

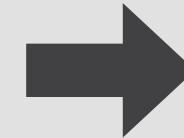
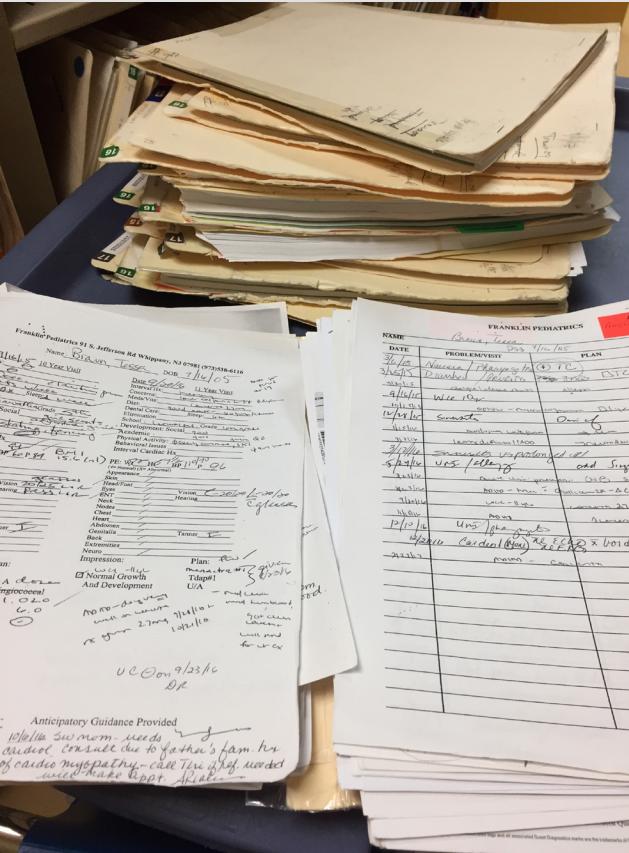
A young girl with long blonde hair, wearing a pink floral dress, holds a silver stethoscope. She is looking down at it with a focused expression. In the background, a doctor with short brown hair and glasses, wearing a white coat, looks towards the girl. The scene is set in a bright, clinical environment.

# Pediatric Healthcare

Jack Thrun

# 01 | BACKGROUND

## BACKGROUND | THE SWITCH



### PAPER CHARTS

Doctor's notes are meant to be a personal narrative of their discussion with the patient. Hand written notes result in a more natural conversation allowing the doctor to know their patient in a very personal way and both parties can decide together the plan of action for the patient's care. The strong patient-doctor relationship is what makes primary care providers superior over all other forms of healthcare.

### ELECTRONIC HEALTH RECORDS (EHR)

The main reason for the switch to EHR is because the insurance companies want easy access to data to determine which services they will cover and the payments for those services. This leads to patient healthcare decisions being based off statistics rather than personal choice. This system is efficient for the insurance companies but not for the doctors who now have to sacrifice the art of medicine for the purposes of data collection.

## BACKGROUND | THE SWITCH (CONT.)

The main reason for the switch to EHR is because insurance companies want easy access to data to determine which services they will cover and the payments for those services. This leads to healthcare decisions being based off statistics rather than personal choice. The system is not efficient for the **doctors who now have to sacrifice the art of medicine for the purpose of data collection and spend countless hours after work completing their patients' charts.** The doctor often has to ask the patient mandatory questions that have no relevance to the patient or the reason for the current visit. **Its scripted, dehumanizing nature is decreasing the quality of the patient / doctor relationship which is so important in the art of medicine.**

## BACKGROUND | DESIGN GOALS

The doctor's interaction with the patient needs to be...

**streamlined**

**efficient**

**personal**

**flexible**

## BACKGROUND | WHY, HOW, WHAT

### **WHY**

We believe good health begins with a strong patient/doctor relationship. Doctors need to be able to understand their patients and patients need to be able to trust their doctor and feel cared for.

### **HOW**

The way we improve that relationship is by increasing the doctor's efficiency so they can spend less time on their charts and more time with the patient.

