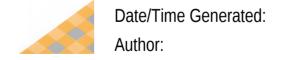
Diagram Report

Version •



26.09.2022 13:12:03 Thomas Batt

EA Repository:



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1.1.1 Software_Architecture_View diagram

Class diagram in package 'Software_Architecture'

Software_Architecture_View Version 1.0
Thomas Batt created on 13.01.2022. Last modified 28.01.2022

Name: Software_Architecture_View Package: Software_Architecture

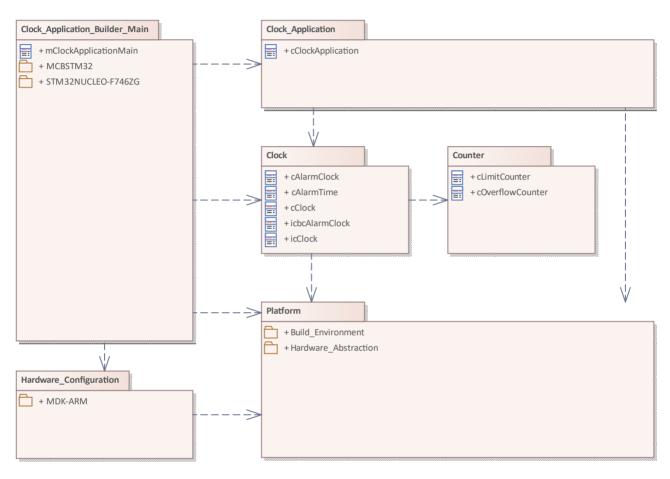


Figure 1: Software_Architecture_View

1.1.1.1 Clock_Application_Builder_Main diagram

Class diagram in package 'Clock_Application_Builder_Main'

Clock_Application_Builder_Main
Version 1.0

Thomas Batt created on 13.01.2022. Last modified 28.01.2022

Name: Clock_Application_Builder_Main Package: Clock_Application_Builder_Main

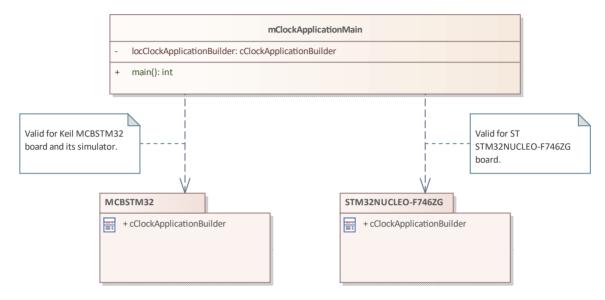


Figure 2: Clock_Application_Builder_Main

1.1.1.1.1 MCBSTM32_Clock_Application_Builder diagram

Class diagram in package 'MCBSTM32'

MCBSTM32_Clock_Application_Builder Version 1.0
Thomas Batt created on 13.01.2022. Last modified 26.09.2022

Name: MCBSTM32_Clock_Application_Builder

Package: MCBSTM32 Version: 1.0 Author: Thomas Batt

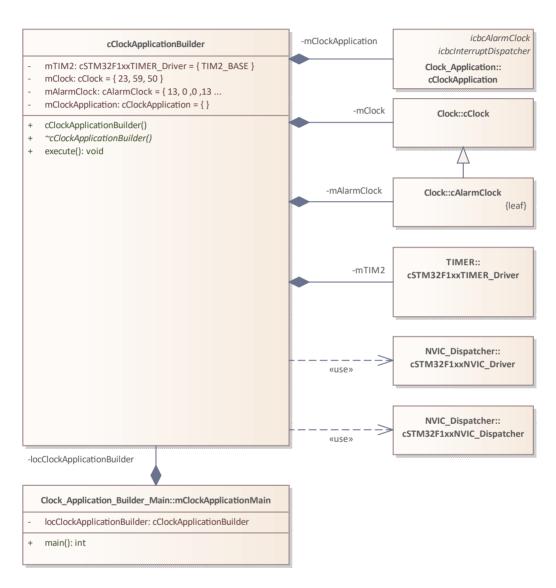


Figure 3: MCBSTM32_Clock_Application_Builder

1.1.1.1.2 STM32NUCLEO-F746ZG_Clock_Application_Builder diagram

Class diagram in package 'STM32NUCLEO-F746ZG'

STM32NUCLEO-F746ZG_Clock_Application_Builder Version 1.0
Thomas Batt created on 13.01.2022. Last modified 26.09.2022

Name: STM32NUCLEO-F746ZG_Clock_Application_Builder

Package: STM32NUCLEO-F746ZG

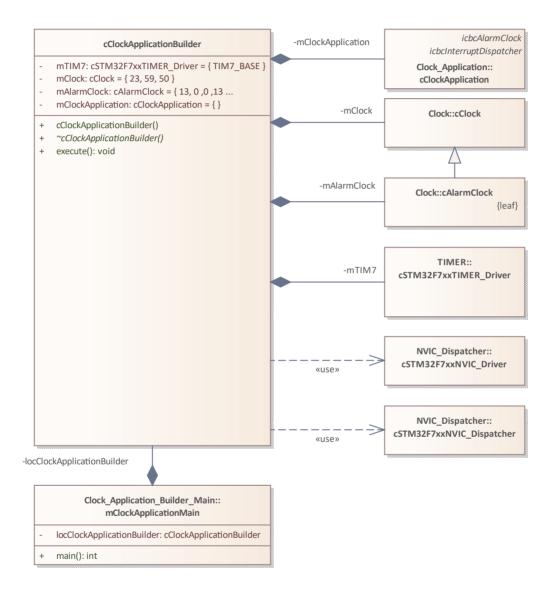


Figure 4: STM32NUCLEO-F746ZG_Clock_Application_Builder

1.1.1.2 Clock_Application diagram

Class diagram in package 'Clock Application'

