A Remind Watch

Software Modeling & Analysis

Team 3

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INDEX

목차

CONTENTS 1 **Revise Plan**

CONTENTS 2 **Real Use Cases**

CONTENTS 3 **UI**

CONTENTS 4 **System Architecture**

CONTENTS 5 **Interaction Diagrams**

CONTENTS 6 **Design Class Diagrams**

CONTENTS 7 **Traceability Analysis**

Revise Plan
- Refresh
- Set Function

Real Use Cases
- About Special Cases

UI

System Architecture
- UI
- Domain
- System

Interaction Diagrams
- About Special Cases

Design Class Diagrams
- UI
- Controller
- Data
- Time

Traceability Analysis

1. Revise Plan

Refresh Display

CONTENTS

After receiving a kind of signals, show accurate display

Why
This function added?

1. Revise Plan

Select Function

CONTENTS

Before

- Just select functions only
- If Current Time is not selected
  how we go to Select Function

After

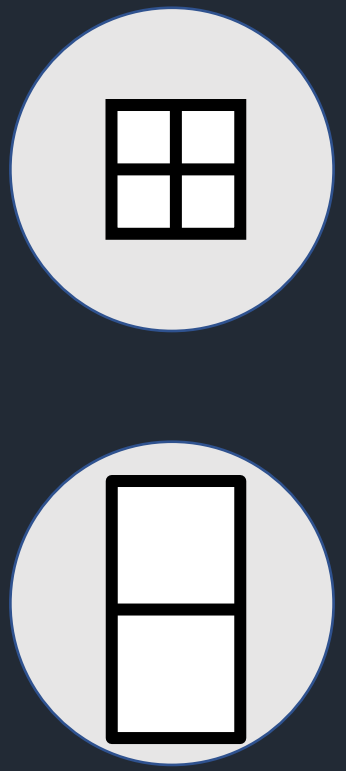
- When We select functions,
  current time must be selected

Why
This function changed?

2. Real Use Cases

Switch Display – Current Time

Use Case	1. Switch Display - Version 1 (Current Time)
Actor	User
Purpose	기능 전환 버튼으로 디스플레이를 전환한다.
Overview	田자 3개와 7세그먼트 12개를 사용한다.
Type	Evident
Cross Reference	R 3.2, R 3.3
Pre-Requisites	N/A
UI Widgets	Not constant
Typical Courses of Events (A) : Actors (S) : System	1.(A) : 화면 전환 버튼을 누른다. 2.(S) : Current Time 에서 사용할 디스플레이로 전환한다.
Alternative Courses of Events	N/A
Exceptional Courses of Events	N/A



2. Real Use Cases

Change Button's Function – Change Current Time

Use Case	2. Change Button's Function – Version 2 (Change Current Time)
Actor	User
Purpose	기능 전환 버튼으로 버튼의 기능을 전환할 수 있도록 한다.
Overview	시계 기능을 전환하는 버튼을 눌러 버튼의 기능을 전환한다.
Type	Evident
Cross Reference	R 3.2, R 4.1, R 4.2, R 4.3, R 4.4, R 5.1 R 5.2 R 6.1 R 7.2, R 8.1, R 9.1, R 11.1
Pre-Requisites	N/A
UI Widgets	Not constant
Typical Courses of Events (A) : Actors (S) : System	A버튼 : 기능 전환 버튼 B버튼 : 설정 완료 후 show current time으로 넘어가는 버튼 C버튼 : 값 증가 버튼 D버튼 : 커서 이동 버튼 1.(A) : 기능 전환 버튼을 누른다. 2.(S) : 버튼의 기능을 전환시킨다.
Alternative Courses of Events	N/A
Exceptional Courses of Events	N/A

2. Real Use Cases

Buzz – Activate Alarm, Activate Scheduler alarm, Stop Timer

Use Case	16. Buzz – Version2 (Activate Alarm, Activate Scheduler alarm, Stop Timer)
Actor	System
Purpose	버저를 울린다.
Overview	N/A
Type	Hidden
Cross Reference	R 2.1, R 4.4, R 6.3, R 7.2, R 8.4
Pre-Requisites	신호(알람 작동 신호, 스케줄 알람 작동 신호, 타이머 알람 작동 신호)를 받아야 한다.
UI Widgets	Not constant
Typical Courses of Events (A) : Actors (S) : System	1.(S) : 알람 작동 신호를 받으면 버저를 1분간 울린다.
Alternative Courses of Events	N/A
Exceptional Courses of Events	E1. 버저가 종료가 되지 않은 상태에서 또 다른 버저 신호(기능 변경 버저 제외)가 오면 버저의 시간이 1분 연장된다.

