< Team Oreo >

<Dual Alarm AM/FM Clock Radio> Supplementary Specification

Version <0.1>

Revision History

Date	Version	Description	Author
January 26, 2017	0.1	First draft. To be refined primarily during elaboration.	Gabrielle Cozart

Supplementary Specification

1.   Introduction

We envision a dual alarm clock that is able to handle two alarms for the user.. The alarm should also play at the specified time set by the use in alarm mode. Setting the time should also be a capability, allowing the user to change the minute and time separately.

2.   Functionality

2.1   Logging and Error Handling

There are few error handling problems that can be introduced with the dual alarm clock other than simple human errors such as setting the wrong time and power failure.

2.2   Pluggable Rules

The user has the ability to customize the time for themselves how they choose unlike world clocks that are pre-set and kept by time zone. The user can have multiple alarms for different days of the week and can choose to be waken up by alarm or radio.

2.3   Security

Little to none; there are no risks of personal information being leaked due to lack of network access and lack of connectivity to other devices. Users will not fear security breaches with such a simple device.

3.   Usability

3.1   Human Factors

Users will be able to see a small LCD display for the dual alarm clock. Therefore:

- Time should be visible from at least 6 feet (standard bedroom size)
- AM/PM notation should be easily understood and seen to prevent incorrect set time.

The radio ability should be easy to navigate by the user because of precise radio frequencies.

4.   Reliability

4.1   Recoverability

If failure of power occurs, system should be able to switch to battery operated power in order to continue state until power returns. The clock does not save state so in case of an extensive power outage and lack of batteries, user will not be able to use the device.

5.   Performance

The clock should accurately keep time without slowing or speeding. The amount of time until the next minute should remain consistent and with world clocks in order to avoid having to reset the time repeatedly. User should be able to quickly and efficiently set the alarm time.

6.   Supportability

6.1   Adaptability

The dual alarm clock is constantly adaptable since there is no serialization of any kind. Different users in the same household can use it without change of user processes.

6.2   Configurability

The user has the options for radio station, volume, alarm sound, and multiple alarms. This enables the user to customize it to their needs.

7.   Implementation Constraints

Because of the simplicity of this product, it will be very easy to maintain for the developers. There are not many security risks to take into account; therefore, there will be little to no outside sources to consider protecting against.

8.   Purchased Components

- Power cords. User can buy different lengths or types to use for the dual alarm clock.

9.   Free Open Source Components

Software is open source to the public via github; however, the hardware is not advanced enough to allow further specifications with the software.

10.   Interfaces

10.1   Noteworthy Hardware and Interfaces

- Small LCD display
- Alarm Set Button
- Alarm Switch (Turns alarm on or off)
- Radio Switch
- Hour Button
- Minute Button
- Volume dial

10.2   Software Interfaces

There is varying software interface for the time/radio system. When radio station is being altered, the radio frequency will appear on the LCD screen where the time normally appears. When not selecting a radio station, the time will appear.

11.   Legal Issues

There are no legal issues regarding a dual alarm clock radio.