OOAD

2031. Define Essential Use Cases

Use case	Set timekeeping date
Actor	User
Purpose	(As in the the business use case)
Overview	(As in the the business use case)
Type	Evident
Cross Reference	
Pre-Requisites	현재 모드가 Timekeeping mode이고 Timekeeping mode의 디폴트화면이어야만 한다.
Typical Courses of Event	(U) : User, (S) : System 1. 2. 3. 4.
Alternative Courses of Event	N/A
Exceptional Courses of Event	

2031. Define Essential Use Cases

Use case	Set worldTime
Actor	None
Purpose	(As in the the business use case)
Overview	(As in the the business use case)
Type	Hidden
Cross Reference	
Pre-Requisites	현재 모드가 Worldtime mode이고 Worldtime mode의 디폴트화면이어야만 한다.
Typical Courses of Event	
Alternative Courses of Event	N/A
Exceptional Courses of Event	

2031. Define Essential Use Cases

Use case	Store alarm
Actor	User
Purpose	(As in the the business use case)
Overview	(As in the the business use case)
Type	Evident
Cross Reference	
Pre-Requisites	현재 모드가 Alarm mode이어야만 한다.
Typical Courses of Event	(A) : Actor, (S) : System 1. (A) User inputs the time 2. (S) Add alarm with specific time 3. (S) Alarm on
Alternative Courses of Event	N/A
Exceptional Courses of Event	-

2031. Define Essential Use Cases

Use case	Activate alarm
Actor	User
Purpose	(As in the the business use case)
Overview	(As in the the business use case)
Type	Evident
Cross Reference	
Pre-Requisites	현재 모드가 Alarm mode이고 설정한 알람중 하나를 보고 있는중이어야 한다.
Typical Courses of Event	(A) : Actor, (S) : System 1. (A) User sets the alarm on 2. (S) Alarm on
Alternative Courses of Event	N/A
Exceptional Courses of Event	-

2031. Define Essential Use Cases

Use case	Deactivate alarm
Actor	User
Purpose	(As in the the business use case)
Overview	(As in the the business use case)
Type	Evident
Cross Reference	
Pre-Requisites	현재 모드가 Alarm mode이고 설정한 알람중 하나를 보고 있는중이어야 한다.
Typical Courses of Event	(A) : Actor, (S) : System 1. (A) User sets the alarm off 2. (S) Alarm off
Alternative Courses of Event	N/A
Exceptional Courses of Event	-

2031. Define Essential Use Cases

Use case	Set timer
Actor	User
Purpose	(As in the the business use case)
Overview	(As in the the business use case)
Type	Evident
Cross Reference	
Pre-Requisites	현재 모드가Timer mode이고 Timer mode의 디폴트화면이어야만 한다.
Typical Courses of Event	(A) : Actor, (S) : System 1. (A) User inputs the time. 2. (S) Check the setted time is 00:00. 2. (S) The time user inputs is setted in system.
Alternative Courses of Event	N/A
Exceptional Courses of Event	사용자가 설정한 시간이 00:00일시 저장되지 않는다.

2031. Define Essential Use Cases

Use case	Play timer
Actor	User
Purpose	(As in the the business use case)
Overview	(As in the the business use case)
Type	Evident
Cross Reference	
Pre-Requisites	현재 모드가Timer mode이고 timer의 시간을 설정한 상태여야한다.
Typical Courses of Event	(A) : Actor, (S) : System 1. (A) User set the timer on. 2. (S)check the setted time is 00:00. 2. (S) count seconds.
Alternative Courses of Event	N/A
Exceptional Courses of Event	타이머의 시간이 00:00일 때 동작을 멈춘다.

2031. Define Essential Use Cases

Use case	Pause timer
Actor	User
Purpose	(As in the the business use case)
Overview	(As in the the business use case)
Type	Evident
Cross Reference	
Pre-Requisites	현재 모드가Timer mode이고 timer의 시간을 설정한 상태여야한다.
Typical Courses of Event	(A) : Actor, (S) : System 1. (A) User pause the timer. 2. (S) Pause counting.
Alternative Courses of Event	N/A
Exceptional Courses of Event	-

2031. Define Essential Use Cases

Use case	End timer
Actor	None
Purpose	(As in the the business use case)
Overview	(As in the the business use case)
Type	Hidden
Cross Reference	
Pre-Requisites	현재 모드가Timer mode이고 timer의 시간을 설정한 상태여야한다.
Typical Courses of Event	(S) : System 1. The buzzer sounds when the set timer is 00:00.
Alternative Courses of Event	N/A
Exceptional Courses of Event	-

2031. Define Essential Use Cases

Use case	Play stopwatch
Actor	User
Purpose	(As in the the business use case)
Overview	(As in the the business use case)
Type	Evident
Cross Reference	
Pre-Requisites	현재 모드가 Stopwatch mode이어야 한다.
Typical Courses of Event	(A) : Actor, (S) : System 1. (A) User set the stopwatch playing. 2. (S) check the time is over 59:59(MM:SS). 3. (S) count seconds.
Alternative Courses of Event	N/A
Exceptional Courses of Event	스탑워치가 59분 59초 넘어서면 버저가 울리며 초기화면으로 돌아간다. 스탑워치의 시간은 00:00으로 초기화 된다.

