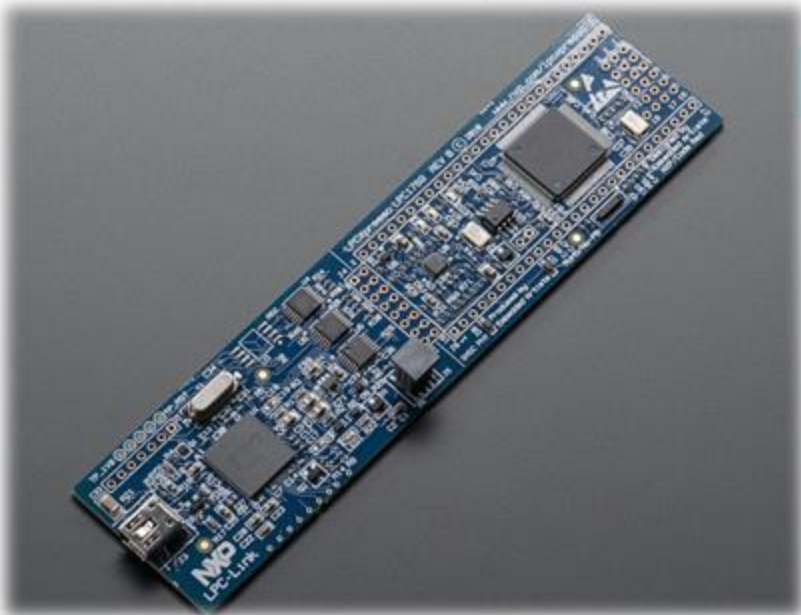


2016

Read Push Button with NXP LPC1769 using LPCXpresso



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Reviewers:

Version: 1.0

Step 1: Open LPCXpresso IDE. To create a New project. Go to File >> New >> Project. Select LPCXpresso C project.

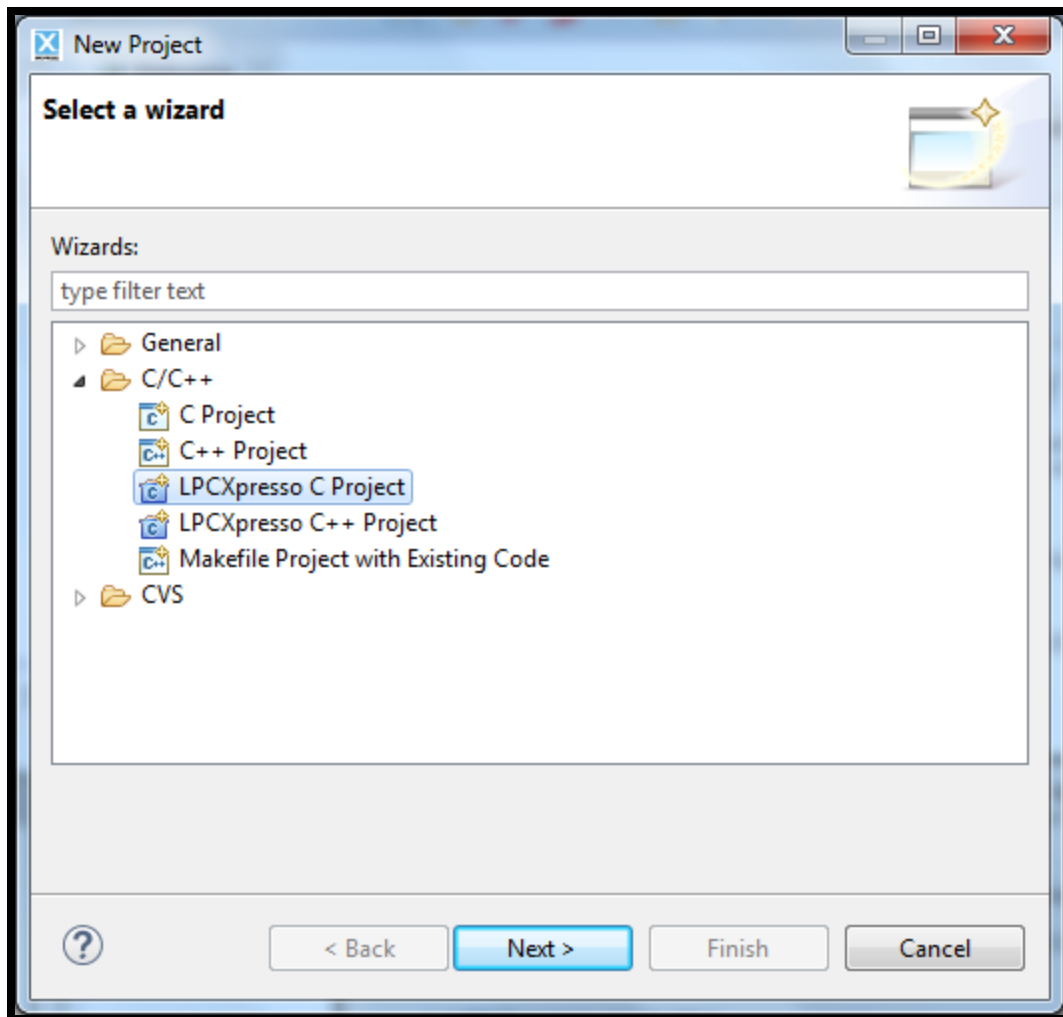


Fig. 1

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Step 2: Select LPC1769, C Project and give name to your project. Select target MCU as LPC1769.

