

Introduction to Lab # 4: Multi-Timer

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A Digital Count-Down Timer



Display

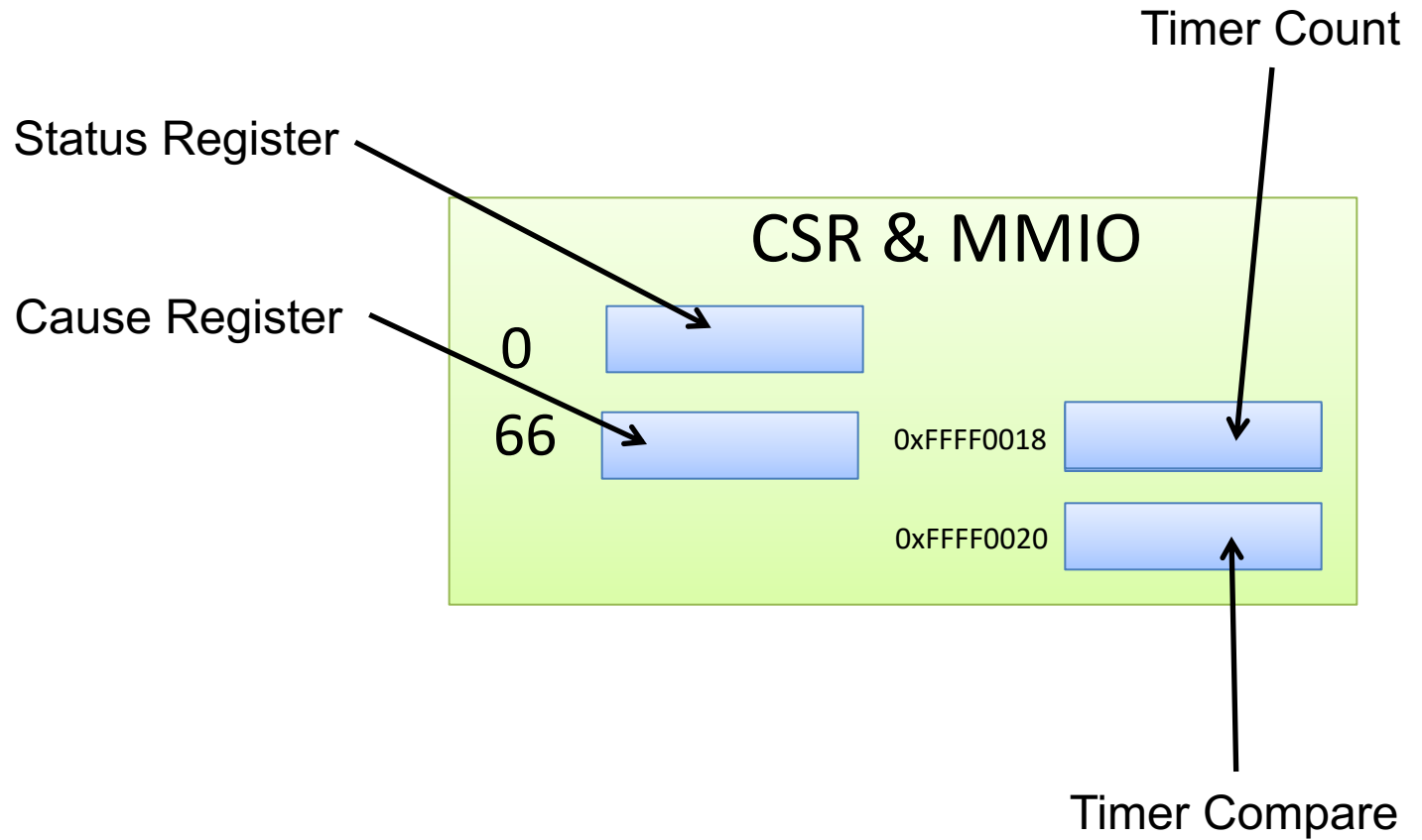
```
Timer 0: 00:00
Timer 1: 00:00
      :
Timer 5: 00:00
```

