

Tutorial 8: Image changes

<http://www.codemii.com/2008/11/09/tutorial-8-image-changes/>

In this Wii programming tutorial we will modify the button detection tutorial and as requested show you how you can easily change a button from yes to no based on the user's input.

Firstly download this [tutorial8-blank](#) which will contain the required files to get us started. Include in the zip are two images and they have been given added to the main.c file. Shown below are the important parts of the source code. I assume you know the rest from our other tutorials.

```
int main() {

    JPEGIMG yes;
    JPEGIMG no;

    memset(&yes, 0, sizeof(JPEGIMG));
    memset(&no, 0, sizeof(JPEGIMG));

    yes.inbuffer = picdata;
    yes.inbufferlength = piclength;
    no.inbuffer = picdata1;
    no.inbufferlength = piclength1;

    JPEG_Decompress(&yes);
    JPEG_Decompress(&no);

    Initialise();

    int cursor_x = 100;
    int cursor_y = 100;

    while(1) {

        VIDEO_ClearFrameBuffer (rmode, xfb, COLOR_BLACK);

        PAD_ScanPads();

        if (PAD_StickY(0) > 18) {
            cursor_y -= 5;
        }
        if (PAD_StickY(0) < -18) {
            cursor_y += 5;
        }
        if (PAD_StickX(0) > 18) {
            cursor_x += 5;
        }
        if (PAD_StickX(0) < -18) {
            cursor_x -= 5;
        }
    }
}
```

```

        u16 buttonsDown = PAD_ButtonsDown(0);

        if(buttonsDown & PAD_BUTTON_A) {
            if (cursor_x >= 105 && cursor_x <= 155 && cursor_y >= 70 &&
cursor_y <= 95) {
                printf("Button pressed\n");
            }
            printf("x = %i. y = %i\n", cursor_x, cursor_y);
            usleep(500000);
        }

        display_jpeg(yes, 50, 50);

        DrawBox (cursor_x, cursor_y, cursor_x + 1, cursor_y + 1, COLOR_WHITE);

        VIDEO_WaitVSync();

    }
    return 0;
}

```

It's pretty much the same as tutorial 6 except we now have two JPEG images defined which are "yes" and "no". Now all we need to do is remove the print statements, add in a variable which can keep track of the button pressing and an if statement.

First thing to do is create a variable which will handle the button, since there will only be two options (yes and no) we can simply have this variable set as a boolean (bool yes_no_button = true;)

There is a long way and a simple way to do this. I'll show you the longer way first.

Now we just set an if statement after the user has pressed the button and it is in our buttons range, if the yes_no_button is equal to true then change it to false otherwise change it to true (since we know it would be false).

```

if (yes_no_button == true) {
    yes_no_button = false;
}
else {
    yes_no_button = true;
}

```

The next thing to do is determine which image to display. Another simple if statement covers this exactly the same as above except it shows the image.

```

if (yes_no_button == true) {
    display_jpeg(yes, 50, 50);
}
else {
    display_jpeg(no, 50, 50);
}

```

Only relevant code is shown below, our code now looks like this:

```
...
int cursor_x = 100;
int cursor_y = 100;
bool yes_no_button = true;

while(1) {
    ...

    u16 buttonsDown = PAD_ButtonsDown(0);
    if (buttonsDown & PAD_BUTTON_A) {
        if (cursor_x >= 105 && cursor_x <= 155 && cursor_y >= 70 && cursor_y <=
95) {
            if (yes_no_button == true) {
                yes_no_button = false;
            } else {
                yes_no_button = true;
            }
        }

        if (yes_no_button == true) {
            display_jpeg(yes, 50, 50);
        } else {
            display_jpeg(no, 50, 50);
        }
    }
    ...
}
```

Compile and test it, when pressing the A key (q) in gcube over the image it will change from yes to no to yes, etc. [tutorial8-yes-no-long](#)

Now for the quicker way which is simply to replace the code that determines whether the variable is true or false with one line:

```
yes_no_button ^= 1;
```

This basically just gives the opposite of what is in the variable and is commonly used to flip the framebuffer. The code now looks like:

```
if (buttonsDown & PAD_BUTTON_A) {
    if (cursor_x >= 105 && cursor_x <= 155 && cursor_y >= 70 && cursor_y <= 95) {
        yes_no_button ^= 1;
    }
}
```

There you have it a simple example on how to change an image from saying yes to no. [tutorial8-yes-no-short](#)

Coding requires patience and can require changing one thing at a time and re-testing your code. You need to be able to use what you've got and explore doing other things with it. Are you able to make this button tutorial change between 3 buttons? Can you make the yes and no buttons appear on the screen and then print out which one the user choose? Can you make a question appear, the user choose yes or no and then have the question change to another one?

PDF by Pvt Ryan (<http://www.ninet.org>),
Changes: Spelling corrections & Formatting.