Kyle Glick, Sam Word, Gifford Waltz
Team - 360 Snoozin
CSCI 360 Spring 2017
Dr. Jim Bowring

TP2 Deliverable 1: Inception Documents

Vision

Introduction:
We envision an alarm clock that allows the owner to set 2 separate alarms and play AM/FM radio. The time will be interchangeable between 12 hour AM/PM time and 24 hour military time. The alarms will have the option of a generic tone, or a radio station specified by the user.

Stakeholder Descriptions:

Stakeholder Summary
Possible stakeholders include any person who may be affected by a failed alarm or incorrect timekeeping of the system. For example, if a user is expecting their alarm to go off at a specified time so that they may make a meeting with an employer, the employer and any coworkers who may be impacted by the alarm improperly not going off could be considered stakeholders.

User Summary
Users should be considered the owner(s) of the alarm clock. This is the person(s) who will utilize the alarm clock to keep track of their time and set alarms.

Key High-Level Goals and Problems of the Stakeholders:

High-Level Goal	Priority	Problems and Concerns
Accurate timekeeping	High	The system should be able to keep accurate time, not being delayed by slow functionality Alarms should go off at the specified time, not being delayed by slow functionality
Quality Radio Compatibility	Medium	Software recognizes wide range of AM and FM stations Sound quality through the speaker is pleasant for the user

User-Level Goals
➢ Owner: Set Clock Time, Set Alarm, Play Radio, Toggle Time, Enable Alarm, Disable Alarm, Snooze Alarm,

Product Overview:

Summary of Benefits

Supporting Feature	Stakeholder Benefit
The system will have accurate and easy-to-use timekeeping	Reliable time management
The system will have dual alarms, individual of one another	Accessible alarms
AM/FM Radio can be played individually, or assigned to play with an alarm	Flexible alarm tones, Entertainment
Time can be toggled between 12 hour AM/PM time and 24 hour time	Convenience of keeping time

Summary of System Features:
➢ Dual alarms with independent times and customizable tones or selectable radio station
➢ Play AM/FM radio
➢ Accurately keeps track of time in 24 hour or 12 hour format.
➢ Snooze alarm for 10 minutes

Other Requirements and Constraints:
➢ Because we are designing a virtual interface, we may be limited to the number of available buttons on the system
➢ The system will be designed in Java, as specified by Dr. Bowring

Use Case 1: Set Clock Time

Scope: Dual-Alarm AM/FM Clock Radio
Level: user goal
Primary Actor: Owner
Stakeholders and Interests:
> ➢ Owner: Wishes to know the accurate time of day and adjust it if it is not accurate.
> ➢ Dependants: Expects the owner to have the accurate time of day

Preconditions: Owner possesses Dual-Alarm AM/FM Clock Radio
Postconditions: Clock time is set, clock immediately ticks.
Main Success Scenario:
1. Owner chooses to set time on clock.
2. Owner chooses desired time.
3. Inputted time is saved.

Extensions: None
Special Requirements:
> ➢ Clock must tick immediately upon save.
> ➢ Save must be nearly instant.

Technology and Data Variations List: None
Frequency of Occurrence: Could occur nearly continuously.
Open Issues:
> ➢ Is set based on time zone or specific hours and minutes?

Use Case 2: Set Alarm

Scope: Dual-Alarm AM/FM Clock Radio
Level: User Goal
Primary Actor: Owner
Stakeholders and Interests:
- ➢ Owner: Wishes to set an alarm for accurate, specified time that is adjustable.
- ➢ Dependents: Expects owner to have accurate alarms.
- ➢ Radio Stations: Wishes to know how many listeners tune into their station.

Preconditions: Owner possesses the Dual-Alarm AM/FM Clock Radio
Postconditions: Alarm Time and Tone are saved
Main Success Scenario:
1. Owner chooses alarm to set.
2. Owner chooses time for alarm.
3. Owner chooses tone or alarm.
4. Inputted alarm time and tone are saved.

Extensions:
1. Owner's chosen time is identical to other alarm time.
   a. Owner is notified of duplicate time.
   b. Input time cannot be saved unless changed.

Special Requirements:
- ➢ Setting alarm must not disrupt clock ticking.
- ➢ Save must be nearly instant.

Technology and Data Variations List: None
Frequency of Occurrence: Could occur nearly continuously.
Open Issues: None

Supplementary Specifications

Introduction:

This document includes any specifications for the 360 Snoozin Dual-Alarm AM/FM Radio which were not specified in the Use Cases.

Functionality:

The volume of the alarm and radio will be adjustable for the user of the alarm.
The time may be set to military time or 12 hour time.

Usability:

Human Factors:
The customer will be able to see the clock at night as well as during the day. An LED light would be ideal for a bright display.

Reliability:

Recoverability:
The only problem the alarm clock's reliability faces is if there is a power outage. If such an event occurs, all the settings will have to be restored by the user.

Performance:

Our goal with the performance of the dual alarm clock radio is that it will sound at the time set by the owner of the alarm every time.

Implementation Constraints:

Dr. Jim Bowring insists on a Java technologies solution as a requirement for the course.

Interfaces:

Noteworthy Hardware Interfaces:
An adjustable screen or dial that displays the AM/FM radio settings.
A dial that adjusts the volume of the radio and alarm.

Software Interfaces:
A screen that displays the time and alarm settings.

Glossary

- ➢ Owner: The owner of the Dual-Alarm AM/FM Clock Radio system.
- ➢ Dependents: People who are dependant on the owner to know the correct time, or expect the owner to do something at a certain time such as an employer, coworker, family member, etc.
- ➢ Radio Stations: Radio stations broadcasting AM/FM stations available to the Dual-Alarm AM/FM Clock Radio system.
- ➢ Tick/ticking: A clock is "ticking" if it is properly keeping track of time.