2031. Define Essential Use Cases

Use case	Pause stopwatch
Actor	User
Purpose	(As in the the business use case)
Overview	(As in the the business use case)
Type	Evident
Cross Reference	
Pre-Requisites	현재 모드가 Stopwatch mode이어야 한다.
Typical Courses of Event	(A) : Actor, (S) : System 1. (A) User set the pause button. 2. (S) Check if button is clicked before 3. (S) If it is stopped before, restart the timer. 4. (S) Pause the stopwatch
Alternative Courses of Event	N/A
Exceptional Courses of Event	-

2031. Define Essential Use Cases

Use case	Reset stopwatch
Actor	User
Purpose	(As in the the business use case)
Overview	(As in the the business use case)
Type	Evident
Cross Reference	
Pre-Requisites	현재 모드가 Stopwatch mode이어야 한다. 스탑 워치가 정지된 상태여야 한다.
Typical Courses of Event	(A) : Actor, (S) : System 1. (A) User set the reset button. 2. (S) check if stopwatch is paused. 3. (S) Reset the stopwatch
Alternative Courses of Event	N/A
Exceptional Courses of Event	스탑워치가 진행중인 경우 정지 상태로 만든다.

2031. Define Essential Use Cases

Use case	Select Worldtime
Actor	User
Purpose	(As in the the business use case)
Overview	(As in the the business use case)
Type	Evident
Cross Reference	
Pre-Requisites	현재 상태가 Wordltime mode 이어야 한다.
Typical Courses of Event	(A) : Actor, (S) : System 1. (A) User select the nation. 2. (S) Display time of selected nation.
Alternative Courses of Event	N/A
Exceptional Courses of Event	-

2031. Define Essential Use Cases

Use case	Click button
Actor	User
Purpose	(As in the the business use case)
Overview	(As in the the business use case)
Type	Evident
Cross Reference	
Pre-Requisites	
Typical Courses of Event	(A) : Actor, (S) : System 1. (A) User click button. 2. (S) Execute.
Alternative Courses of Event	N/A
Exceptional Courses of Event	-

2031. Define Essential Use Cases

Use case	Buzzer sound
Actor	None
Purpose	(As in the the business use case)
Overview	(As in the the business use case)
Type	Hidden
Cross Reference	
Pre-Requisites	
Typical Courses of Event	(A) : Actor, (S) : System 1. (A) Buzzer ring when is in the specific condition.
Alternative Courses of Event	N/A
Exceptional Courses of Event	-

2031. Define Essential Use Cases

Use case	Select Mode
Actor	User
Purpose	(As in the the business use case)
Overview	(As in the the business use case)
Type	Evident
Cross Reference	
Pre-Requisites	모드 변경시 각 모드의 디폴트 화면에 있어야 한다.
Typical Courses of Event	(A) : Actor, (S) : System 1. (A) Choose mode. 2. (S) Execute.
Alternative Courses of Event	N/A
Exceptional Courses of Event	-

2031. Define Essential Use Cases

Use case	Show Dynamic display mode
Actor	User
Purpose	(As in the the business use case)
Overview	(As in the the business use case)
Type	Hidden
Cross Reference	
Pre-Requisites	현재 상태가 dynamic display mode 이어야한다.
Typical Courses of Event	(A) : Actor, (S) : System 1. (S) System show dynamic display when user select Dynamic display mode .
Alternative Courses of Event	N/A
Exceptional Courses of Event	-

2031. Define Essential Use Cases

Use case	Show Timekeeping mode
Actor	User
Purpose	(As in the the business use case)
Overview	(As in the the business use case)
Type	Hidden
Cross Reference	
Pre-Requisites	현재 상태가 Timekeeping mode 이어야한다.
Typical Courses of Event	(A) : Actor, (S) : System 1. (S) System show timekeeping display when user select Timekeeping mode .
Alternative Courses of Event	N/A
Exceptional Courses of Event	-

2031. Define Essential Use Cases

Use case	Show stopwatch mode
Actor	User
Purpose	(As in the the business use case)
Overview	(As in the the business use case)
Type	Hidden
Cross Reference	
Pre-Requisites	현재 상태가 Stopwatch Mode 이어야한다.
Typical Courses of Event	(A) : Actor, (S) : System 1. (S) System show stopwatch display when user select stopwatch mode .
Alternative Courses of Event	N/A
Exceptional Courses of Event	-

2031. Define Essential Use Cases

Use case	Show alarm mode
Actor	User
Purpose	(As in the the business use case)
Overview	(As in the the business use case)
Type	Hidden
Cross Reference	
Pre-Requisites	현재 상태가 Alarm mode 이어야한다.
Typical Courses of Event	(A) : Actor, (S) : System 1. (S) System show alarm display when user select alarm mode .
Alternative Courses of Event	N/A
Exceptional Courses of Event	-

2031. Define Essential Use Cases

Use case	Show wolrdtime mode
Actor	User
Purpose	(As in the the business use case)
Overview	(As in the the business use case)
Type	Hidden
Cross Reference	
Pre-Requisites	현재 상태가 WorldTime mode 이어야한다
Typical Courses of Event	(A) : Actor, (S) : System 1. (S) System show Worldtime display when user select WolrdTime mode .
Alternative Courses of Event	N/A
Exceptional Courses of Event	-

2031. Define Essential Use Cases

Use case	Show timer mode
Actor	User
Purpose	(As in the the business use case)
Overview	(As in the the business use case)
Type	Hidden
Cross Reference	
Pre-Requisites	현재 상태가 Timer mode 이어야한다.
Typical Courses of Event	(A) : Actor, (S) : System 1. (S) System show timer display when user select Timer mode .
Alternative Courses of Event	N/A
Exceptional Courses of Event	-

