

# **Team Malaga**

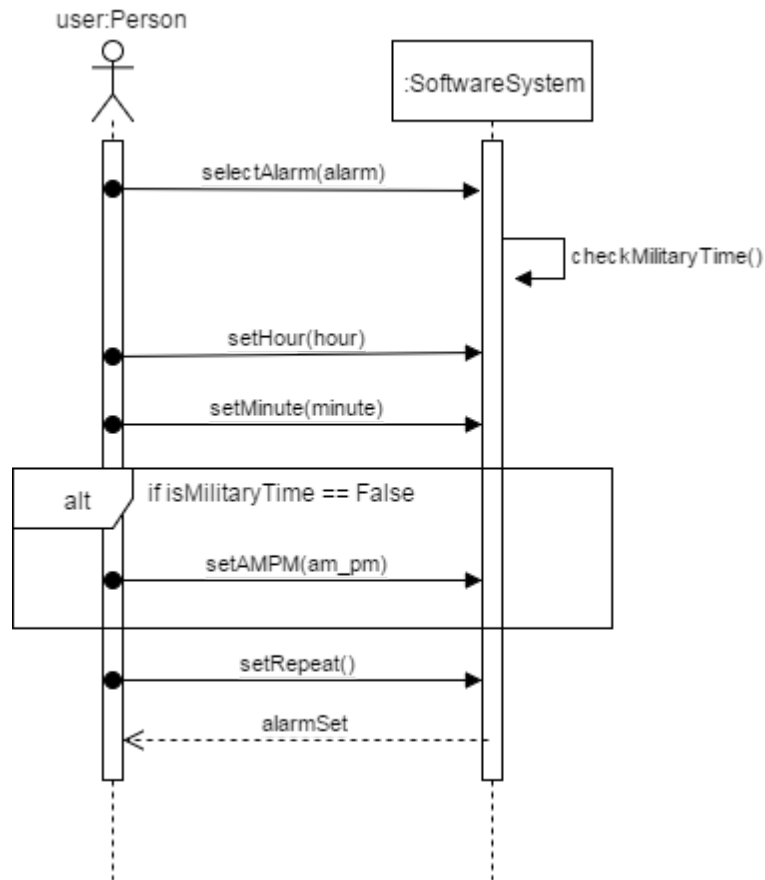
## **Dual-Alarm AM/FM Clock Radio**

System Sequence Diagrams

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CSCI 360

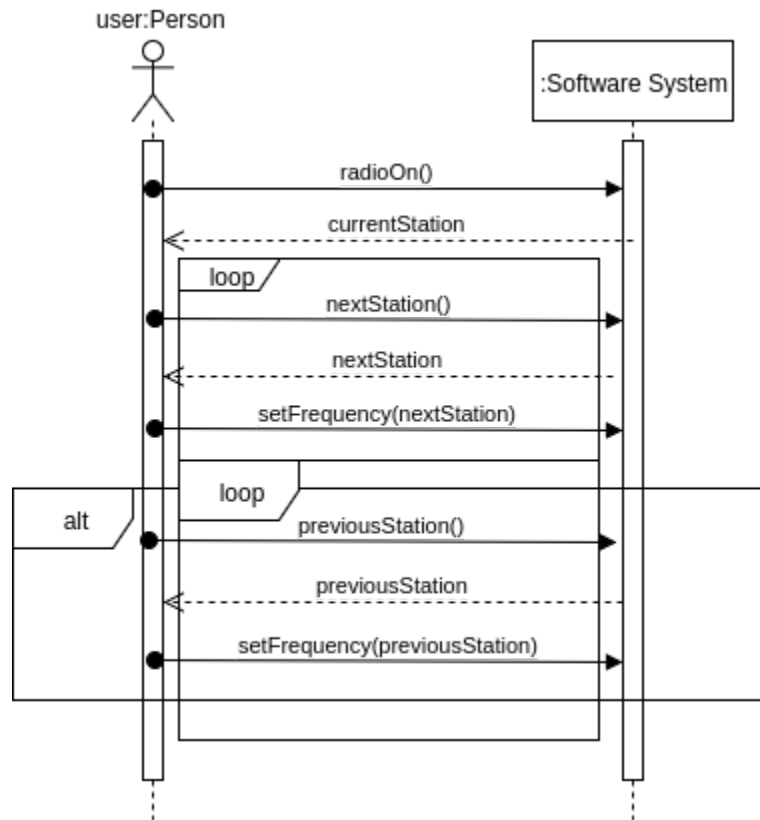
## System Sequence Diagram: Set Alarm



### Operation Contracts for SSD: Set Alarm

| Operation                        | Cross Reference  | Preconditions  | Postconditions  |
|----------------------------------|--|--|---|
| <code>selectAlarm(alarm)</code>  | Use Case 3: Silence Alarm<br>Use Case 4: Disable Alarm | The alarm clock has power.                           | <code>currentAlarm</code> is set to equal alarm.                                  |
| <code>checkMilitaryTime()</code> |  | The alarm clock has power.                           | Tells the system what time system the clock is currently set as.                  |
| <code>setHour(hour)</code>       | Use Case 5: Change Clock Time                          | An alarm has been selected.                          | The selected alarm's hour has been set.   |
| <code>setMinute(minute)</code>   | Use Case 5: Change Clock Time                          | An alarm has been selected.                          | The selected alarm's minute has been set.   |
| <code>setAMPM(am_pm)</code>      | Use Case 5: Change Clock Time                          | Military time is equal to False.                     | The alarm AMPM parameter is set to equal <code>am_pm</code> .                     |