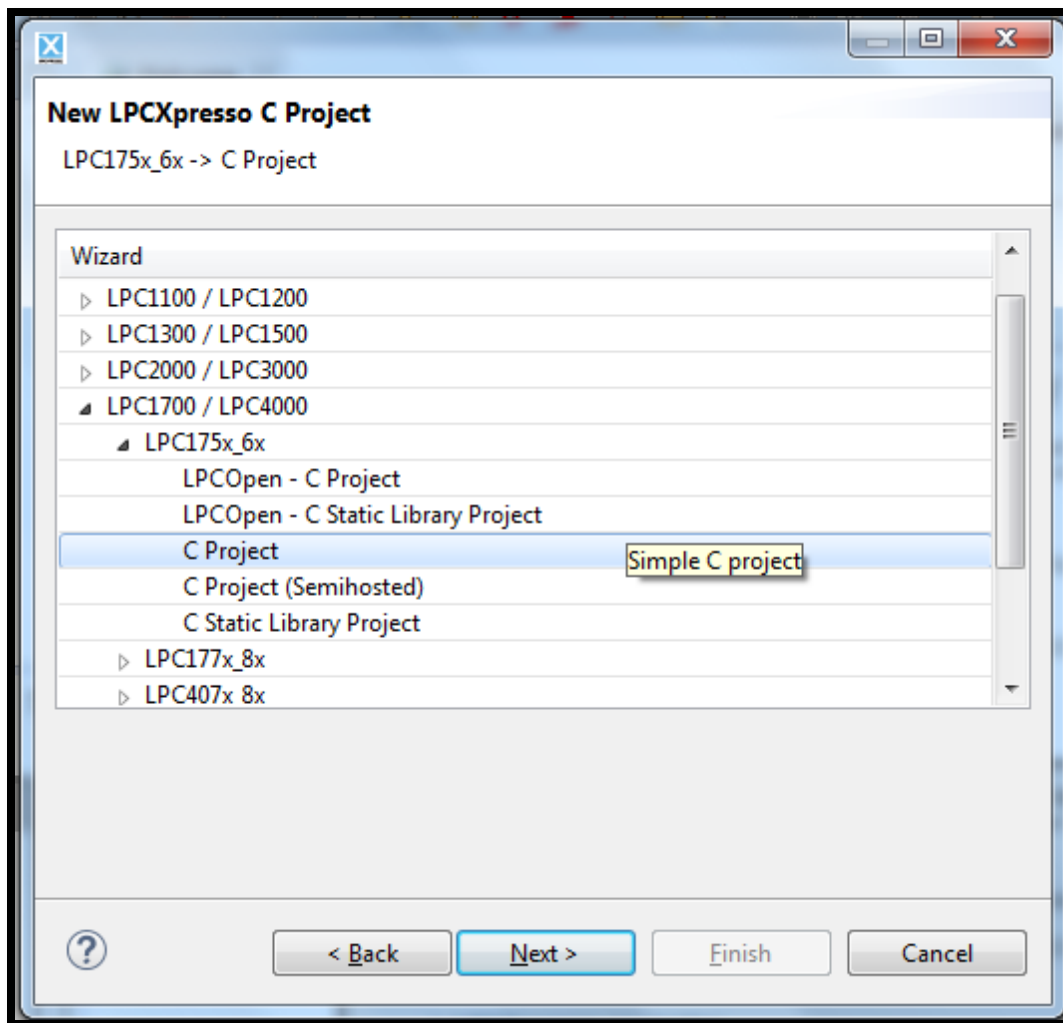


Fig. 2

Step 3: Now select CMSIS Core library. Click on Next and keep all the other configurations as default and Finish.

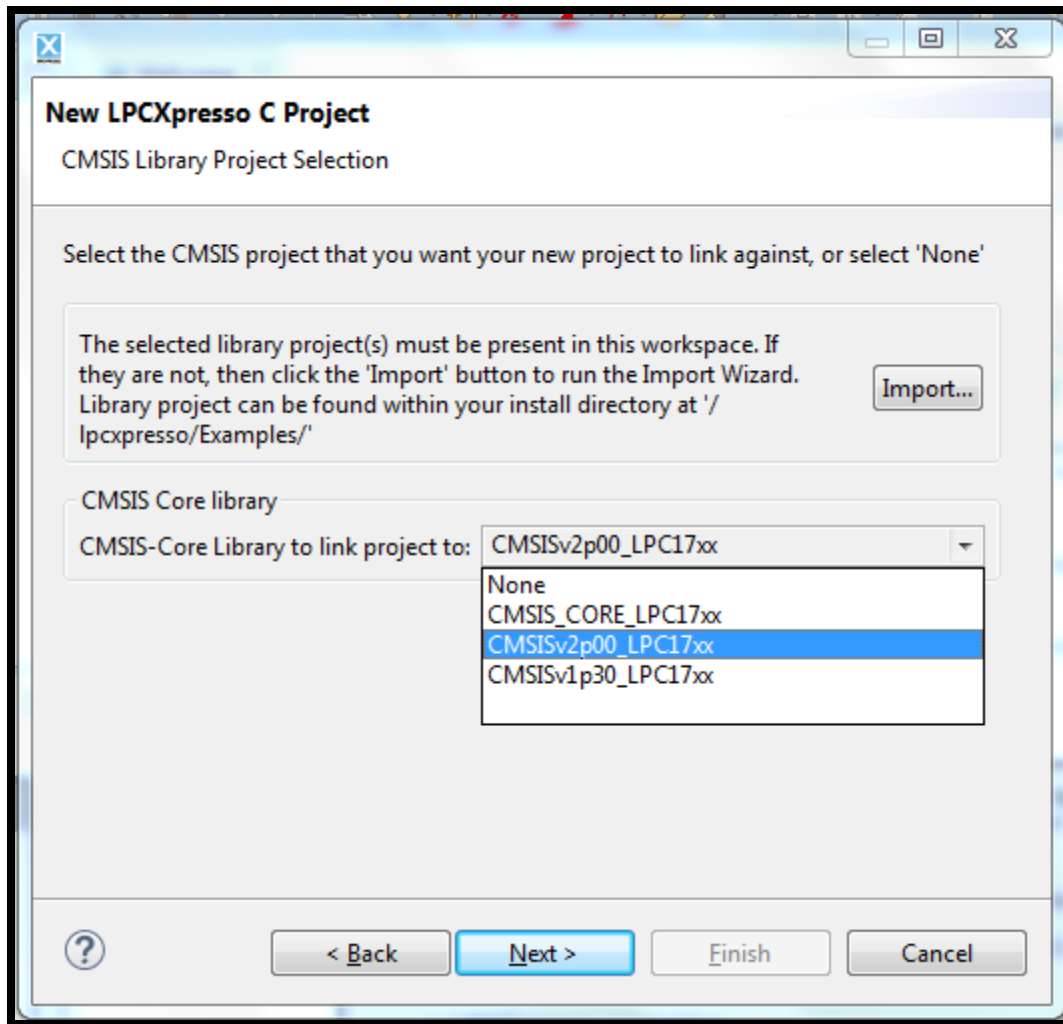


Fig. 3

Step 4: Now we can see our project onto the workspace. Now by double clicking on `Push_button.c` file, we can start writing code in an editor window. Here we are going to writing a code for blinking an LED.