2. Real Use Cases

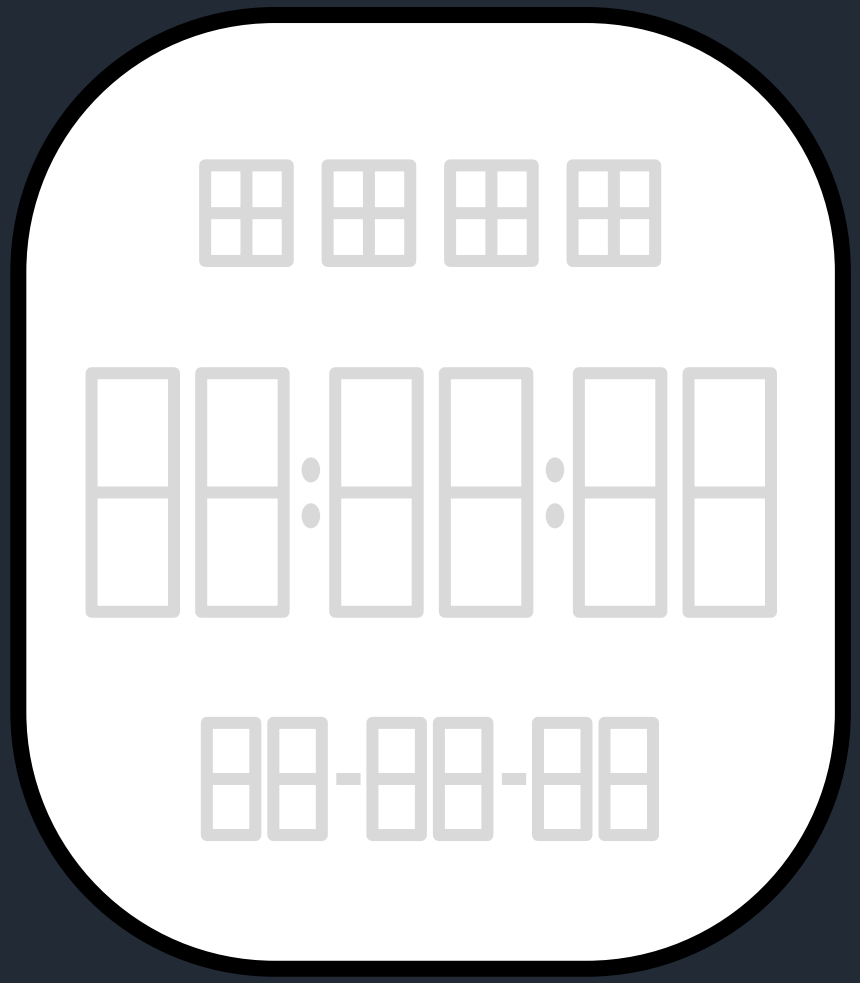
Store Data – Change Current Time

Use Case	25. Store Data - Version1 (Change Current Time)
Actor	System
Purpose	정보를 저장한다.
Overview	Change current time에서 입력 받은 data를 저장한다.
Type	Hidden
Cross Reference	R 3.2, R 4.1, R 6.1, R 8.1, R 9.1
Pre-Requisites	Current time에서 변경할 초/분/시/년/월/일을 입력 받아야한다.
UI Widgets	Not constant
Typical Courses of Events (A) : Actors (S) : System	1.(S) : Change current time의 입력 요소인 초/분/시/년/월/일을 Data에 저장한다.
Alternative Courses of Events	N/A
Exceptional Courses of Events	N/A