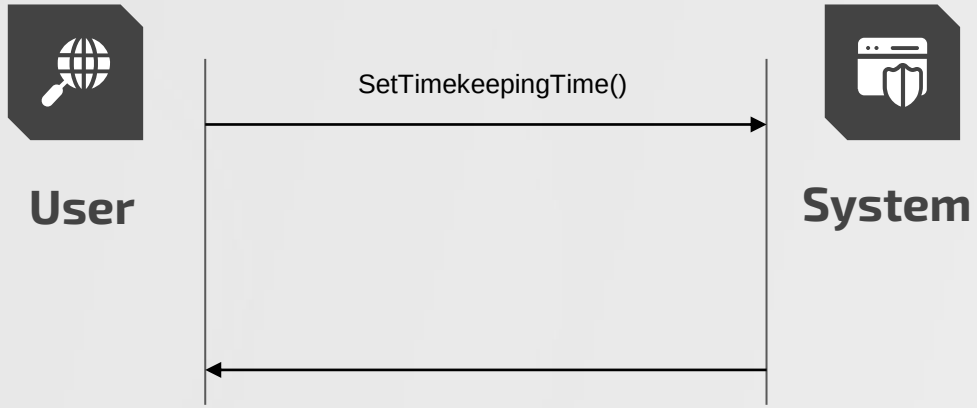
2031. Define Essential Use Cases

Use case	Show OOO mode
Actor	User
Purpose	(As in the the business use case)
Overview	(As in the the business use case)
Type	Hidden
Cross Reference	
Pre-Requisites	현재 상태가 OOO모드 이어야한다.
Typical Courses of Event	(A) : Actor, (S) : System 1. (S) System show OOO display when user select OOO mode .
Alternative Courses of Event	N/A
Exceptional Courses of Event	-

2033. Define System Sequence Diagrams

Use case: Set Timekeeping date

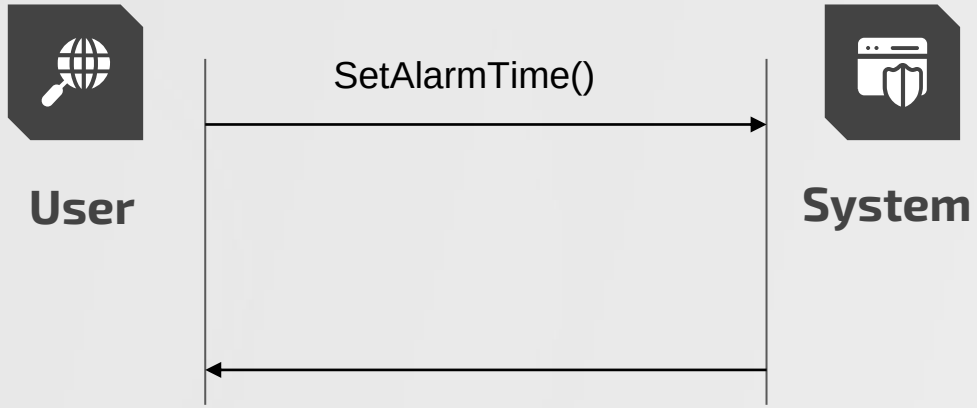
1. (A) User inputs time.
2. (S) Display set time while the digital watch is in the Timekeeping mode.



2033. Define System Sequence Diagrams

Use case: Store Alarm

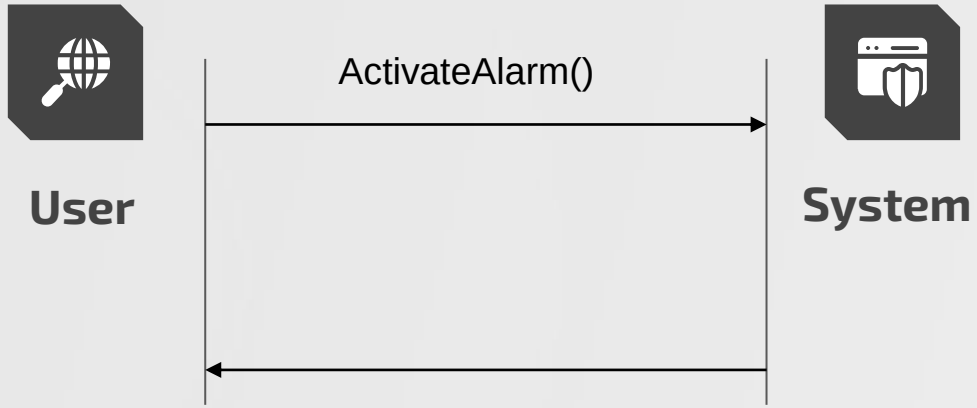
1. (A) User inputs the time
2. (S) Add alarm with specific time
3. (S) Alarm on