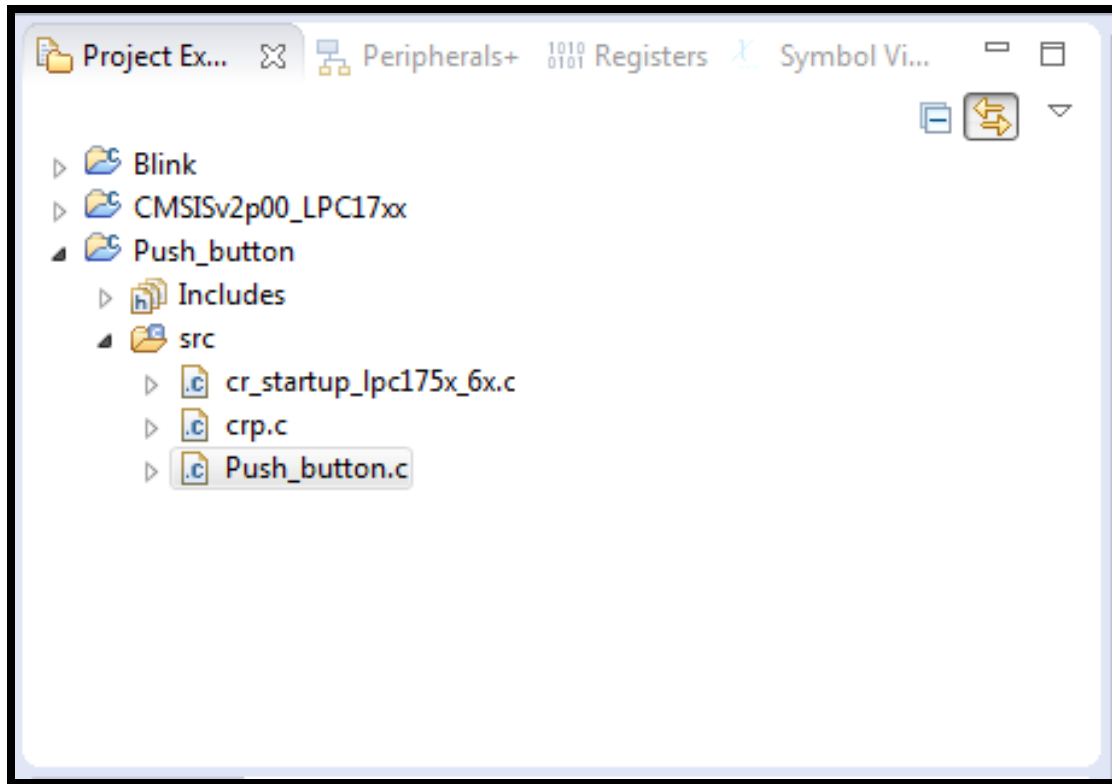
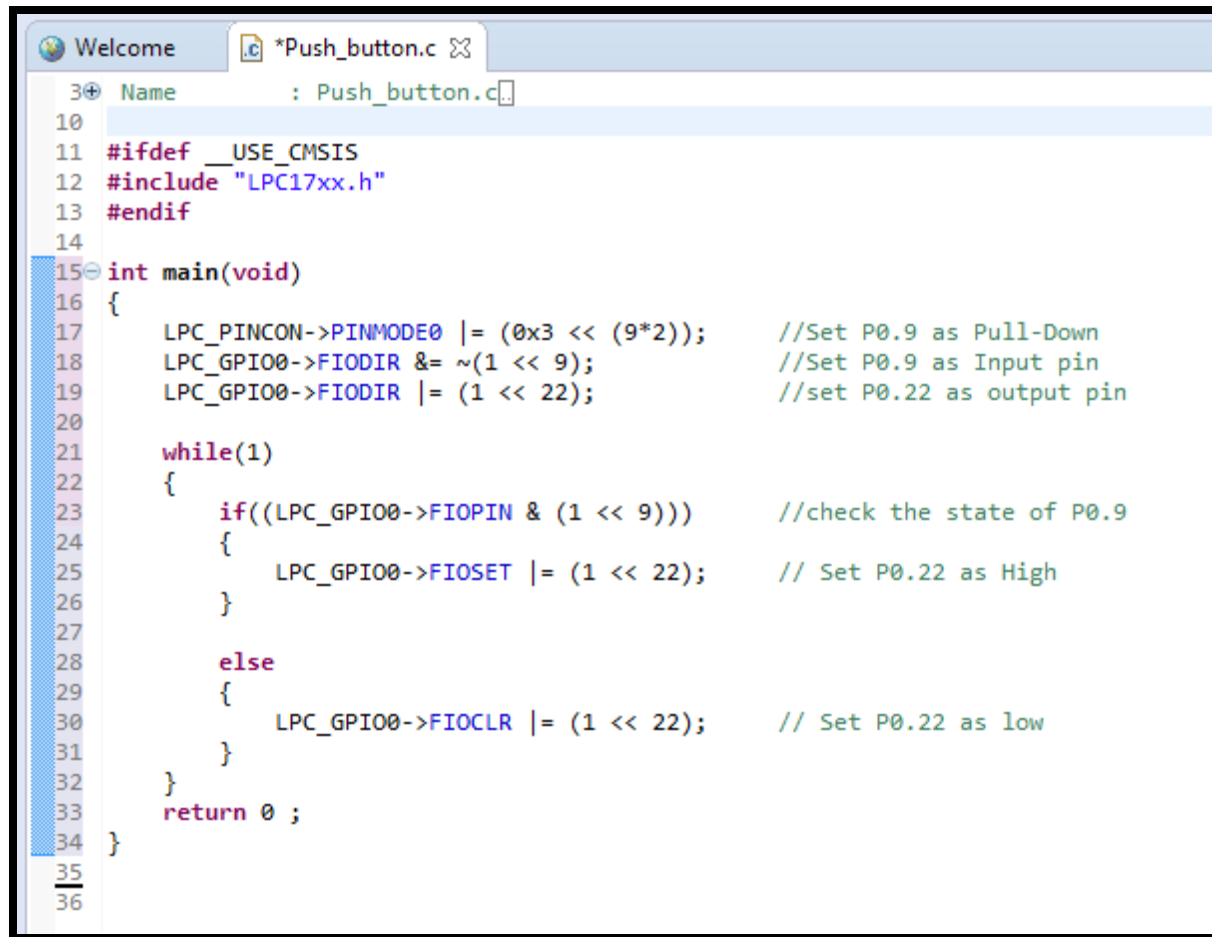


