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System Sequence Diagrams and Operation Contracts

Operation Contracts

- I. Contract CO1
 - A. Operation: `getRadioStatus()`
 - B. Cross References: SSDs - Tune Radio
 - C. Preconditions: None
 - D. Postconditions:
 - Returns the current status of the radio (on/off)
- II. Contract CO2
 - A. Operation: `getStation()`
 - B. Cross References: SSDs - Tune Radio
 - C. Preconditions:
 - Radio must be set to a certain station (even if turned off)
 - D. Postconditions:
 - Returns the station that the radio is currently set to
- III. Contract CO3
 - A. Operation: `checkStationChange()`
 - B. Cross References: SSDs - Tune Radio
 - C. Preconditions:
 - The radio must be turned on
 - D. Postconditions:
 - A choice of up, down, or nothing at all has been inputted
 - This choice is returned
- IV. Contract CO4
 - A. Operation: `increaseStation()`
 - B. Cross References: SSDs - Tune Radio
 - C. Preconditions:
 - The radio must be turned on
 - D. Postconditions:
 - The current station is increased by one interval
- V. Contract CO5
 - A. Operation: `decreaseStation()`
 - B. Cross References: SSDs - Tune Radio
 - C. Preconditions:
 - The radio must be turned on
 - D. Postconditions:
 - The current station is decreased by one interval

- VI. Contract CO6
 - A. Operation: `switchTimeFormat()`
 - B. Cross References: SSDs - Switch Time Format
 - C. Preconditions:
 - The time is set to either 12 hour or 24 hour time
 - D. Postconditions:
 - The time is switched to the opposite time format than in the precondition
- VII. Contract CO7
 - A. Operation: `enterAlarmSetMode(alarmNumber: integer)`
 - B. Cross References: SSDs - Set Alarm Time
 - C. Preconditions: None
 - D. PostConditions:
 - The alarm clock is in alarm-setting mode for the specified alarm of alarmNumber
- VIII. Contract CO8
 - A. Operation: `setAlarmTime(hours: integer, minutes: integer)`
 - B. Cross References: SSDs - Set Alarm Time
 - C. Preconditions:
 - Alarm clock is in alarm-setting mode
 - D. PostConditions:
 - The time of the previously specified alarm is changed to the inputted time
- IX. Contract CO9
 - A. Operation: `exitAlarmSetMode()`
 - B. Cross References: SSDs - Set Alarm Time
 - C. Preconditions:
 - The alarm clock is in alarm-setting mode
 - D. PostConditions:
 - The alarm clock is no longer in alarm-setting mode
- X. Contract CO10
 - A. Operation: `enterTimeSetMode()`
 - B. Cross References: SSDs - Set Time
 - C. Preconditions: None
 - D. PostConditions:
 - The alarm clock is in time-setting mode
- XI. Contract CO11
 - A. Operation: `setClockTime(hours: integer, minutes: integer)`
 - B. Cross References: SSDs - Set Time
 - C. Preconditions:
 - The alarm clock is in time-setting mode
 - D. Postconditions:
 - The time of the alarm clock is changed to and saved as the inputted time

XII. Contract CO12

- A. Operation: `exitTimeSetMode()`
- B. Cross References: SSDs - Set Time
- C. Preconditions:
 - The alarm clock is in time-setting mode
- D. Postconditions:
 - The alarm clock is no longer in time-setting mode

