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AM/FM Dual-Alarm Clock Radio

I. Vision:
   A. Must be able to play the radio, sound two separate alarms, and display the correct current time.

II. Use Case 1:
   A. Name - Set Alarm Clock
   B. Scope - Alarm Clock System
   C. Level - User Goal
   D. Primary Actor - User
   E. Stakeholders and Interests:
      1. User - Wants to set an alarm so that, at a later time, the alarm clock will activate
      2. Manufacturer - Wants the alarm clock to work correctly to avoid negative feedback
   F. Preconditions:
      1. No more than 2 alarms already set
      2. Alarm clock is already on
   G. Success Guarantees
      1. Alarm clock is set for designated time
   H. Main Success Scenario
      1. User goes to alarm clock with alarm time in mind.
      2. User makes sure the alarm clock is on, turning it on if not.
      3. User sets the alarm clock to alarm-setting mode.
      4. Clock displays previous (or default) alarm time.
      5. User sets the requested time for the alarm.
      6. User exits alarm-setting mode.
   I. Extensions
      1. Alarm clock is unable to turn on
      2. Alarm clock is unable to enter/exit alarm-setting mode
      3. Alarm clock is unable to change time of previously set alarms
      4. Alarm clock shows that an alarm time is set, when, in actuality, it is not
   J. Special Requirements
      1. UI/Screen that displays alarm clock time
   K. Technology & Data Variations List
      1. Input Method - Alarm clock's time-setting buttons
      2. Output Method - Visual display of alarm's set time
      3. Switch for entering/exiting alarm clock time-setting mode

L. Frequency of Occurrence:
    1. Periodic - Activated only when desired, left alone otherwise
M. Miscellaneous:
    1. Alarm Clock will not automatically change time during daylight savings time
    2. Alarm Clock does not allow for more than two alarms to be set
    3. Sound of alarm clock cannot be changed (only the radio)

III. Use Case 2:
A. Name - Tune the Radio to Listen to a Certain Station
B. Scope - Alarm Clock System
C. Level - User Goal
D. Primary Actor - User
E. Stakeholders and Interests
    1. User - Wishes to listen to a specific station
    2. Radio Host - Broadcasting their program and wants the user to tune in
    3. Manufacturer - Wants the alarm clock to work correctly to avoid negative feedback
F. Preconditions
    1. Alarm clock must be turned on
    2. Radio must also be turned on
G. Success Guarantees - The correct radio broadcast is audible
H. Main Success Scenario
    1. User decides that they wish to listen to a certain radio broadcast
    2. User makes sure the alarm clock is turned on
    3. User turns on the radio feature on the radio
    4. User switched the AM/FM setting to the correct position
    5. User tunes in to the correct station
    6. User listens to the radio broadcast
I. Extensions
    1. Alarm clock is unable to turn on
    2. Alarm clock will not change radio station
    3. Radio will not tune due to poor connections; possible hardware failures
J. Special Requirements
    1. Strong enough radio receiver to obtain radio broadcasts
    2. UI/Screen that displays the current radio channel and AM/FM setting
K. Technology & Data Variations List
    1. Radio frequencies (88 - 108 kHz for FM/535 - 1605 kHz for AM)
    2. Switch for changing AM/FM setting
    3. Dial for changing current channel
L. Frequency of Occurrence
    1. Could be continuous; however long the User wants

IV. Use Case 3
   A. Name - Set Time
   B. Scope - Alarm Clock System
   C. Level - User Goal
   D. Primary Actor - User
   E. Stakeholders and Interests
      1. User - Wants to set the time so that he/she will be able to know the correct time whenever he/she looks at his alarm clock
      2. Manufacturer - Wants the alarm clock to work correctly to avoid negative feedback
   F. Preconditions
      1. Alarm clock must be turned on
   G. Success Guarantees - Clock is set to the correct time
   H. Main Success Scenario
      1. User goes to alarm clock with time in mind.
      2. User makes sure the alarm clock is on, turning it on if not.
      3. User sets the alarm clock to time-setting mode.
      4. Clock should display current time.
      5. User sets the requested time.
      6. User exits time-setting mode.
   I. Extensions
      1. Alarm clock is unable to turn on
      2. Alarm clock is unable to enter/exit time-setting mode
      3. Alarm clock is unable to change current time even if in time-setting mode
      4. Alarm clock shows that the time is set but does not save changed time when exiting time-setting mode
   J. Special Requirements
      1. UI/Screen that displays time
   K. Technology & Data Variations List
      1. Input Method - Alarm clock's time-setting buttons
      2. Output Method - Visual display of alarm clock's setñ time
      3. Switch for entering/exiting time-setting mode
   L. Frequency of Occurrence
      1. Periodic - Activated only when desired, left alone otherwise

