

# **Team Malaga**

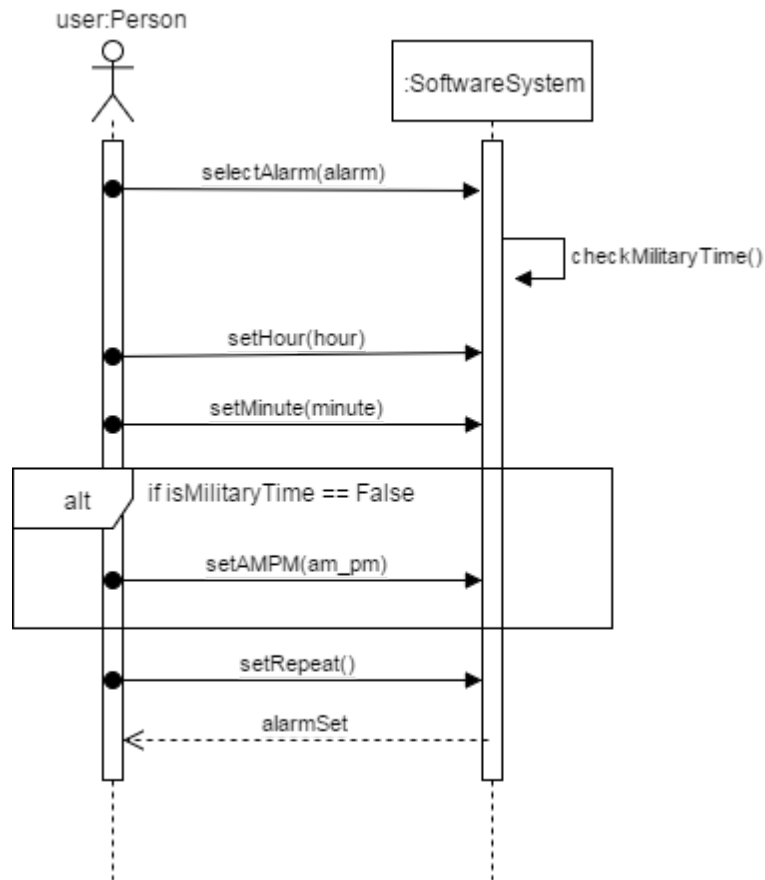
## **Dual-Alarm AM/FM Clock Radio**

System Sequence Diagrams

Bryce Charydczak, Eric Hofesmann, Marge Marshall

CSCI 360

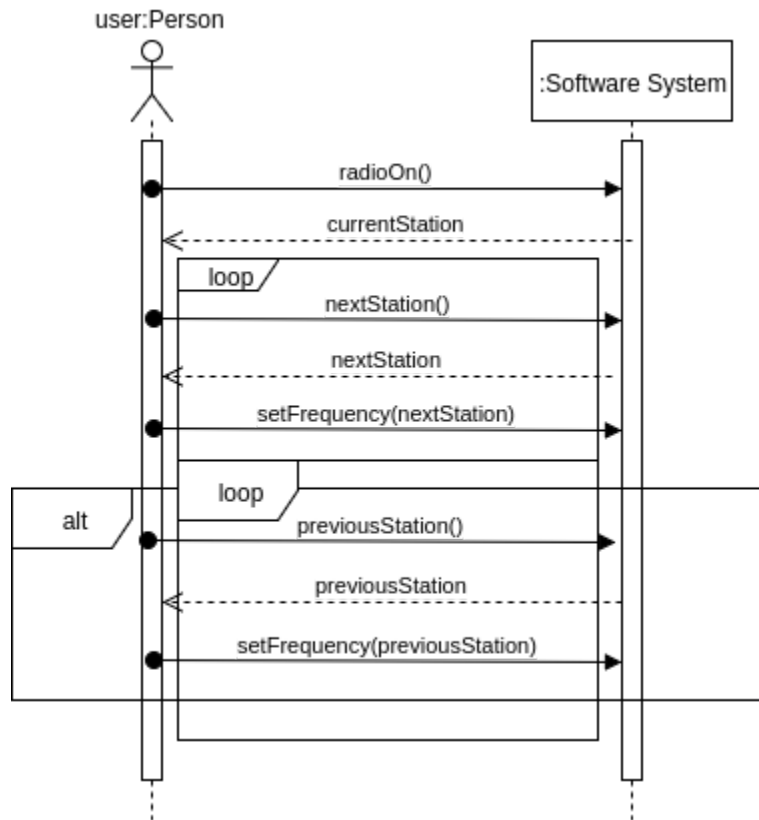
## System Sequence Diagram: Set Alarm



### Operation Contracts for SSD: Set Alarm

Operation	Cross Reference	Preconditions	Postconditions
<code>selectAlarm(alarm)</code>	Use Case 3: Silence Alarm 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.