Fig. 4

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Step 5: Write a code as shown below.



```
10
11 #ifndef __USE_CMSIS
12 #include "LPC17xx.h"
13 #endif
14
15 int main(void)
16 {
17     LPC_PINCON->PINMODE0 |= (0x3 << (9*2));    //Set P0.9 as Pull-Down
18     LPC_GPIO0->FIODIR &= ~(1 << 9);            //Set P0.9 as Input pin
19     LPC_GPIO0->FIODIR |= (1 << 22);            //set P0.22 as output pin
20
21     while(1)
22     {
23         if((LPC_GPIO0->FIOPIN & (1 << 9)))    //check the state of P0.9
24         {
25             LPC_GPIO0->FIOSET |= (1 << 22);    // Set P0.22 as High
26         }
27
28         else
29         {
30             LPC_GPIO0->FIOCLR |= (1 << 22);    // Set P0.22 as low
31         }
32     }
33     return 0 ;
34 }
35
36
```

Fig. 5

PIN DETAILS:



CODE:

```
#ifndef __USE_CMSIS
#include "LPC17xx.h"
#endif

int main(void)
{
    LPC_PINCON->PINMODE0 |= (3 << (9*2));           //Set P0.9 as Pull-Down
    LPC_GPIO0->FIODIR &= ~(1 << 9);                 //Set P0.9 as Input pin
    LPC_GPIO0->FIODIR |= (1 << 22);                 //set P0.22 as output pin

    while(1)
    {
        if((LPC_GPIO0->FIOPIN & (1 << 9)))           //check state of P0.9 pin
        {
            LPC_GPIO0->FIOSET |= (1 << 22);           // Set P0.22 as HIGH
        }
        else
        {
            LPC_GPIO0->FIOCLR |= (1 << 22);           // Set P0.22 as LOW
        }
    }
    return 0 ;
}
```

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Step 6: After writing code, Build the project by clicking on Build “Push_button”, on the Quickstart Panel on the bottom left of the window.

