

## Team Id: TN04ExTC9

Program for “ If Button press the colour of the Label shall change”:

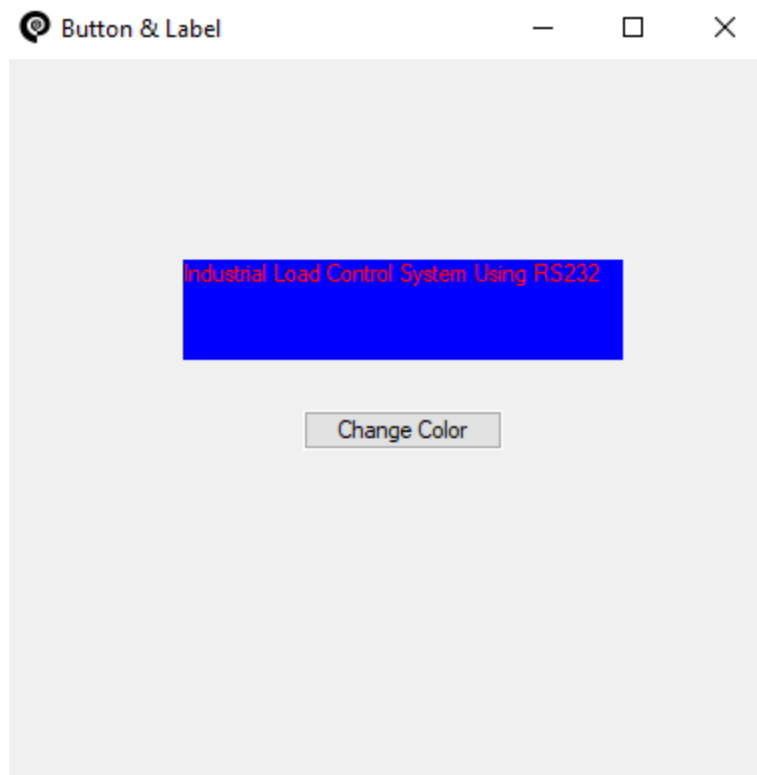
```
C main.c X
C > Users > heman > Desktop > PCF > app > examples > B&L > C main.c
1  #include <stdio.h>
2  #include <app_sysinit.h>
3  #include <string.h>
4
5  #include <pcf/ui/ui.h>
6  #include <pcf/graphics/graphics.h>
7
8  #include <pcf/ui/mainform/mainform.h>
9  #include <pcf/ui/control/control.h>
10
11 #include <pcf/ui/button/button.h>
12 #include <pcf/ui/label/label.h>
13
14 UiLabel_t* label = NULL;
15 UiButton_t* button = NULL;
16 int Toggle_color = 0;
17
18 void* addLabel(UiMainForm_t* mainform, int x, int y, uint32_t width, uint32_t height, const char* text)
19 {
20     // Get the control object for the window
21     UiControl_t* parent = pcf_ui_mainform_asControl(mainform);
22     if(parent)
23     {
24         // Control info for creating label
25         UiControlInfo_t info;
26         memset(&info, 0, sizeof(info));
27         info.parent = parent;
28         info.typeId = enControlTypeIdValue_Label;
29         info.location.X = x;
30         info.location.Y = y;
31         info.size.Height = height;
32         info.size.Width = width;
33         // Label Text
34         info.text = "Industrial Load Control System Using RS232";
35         pcf_status_t status;
36
37         return pcf_ui_label_new(&info, &status);
38     }
39     return NULL;
40 }
41
42 void* addButton(UiMainForm_t* mainform, int x, int y, uint32_t width, uint32_t height, const char* text)
43 {
44     // Get the control object for the window
45     UiControl_t* parent = pcf_ui_mainform_asControl(mainform);
46     if(parent)
47     {
48         // Control info for creating button
49         UiControlInfo_t info;
50         memset(&info, 0, sizeof(info));
51         info.parent = parent;
52         info.typeId = enControlTypeIdValue_SimpleButton;
53         info.location.X = x;
54         info.location.Y = y;
55         info.size.Height = height;
56         info.size.Width = width;
57         // Button Text
58         info.text = "Change Color";
59         pcf_status_t status;
60
61         return pcf_ui_button_new(&info, &status);
62     }
63     return NULL;
64 }
65 }
```

```

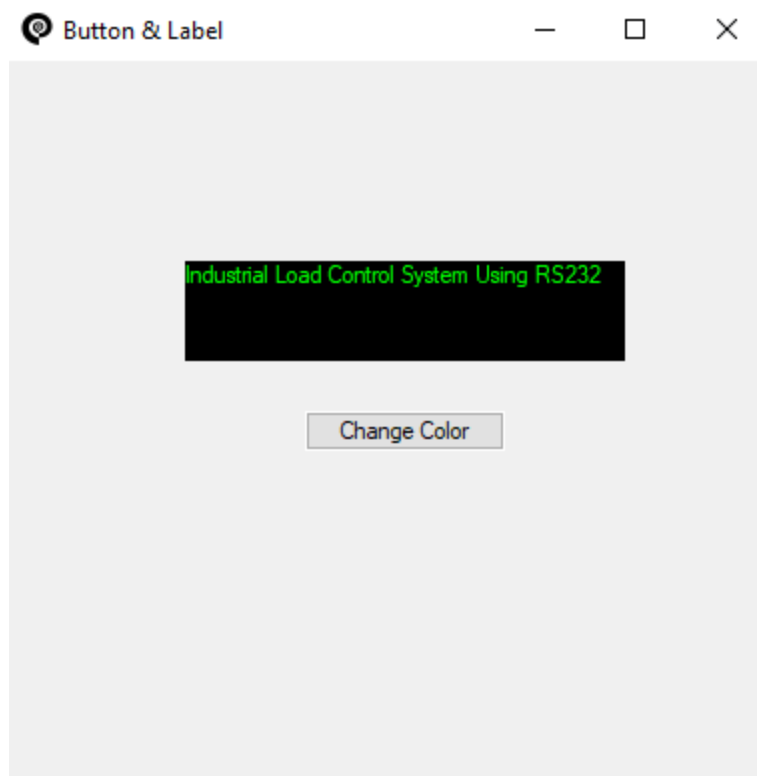
66
67 void PCF_STDCALL buttonClickHandler(UiButton_t* button)
68 {
69     UiControl_t* control = pcf_ui_button_asControl(button);
70     pcf_ui_property_text text;
71     pcf_status_t status;
72
73     if(!pcf_ui_control_getText(control, text))
74     {
75         fprintf(stdout, "Button with text = %s button is clicked\n", text);
76
77         // Green Text color and Black background color for label
78         if(Toggle_color == 0)
79         {
80             status = pcf_ui_label_setTextColor(label, enGraphicsColorCode_Green);
81             if(status)
82             {
83                 fprintf(stdout, "Failed while setting color for label control, status = %d\n", status);
84             }
85             status = pcf_ui_label_setBackgroundColor(label, enGraphicsColorCode_Black);
86             Toggle_color = 1;
87         }