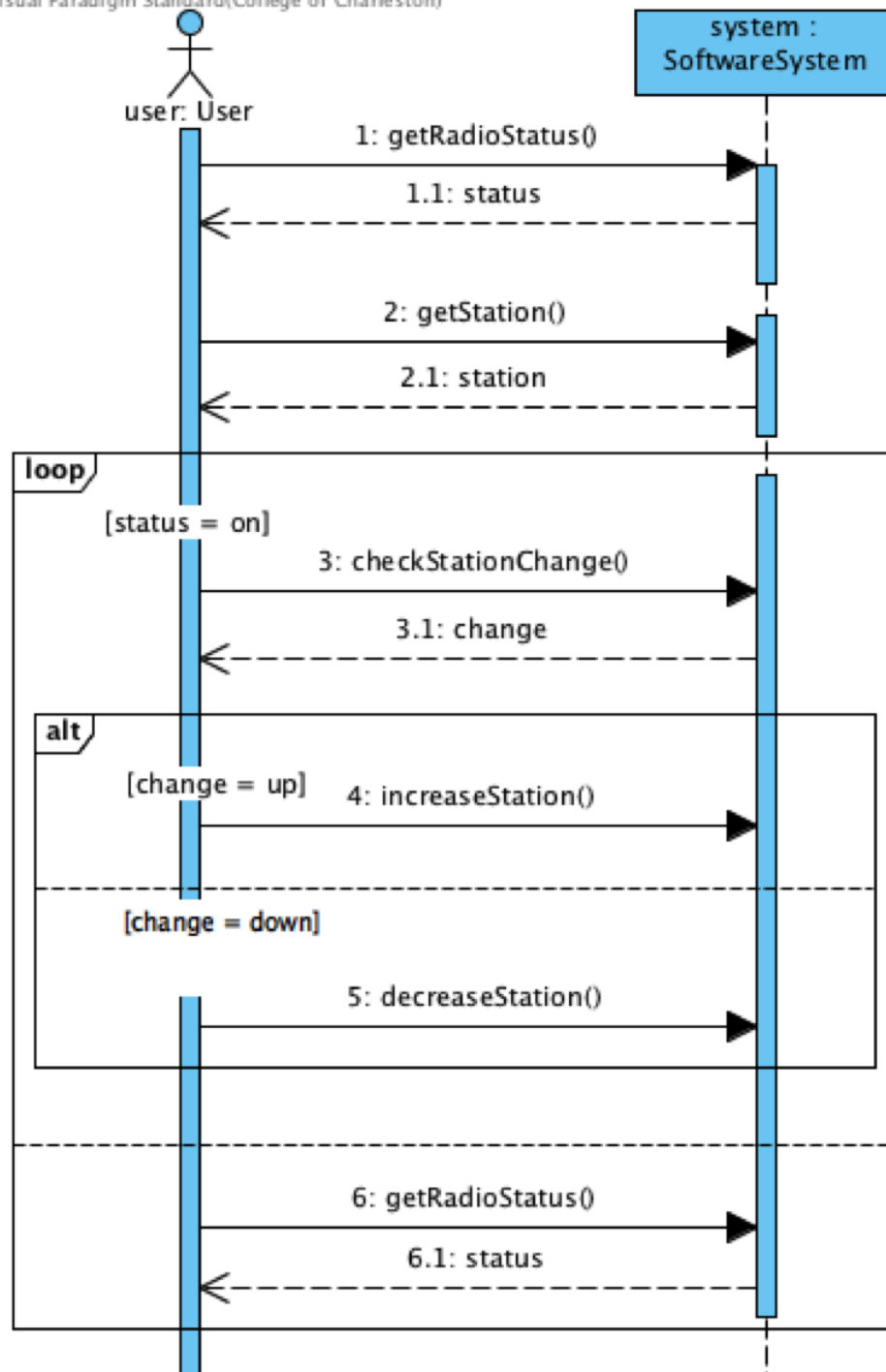
XIII. Contract CO13

- A. Operation: `snoozeAlarm()`
- B. Cross References: SSDs - Snooze Alarm
- C. Preconditions:
 - There must be an alarm currently sounding
- D. Postconditions:
 - All alarms that were sounding at the time of activation are delayed to go off five minutes later

