Creating Solution Files

So, you want to create your own subsystem files, do you? Well, it is easier than it appears, lets walk you through the process:

**Planning:** It is a general good idea to have the puzzle you want to make sure it is planned out and reviewed by someone else to make sure it makes sense.

**Step 1:** Decide what puzzle number you want, this will be what the toggle switches all will add up to be, and create your text file, so let us say I want to make a puzzle for the number 17, I would name my file “17.txt” (Note: there can only be 1 puzzle for every combination of switches).

**Step 2:** Decide what you want the rotary encoder number to be, I would suggest you keep it the same as the switches to make it less confusing, but for older audiences you may want to make it different. For example you could say something like system 35 subsystem 17, and they would have to enter 17 on the switches and 35 on the rotary encoder dial.

**Step 3:** decide what your jack puzzle solution will be, you will have to list these in least to greatest from left to right top to bottom. You will list these in pairs, how you have them connected on the panel. If you want less then 5 connections in your solution, simply put a pair of zero’s after your desired number of connections to show that it doesn’t need to search for any additional connections.

**Step 4:** decide what color profile you would like to use for the button puzzle, here is what they are:

**COLOR PROFILES:**

* 1 = 0,1,2,3,4,5,6 (cycles through all colors)
* 2 = 0,1,4 (cycles through off, red, and blue)
* 3 = 0,1,3,4 (off, R,G,B)
* 4 = 0,1,2,3,4 (off, R,Y,G,B)
* 5 = 0,1,2,3,4,5 (off, R,Y,G,B,P)
* 6 = 0,4 (off, B)
* 7 = 0,1,6 (off, R,W)
* 8 = 0,1,4,6 (off, R,B,W)
* 9 = 1,3,6 (R,G,W)
* 10 = 0,1,3,4,5 (off, R,G,B,P)

**COLORS:**

* 0 = OFF
* 1 = RED
* 2 = YELLOW
* 3 = GREEN
* 4 = BLUE
* 5 = PURPLE
* 6 = WHITE

**Step 5:** Choose the starting colors for the grid that you would like for your puzzle, let us say I wanted the first row to be be Red, the second Green, third Blue, then last Yellow. It is numbered from left to right, top to bottom, so I would use the string of numbers “1,1,1,1,3,3,3,3,4,4,4,4,2,2,2,2”.

**Step 6:** Now you will write what your solution to the grid puzzle will be, the order is in the same style as above, so lets say for my puzzle I want the first column to be Red, second Green, third Blue, and last yellow, I would write “1,3,4,2,1,3,4,2,1,3,4,2,1,3,4,2”.

**Step 7:** You are done! Below is an example on a way to do it for our 17.txt puzzle:

17 -What the rotary encoder must be set to.

1,2 - jack 1 must be connected to jack 2.

3,4 - jack 3 must be connected to jack 4.

5,6 - jack 5 must be connected to jack 6.

7,8 - jack 7 must be connected to jack 8.

0,0 - No connection, in this example, we only have 4 connections

1,1,1,1,3,3,3,3,4,4,4,4,2,2,2,2 -Starting button colors.

1,3,4,2,1,3,4,2,1,3,4,2,1,3,4,2 -Solution button colors.

Now you are ready for your image Prompts!

Creating Image files

These are images that correspond to the puzzle solution you just made, they are named in a similar naming scheme as the files, they are the file number, a or b depending on if you are doing the jacks or the button puzzle prompt, and finally they must be a .bmp with the dimensions 240 x 320 Pixels.

Example:

For the puzzle solution 17.txt:

“17a.bmp” - jack prompt

“17b.bmp” – button grid prompt

I have found that subsystem can only read bitmaps created by Microsoft Paint or MS office, oddly specific, I know. They will not work if you try to generate them on a mac or even on Windows using Photoshop or Gimp, it must be MS paint, maybe some of you will find another program, but I have not. I have found it is easiest to make it in your favorite editor, save it as a .png or .jpeg, then open it in paint and re-save it as the correct bitmap. Please also note that if no puzzle picture is found, or if it is stored incorrectly, the system will just leave the logo up on the screen, this can be useful if you want to make the user refer to a manual for a certain puzzle.