88         // Red Text color and Blue background color for label
89         else if(Toggle_color == 1)
90         {
91             status = pcf_ui_label_setTextColor(label, enGraphicsColorCode_Red);
92             if(status)
93             {
94                 fprintf(stdout, "Failed while setting color for label control, status = %d\n", status);
95             }
96             status = pcf_ui_label_setBackgroundColor(label, enGraphicsColorCode_Blue);
97             Toggle_color = 0;
98         }
99     }
100 }
101
102
103 int main()
104 {
105     int failed = app_sysinit();
106     if(failed)
107     {
108         printf("System failed to initialize\n");
109         return failed;
110     }
111     printf("System Initialized\n");
112
113     // Control info for creating the Window.
114     UiControlInfo_t info;
115     memset(&info, 0, sizeof(info));
116     info.parent = NULL;
117     info.typeId = enControlTypeIdValue_Mainform;
118     info.location.X = 10;
119     info.location.Y = 10;
120     info.size.Height = 400;
121     info.size.Width = 400;
122     info.maximumSize.Height = 600;
123     info.maximumSize.Width = 600;
124     info.minimumSize.Height = 300;
125     info.minimumSize.Width = 300;
126     info.text = "Button & Label";
127
128     pcf_status_t status;
129     UiMainForm_t* mainform = pcf_ui_mainform_create(&info, &status);
130
131     if(mainform)
132     {
133         int32_t exitcode;
134         // add a label into a window
135         label = addLabel(mainform, 90, 100, 220, 50, "This is a label.");
136         // add a button into a window
137         button = addButton(mainform, 150, 175, 100, 20, "Button");
138
139         UiControl_t* control = pcf_ui_button_asControl(button);
140         // Set label color
141         if(!pcf_ui_control_setUserData(control, label))
142         {
143             status = pcf_ui_label_setTextColor(label, enGraphicsColorCode_Red);
144             if(status)
145             {
146                 fprintf(stdout, "Failed while setting color for label control, status = %d\n", status);
147             }
148             status = pcf_ui_label_setBackgroundColor(label, enGraphicsColorCode_Blue);
149         }
150
151         if(button == NULL)
152         {
153             fprintf(stdout, "Failed while creating button control, status = %d\n", status);
154         }
155         else
156         {
157             if(pcf_ui_button_attachClickedEventHandler(button, buttonClickHandler))
158             {
159                 fprintf(stdout, "Failed while adding button click handler\n");
160             }
161         }
162
163         status = pcf_ui_mainform_run(mainform, &exitcode);
164         fprintf(stdout, "mainform exited with code = %d, status = %d\n", exitcode, status);
165     }
166     return 0;
167 }
168

```

➔ Befor Press “Change Color” Button: The label text color is Red & background color is Blue.



➔ After 1<sup>st</sup> time Press: The label text color is Green & background color is Black.



➔ After 2<sup>nd</sup> time Press: again the label text color is Red & background color is Blue.



➔ Every single click the label and background color will change.