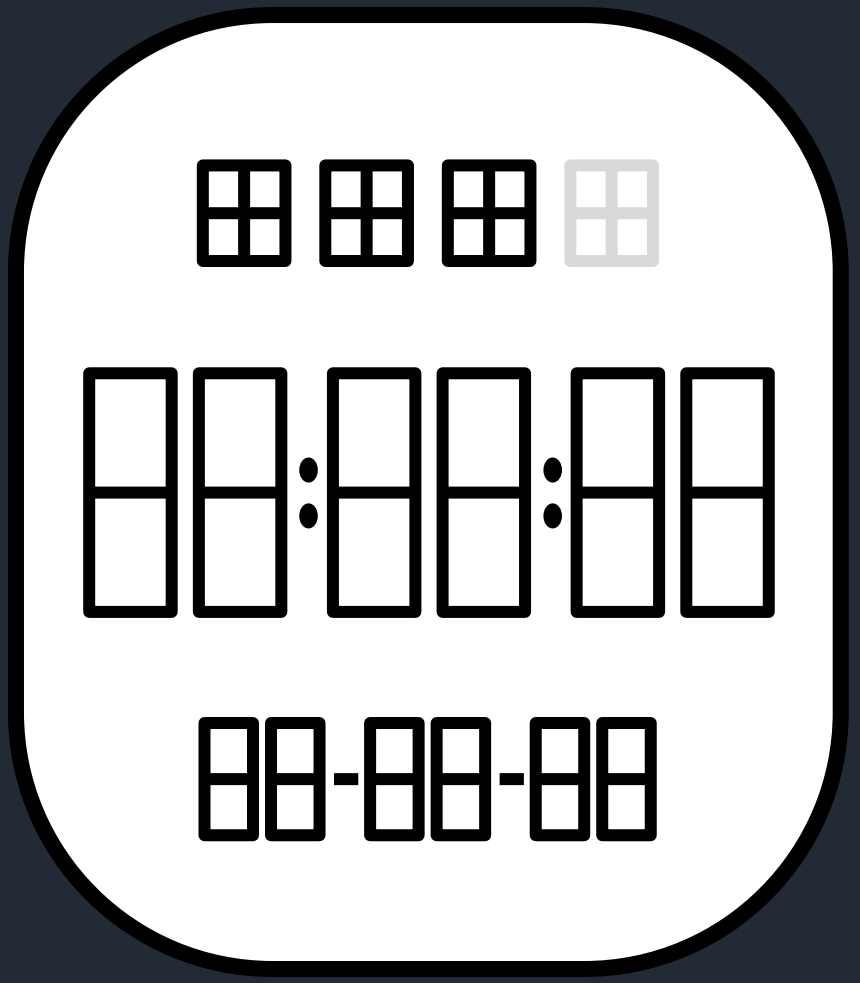
Load Data Similar

3. UI

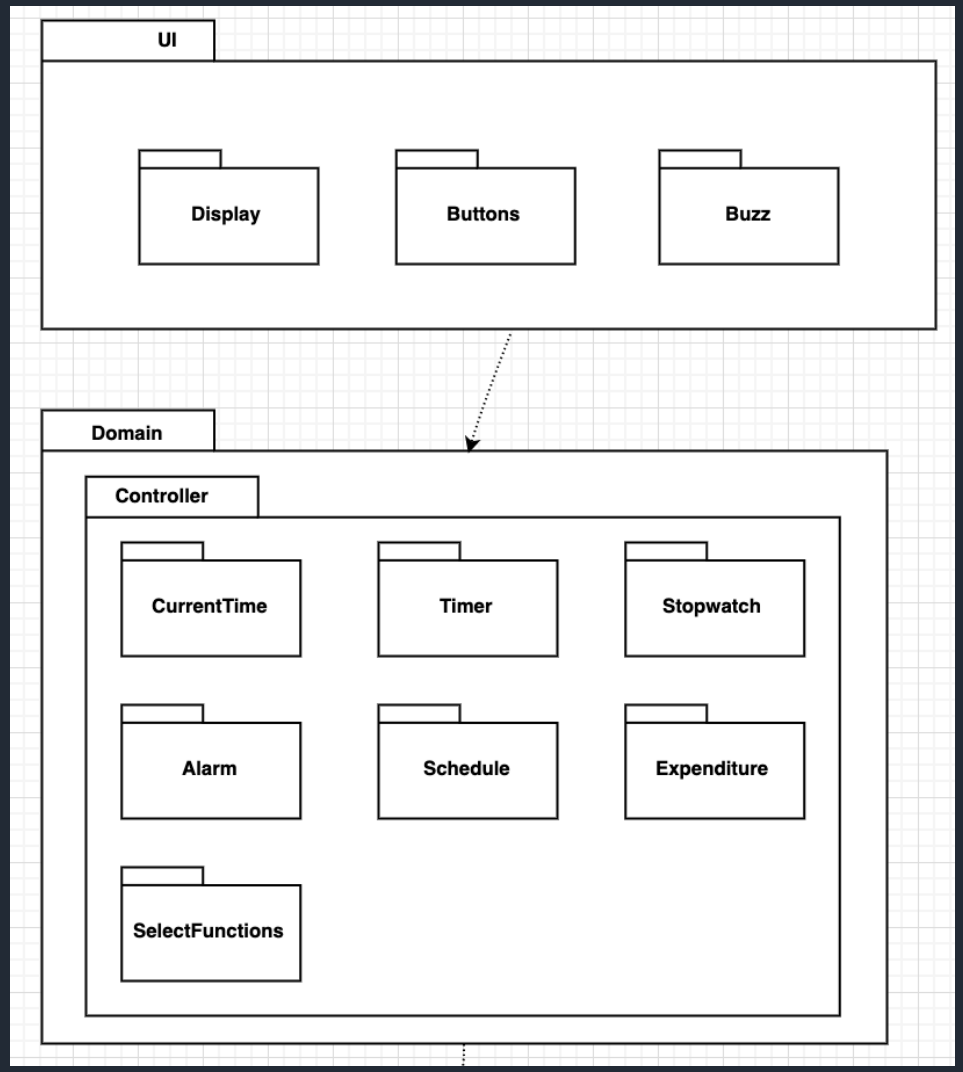
Original

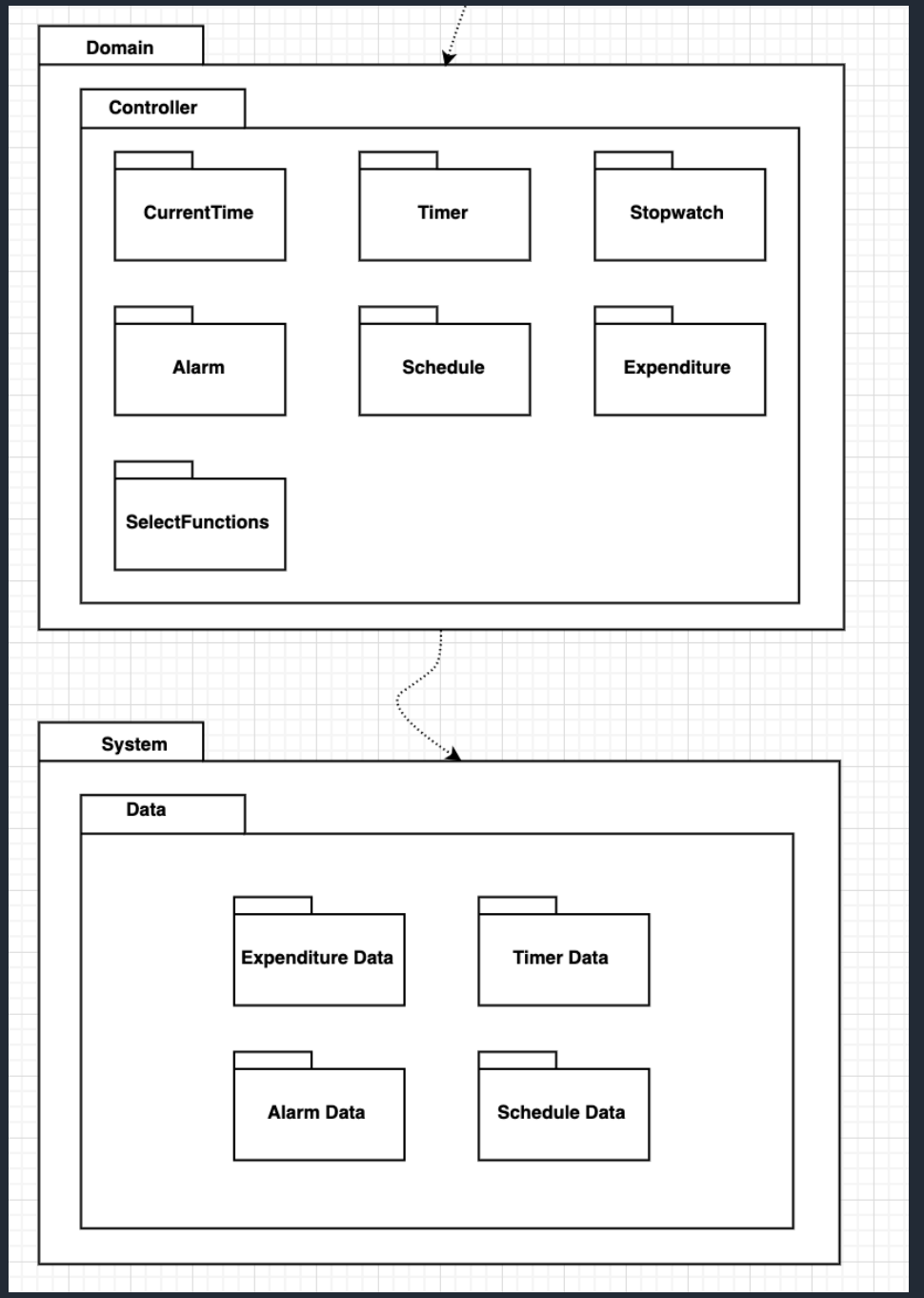


Current Time

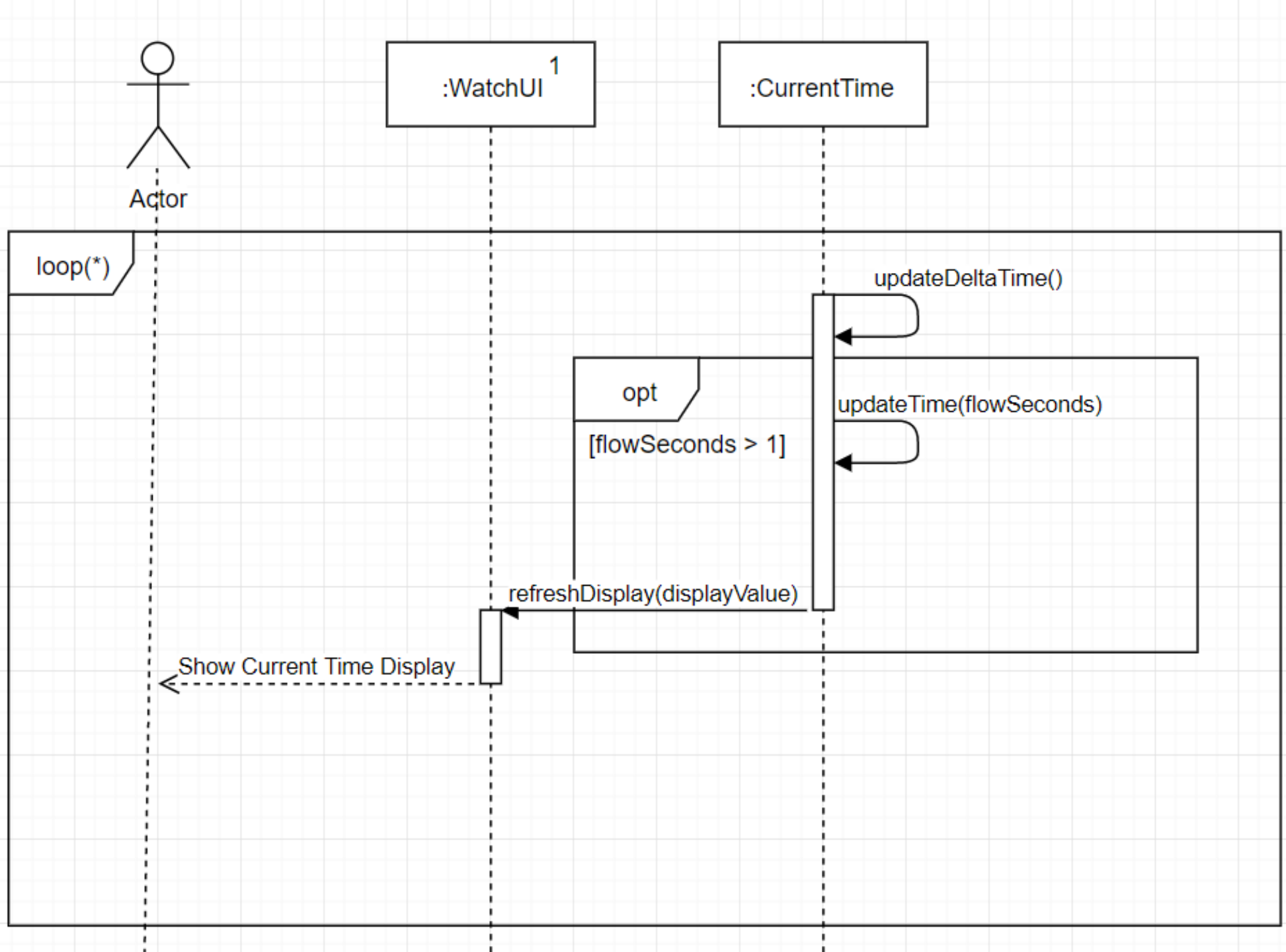


4. System Architecture



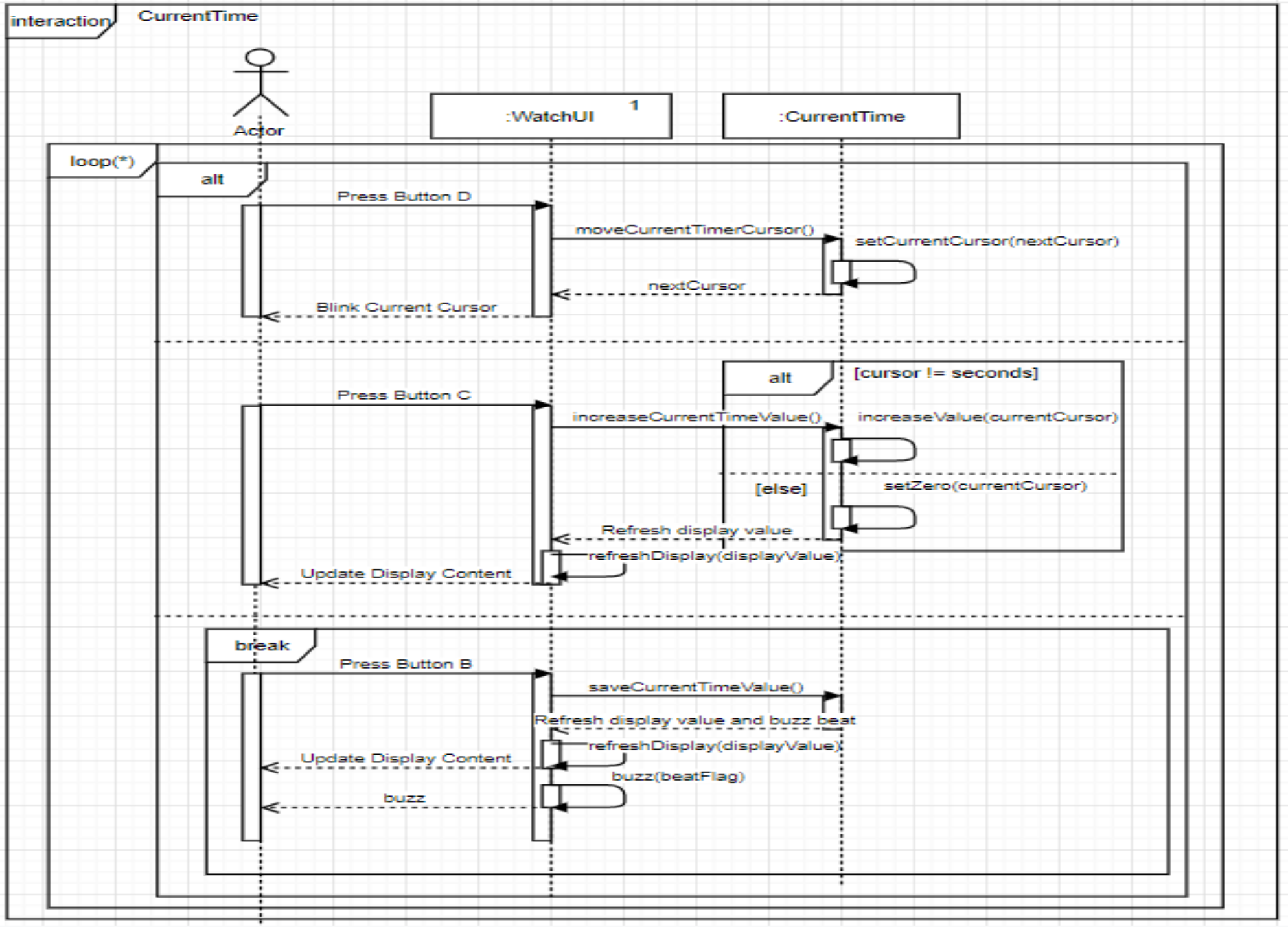


5. Interaction Diagrams



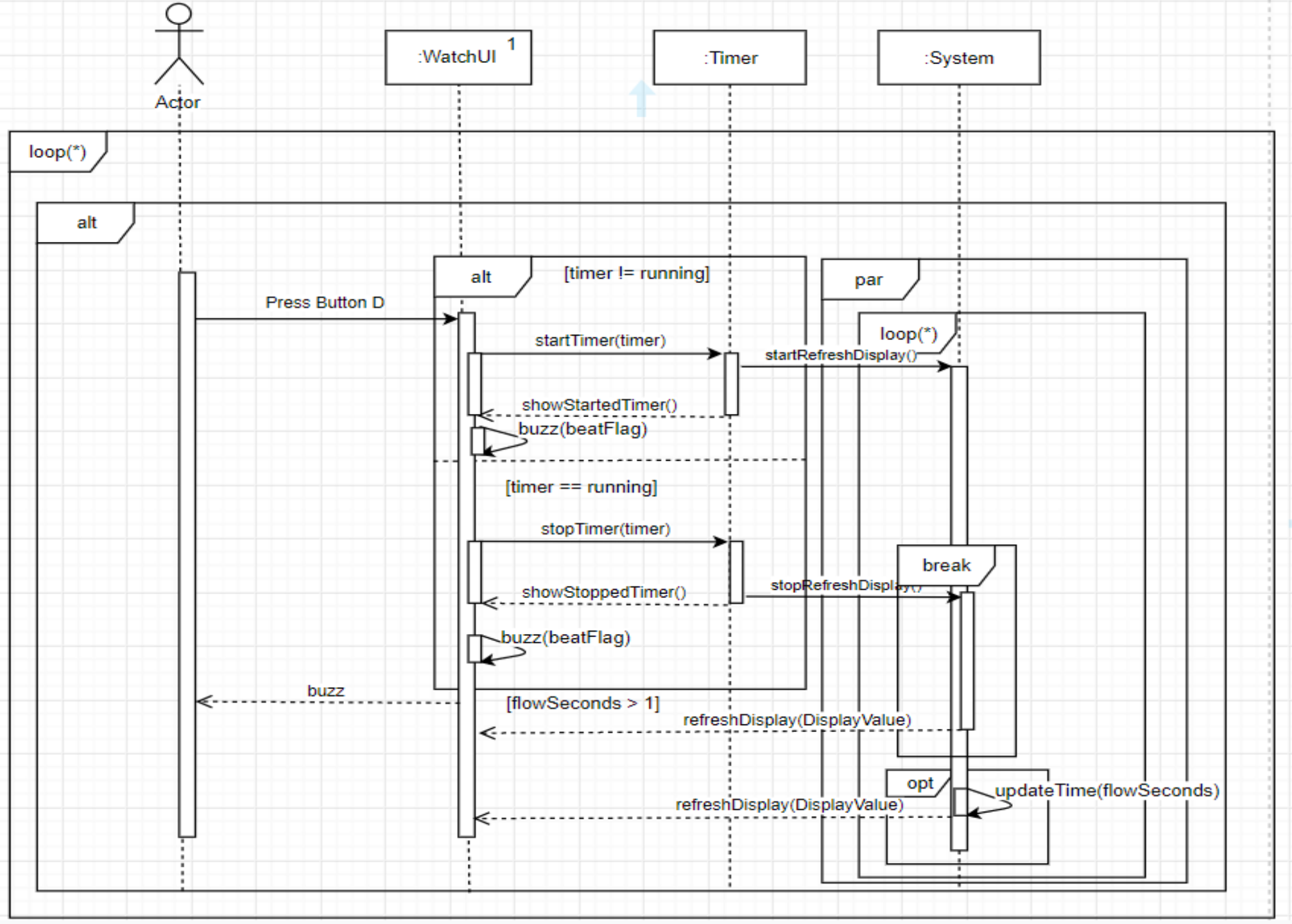
Show Current Time

5. Interaction Diagrams



Change Current Time

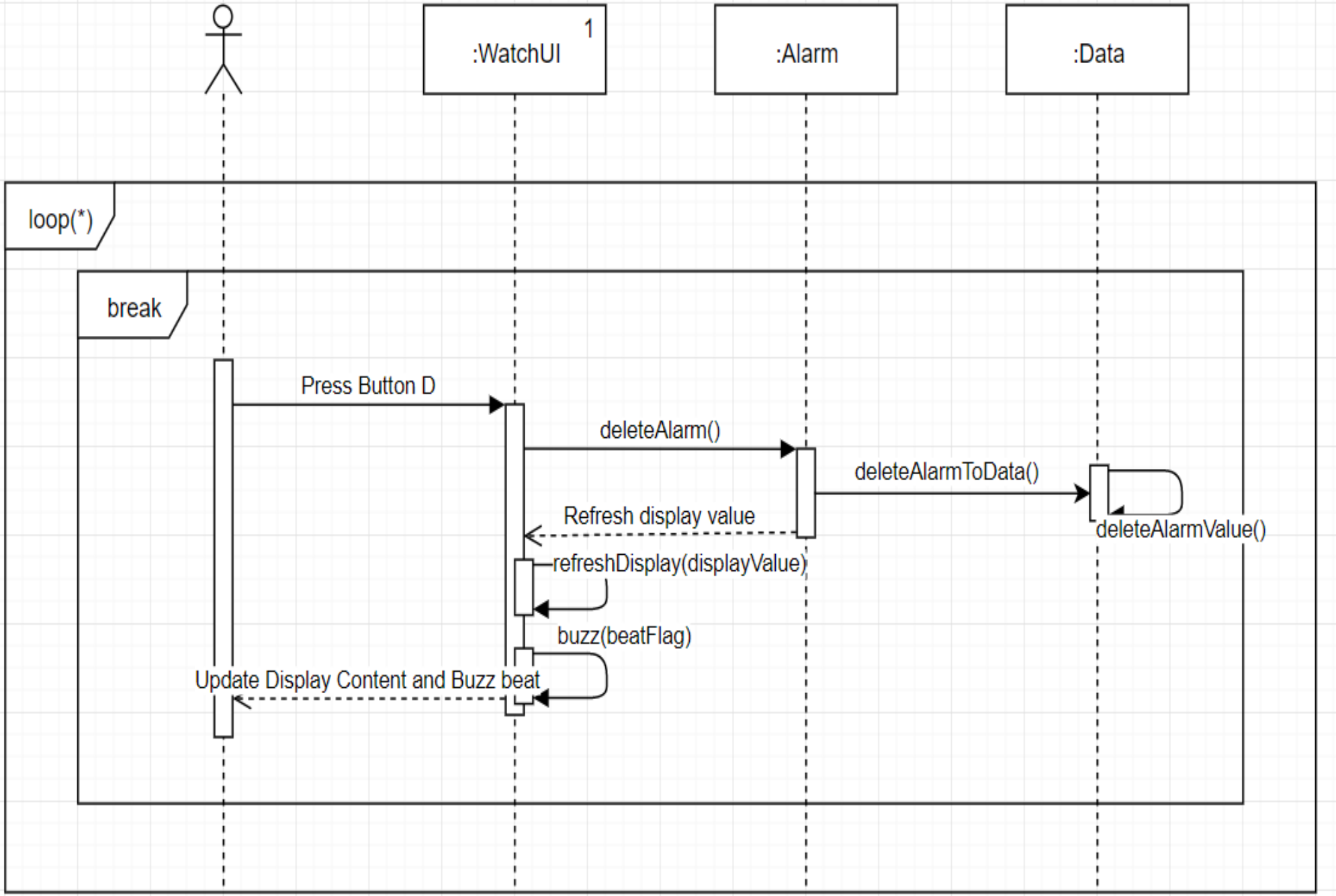
5. Interaction Diagrams



Start

Stop Timer

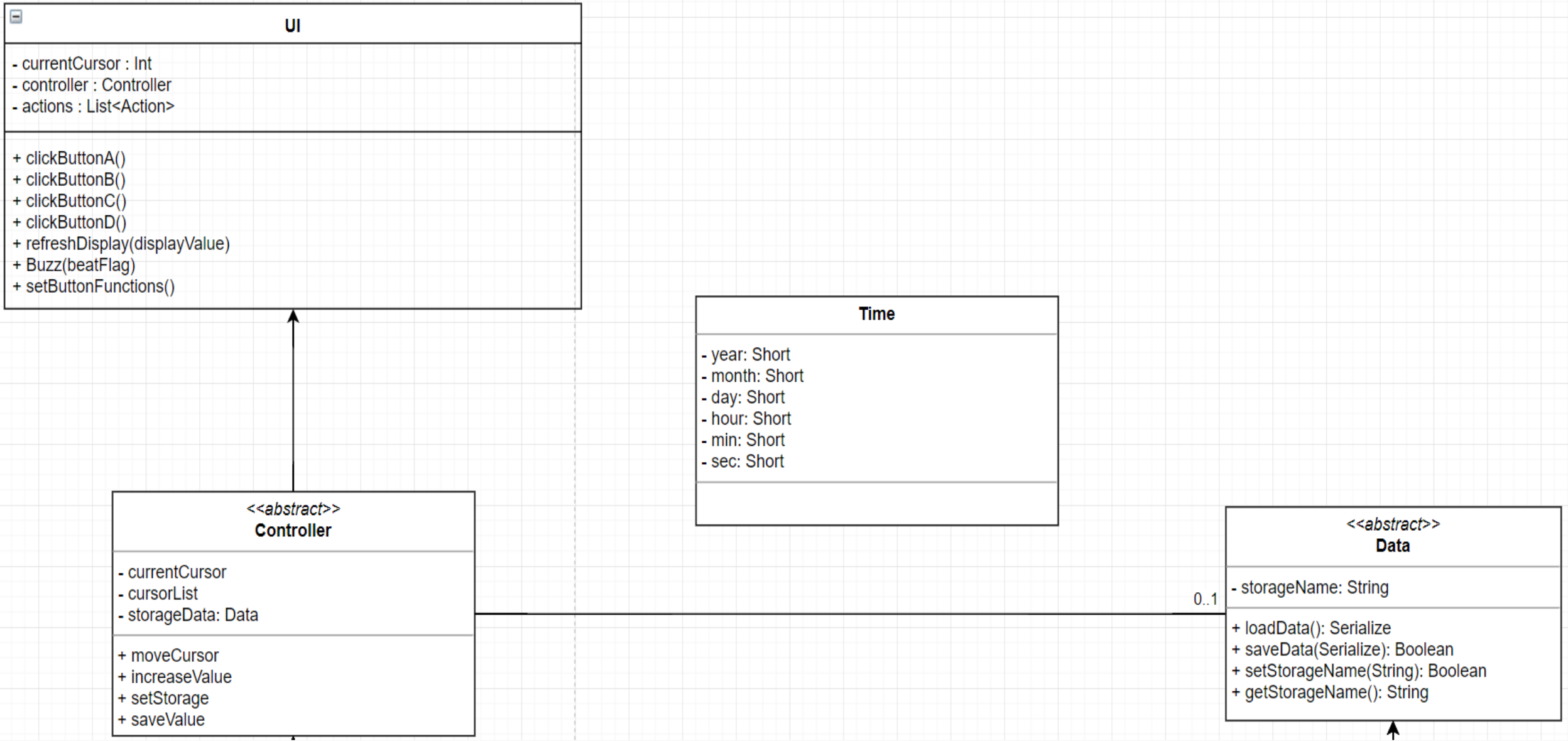
5. Interaction Diagrams



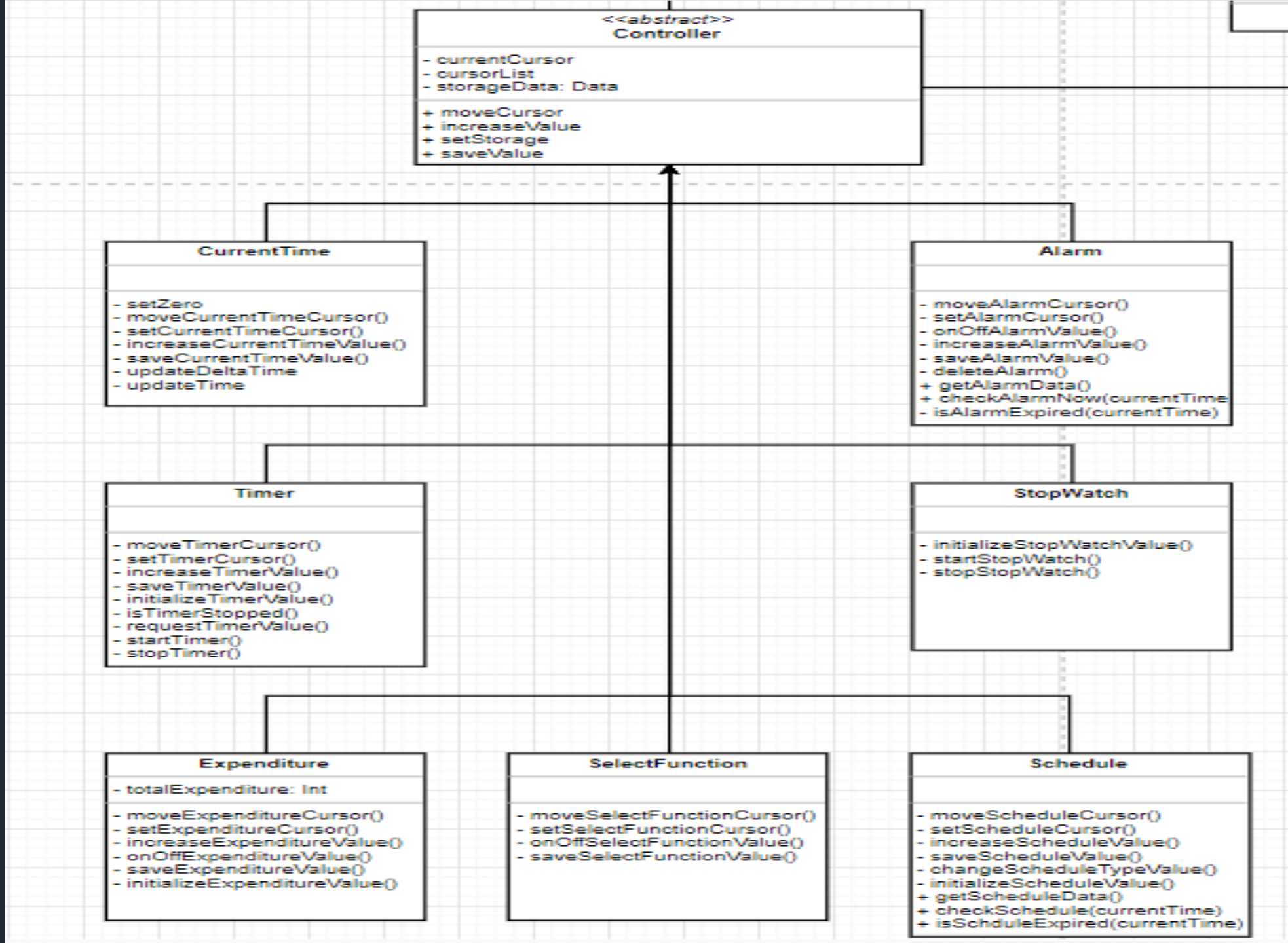