Clock_Application
Version 1.0
Thomas Batt created on 13.01.2022. Last modified 28.01.2022

Name: Clock_Application
Package: Clock_Application

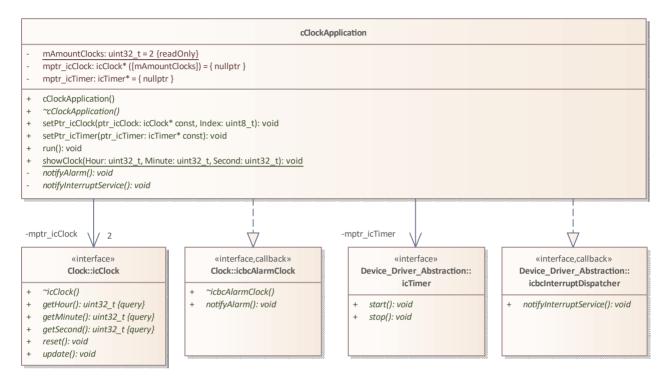


Figure 5: Clock_Application

1.1.1.3 Clock diagram

Class diagram in package 'Clock'

Clock Version 1.0 Thomas Batt created on 13.01.2022. Last modified 26.09.2022

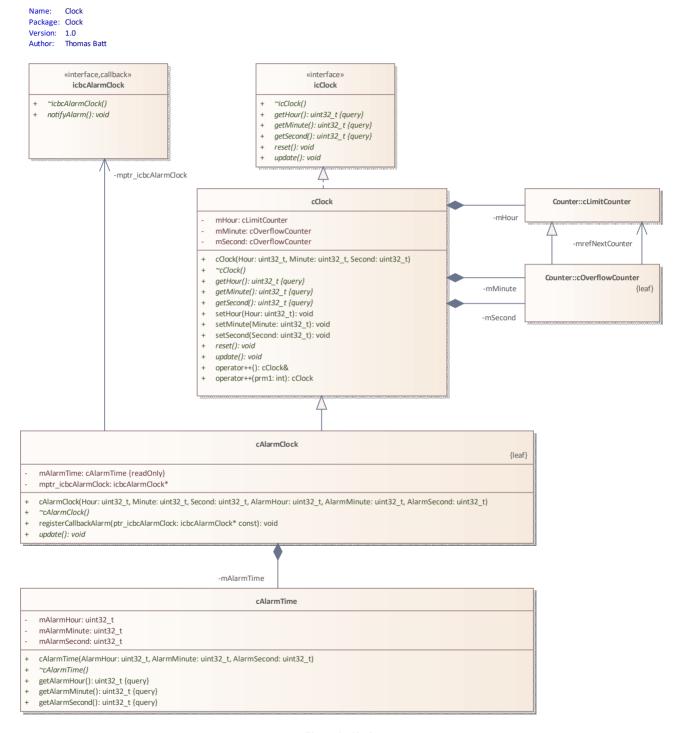


Figure 6: Clock

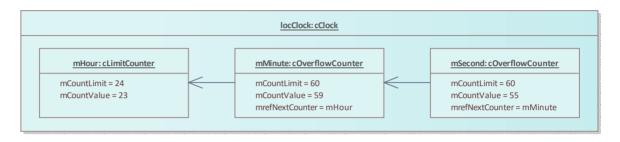
1.1.1.4 Clock_Object_View diagram

Object diagram in package 'Clock'

Clock_Object_View
Version 1.0
Thomas Batt created on 13.01.2022. Last modified 27.01.2022

Name: Clock_Object_View

Package: Clock Version: 1.0 Author: Thomas Batt



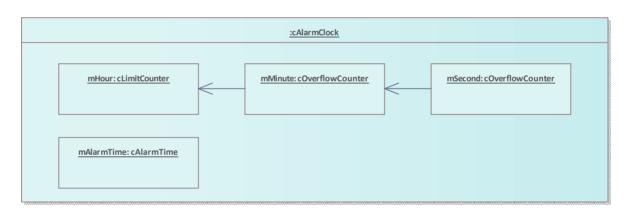


Figure 7: Clock_Object_View

1.1.1.5 Counter diagram

Class diagram in package 'Counter'

Counter Version 1.0 Thomas Batt created on 13.01.2022. Last modified 28.01.2022

Name: Counter
Package: Counter
Version: 1.0
Author: Thomas Batt

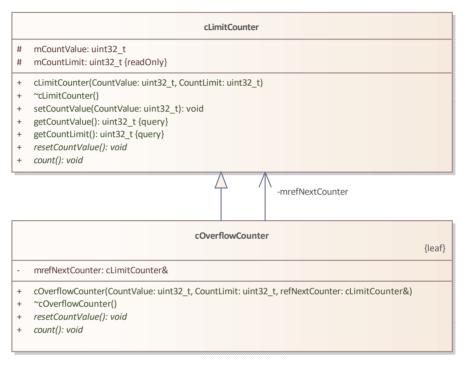


Figure 8: Counter

1.1.1.6 Platform diagram

Class diagram in package 'Platform'

