Product Requirements Document

Smart Mirror for Electric Rechargeable Power Toothbrush - Draft Version

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Overview

Internal Name	Smart Mirror
External Name	TBD
MSRP (Solo)	$X - US; $Y - CAN; € - EUR
MSRP (Bundle i.e. with toothbrush)	$X - US; $Y - CAN; € - EUR
Channel	Online Only
Launch Target	Q1 2020

Smart Mirror will be an accompaniment to the Philips Sonicare DiamondClean Toothbrush allowing a user to conveniently view brushing guidelines and techniques during each usage thereby promoting healthy brushing habits.

Smart Mirror will be sold in a bundle with Philips Sonicare DiamondClean Toothbrush and can also be sold as an accessory for users who already possess DiamondClean toothbrushes.

Target audience for Smart Mirror is the same as for Philips Sonicare line of products i.e. tech-inclined millennials who care about hygiene and health.

Priority Description

P0: Must Have Requirement i.e. Product will not launch without it
P1: Not a requirement for launch but is needed 3-6 months post-launch

Product Requirements

I. Industrial Design

#	Feature/Characteristic	Product Requirements	Priority	Technical/Engineering Specifications	Comments
I.1	Color, Material, Finish (CMF)	Shall be made of scratch-resistant Acrylic with at least 40% transparency	P0		
I.2	Dimensions	Shall be 4in x 6in	P0		
I.3	Visual Interface	Shall have an LCD display	P0		
I.4	Touch Interface	Display shall allow for touch interactions	P0		
I.5	Connectors	Shall have a USB-C port	P0		
I.6	Placement	Shall be able to be placed on an existing bathroom mirror, wall, bathroom sink, tabletop	P0		
I.6	Adhesive/Fastener	Shall contain adhesive that allows it to stick to any surface such as glass mirrors, wallboard, plasterboard, metal wall and steel wall	P0		

#	Feature/Characteristic	Product Requirements	Priority	Technical/Engineering Specifications	Comments
		A user shall be able to remove the smart mirror at will but when placed back on the surface, it should strongly adhere to it until removed by user			
		A user shall be able to remove/place the smart mirror as easily as velcro fasteners			

II.   Display Screen

#	Feature/Characteristic	Product Requirements	Priority	Technical/Engineering Specifications	Comments
II.1	Always On	The display shall always show: - Current Date - Current Time - Location Weather/Temperature of current day and week	P0		
II.2	Brushing Guidance	During Brushing, the display shall showcase guided brushing feature in real-time similar to the guided brushing feature on the Sonicare App	P0		

#	Feature/Characteristic	Product Requirements	Priority	Technical/Engineering Specifications	Comments
		This should automatically activate once the brush is activated and ready-to-use			
II.3	Display Controls	Display shall be touch-enabled with the following controls: - ON/OFF - Settings (to change metrics/units, date/time format)	P0		
II.4	Orientation	Display shall allow for portrait and landscape orientations	P1		

III. Connectivity

#	Feature/Characteristic	Product Requirements	Priority	Technical/Engineering Specifications	Comments
III.1	Bluetooth Low Energy (BLE)	Shall utilize BLE during setup and discovery when the toothbrush is activated	P0		
III.2	WiFi Frequency Bands	Shall operate on both 2.4GHz and 5GHz	P0		
III.3	IEEE 802.11 Protocol	Shall support 802.11 a/b/g/n/ac	P0		
III.4	Channel Support	Shall support non-US Wi-Fi channels. International mode shall turn on based on	P0		

		country code			

IV. Power

#	Feature/Char acteristic	Product Requirements	Priority	Technical/Engineering Specifications	Comments
IV.1	Power	Shall be battery-operated Battery will be charged via the same charging base as the Sonicare DiamondClean Toothbrush which has an AC Power input range of 110v to 240v	P0		
IV.2	Charging Base	Charging Base will include a USB-C port for charging the Smart Mirror	P0		
IV.3	Power Cable	USB-C power cable shall connect to the same charging base as the Sonicare Diamond Clean toothbrush A user should not have to connect the smart mirror to one wall outlet and the toothbrush to	P0		

#	Feature/Characteristic	Product Requirements	Priority	Technical/Engineering Specifications	Comments
		the other outlet. Both the smart mirror and toothbrush should share one outlet			
IV.4	Idle Power Consumption	Shall be Energy Efficient and consume less than 0.25W of power when not in use	P1		