Delete Alarm

6. Design Class Diagrams

Total

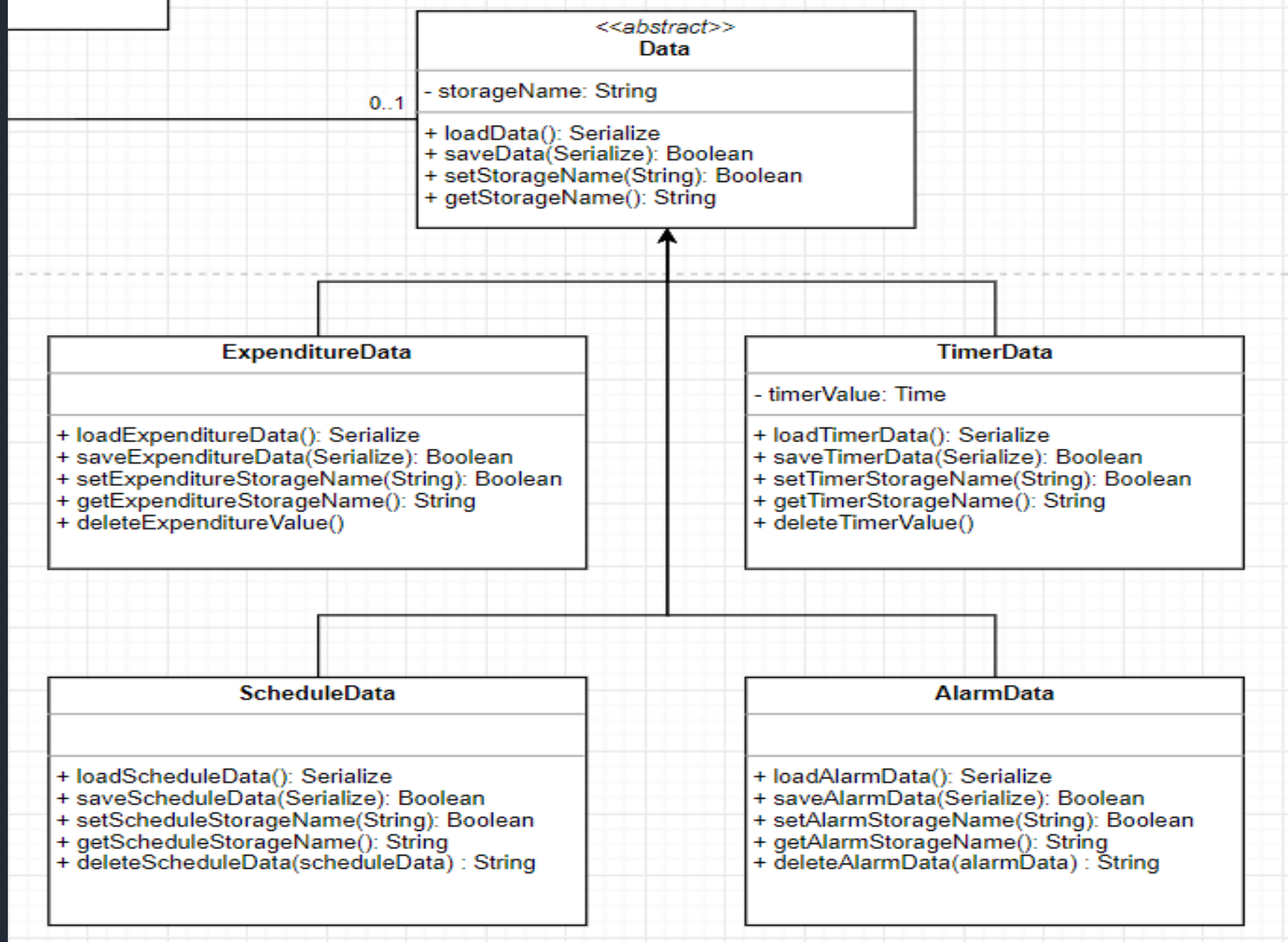


6. Design Class Diagrams



Controller

6. Design Class Diagrams



Data

7. Trace Ability

	Operation in sequence diagram
1	change Current Time
2	set Timer
3	initialize Timer
4	start Timer
5	stop Timer
6	start StopWatch
7	stop StopWatch
8	initialize StopWatch
9	set Alarm
10	delete Alarm
11	enroll Schedule
12	initialize Schedule
13	append Expenditure
14	show Expenditure
15	select Function

Operation in interaction diagram
moveCurrentTimeCursor()
setCurrentCursor()
increaseCurrentTimerValue()