2033. Define System Sequence Diagrams

Use case: Activate alarm

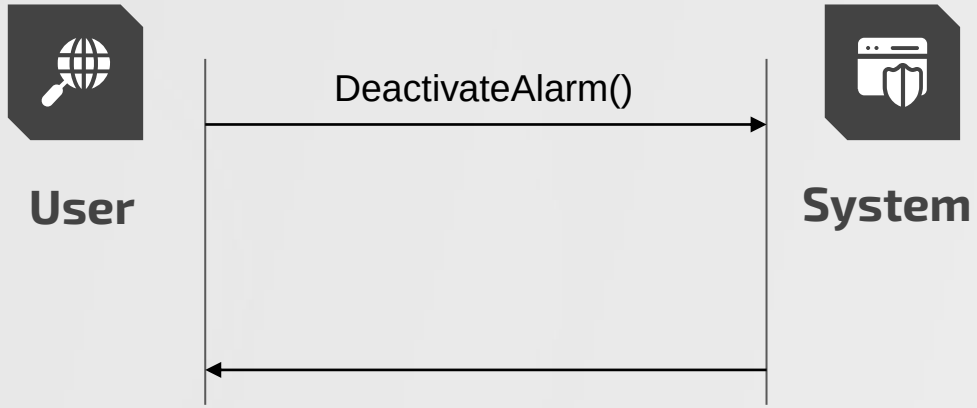
1. (A) User sets the alarm on
2. (S) Alarm on



2033. Define System Sequence Diagrams

Use case: Deactivate alarm

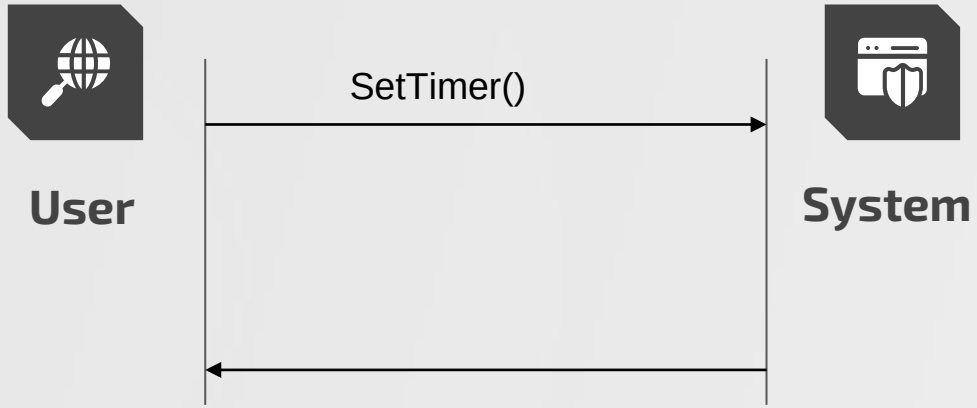
1. (A) User sets the alarm off
2. (S) Alarm off



2033. Define System Sequence Diagrams

Use case: Set Timer

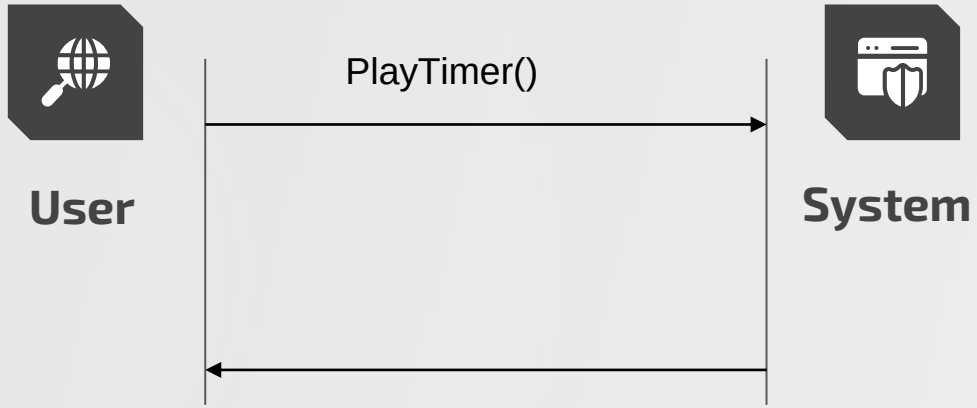
1. (A) User inputs the time.
2. (S) count seconds.
3. (S) Buzzer when the counted seconds equals the saved seconds.



2033. Define System Sequence Diagrams

Use case: Play Timer

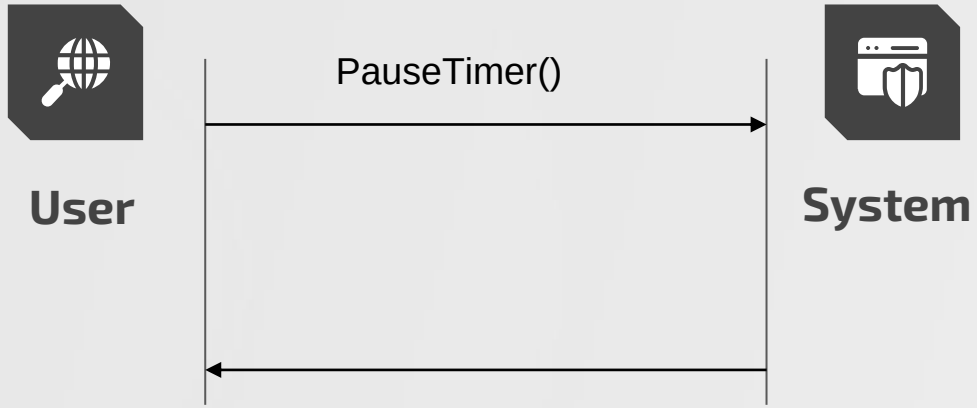
1. (A) User set the timer on.
2. (S) count seconds.
3. (S) Buzzer when the counted second equals to set time



2033. Define System Sequence Diagrams

Use case: Pause Timer

1. (A) User pause the timer.
2. (S) Pause counting.