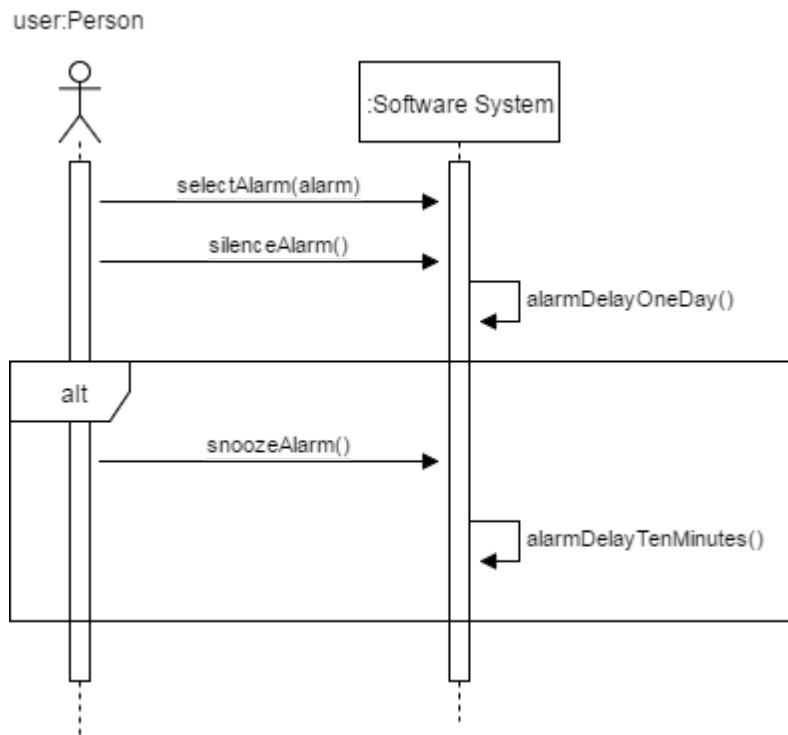
## System Sequence Diagram: Find Radio Station



### Operation Contracts for SSD: Find Radio Station

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

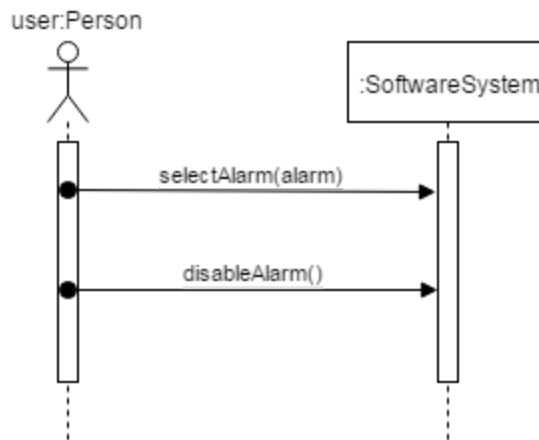
## System Sequence Diagram: Silence Alarm



### Operation Contracts for SSD: Silence Alarm

Operation	Cross Reference	Preconditions	Postconditions
<code>selectAlarm(alarm)</code>	Use Case 1: Set Alarm 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> .