Platform Version 1.0 Thomas Batt created on 13.01.2022. Last modified 28.01.2022

Name: Platform
Package: Platform
Version: 1.0
Author: Thomas Batt



Figure 9: Platform

1.1.1.6.1 Build_Environment diagram

Class diagram in package 'Build_Environment'

Build_Environment Version 1.0
Thomas Batt created on 13.01.2022. Last modified 28.01.2022

Name: Build_Environment Package: Build_Environment

Version: 1.0 Author: Thomas Batt

MDK-ARM_STM32F1xx::TypeDefinitions

MDK-ARM_STM32F7xx::TypeDefinitions

Figure 10: Build_Environment

1.1.1.6.2 Hardware_Abstraction diagram

Class diagram in package 'Hardware Abstraction'

Hardware_Abstraction
Version 1.0
Thomas Batt created on 13.01.2022. Last modified 28.01.2022

Name: Hardware_Abstraction
Package: Hardware_Abstraction
Version: 1.0
Author: Thomas Batt

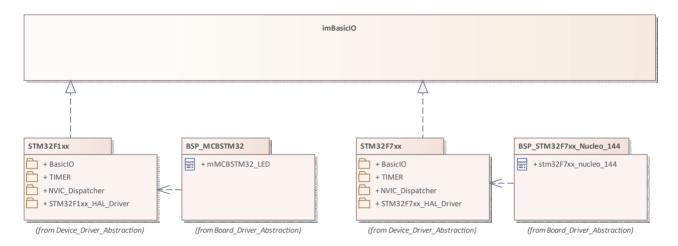


Figure 11: Hardware_Abstraction

1.1.1.6.2.1 Device_Driver_Abstraction diagram

Class diagram in package 'Device_Driver_Abstraction'

Device_Driver_Abstraction Version 1.0
Thomas Batt created on 13.01.2022. Last modified 28.01.2022

Name: Device_Driver_Abstraction
Package: Device_Driver_Abstraction

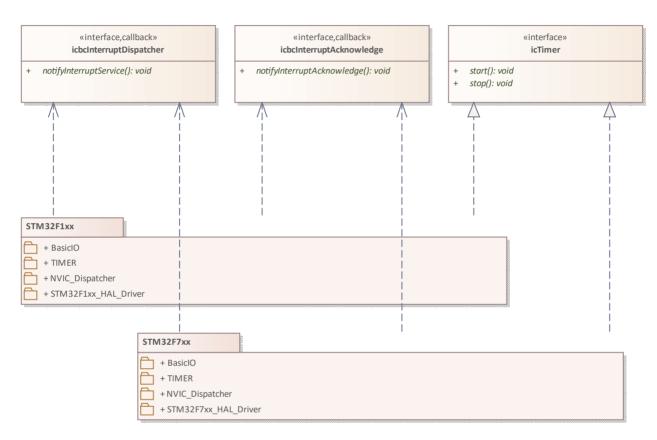


Figure 12: Device_Driver_Abstraction

1.1.1.6.2.1.1.1 STM32F1xx_BasicIO diagram

Class diagram in package 'BasicIO'

STM32F1xx_BasicIO Version 1.0 Thomas Batt created on 13.01.2022. Last modified 28.01.2022

Name: STM32F1xx_BasicIO

Package: BasicIO Version: 1.0 Author: Thomas Batt

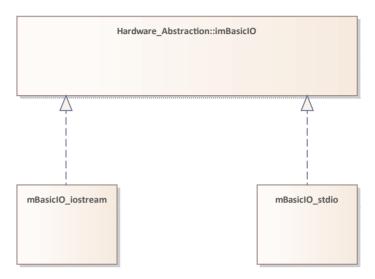


Figure 13: STM32F1xx_BasicIO

1.1.1.6.2.1.1.2 STM32F1xx TIMER diagram

Class diagram in package 'TIMER'

STM32F1xx_TIMER
Version 1.0
Thomas Batt created on 13.01.2022. Last modified 28.01.2022

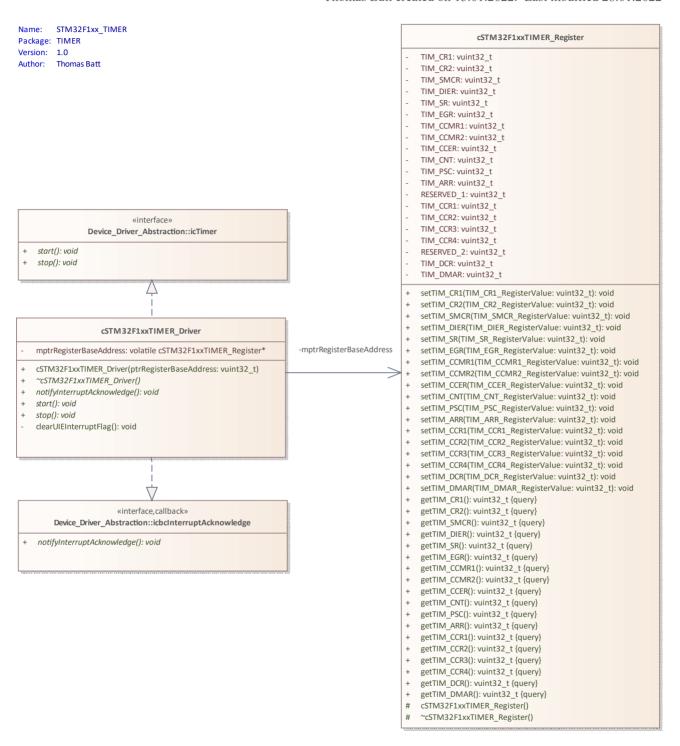


Figure 14: STM32F1xx_TIMER

1.1.1.6.2.1.1.3 STM32F1xx_NVIC_Dispatcher diagram

Class diagram in package 'NVIC_Dispatcher'