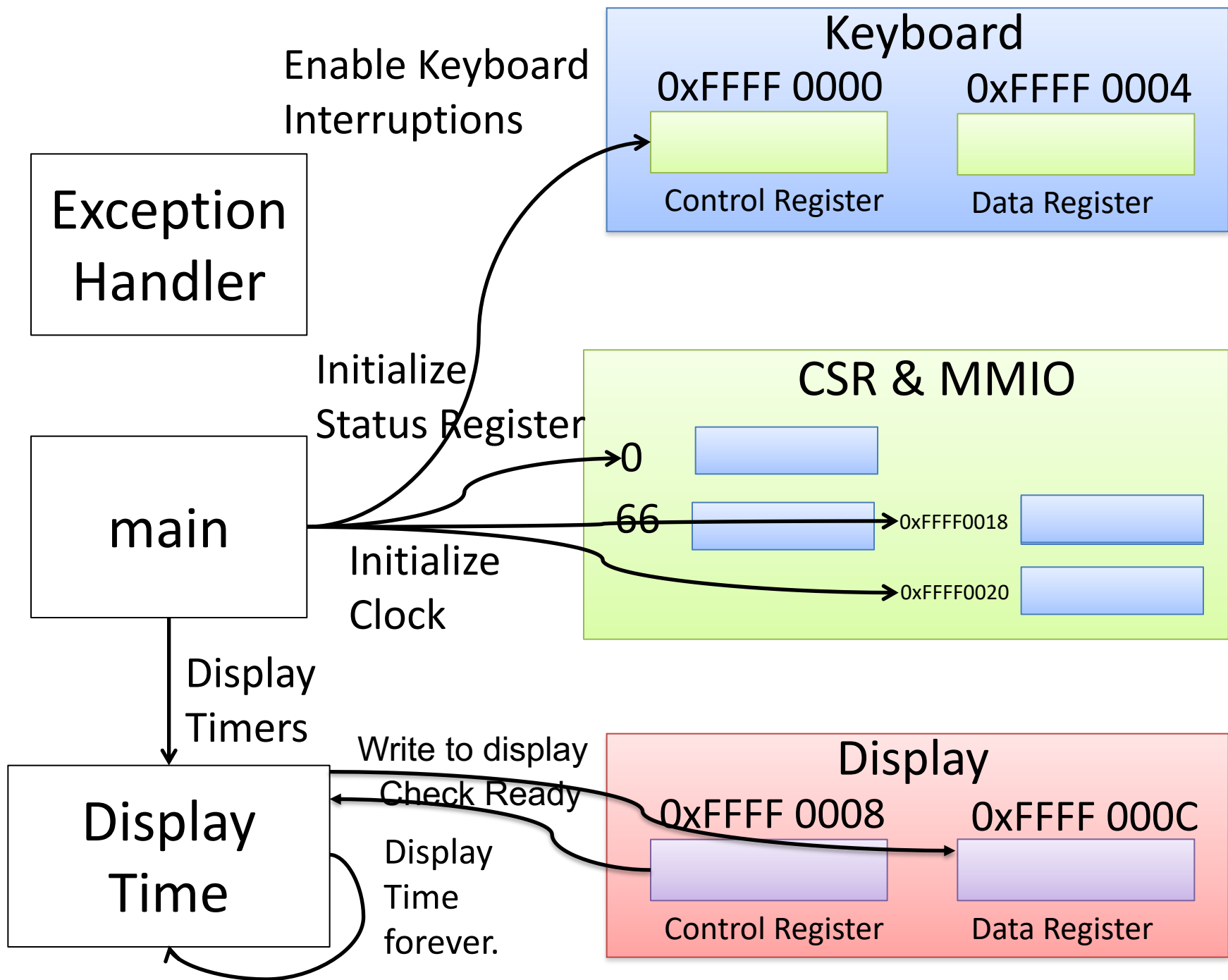
Keyboard

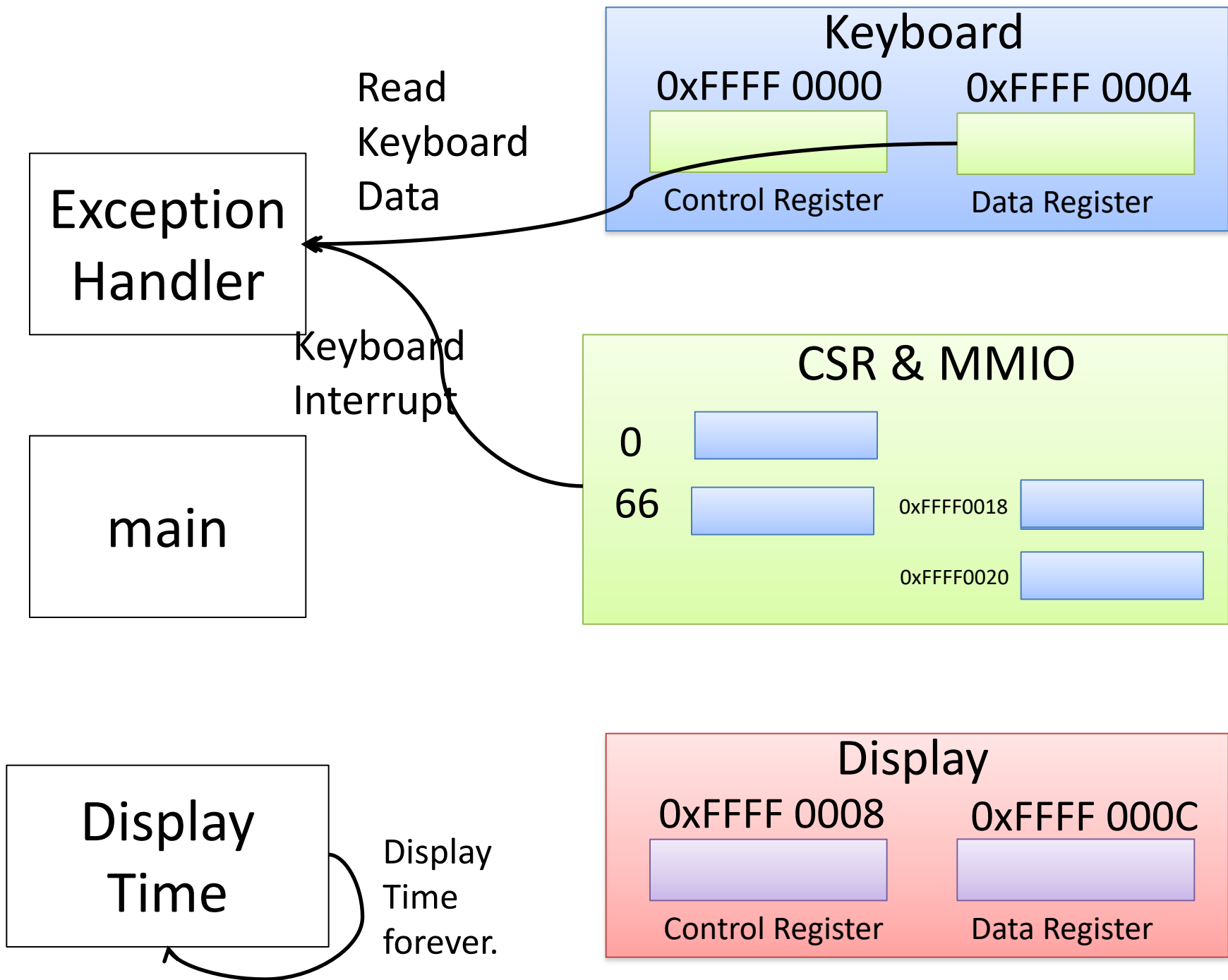
```
127@1
q
```



CSR & MMIO







Is it "q", something else?
Do the right thing.

Exception
Handler

main

Display
Time

Re-enable
Keyboard
Interrupts

Reset
Status
and
Cause
Register

Display
Time
forever.