2033. Define System Sequence Diagrams

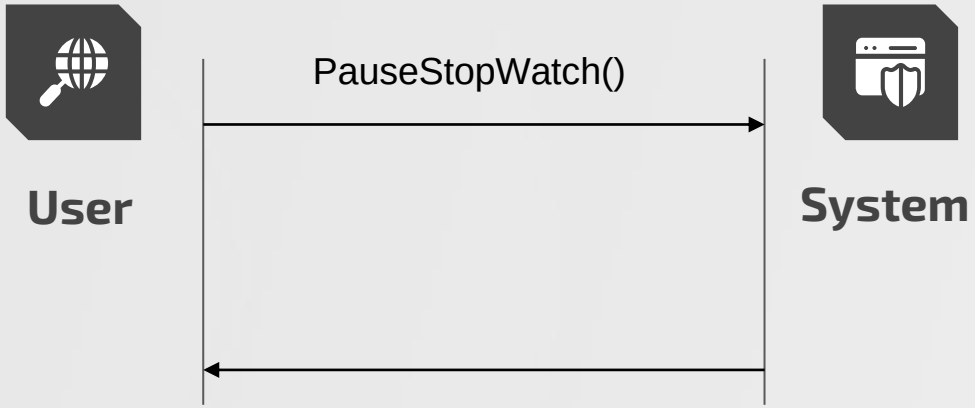
Use case: Play Stopwatch

1. (A) User set the stopwatch.
2. (S) count seconds.

2033. Define System Sequence Diagrams

Use case: Pause stopwatch

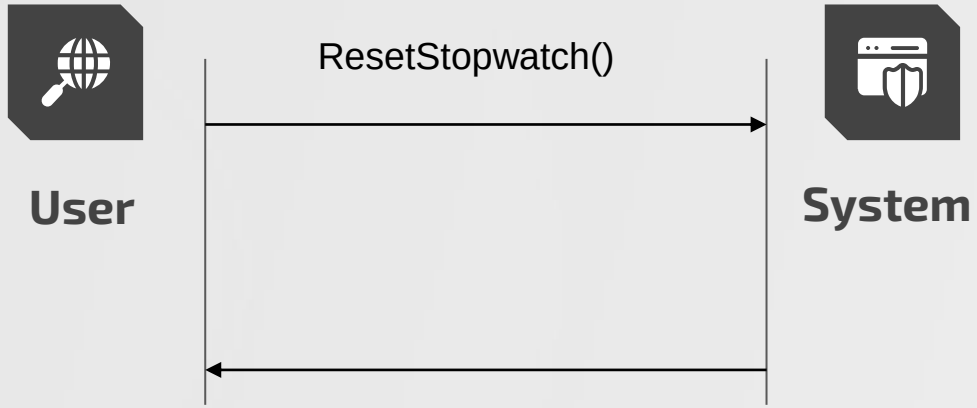
1. (A) User set the pause button.
2. (S) Check if button is clicked before.
3. (S) If it is stopped before, restart the timer.
4. (S) Pause the stopwatch



2033. Define System Sequence Diagrams

Use case: Reset Stopwatch

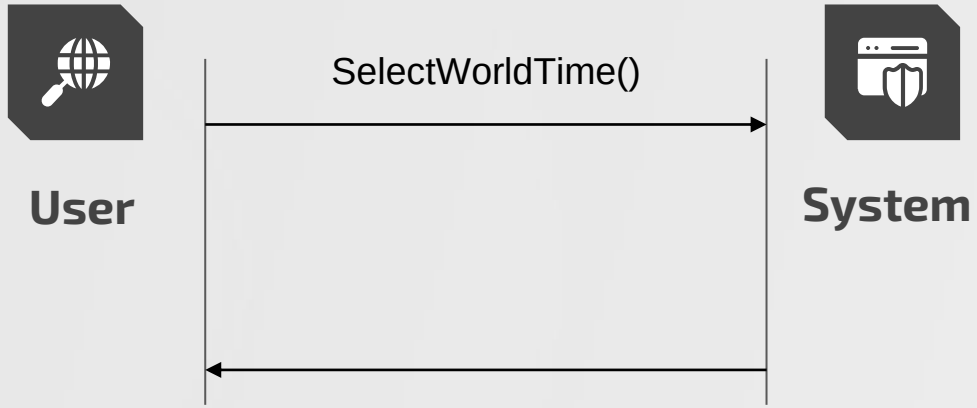
1. (A) User set the reset button.
2. (S) Reset the stopwatch



2033. Define System Sequence Diagrams

Use case: Select Worldtime

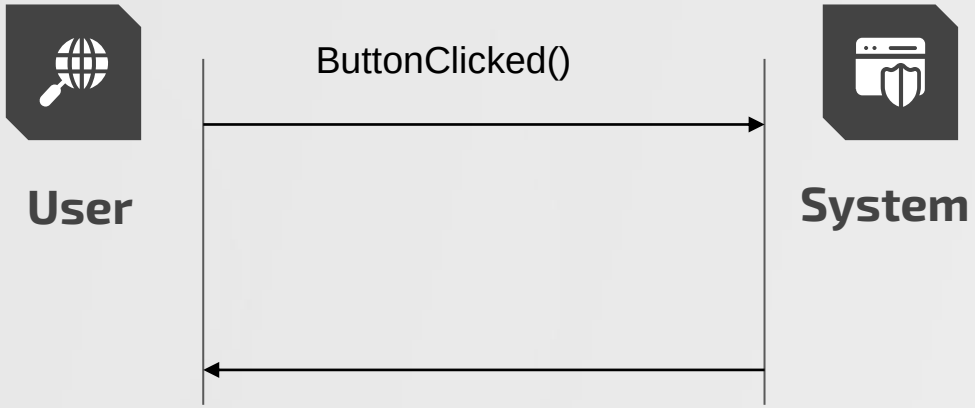
1. (A) User select the nation.
2. (S) Display time of selected nation.