### **WHAT**

We will create a connected suite of pediatric tools that automatically populate the patients health record so the doctor can focus on the art of medicine.

## 02 | ECOSYSTEM

## ECOSYSTEM | DOCTOR'S TOOL KIT

### Develop



Ophthalmoscope / Otoscope



Thermometer

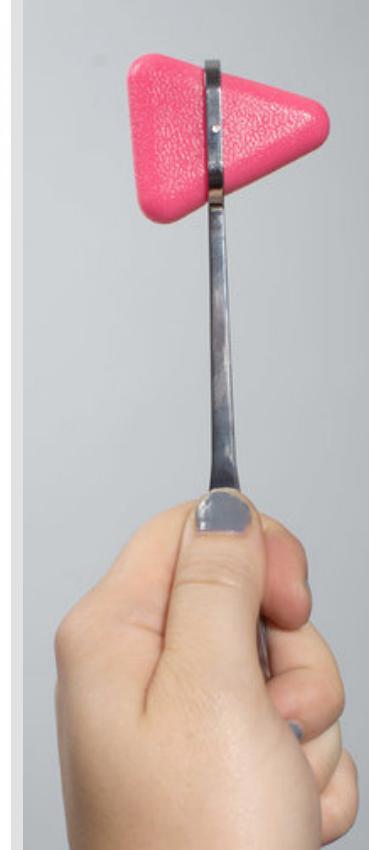


Blood Pressure Cart