STM32F1xx_NVIC_Dispatcher Version 1.0
Thomas Batt created on 13.01.2022. Last modified 28.01.2022

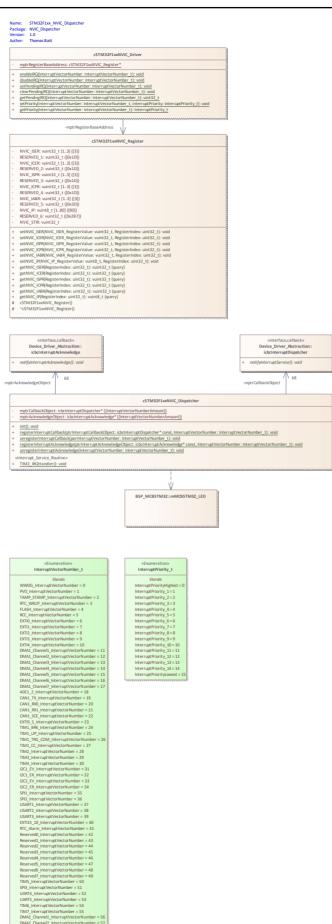


Figure 15: STM32F1xx_NVIC_Dispatcher

1.1.1.6.2.1.1.4 STM32F7xx_BasicIO diagram

Class diagram in package 'BasicIO'

STM32F7xx_BasicIO Version 1.0 Thomas Batt created on 13.01.2022. Last modified 28.01.2022

Name: STM32F7xx_BasicIO

Package: BasicIO
Version: 1.0
Author: Thomas Batt

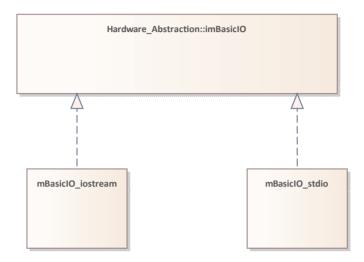


Figure 16: STM32F7xx_BasicIO

1.1.1.6.2.1.1.5 STM32F7xx TIMER diagram

Class diagram in package 'TIMER'

STM32F7xx_TIMER
Version 1.0
Thomas Batt created on 13.01.2022. Last modified 28.01.2022

Name: STM32F7xx_TIMER
Package: TIMER
Version: 1.0
Author: Thomas Batt

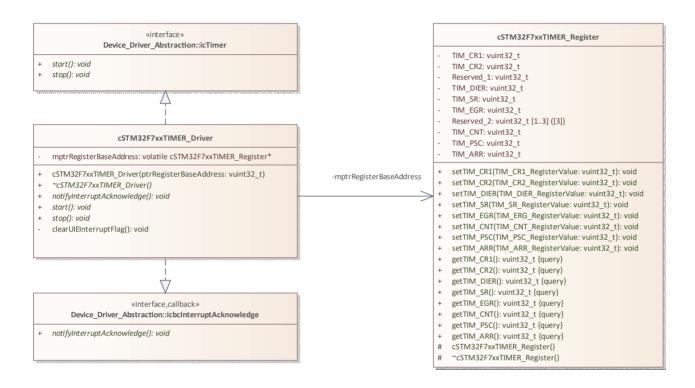
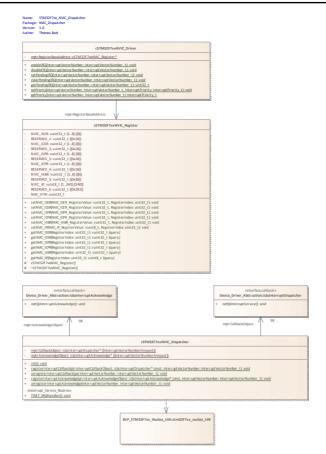


Figure 17: STM32F7xx_TIMER

1.1.1.6.2.1.1.6 STM32F7xx_NVIC_Dispatcher diagram

Class diagram in package 'NVIC_Dispatcher'

STM32F7xx_NVIC_Dispatcher Version 1.0
Thomas Batt created on 13.01.2022. Last modified 28.01.2022



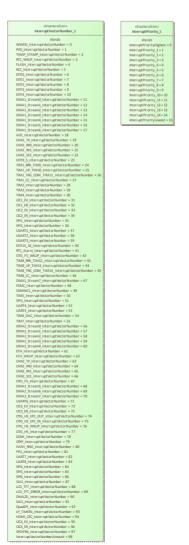


Figure 18: STM32F7xx_NVIC_Dispatcher

1.1.1.7 Hardware_Configuration diagram

Class diagram in package 'Hardware_Configuration'

Hardware_Configuration
Version 1.0
Thomas Batt created on 13.01.2022. Last modified 27.01.2022

Name: Hardware_Configuration Package: Hardware_Configuration



Figure 19: Hardware_Configuration

1.1.1.8 Exersice_1: cLimitCounter Class View diagram

Class diagram in package 'Exersice_1: Class and Object'