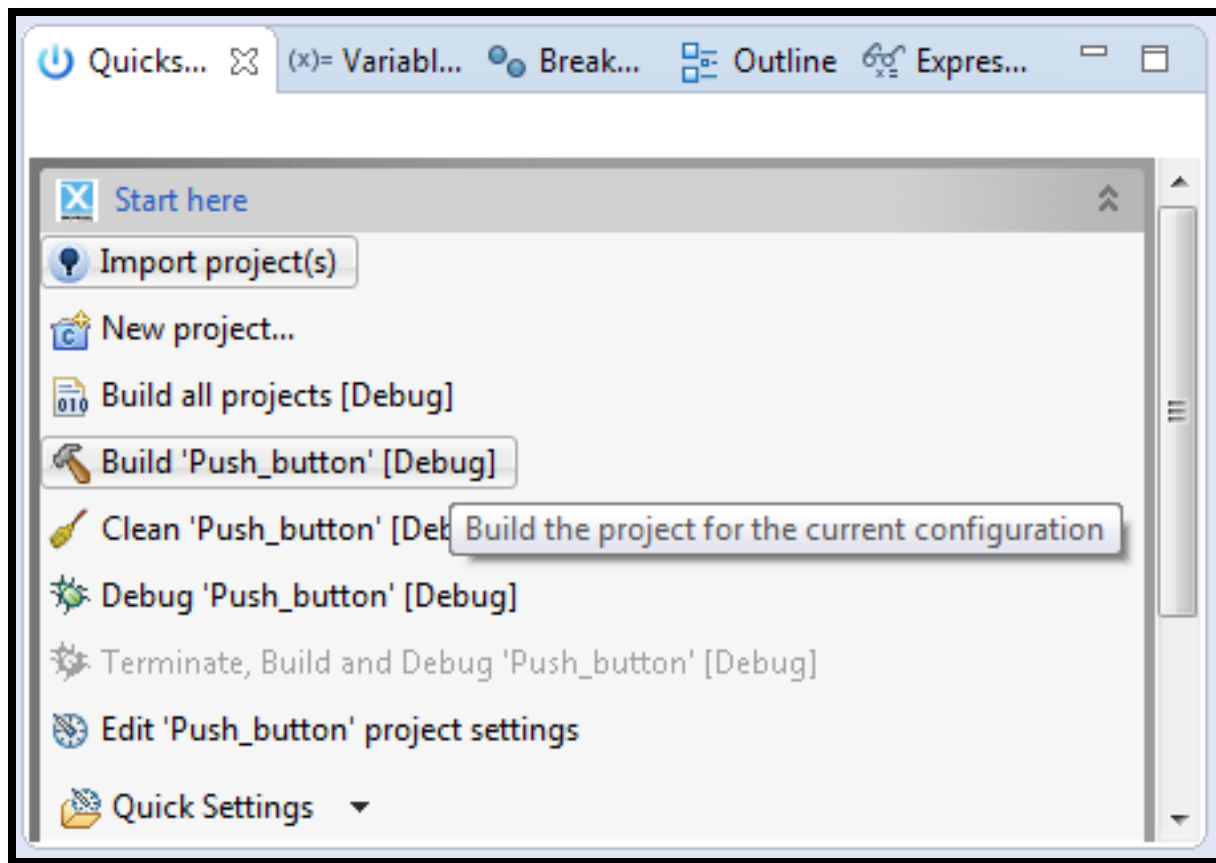
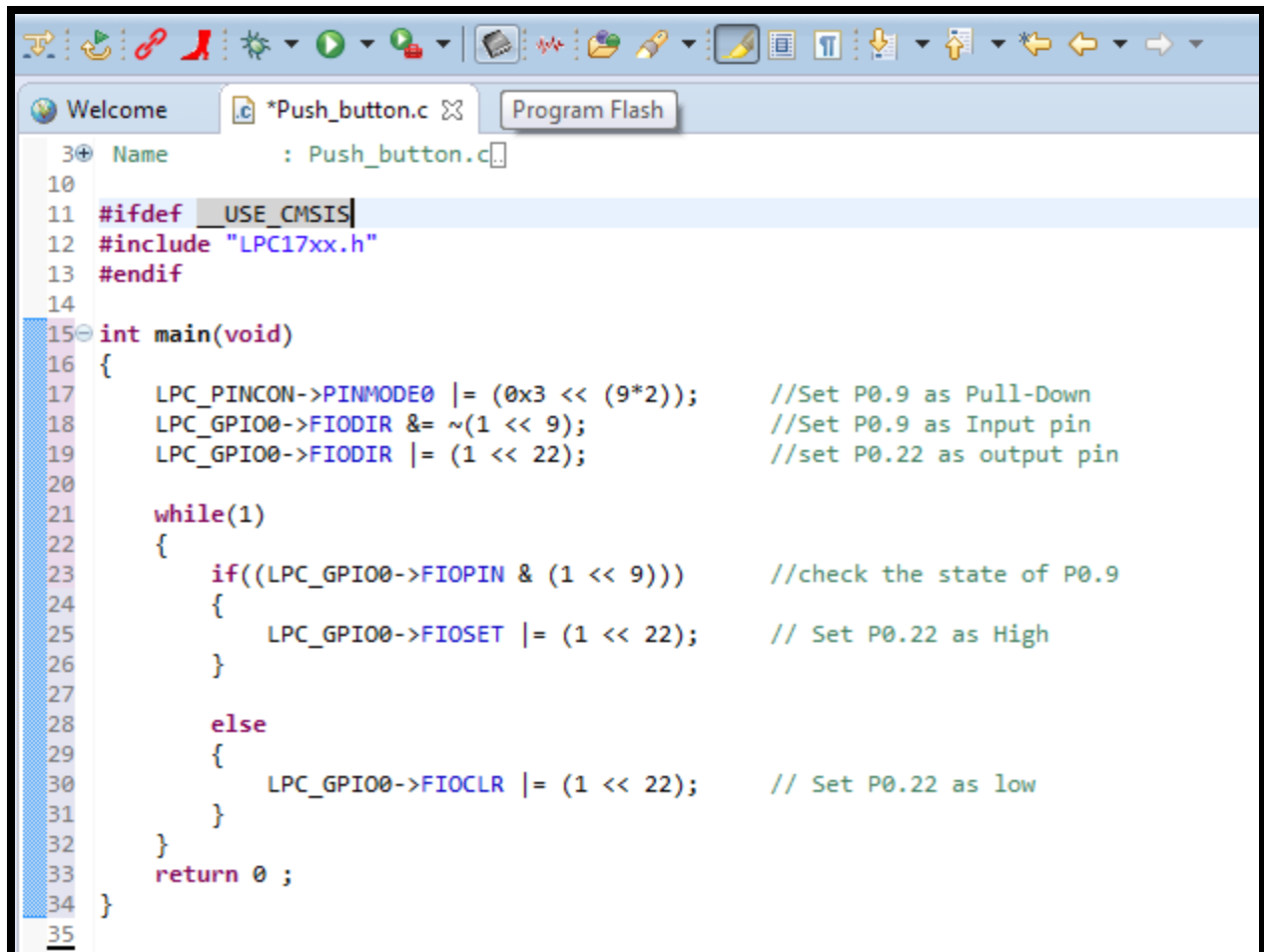


Fig. 6

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Step 7: Now, if everything goes well, connect the USB cable to LPC1769 and connect it to your computer. To upload the project file, click on the Program flash.



```
10
11 #ifndef USE_CMSIS
12 #include "LPC17xx.h"
13 #endif
14
15 int main(void)
16 {
17     LPC_PINCON->PINMODE0 |= (0x3 << (9*2));    //Set P0.9 as Pull-Down
18     LPC_GPIO0->FIODIR &= ~(1 << 9);            //Set P0.9 as Input pin
19     LPC_GPIO0->FIODIR |= (1 << 22);            //set P0.22 as output pin
20
21     while(1)
22     {
23         if((LPC_GPIO0->FIOPIN & (1 << 9)))    //check the state of P0.9
24         {
25             LPC_GPIO0->FIOSET |= (1 << 22);    // Set P0.22 as High
26         }
27
28         else
29         {
30             LPC_GPIO0->FIOCLR |= (1 << 22);    // Set P0.22 as low
31         }
32     }
33     return 0 ;
34 }
35
```

Fig. 7

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Step 8: Now select the Project file Push_button.axf. We can find it in our project folder.