### Apply



Stethoscope



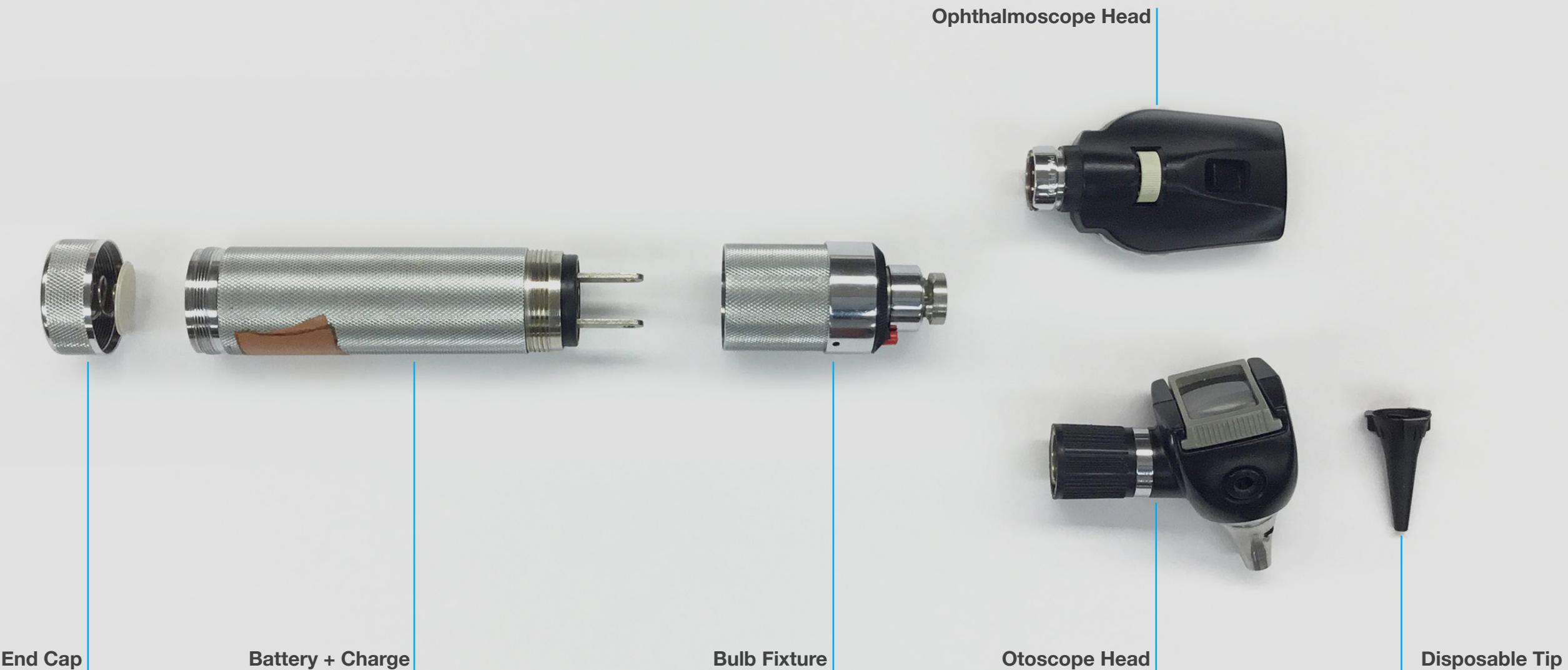
Reflex Hammer

### Refine



Scale

## ECOSYSTEM | TOOL BREAKDOWN





**Problem**

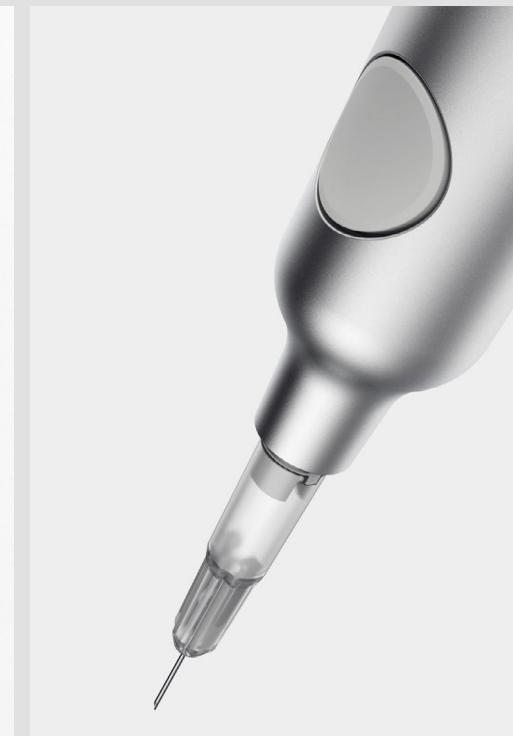
*Current digital otoscopes create yet another barrier between doctor and patient.  
The doctor should be able to see into the ear first hand without relying on technology.*