Exersice_1: cLimitCounter Class View Version 1.0
Thomas Batt created on 13.01.2022. Last modified 28.01.2022

Name: Exersice_1: cLimitCounter Class View Package: Exersice_1: Class and Object

Version: 1.0 Author: Thomas Batt

mCountValue: uint32_t # mCountLimit: uint32_t {readOnly} + cLimitCounter(CountValue: uint32_t, CountLimit: uint32_t) + ~cLimitCounter() + setCountValue(CountValue: uint32_t): void + getCountValue(): uint32_t {query} + getCountLimit(): uint32_t {query} + resetCountValue(): void + count(): void

Figure 20: Exersice_1: cLimitCounter Class View

1.1.1.9 Exersice_1: cLimitCounter Object View diagram

Object diagram in package 'Exersice_1: Class and Object'

Exersice_1: cLimitCounter Object View Version 1.0
Thomas Batt created on 13.01.2022. Last modified 28.01.2022

Name: Exersice_1: cLimitCounter Object Package: Exersice_1: Class and Object

Version: 1.0 Author: Thomas Batt

mCountValue = 0

Figure 21: Exersice_1: cLimitCounter Object View

1.1.1.10 Exercise_2: cClock Class View diagram

Class diagram in package 'Exercise 2: Relations between Classes'

Exercise_2: cClock Class View Version 1.0
Thomas Batt created on 13.01.2022. Last modified 09.02.2022

Name: Exercise_2: cClock Class View
Package: Exercise_2: Relations between Classes
Version: 1.0

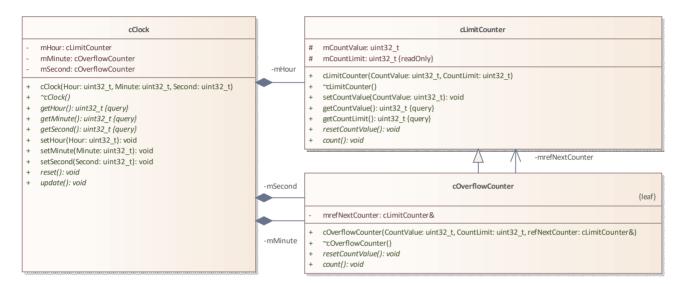


Figure 22: Exercise_2: cClock Class View

1.1.1.11 Exercise_2: cClock Object View diagram

Object diagram in package 'Exercise_2: Relations between Classes'

Exercise_2: cClock Object View Version 1.0
Thomas Batt created on 13.01.2022. Last modified 28.01.2022

Name: Exercise_2: cClock Object View
Package: Exercise_2: Relations between Classes

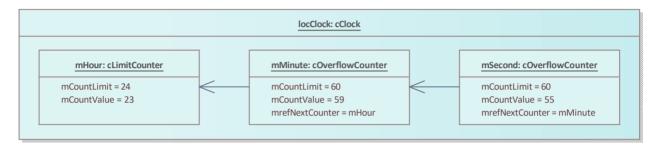


Figure 23: Exercise 2: cClock Object View

1.1.1.12 Exercise 3: icClock Realization Class View diagram

Class diagram in package 'Exercise_3: Virtual Functions and Interface Class'

Exercise_3: icClock Realization Class View Version 1.0 Thomas Batt created on 13.01.2022. Last modified 28.01.2022

Name: Exercise_3: icClock Realization Class View
Package: Exercise_3: Virtual Functions and Interface Class

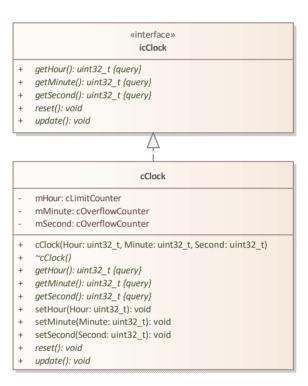


Figure 24: Exercise_3: icClock Realization Class View

1.1.1.13 Exercise_3: icClock Access Class_View diagram

Class diagram in package 'Exercise_3: Virtual Functions and Interface Class'

Exercise_3: icClock Access Class_View Version 1.0
Thomas Batt created on 27.01.2022. Last modified 26.09.2022

Name: Exercise_3: icClock Access Class_View
Package: Exercise_3: Virtual Functions and Interface Class

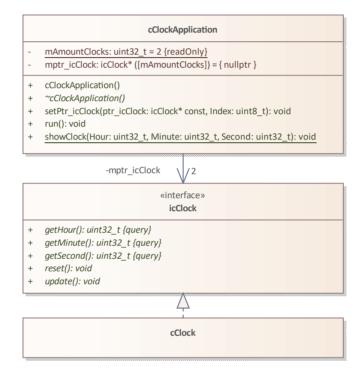


Figure 25: Exercise_3: icClock Access Class_View

1.1.1.14 Exercise_3: cClockApplicationBuilder Class View diagram

Class diagram in package 'Exercise 3: Virtual Functions and Interface Class'

Exercise_3: cClockApplicationBuilder Class View Version 1.0
Thomas Batt created on 27.01.2022. Last modified 28.01.2022

Name: Exercise_3: cClockApplicationBuilder Class View Package: Exercise_3: Virtual Functions and Interface Class