| <code>setRepeat()</code>         |  | The alarm clock has power and an alarm has been set. | <code>isRepeat</code> is equal to True. The alarm will now repeat every 24 hours. |

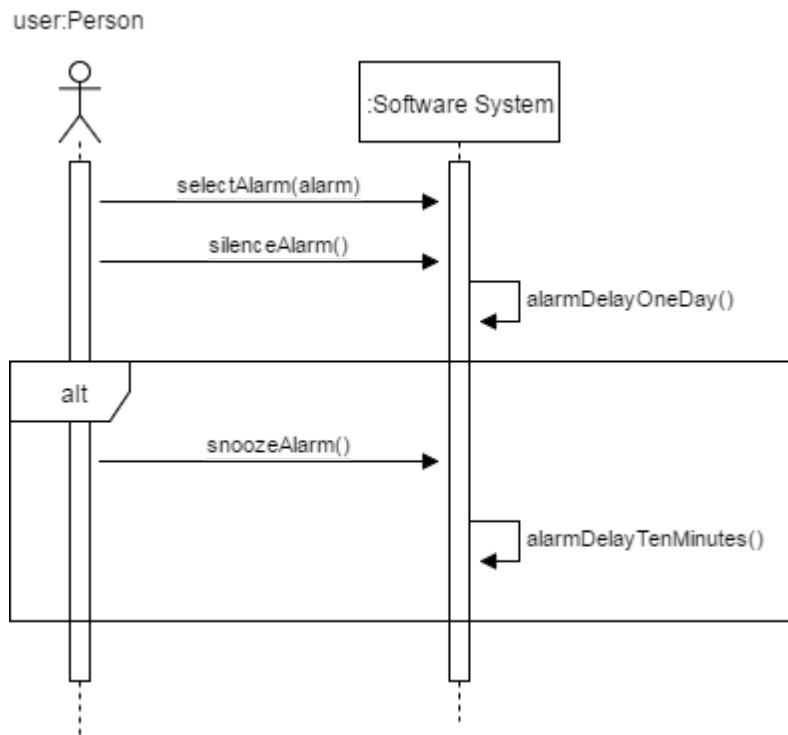
## System Sequence Diagram: Find Radio Station



### Operation Contracts for SSD: Find Radio Station

| Operation             | Cross Reference           | Preconditions  | Postconditions  |
|-----------------------|---------------------------|--|---|
| radioOn()             | Use Case 6: Change Volume | The radio has power and radio stations are broadcasting their signals. | The radio will be on and play. currentStation is set to equal the playing radio frequency.    |
| nextStation()         |                           | The radio has power and radio stations are broadcasting their signals. | nextStation parameter is set to the frequency of the next radio station.                      |
| previousStation()     |                           | The radio has power and radio stations are broadcasting their signals. | previousStation parameter is set to the frequency of the next lowest frequency radio station. |
| setFrequency(station) |                           | A station has been selected.   | The radio plays broadcasts from the selected station.   |