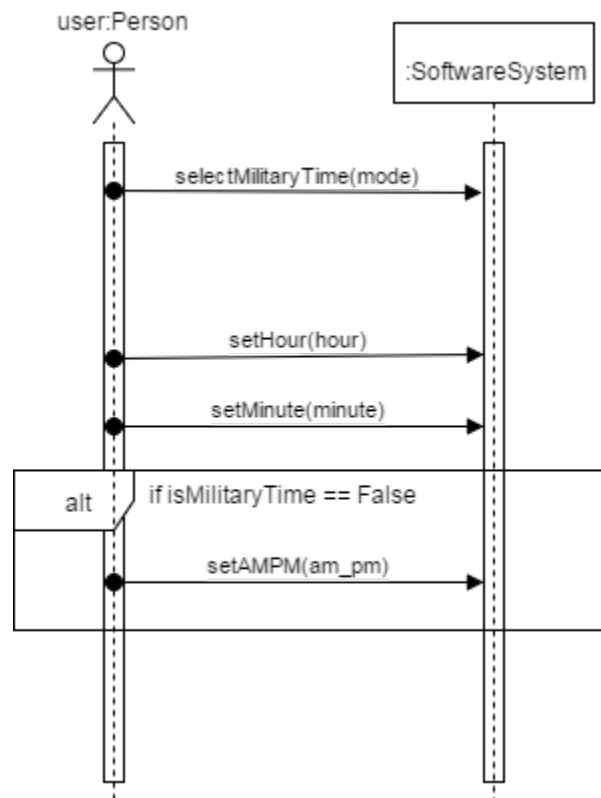
## System Sequence Diagram: Disable Alarm



### 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.

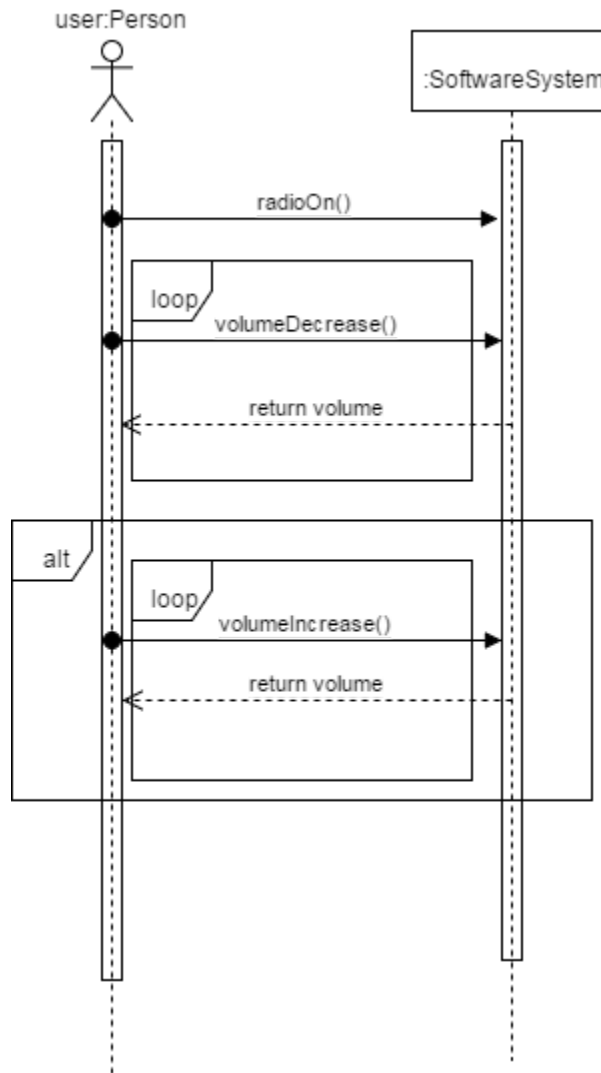
## System Sequence Diagram: Change Clock Time



### 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.