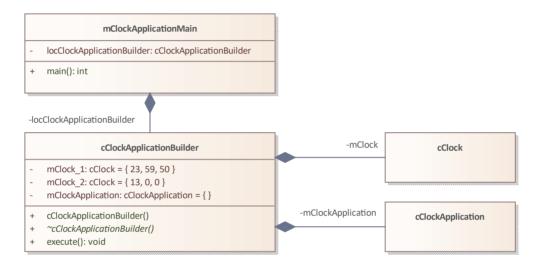


Figure 26: Exercise_3: cClockApplicationBuilder Class View

1.1.1.15 Exercise_3: cClockApplicationBuilder Object View diagram

Object diagram in package 'Exercise_3: Virtual Functions and Interface Class'

Exercise_3: cClockApplicationBuilder Object View Version 1.0
Thomas Batt created on 13.01.2022. Last modified 28.01.2022

Name: Exercise_3: cClockApplicationBuilder Object View Package: Exercise_3: Virtual Functions and Interface Class

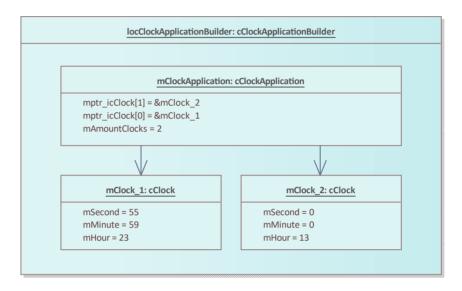


Figure 27: Exercise_3: cClockApplicationBuilder Object View

1.1.1.16 Exercise_4: Callback Interface Access and Realization Class View diagram

Class diagram in package 'Exercise 4: Object Oriented Callback Structure'

Exercise_4: Callback Interface Access and Realization Class View Version 1.0
Thomas Batt created on 13.01.2022. Last modified 26.09.2022

Name: Exercise_4: Callback Interface Access and Realization Class View Package: Exercise_4: Object Oriented Callback Structure

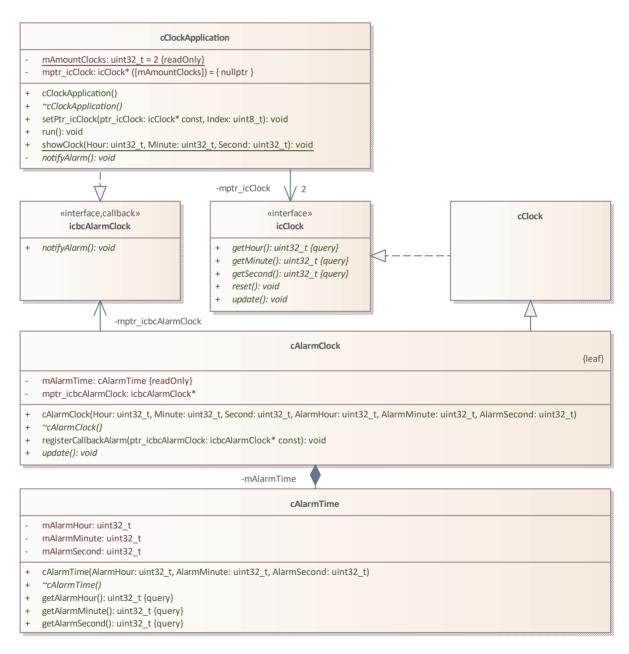


Figure 28: Exercise_4: Callback Interface Access and Realization Class View

1.1.1.17 Exercise_4: cClockApplicationBuilder Class_View diagram

Class diagram in package 'Exercise_4: Object Oriented Callback Structure'

Exercise_4: cClockApplicationBuilder Class_View Version 1.0
Thomas Batt created on 27.01.2022. Last modified 26.09.2022

Name: Exercise_4: cClockApplicationBuilder Class_View Package: Exercise_4: Object Oriented Callback Structure

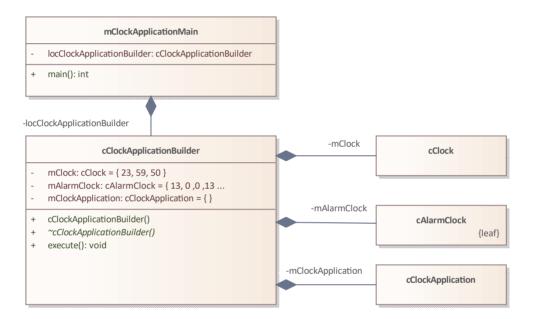


Figure 29: Exercise_4: cClockApplicationBuilder Class_View

1.1.1.18 Exercise_4: cClockApplicationBuilder Object View diagram

Object diagram in package 'Exercise_4: Object Oriented Callback Structure'

Exercise_4: cClockApplicationBuilder Object View Version 1.0
Thomas Batt created on 13.01.2022. Last modified 28.01.2022

Name: Exercise_4: cClockApplicationBuilder Object View Package: Exercise_4: Object Oriented Callback Structure

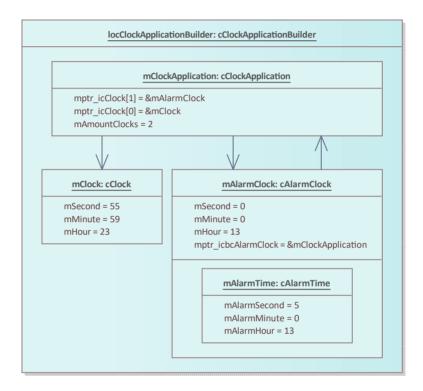


Figure 30: Exercise_4: cClockApplicationBuilder Object View

1.1.1.19 Exercise 5: icTimer Access and Realization Class View diagram

Class diagram in package 'Exercise 5: Hardware Driver and Interrupt'