V. Durability

#	Feature/Characteristic	Product Requirements	Priority	Technical/Engineering Specifications	Comments
V.1	Humidity	Shall be fully functional and operational under 100% humidity	P0		
V.2	Weather Resistant	Shall meet a rating of at least IPX6	P0		
V.2	Drop Test	Shall survive and be operational when dropped from at least 3feet height	P0		
V.3	Operating Temperature Range	Shall be fully functional and operational within the range of 32℉ (0℃) to 120℉ (49℃)	P0		
V.4	Touch Discomfort	Shall not cause discomfort (sharp, hot)when touched	P0		

#	Feature/Characteristic	Product Requirements	Priority	Technical/Engineering Specifications	Comments
		or held			
V.5	Lifetime	Shall last for at least 3years	P0		
V.6	Adhesive/Fastener	Smart Mirror shall not cause damage to whatever surface it is placed on	P0		A user should be informed of incompatible surfaces, if any

VI. Packaging

#	Feature/Characteristic	Product Requirements	Priority	Technical/Engineering Specifications	Comments
VI.1	In the box	Included in the box are: ● Smart Mirror ● Sonicare Diamond Clean Toothbrush ● Brush heads (2x clean, 2x white, 2x gum) ● Quick start guide ● Legal Doc ● Portable Brush and Mirror Holder for Travel ● Charging Glass ● Charging Base ● USB-C cable	P0		
VI.2	On the Box	Similar to Philips Sonicare DiamondClean	P0		

#	Feature/Characteristic	Product Requirements	Priority	Technical/Engineering Specifications	Comments
		Packaging with the addition of the Smart Mirror			

VII.   Out of Box Experience (OOBE)

#	Feature/Characteristic	Product Requirements	Priority	Technical/Engineering Specifications	Comments
VII.1	Time to Install (Physical Installation)	Shall be physically installed within 5mins or less	P0		
VII.2	Software/Firmware Setup	Overall software setup shall be done in 10mins or less	P0		
VII.3	Shared User	Shall allow for up to 2 user profiles on the display Each toothbrush should assigned to a User during setup When brushing,	P1		

#	Feature/Characteristic	Product Requirements	Priority	Technical/Engineering Specifications	Comments
		the display should change to reflect the user e.g. Display will have "Hello User X" when User X is brushing teeth and provide brushing guidelines accordingly			
VII.4	Data Storage	Brushing History, Score, Metrics shall be uploaded to each user's Sonicare cloud account after each use	P0		

VIII. Security & Privacy

#	Feature/Characteristic	Product Requirements	Priority	Technical/Engineering Specifications	Comments
VIII.1	Password Protection	Shall utilize encryption and not expose WiFi and account	P0		

#			Priority		
		credentials of the user			
VIII. 2	WiFi Security Protocol	Shall adhere to WPA-PSK, WPA2-PSK protocols	P0		
VIII. 3	BLE Transmit Power	Tx power shall be limited such that Smart Mirror is only visible to the Sonicare Toothbrush and User's smartphones	P0		

IX.   Regulations & Certifications

Here will be all the regions that Smart Mirror + Philips Sonicare DiamondClean Toothbrush will be sold in as well as certifications/compliance tests. Exact tests that need to be done will need to be confirmed with the manufacturing engineers and team
Assuming this will be launched in the US and Canada first, then the certification tests might be :

#	Region	Compliance/Certifications	Priority	Technical/Engineering Specifications	Comments
IX.1	US	• FCC • UL • ISO 18902 • Shatter Resistance /Safety	P0		
IX.2	Canada	• IC • ISO equivalent • Shatter Resistance /Safety	P0		
IX.3	UK/Europe	• RoHS • Reach • CE	PI		

		● Shatter Resistance /Safety			

X.   Serviceability & Warranty

#	Feature/Char acteristic	Product Requirements	Priority	Technical/Engine ering Specifications	Comments
X.1	Warranty - US and Non-EU	Shall have a 1-year Warranty on parts	P0		
X.2	Warranty - EU	Shall have a 2-year Warranty on parts	P0		
X.3	Repairs/Retur ns Process	Shall adhere to the Philips Sonicare returns and repair process (link here)	P0		