2033. Define System Sequence Diagrams

Use case: Click button

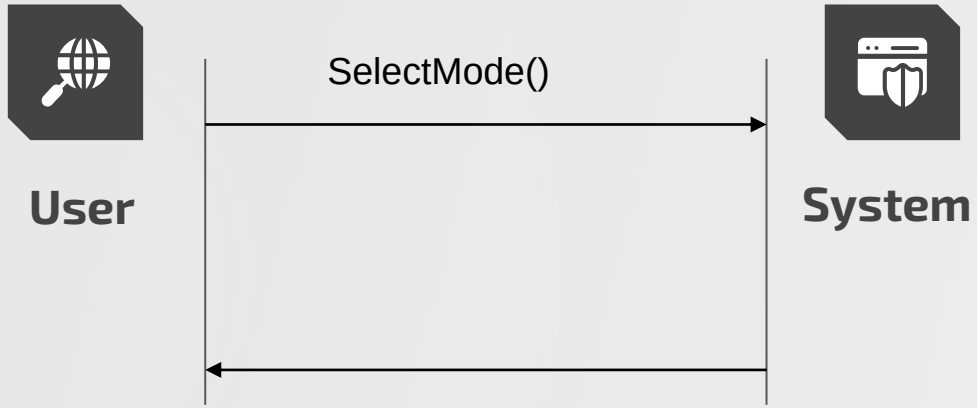
1. (A) User click button.
2. (S) Execute.



2033. Define System Sequence Diagrams

Use case: Select Mode

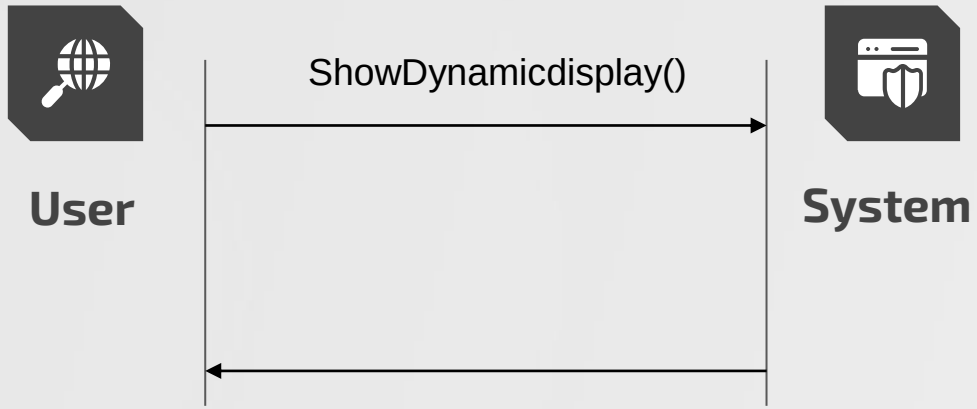
1. (A) Choose monde.
2. (S) Execute.



2033. Define System Sequence Diagrams

Use case: Show Dynamic display screen

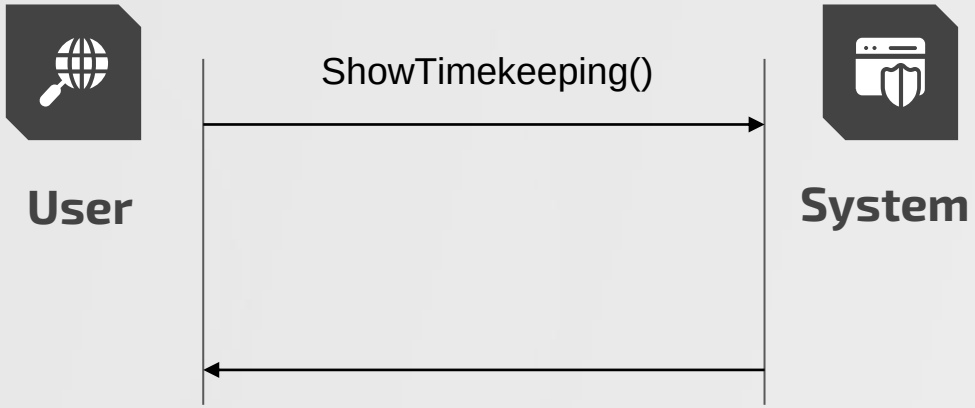
1. (S) System show Dynamic screen when user select Dynamic display mode.