setZero()
saveCurrentTimeValue()
moveTimerCursor()
setTimerCursor()
increaseTimerCursorValue()
saveTimerValue()
initializeTimer()
isTimerStopped()
requestTimerValue()
startTimer()
stopTimer()
startStopWatch()
stopStopWatch()
initializeStopWatch()
moveAlarmCursor()
setAlarmCursor()
increaseAlarmValue()
saveAlarmValue()
saveAlarmData()
deleteAlarm()
deleteAlarmValue()
moveScheduleCursor()
setScheduleCursor()
increaseScheduleValue()
saveScheduleValue()
initializeSchedule()
saveScheduleData()
initializeScheduleData()
moveExpenditureCursor()
setExpenditureCursor()
increaseExpenditureValue()
saveExpenditureValue()
moveSelectFunctionCursor()
setCurrentFunctionCursor()
selectFunction()
saveFunctionValues()

Method	Class
moveCursor()	Controller
increaseValue()	
setStorage()	
saveValue()	
setZero	CurrentTime
moveCurrentTimeCursor()	
setCurrentTimeCursor()	
increaseCurrentTimeValue()	
saveCurrentTimeValue()	
updateDeltaTime	
updateTime	
moveAlarmCursor()	Alarm
setAlarmCursor()	
onOffAlarmValue()	
increaseAlarmValue()	
saveAlarmValue()	
deleteAlarm()	
getAlarmData()	
checkAlarmNow()	
isAlarmExpired()	
moveTimerCursor()	Timer
setTimerCursor()	
increaseTimerValue()	
saveTimerValue()	