V. Use Case 4
   A. Name - Change Time Formats
   B. Scope - Alarm Clock System
   C. Level - User Goal
   D. Primary Actor - User
   E. Stakeholders and Interests
      1. User - Wants to change the time format so that he/she will be able to see the current time is his/her desired time format when looking at the clock

2. Manufacturer - Wants the alarm clock to work correctly to avoid negative feedback

F. Preconditions
    1. Alarm clock is already on
G. Success Guarantees
    1. The time of the alarm clock will be in the desired mode
H. Main Success Scenario
    1. User goes to alarm clock with time mode in mind.
    2. User makes sure the alarm clock is on, turning it on if not.
    3. User sets alarm clock to desired time mode (either 12hr or 24hr).
I. Extensions
    1. Alarm clock is unable to turn on
    2. Alarm clock is unable to change time mode
    3. Alarm clock incorrectly display 12hr time instead of 24hr or vice versa
J. Special Requirements
    1. UI/Screen that displays time
K. Technology & Data Variations List
    1. Input Method - Alarm clock's time mode button
    2. Output Method - Visual display of alarm clock's current time
    3. Switch for changing time mode
L. Frequency of Occurrence
    1. Periodic - Activated only when desired, left alone otherwise

VI. Use Case 5
A. Name - Snooze Alarm
B. Scope - Alarm Clock System
C. Level - User Goal
D. Primary Actor - User
E. Stakeholders and Interests
    1. User - wishes to both sleep more and wake up at a reasonable time
    2. Manufacturer - Wants the alarm clock to work correctly to avoid negative feedback
    3. User's Acquaintances - may need the user to get up at a certain time
F. Preconditions
    1. Alarm clock is on
    2. Alarm clock is sounding
G. Success Guarantees
    1. The alarm clock will wait an additional five minutes before resounding
H. Main Success Scenario
    1. Alarm goes off at the desired time
    2. The user presses the snooze button
    3. The alarm stops sounding
    4. The alarm resets its time to five minutes in the future

5. The alarm goes off at the adjusted time

I. Extensions
   1. Alarm clock is not turned on
   2. Alarm clock does not sound alarm
   3. Alarm clock does not snooze for proper time period or at all

J. Special Requirements
   1. UI/Screen that displays time

K. Technology & Data Variations List
   1. Input Method - button/option to snooze
   2. Output Method - speaker that sounds alarm

L. Frequency of Occurrence
   1. Periodic - Activated only when desired, left alone otherwise

M. Miscellaneous
   1. May want to include a display feature that shows remaining snooze time

VII. Other Use Cases
- A. Turn Alarm On/Off
- B. Turn Radio On/Off
- C. Switch to/from Military Time

VIII. Specs
- A. Shows time
  1. 12 HR/24 HR
  2. AM/PM display
  3. Minutes: 0 minimum; 59 maximum
- B. Change time options
- C. Buttons for Setting Alarm
  1. 2 max; 0 min
- D. Snooze & Turn Off Alarm buttons
- E. Volume Control
- F. Radio power button
  1. Switching between AM/FM
  2. Radio Tuning/Seeking
  3. Preset/Favorite Radio Stations
- G. Clock power button

IX. Glossary
- A. When showing time:
  1. 12 HR vs. 24 HR
  2. AM vs. PM
  3. 12 HR Hours: 1 minimum, 12 maximum
  4. 24 HR Hours: 0 minimum, 23 maximum
  5. All Minutes: 0 minimum, 59 maximum

B. Number of alarms
    1. 0 minimum, 2 maximum
C. Radio Options
    1. AM vs. FM
    2. AM Stations: 535 - 1605
    3. FM Stations: 88 - 108