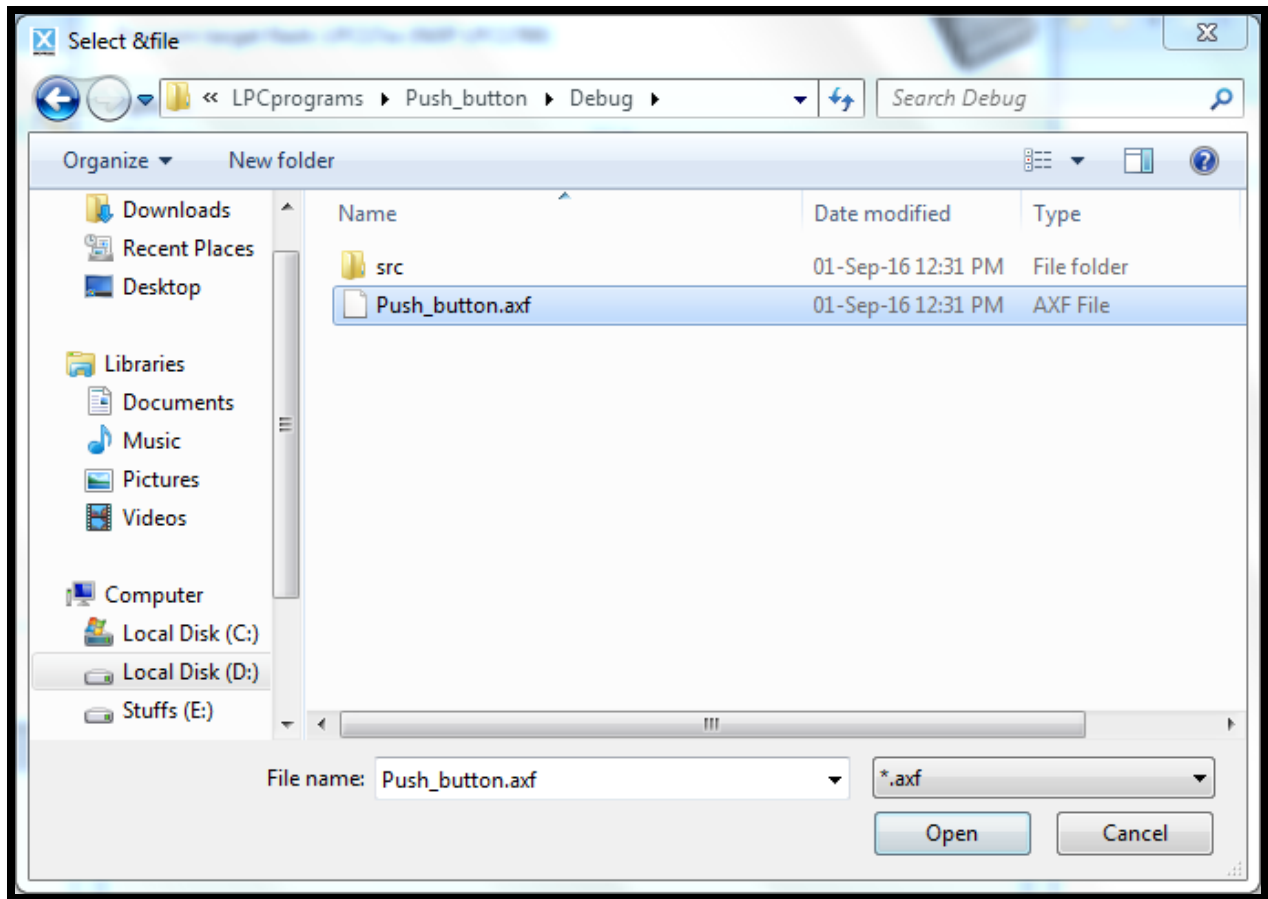


Fig. 8

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Step 9: Now this window shows we have finally dumped our code into LPC1769.

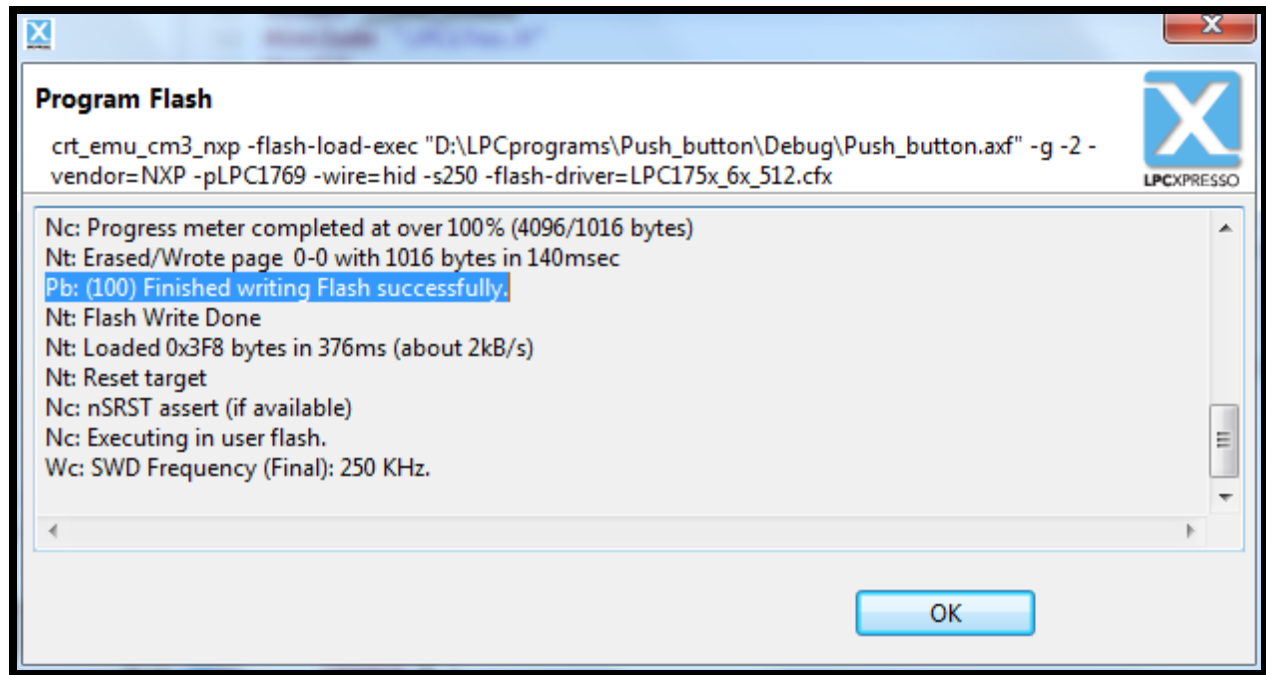


Fig. 9

CONNECTION DIAGRAM:

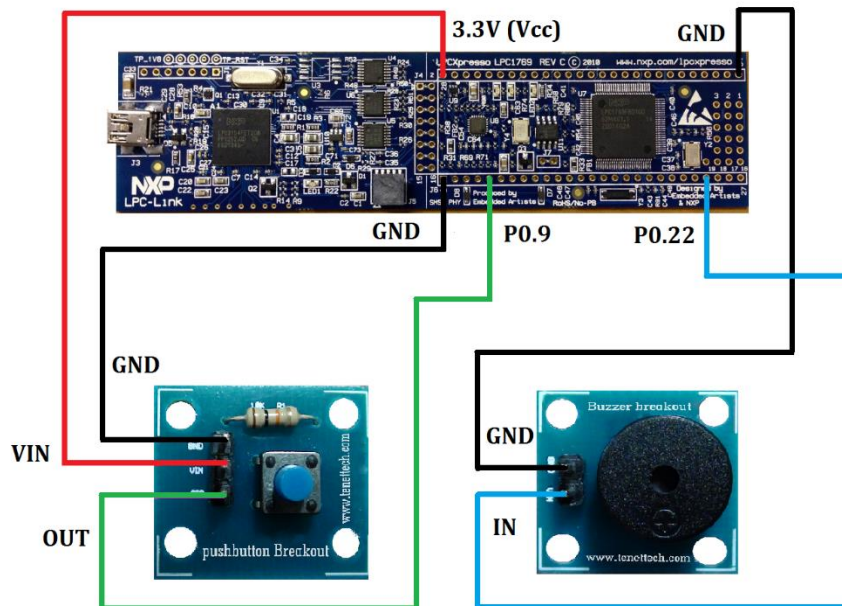


Fig. 10

Push button circuit

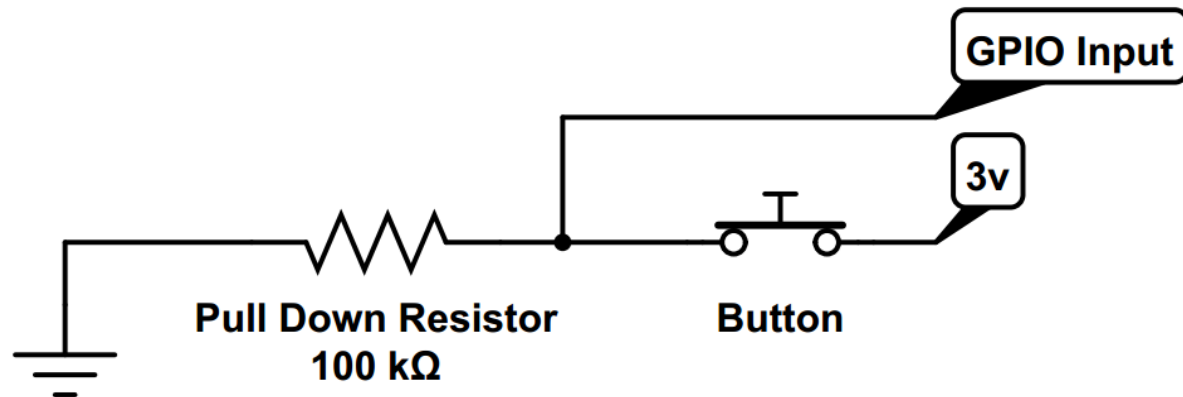


Fig. 11

OUTPUT:

