",
13             "Today is your day",
14             "Stay home and read",
15             "Have an adventure",
16             nico HEART
```

FIRIA LABS

Step #1

Go to your assignment document and complete Step #1

Remix #2 Project: Missions 6-8

For this project, you will remix the missions you completed into something new and original. This will generate mastery by having you practice what you are learning. You will do all the thinking yourself – no CodeTrek!

Remix slide deck

Step #1 – Review the missions you have completed

Mission	What the project does	Skills and concepts used
Mission 6		
Mission 7		
Mission 8		

Step #2 – Brainstorm ideas for your project. When you have your final idea, write a sentence that describes what it will do:

My remix project:	

Step #3 – Make a plan (You do not have to complete the entire chart if there is something you will not use or code in your project.)

What variables will we need?		
	Variable Name	What it will be used for
Add more rows if		

FIRIA LABS

Step #2

Brainstorm ideas

- Look at the extension ideas from each mission
- Come up with your own ideas
- Look suggestions on the next slides
- Your remix project needs to be something you haven't done yet

Then select your idea and write a sentence on your assignment document that describes what your remix project will do.

FIRIA LABS

Step #2

Idea #1
Program something like the billboard or answer bot, but does at least two things instead of one. For example, you could display a picture and play a sound. Or display a picture and light a pixel. Or all three. You should have two lists and use the same index for both lists.

Idea #2
Expand your program from Idea #1 to include a button that scrolls one way, a button that scrolls the opposite direction, and a button that selects randomly from the list.

FIRIA LABS

Step #2

Idea #3
Program something like the billboard or answer bot, but create several lists. Use a different list for each button. One list could be images, another list could be sounds, and another list could be colors for neoPixels, etc.

Idea #4
Create a 2-person (or more) billboard. Use a different list and button for each person. Light up a pixel for which person is currently selecting from the billboard. Make sure to turn off the pixel when a different person is selecting.

If you are using all six buttons, you can use the two red LEDs above button A and B, as well as the four neoPixels.

```
# Turn on the LED above button A
leds.set(LED_A, True)
```

FIRIA LABS

Step #2

Idea #5

Create a program that shows an interest of yours. Use several lists and buttons to display different types of information. For example, if you like a particular musician, one list could be images of the musician. Another list could be songs. Another could be album covers.

Idea #6

Create a dice roller, showing the number of a 6-sided die. Use the display.print function to show large numbers, and be sure to provide user feedback of some sort while the "roll" is happening...

Example: Your program could do this:
 Day3Remix Mild

FIRIA LABS

Step #2

Idea #7

Create a dice roller, showing the number of a 6-sided die. Use images of die and a list to display the final roll. Provide user feedback of some sort while the "roll" is happening. This could be an audio of dice, words, flashing pixels, etc.

Idea #8

Create a "high-low" game. Display a number between 1 and 10. Then the user presses Down if they think the next number will be lower, or Up if they think the next number will be higher. Do this four times, lighting a pixel green if they guessed correctly or red if they were wrong. As a bonus, add a counter and display a "win" or "lose" message.

Example: Your program could do this: Day3Remix medium

Hints:

This program can get a little complex
- Try using two number variables.
- Stop the loop when count is 4 or the incorrect button is pressed

FIRIA LABS

Step #2

Brainstorm ideas with your partner. Pick an idea. You do not have to use any of the suggestions – you can come up with your own idea!

● Remember to start small and then add to your remix project as you go

Step #2 – Brainstorm ideas for your project. When you have your final idea, write a sentence that describes what it will do:

My remix project:

Step #3 Make a plan (You do not have to complete the entire chart if there is something you will not use or

Go to your assignment document and complete Step 2 – write a sentence that describes what your remix project will do

FIRIA LABS

Step #3

Make a plan

- What variables will you need?
- Which buttons will you write code for, and what will you have each button do?
- What pixels will you light up?
- What images will you display?
- What audio files will you play?
- What text will you display or print?

My remix project:

Step #3 – Make a plan (You do not have to complete the entire chart if there is something you will not use or code in your project.)

What variables will we need?	Variable Name	What it will be used for

Add more rows if

Go to your assignment document and fill out your plan

FIRIA LABS

Step #4

Code your project

- Program the code in the sandbox (located in the lower left-hand corner)
- Start with a new file and give it a descriptive name (**Remix2**)
- Import your modules
- Define your variables
- Work through the code like you did for the missions, step by step.

Step #4

You can have several programs open at the same time

- Open your programs from Mission 6, 7, and 8 (even earlier missions if needed)
- Use them as a guide while you "remix" parts of their code to make your own project
- You can copy and paste from one program to another if you want to

FIRIA LABS

Step #4

Stop and test frequently!

- Don't try to write all the code at one time
- Mistakes happen, so find them early
- Type just a few lines of code and then run the program
- If there is an error, document it and fix it before continuing

FIRIA LABS

Step #5

Get feedback

- Show your code to other students
- What do they think?
- Listen to their feedback and suggestions
- Give yourself some feedback
- Is there something you want to change or improve?
- Anything you want to add?

Modify your code to make your project even better

FIRIA LABS

Step #5

Documentation!

- Make sure your code is readable by adding blank lines
- Add comments to sections of your code that explain what they do

FIRIA LABS

And now you have your own remix!

Congratulations!

By completing this remix you have:

- learned more about programming
- begun mastering the skills and concepts from the missions
- been thinking! And problem solving and much more!

FIRIA LABS