initializeTimerValue()	
isTimerStopped()	
requestTimerValue()	
startTimer()	
stopTimer()	
startStopWatch()	StopWatch
stopStopWatch()	
initializeStopWatchValue()	
moveExpenditureCursor()	Expenditure
setExpenditureCursor()	
increaseExpenditureValue()	
saveExpenditureValue()	
onOffExpenditureValue()	
initializeExpenditureValue()	
moveSelectFunctionCursor()	SelectFunction
setSelectFunctionCursor()	
onOffSelectFunctionValue()	
saveSelectFunctionValue()	
moveScheduleCursor()	Schedule
setScheduleCursor()	
increaseScheduleValue()	
saveScheduleValue()	
initializeScheduleValue()	
changeScheduleTypeValue()	
getScheduleData()	
checkSchedule()	
isScheduleExpired()	
loadData()	Data
saveData()	
setStorageName()	
getStorageName()	
loadExpenditureData()	Expenditure Data
saveExpenditureData()	
setExpenditureStorageName()	
getExpenditureStorageName()	
deleteExpenditureValue()	
loadTimerData()	TimerData
saveTimerData()	
setTimerStorageName()	
getTimerStorageName()	
deleteTimerValue()	
loadScheduleData()	ScheduleData
saveScheduleData()	
setScheduleStorageName()	
getScheduleStorageName()	
deleteScheduleValue()	
loadAlarmData()	AlarmData
saveAlarmData()	
setAlarmStorageName()	
getAlarmStorageName()	
deleteAlarmValue()	