2033. Define System Sequence Diagrams

Use case: show Timekeeping screen

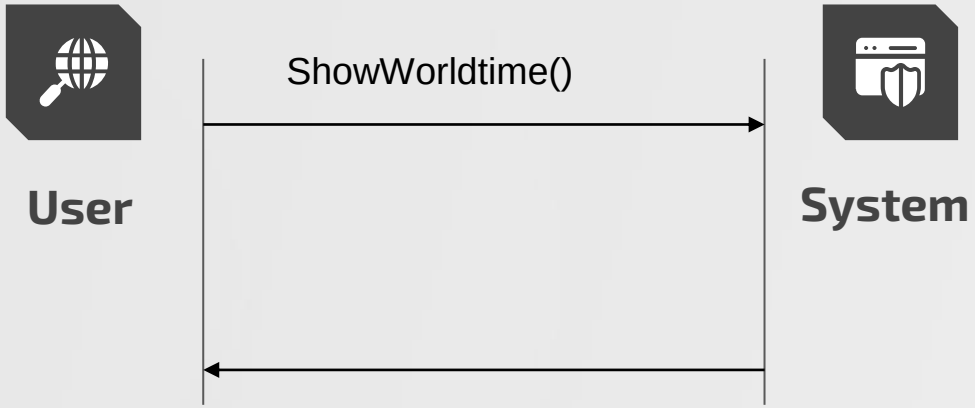
1. (S) System show TimeKeeping screen when user select Timekeeping mode



2033. Define System Sequence Diagrams

Use case: show WorldTime screen

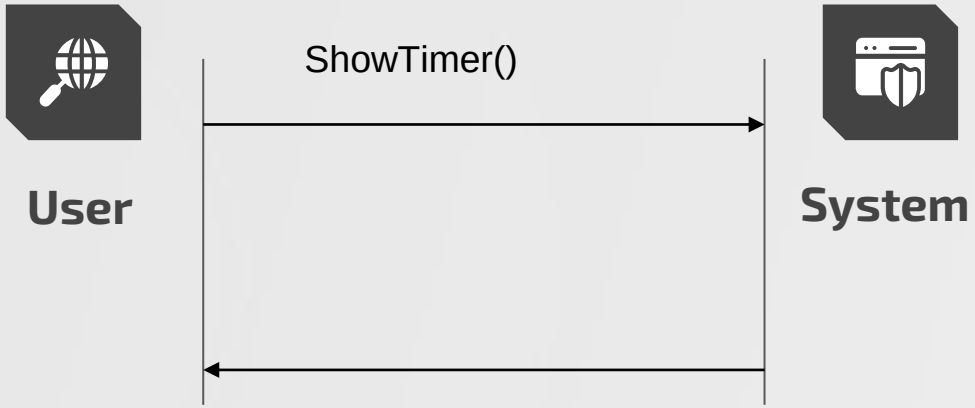
1. (S) System show WorldTime screen when user select WorldTime mode



2033. Define System Sequence Diagrams

Use case:Show timer screen

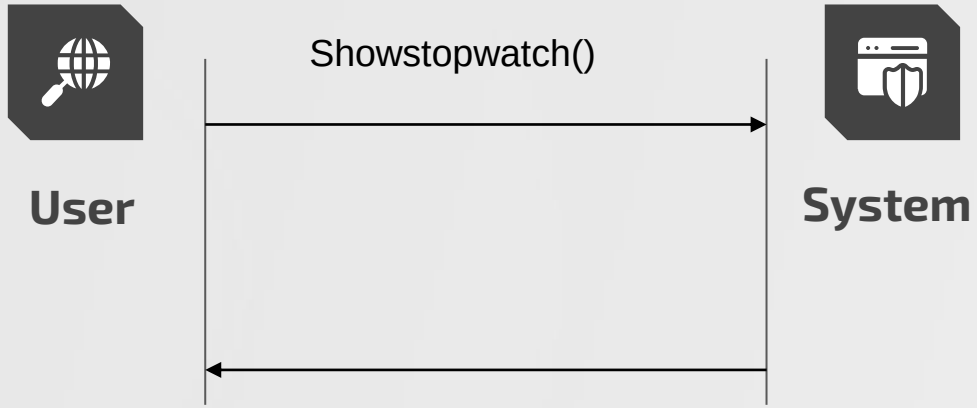
1. (S) System show Timer screen when user select Timer mode



2033. Define System Sequence Diagrams

Use case: Show stopwatch screen

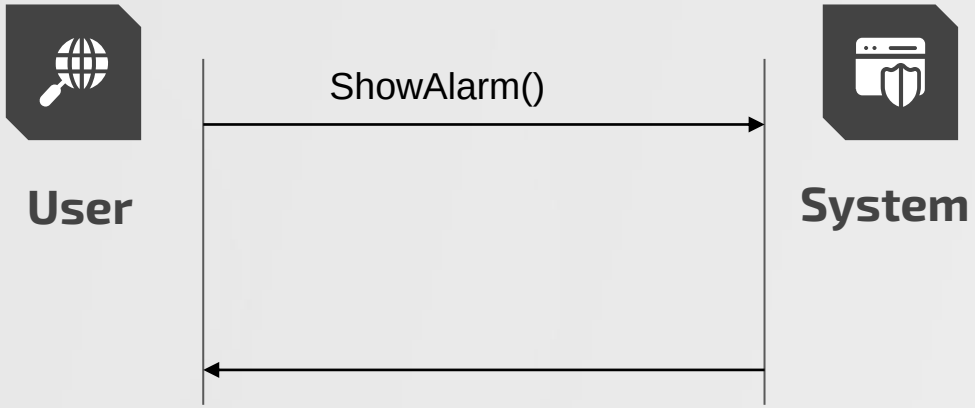
1. (S) System show Stopwatch screen when user select stopwatch mode