Exercise_5: icTimer Access and Realization Class View Version 1.0
Thomas Batt created on 13.01.2022. Last modified 07.02.2022

Name: Exercise_5: icTimer Access and Realization Class View Package: Exercise_5: Hardware Driver and Interrupt

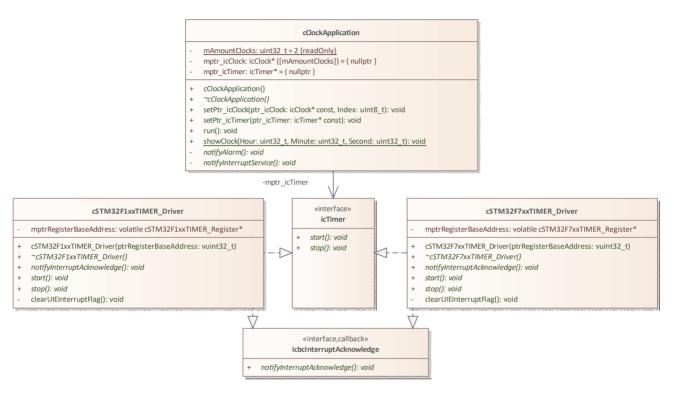


Figure 31: Exercise_5: icTimer Access and Realization Class View

1.1.1.20 Exercise_5: icbcInterruptDispatcher Access and Realization MCBSTM32 / Simulator Class View diagram

Class diagram in package 'Exercise 5: Hardware Driver and Interrupt'

icbcInterruptAcknowledge
notifyInterruptAcknowledge(): void

Exercise_5: icbcInterruptDispatcher Access and Realization MCBSTM32 / Simulator Class View Version 1.0

Thomas Batt created on 07.02.2022. Last modified 26.09.2022

Exercise_5: icbcInterruptDispatcher Access and Realization MCBSTM32 / Simulator Class View Package: Exercise_5: Hardware Driver and Interrupt Version: 1.0 Author: Thomas Batt «interface.callback» ichcAlarmClock notifyAlarm(): void «interface callback» cClockApplication icbcInterruptDispatcher mAmountClocks: uint32_t = 2 {readOnly} notifyInterruptService(): void mptr_icClock: icClock* ([mAmountClocks]) = { nullptr } mptr_icTimer: icTimer* = { nullptr } -mptrCallbackObject cClockApplication() ~cClockApplication() setPtr_icClock(ptr_icClock: icClock* const, Index: uint8_t): void 68 setPtr_icTimer(ptr_icTimer: icTimer* const): void showClock(Hour: uint32_t, Minute: uint32_t, Second: uint32_t): void notifyAlarm(): void notifyInterruptService(): void cSTM32F1xxNVIC_Dispatcher mptrCallbackObject: icbcInterruptDispatcher* ([InterruptVectorNumberAmount]) mptrAcknowledgeObject: icbcInterruptAcknowledge* ([InterruptVectorNumberAmount]) init(): void $registerInterruptCallback(ptrInterruptCallback(object: icbcInterruptDispatcher* const, InterruptVectorNumber: InterruptVectorNumber_t): void registerInterruptCallback(ptrInterruptCallback(object: icbcInterruptDispatcher* const, InterruptVectorNumber: InterruptVectorNumber_t): void registerInterruptCallback(object: icbcInterruptDispatcher* const, InterruptVectorNumber_t): void registerInterruptCallback(object: icbcInterruptCallback(object: icbcInterru$ $unregisterInterrupt Callback (parInterrupt Vector Number: Interrupt Vector Number_t): void\\$ register Interrupt Acknowledge (ptrInterrupt Acknowledge Object: icbcInterrupt Acknowledge * const, Interrupt Vector Number: Interrupt Vector NuunregisterInterruptAcknowledge(InterruptVectorNumber: InterruptVectorNumber t): void «Interrupt_Service_Routine» TIM2_IRQHandler(): void -mptrAcknowledgeObject 68 «interface,callback»

Figure 32: Exercise_5: icbcInterruptDispatcher Access and Realization MCBSTM32 / Simulator Class View

1.1.1.21 Exercise_5: cClockApplicationBuilder MCBSTM32_Simulator Class View diagram

Class diagram in package 'Exercise 5: Hardware Driver and Interrupt'

Exercise_5: cClockApplicationBuilder MCBSTM32_Simulator Class View Version 1.0
Thomas Batt created on 28.01.2022. Last modified 07.02.2022

Name: Exercise_5: cClockApplicationBuilder MCBSTM32_Simulator Class View

Package: Exercise_5: Hardware Driver and Interrupt

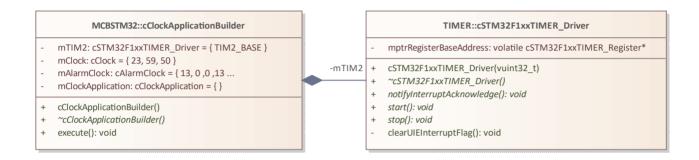


Figure 33: Exercise_5: cClockApplicationBuilder MCBSTM32_Simulator Class View

1.1.1.22 Exercise_5: cClockApplicationBuilder MCBSTM32_Simulator Object View diagram

Object diagram in package 'Exercise 5: Hardware Driver and Interrupt'

Exercise_5: cClockApplicationBuilder MCBSTM32_Simulator Object View Version 1.0
Thomas Batt created on 13.01.2022. Last modified 28.01.2022