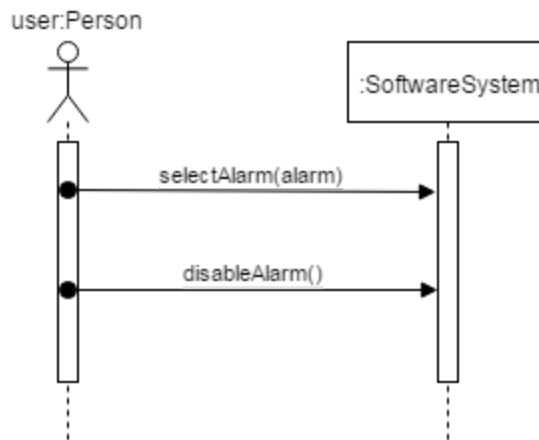
## System Sequence Diagram: Silence Alarm



### Operation Contracts for SSD: Silence Alarm

| Operation                           | Cross Reference                                    | Preconditions   | Postconditions   |
|-------------------------------------|--|---|--|
| <code>selectAlarm(alarm)</code>     | Use Case 1: Set Alarm<br>Use Case 4: Disable Alarm | The alarm clock has power.                            | <code>currentAlarm</code> is set to equal alarm.   |
| <code>silenceAlarm()</code>         |  | <code>currentAlarm</code> is enabled.                 | <code>currentAlarm</code> is silenced for a period of 24 hours.                              |
| <code>snoozeAlarm()</code>          |  | <code>currentAlarm</code> is enabled.                 | <code>currentAlarm</code> is silenced for a period of 10 minutes.                            |
| <code>alarmDelayOneDay()</code>     |  | The <code>silenceAlarm</code> method has been called. | Appends 24 hours of delay to the internal instance variable of <code>currentAlarm</code> .   |
| <code>alarmDelayTenMinutes()</code> |  | The <code>snoozeAlarm</code> method has been called.  | Appends 10 minutes of delay to the internal instance variable of <code>currentAlarm</code> . |

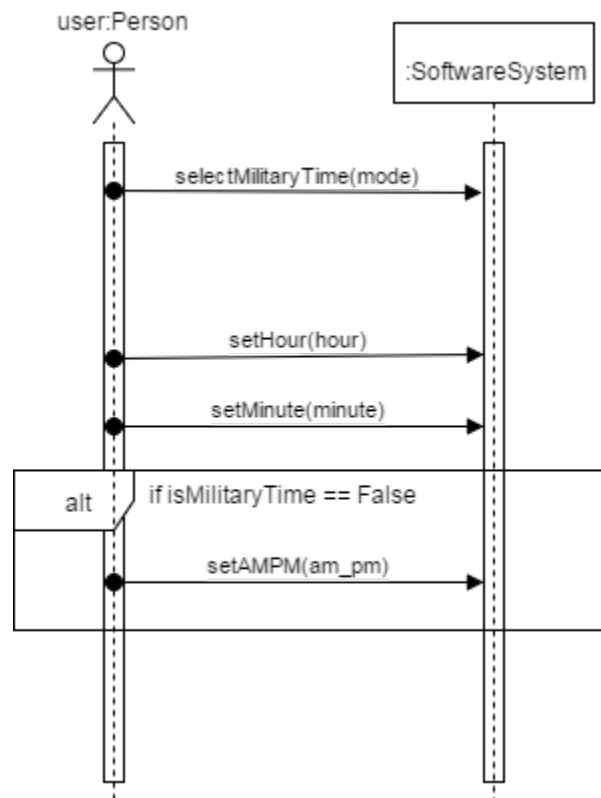
## System Sequence Diagram: Disable Alarm