System Sequence Diagrams

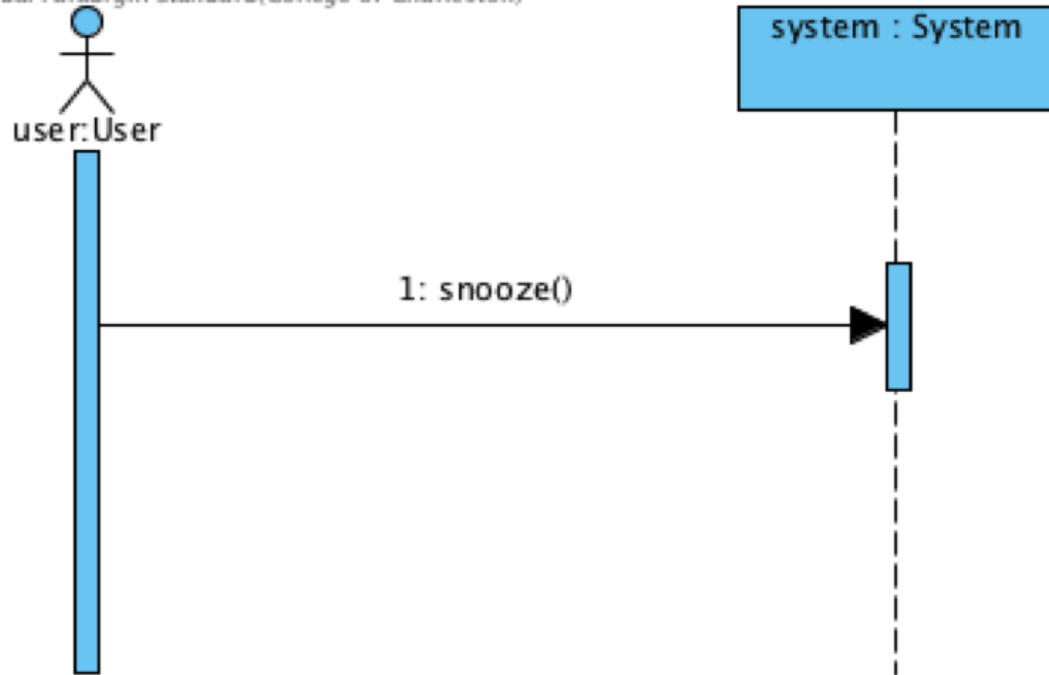
Tune Radio

Visual Paradigm Standard(College of Charleston)