2033. Define System Sequence Diagrams

Use case: Show alarm screen

1. (S) System show Alarm screen when user select Alarm mode



World time

Timer

Store Alarm

Set timekeeping date

Buzzer

Stopwatch

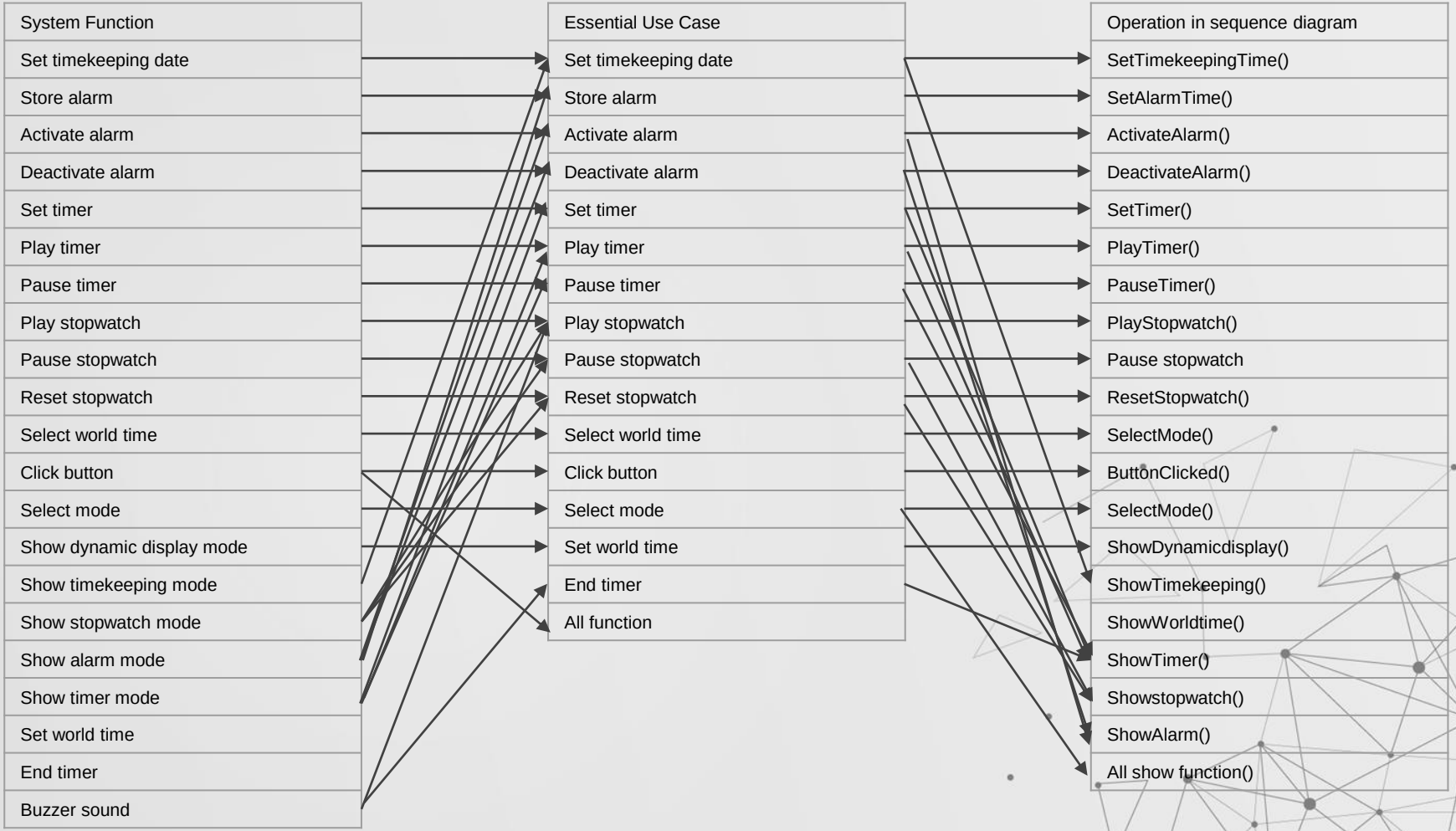
2038. Refine System Test Cases

No.	Tests	Descriptions
1	Set timekeeping date	Default 화면
2	Store alarm	Time 입력
3	Activate alarm	Alarm 실행
4	Deactivate alarm	Alarm 해제
5	Set timer	Time 입력
6	Play timer	Timer 실행
7	Pause timer	Timer 중지
8	Play stopwatch	Stopwatch 실행
9	Pause stopwatch	Stopwatch 중지
10	Reset stopwatch	Stopwatch 초기화

2038. Refine System Test Cases

11	Select world time	세계시간 선택
12	Click button	Button 클릭
13	Select mode	Mode 선택
14	Show dynamic display mode	Dynamic display mode 화면 출력
15	Show timekeeping mode	Timekeeping mode 화면 출력
16	Show stopwatch mode	Stopwatch mode 화면 출력
17	Show alarm mode	Alarm mode 화면 출력
18	Show timer mode	Timer mode 화면 출력
19	Show OOO mode	OOOmode 화면 출력
20	Set world time	세계시간 setting
21	End timer	Timer 종료
22	Buzzer sound	Buzzer 알림

2039. Refine System Test Cases



감사합니다.