### Operation Contracts for SSD: Disable Alarm

| Operation          | Cross Reference       | Preconditions              | Postconditions  |
|--------------------|-----------------------|----------------------------|---|
| selectAlarm(alarm) | Use Case 1: Set Alarm | The alarm clock has power. | currentAlarm is set to equal alarm.                                       |
| disableAlarm()     |                       | currentAlarm is enabled.   | currentAlarm has been disabled and will not go off at the time it is set. |

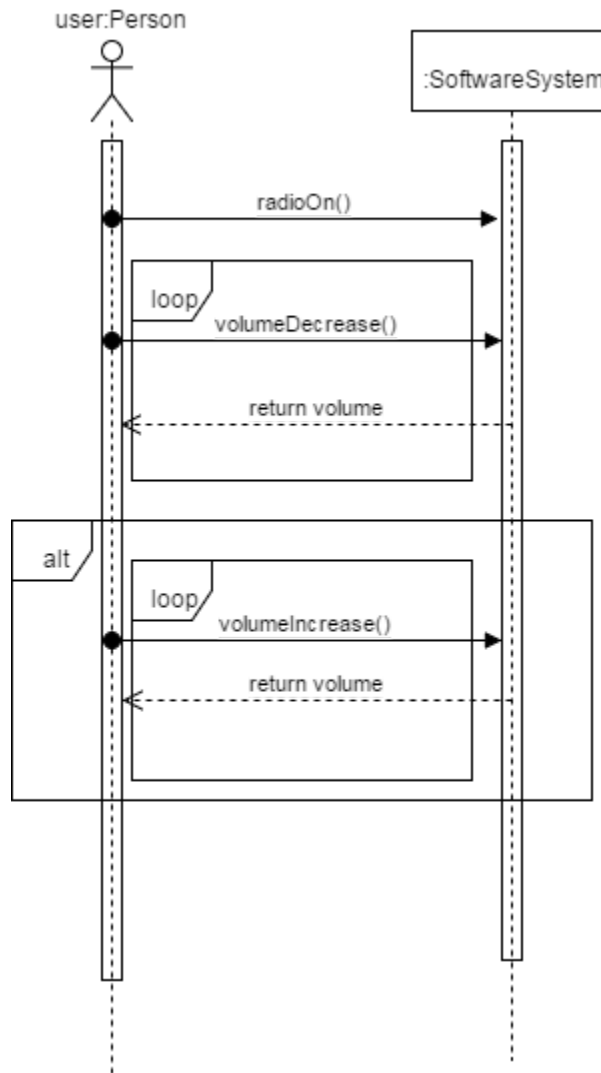
## System Sequence Diagram: Change Clock Time



### Operation Contracts for SSD: Change Clock Time

| Operation                             | Cross Reference          | Preconditions                                  | Postconditions  |
|---------------------------------------|--------------------------|--|---|
| <code>selectMilitaryTime(mode)</code> |                          | The alarm clock has power.                     | The parameter <code>isMilitaryTime</code> is set to equal the boolean mode. |
| <code>setHour(hour)</code>            | Use Case 1: Set An Alarm | An alarm has been selected.                    | The selected alarm's hour has been set.                                     |
| <code>setMinute(minute)</code>        | Use Case 1: Set An Alarm | An alarm has been selected.                    | The selected alarm's minute has been set.                                   |
| <code>setAMPM(am_pm)</code>           | Use Case 1: Set An Alarm | <code>isMilitaryTime</code> is equal to False. | The alarm AMPM parameter is set to equal <code>am_pm</code> .               |

## System Sequence Diagram: Change Volume



### Operation Contracts for SSD: Change Volume

| Operation        | Cross Reference                | Preconditions  | Postconditions   |
|------------------|--------------------------------|--|--|
| radioOn()        | Use Case 2: Find Radio Station | The radio has power and radio stations are broadcasting their signals. | The radio will be on and play. currentStation is set to equal the presently playing radio frequency. |
| volumeIncrease() |                                | Radio is on, volume is not at maximum.                                 | Volume was increased.  |
| volumeDecrease() |                                | Radio is on, volume is not at minimum.                                 | Volume was decreased.  |