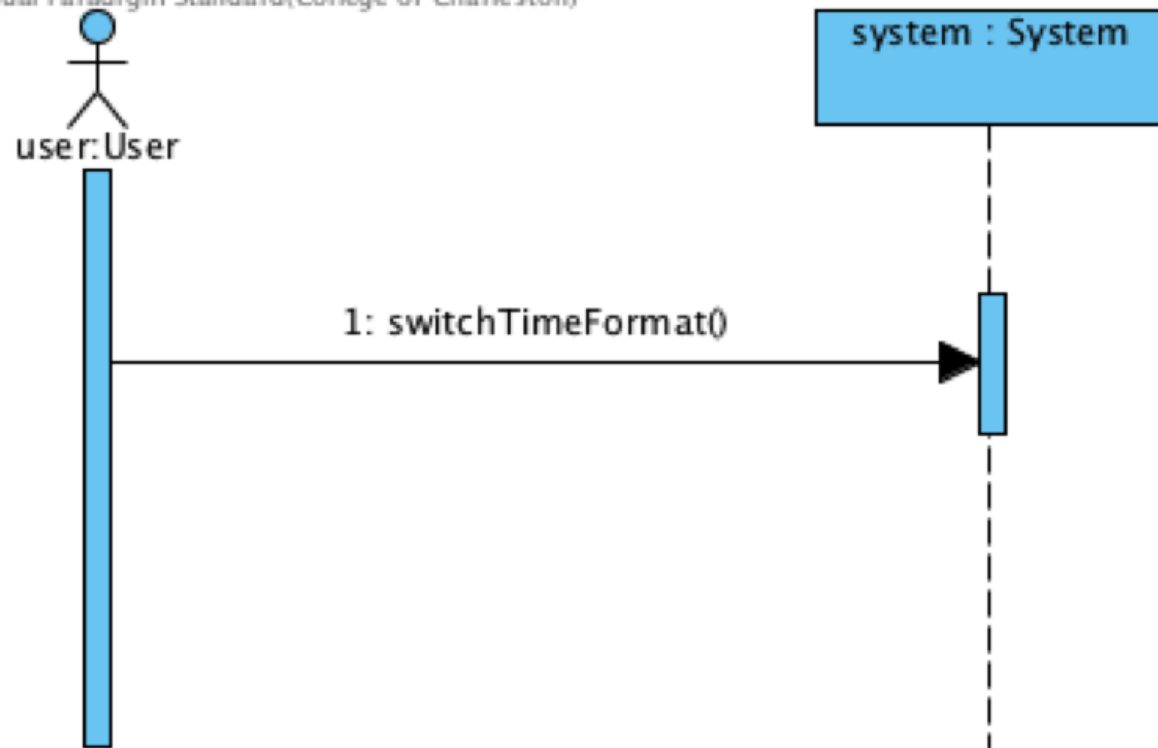
Snooze Alarm

Visual Paradigm Standard(College of Charleston)



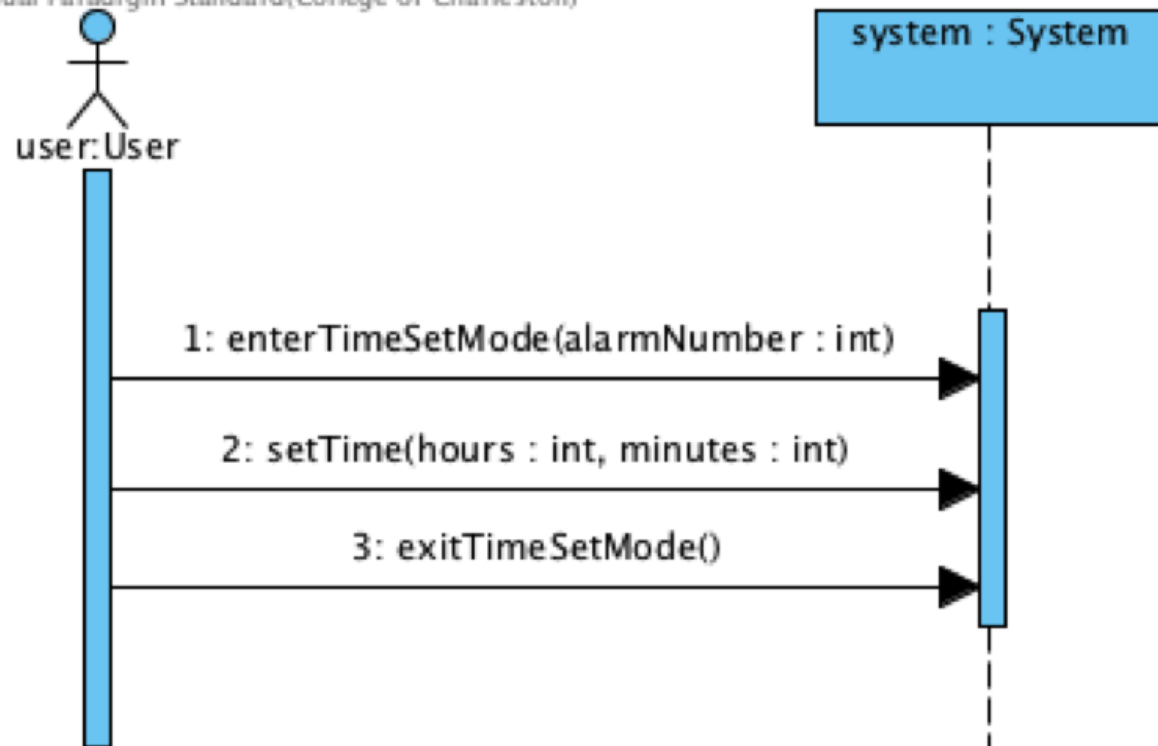
Switch Time Format

Visual Paradigm Standard(College of Charleston)



Set Time

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Set Alarm Time

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