

LUMIN

CLIENT DELIVERABLE 3



Jake Runzer	CEO
Zev Isert	Toolsmith
Claire Champernowne	Documentation
Dylan Golden	Analyst

Summary

The Ember Applications Technical Design Document and User Manual for Lumin has been reviewed and some change requests are listed below. The document requirements and management aligned with our requirements, with the exception of some minor changes. Overall, we are satisfied with the direction Lumin is heading. In addition, we have included a set of tests to be performed, verifying that the system meets requirements when delivered.

Findings

An overview of our findings on the design document are outlined below.

Accelerometer

The document mentioned that the user's phone could potentially be used as the accelerometer. This is technically possible but does not meet the requirement that Lumin will track your sleep and trigger the alarm without a mobile device nearby, and it is also potentially dangerous to your device.

Speaker

It was mentioned that the alarm sound quality does not matter. The final production version of Lumin should have a speaker comparable to one you would use to listen to music with. A good quality speaker is not a minimal requirement for EOT.

Wake up Time

The alarm lighting should not turn on at the soft wake time. If there is a large difference between soft and hard wake time, this could be very annoying to the user. The lamp should turn on at the best possible time, with the sound turning on after a small delay. If the alarm is triggered at the hard wake time, both should turn on immediately.

Colour Wheel

The proposed colour picker that the Lumin app will be using can be improved to provide a better mobile user experience. The main aspect of choosing a colour is changing the hue. In the proposed design, the hue slider is a very small bar on the right while the luminance and saturation can be adjusted in a large box taking up most of the view. It is suggested that choosing the hue and saturation be the main focus of the colour picker and the luminance be of smaller focus.

Acceptance Tests

The main functionality of Lumin is

- A bedside lamp
- Smart alarm clock

The following tests verify that the system performs these main functions and meets our specification.

Test 1

ID Set alarm with colour sequence	
Description	The user creates an alarm and specifies a colour sequence. The Lumin devices acknowledges the creation and stores alarm data on device.
Input	Alarm time Sequence of colours
Steps	Open Lumin app on mobile device and navigate to the create alarm page Enter soft and hard wake up times for alarm Navigate to alarm colour page Select a colour sequence from pre-defined list of sequences Confirm creation of alarm
Expected Output	Verification from Lumin that the alarm was created The new alarm appears in the list of alarms

Test 2

ID Light alarm goes off when in lightest sleep stage	
Description	The user is sleeping and the current time is between the soft and hard wake up times. Lumin recognizes that the user is in a light sleep stage and triggers the light alarm.
Input	Sleep tracking data from accelerometer
Steps	Users creates alarm the night before to go off between 6am and 7am (soft and hard wake up time) User has previously placed accelerometer on bed and goes to sleep The time is 6:30am and the user is in a light sleep stage, the light alarm is triggered
Expected Output	Alarm is triggered

Test 3

ID Change colour of light on the fly	
Description	The light on the Lumin is turned on and the user changes the colour of it on the fly
Input	RGB colour
Steps	Turn on the Lumin light using the mobile app
	Navigate to the colour wheel
	Change the colour of the light to red using the colour wheel
Expected Output	The Lumin lamp changes colour to red.

Test 4

ID Audible alarm goes off at Hard wake up	
Description	The alarm goes off at the set time, when the user does not enter into a light sleep stage during the time between a soft wake up and a hard wake up.
Input	User has set an alarm
Steps	User sets alarm for hard wake up (8am) and soft wake up (7:30am)
	User sets up accelerometer
	User goes to bed in the same room as the alarm
	User does not enter into a light stage of sleep during the half hour before the hard alarm
	Alarm goes off at 8am and wake the user
Expected Output	Audible alarm goes off at the set time.