Keyboard

0xFFFF 0000

0xFFFF 0004

Control Register

Data Register

CSR & MMIO

0

66

0xFFFF0018

0xFFFF0020

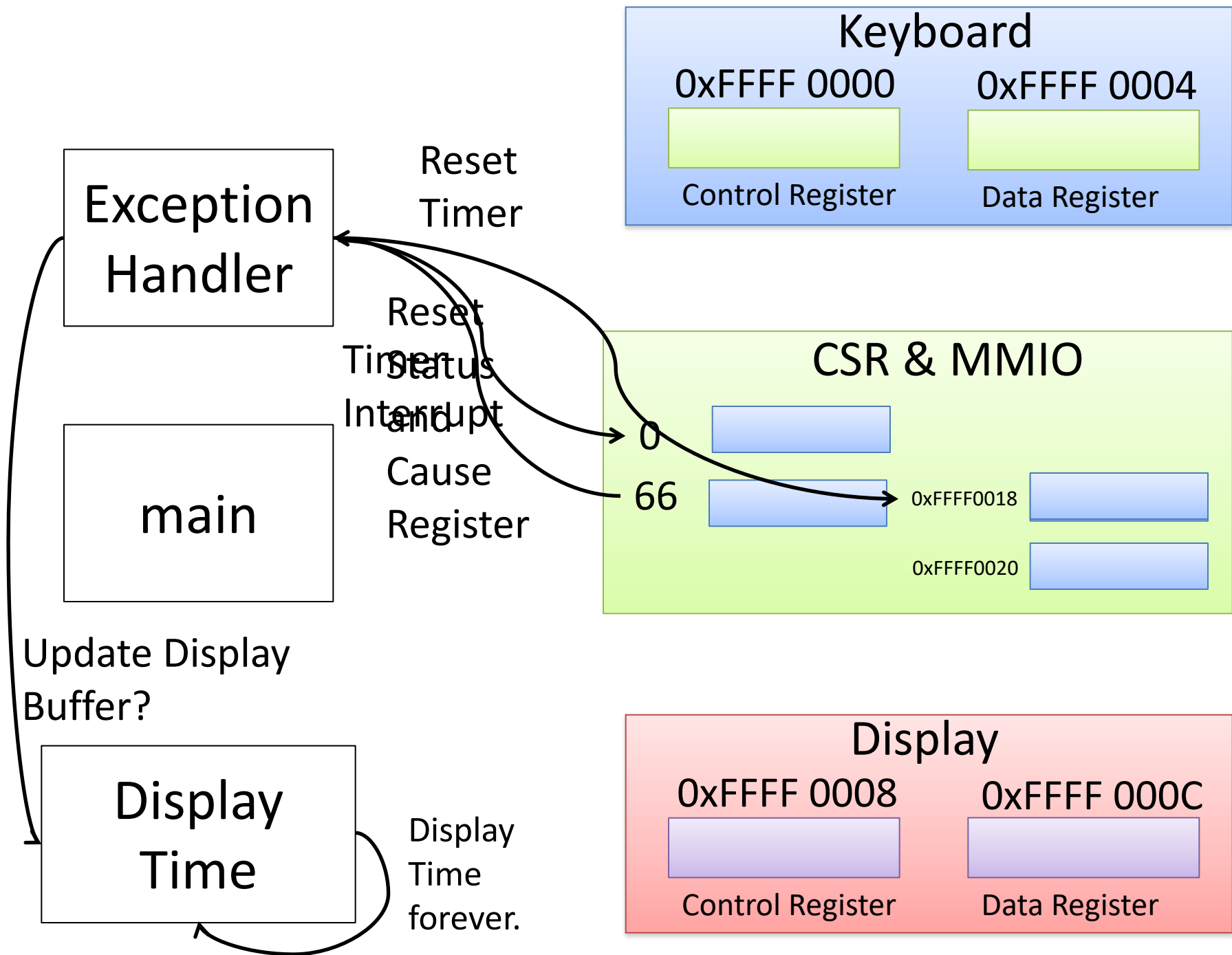
Display

0xFFFF 0008

0xFFFF 000C

Control Register

Data Register



FOREVER:

p = address of first character

Keyboard

0xFFFF 0000

Control Register

0xFFFF 0004

Data Register

CSR & MMIO

0

66

0xFFFF0018

0xFFFF0020

With this solution the timer will be blinking.

Display

0xFFFF 0008

Control Register

0xFFFF 000C

Data Register