```cpp
/*! \class EC12P
Interaction with the sparksfun RGB encoder
*/

#pragma once

#include "eqep.h"
#include "GPIO.h"
#include "FailedToCreateThreadException.h"

#include <pthread.h>

using namespace std;

namespace Hardware
{
    class EC12P
    {
    public:
        EC12P();
        ~EC12P();

        /*! Enumerator indicating the color of the encoder shaft*/
        enum Color
        {
            Red,        /*!< Red*/
            Pink,       /*!< Pink*/
            Blue,       /*!< Blue*/
            SkyBlue,    /*!< SkyBlue*/
            Green,      /*!< Green*/
            Yellow,     /*!< Yellow*/
            White,      /*!< White*/
            None        /*!< Off*/
        };

        void SetPixelColor(Color value);
        Color GetPixelColor() { return PixelColor; };

        void RainbowLoop(int sleepperiod);
        void StopRainbowLoop() { threadRunning = false; };

        eQEP Rotary{ eQEP2, eQEP::eQEP_Mode_Absolute };     /*!< The encoder*/
```

```
43          GPIO Button{ 68 };                                  /*!< The pushbutton*/
44
45      private:
46          Color PixelColor;   /*!< Current shaft color*/
47
48          GPIO R{ 31 };           /*!< Red LED*/
49          GPIO B{ 48 };           /*!< Blue LED*/
50          GPIO G{ 51 };           /*!< Green LED*/
51
52          pthread_t thread;       /*!< the thread*/
53          bool threadRunning;     /*!< Bool used to stop the thread*/
54          int sleepperiod;        /*!< Sleep period*/
55          friend void *colorLoop(void *value);
56
57      };
58      void *colorLoop(void *value);
59
60  }
61
```