Name: Exercise_5: cClockApplicationBuilder MCBSTM32_Simulator Object View

Package: Exercise_5: Hardware Driver and Interrupt

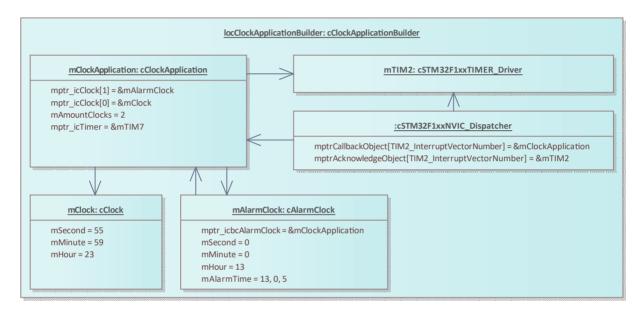


Figure 34: Exercise_5: cClockApplicationBuilder MCBSTM32_Simulator Object View

1.1.1.23 Exercise_5: icbcInterruptDispatcher Access and Realization STM32NUCLEO-F746ZG Class View diagram

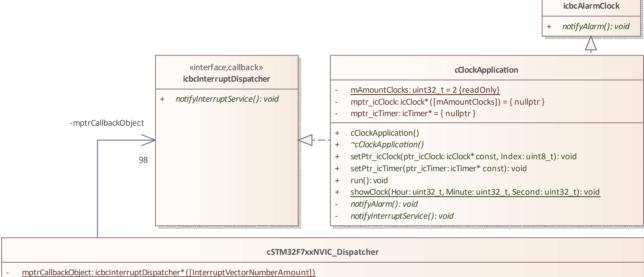
Class diagram in package 'Exercise 5: Hardware Driver and Interrupt'

Exercise_5: icbcInterruptDispatcher Access and Realization STM32NUCLEO-F746ZG Class View Version 1.0

Thomas Batt created on 28.01.2022. Last modified 26.09.2022

«interface,callback»

Name: Exercise_5: icbcInterruptDispatcher Access and Realization STM32NUCLEO-F746ZG Class View Package: Exercise_5: Hardware Driver and Interrupt Version: 1.0
Author: Thomas Batt



- mptrAcknowledgeObject: icbcInterruptAcknowledge*([InterruptVectorNumberAmount])

+ init(): void
+ registerInterruptCallback(ptrInterruptCallbackObject: icbcInterruptDispatcher* const, InterruptVectorNumber: InterruptVectorNumber_t): void
+ unregisterInterruptCallback(parInterruptVectorNumber: InterruptVectorNumber_t): void
+ registerInterruptAcknowledge(ptrInterruptAcknowledgeObject: icbcInterruptAcknowledge* const, InterruptVectorNumber: InterruptVectorNumber t): void
+ unregisterInterruptAcknowledge(InterruptVectorNumber: InterruptVectorNumber_t): void



Figure 35: Exercise_5: icbcInterruptDispatcher Access and Realization STM32NUCLEO-F746ZG Class View

1.1.1.24 Exercise_5: cClockApplicationBuilder STM32NUCLEO-F746ZG Class View diagram

Class diagram in package 'Exercise 5: Hardware Driver and Interrupt'

Exercise_5: cClockApplicationBuilder STM32NUCLEO-F746ZG Class View Version 1.0
Thomas Batt created on 28.01.2022. Last modified 07.02.2022

Name: Exercise_5: cClockApplicationBuilder STM32NUCLEO-F746ZG Class View

Package: Exercise_5: Hardware Driver and Interrupt

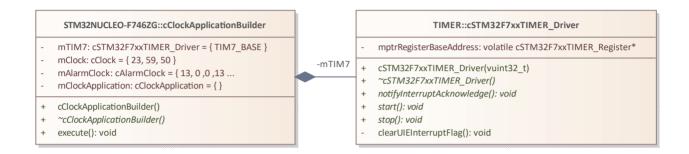


Figure 36: Exercise_5: cClockApplicationBuilder STM32NUCLEO-F746ZG Class View

1.1.1.25 Exercise_5: cClockApplicationBuilder STM32NUCLEO-F746ZG Object View diagram

Object diagram in package 'Exercise 5: Hardware Driver and Interrupt'

Exercise_5: cClockApplicationBuilder STM32NUCLEO-F746ZG Object View Version 1.0
Thomas Batt created on 28.01.2022. Last modified 07.02.2022

Name: Exercise_5: cClockApplicationBuilder STM32NUCLEO-F746ZG Object View

Package: Exercise_5: Hardware Driver and Interrupt

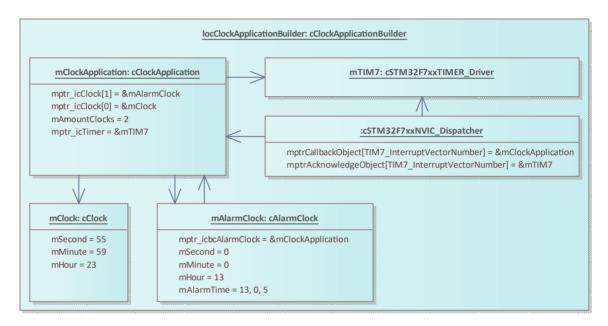


Figure 37: Exercise_5: cClockApplicationBuilder STM32NUCLEO-F746ZG Object View