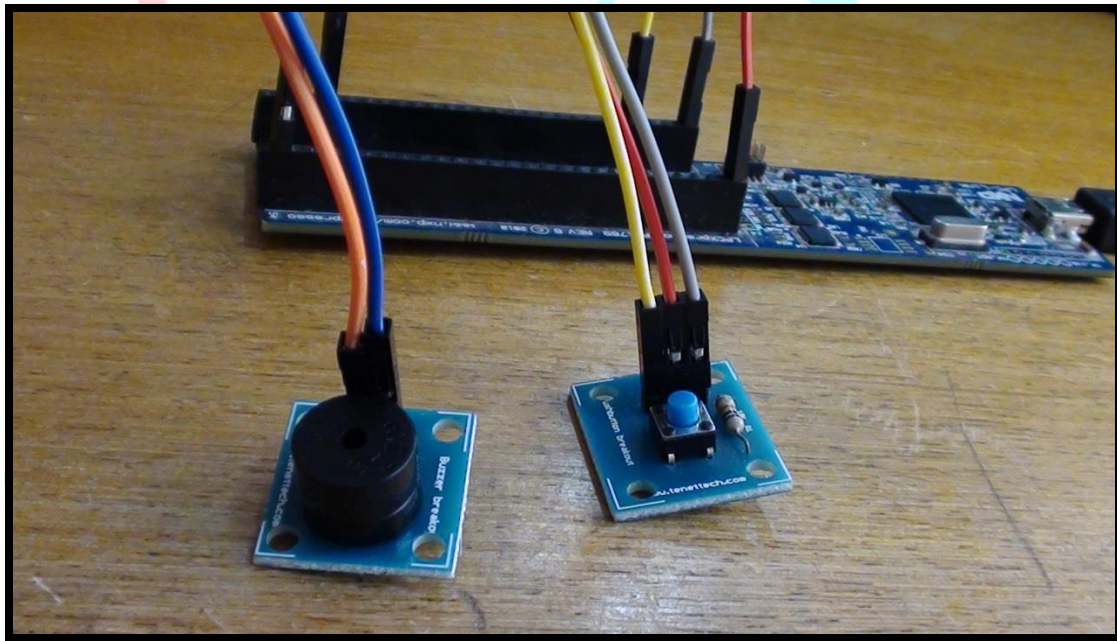


Fig. 12

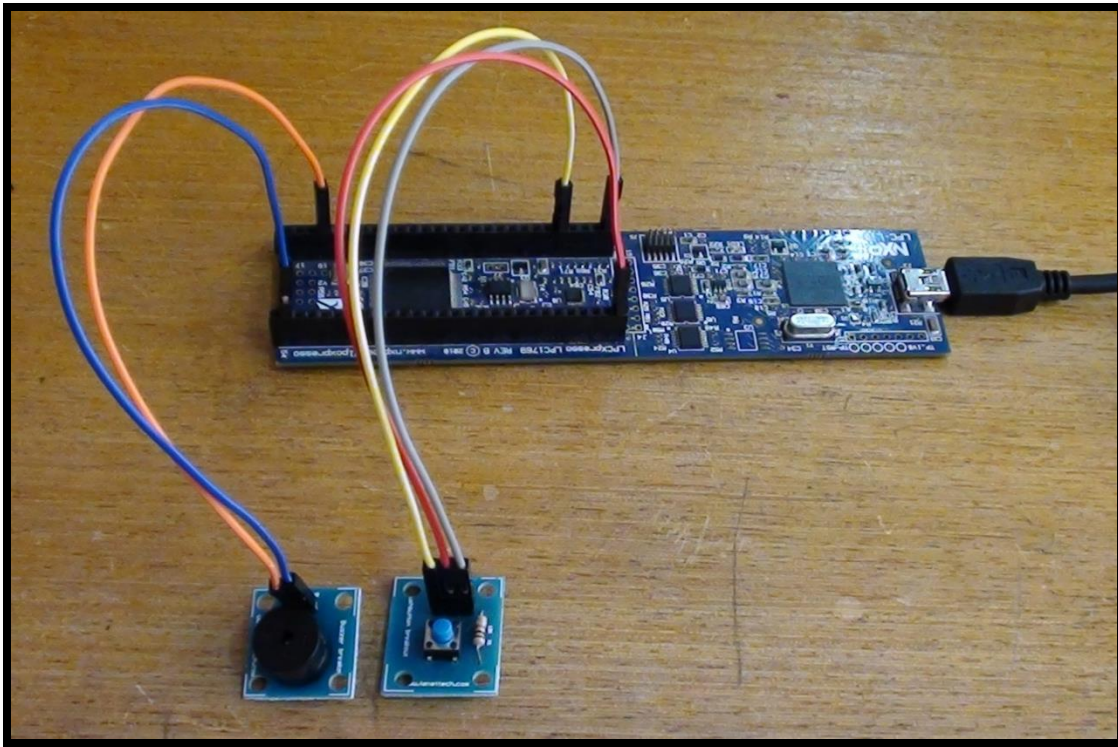


Fig. 13

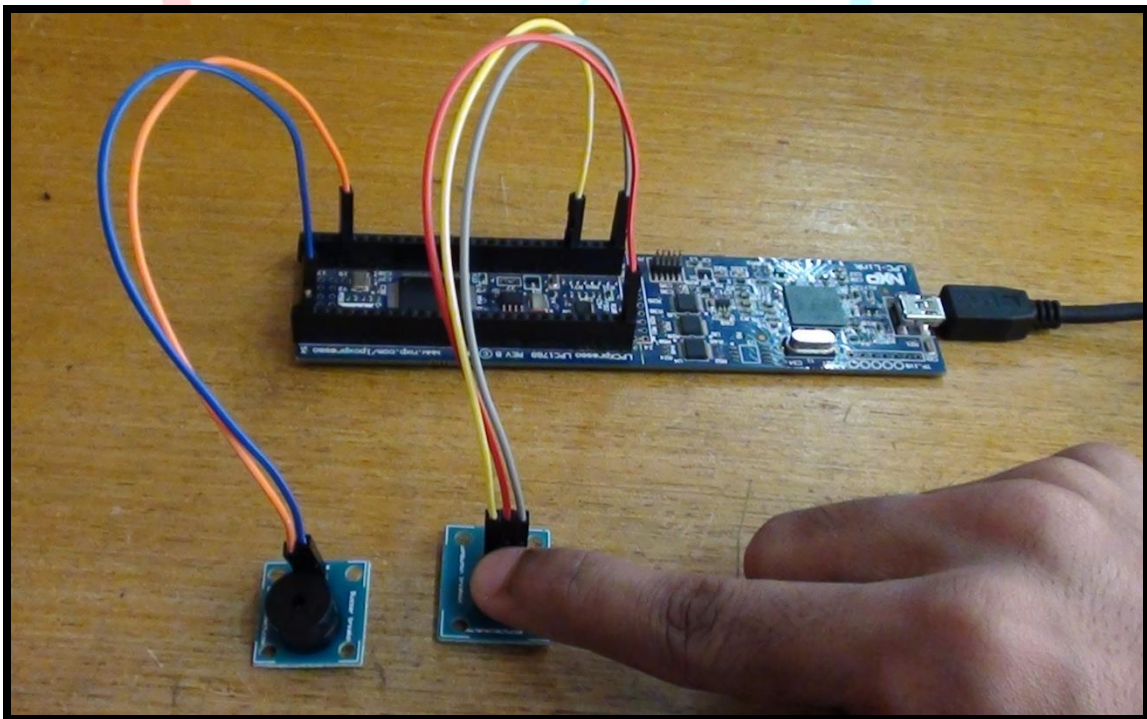


Fig. 14

For product link:

1. <http://www.tenettech.com/product/1548/lpc1769-lpcxpresso-board>
2. <http://tenettech.com/product/6655/universal-gpio-board>

For more information please log on to www.tenettech.com

For technical query please send us an e-mail: info@tenettech.com