## 03 | REFINED CONCEPT

## APPROACHABLE | PRECISE



Pure Geometry



Rational Part Lines



Intentional Color Pops

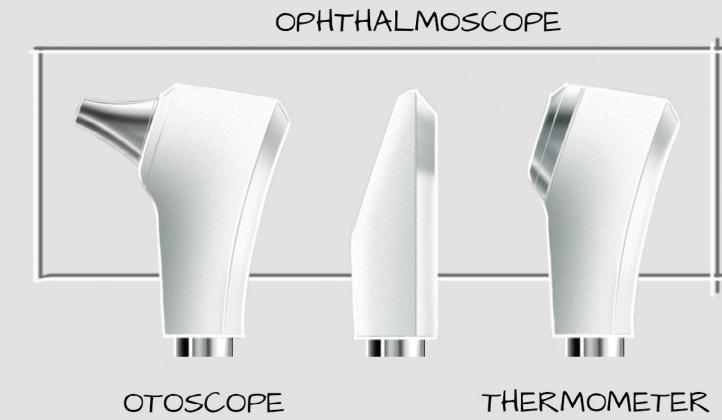


Subtle Color Breaks



Crisp Edges

## REFINED CONCEPT | SKETCH



## REFINED CONCEPT | SURFACING & DETAILS



## 04 | FINAL DESIGN

## FINAL DESIGN | OVERVIEW



Otoscope

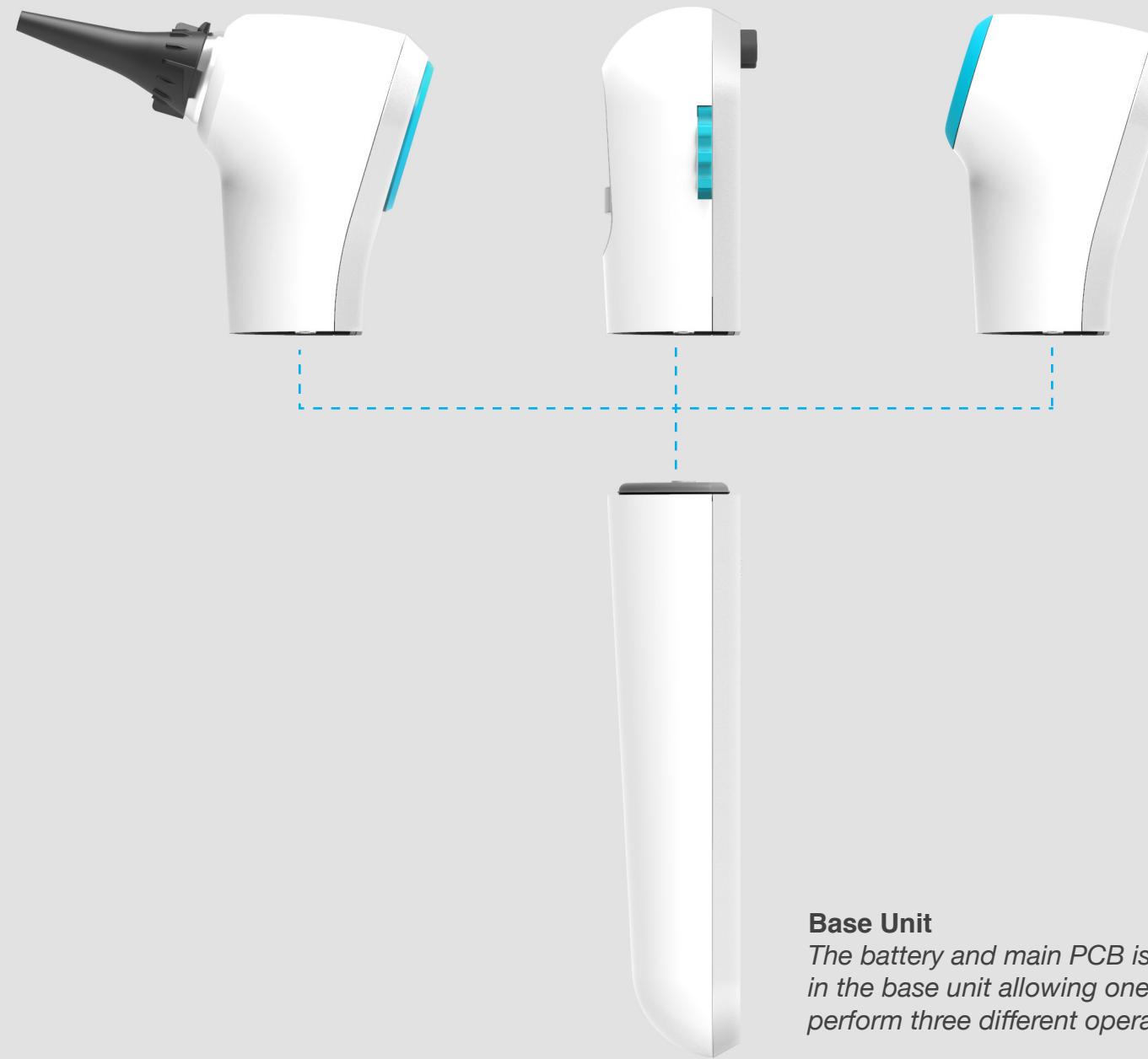


Ophthalmoscope



Thermometer

## FINAL DESIGN | 3 TOOLS, 1 BODY



### Modular Tools

*Each head has a “record” button that automatically uploads the specific data to the patient’s EHR.*

### Base Unit

*The battery and main PCB is housed in the base unit allowing one tool to perform three different operations.*

## FINAL DESIGN | MODULAR HEADS



### Head Attachment

The different heads attach to the base with metal contacts and a snap feature while still allowing quick release.



## FINAL DESIGN | PROCESS

2

### View

The external auditory canal can be analyzed through the view finder.

3

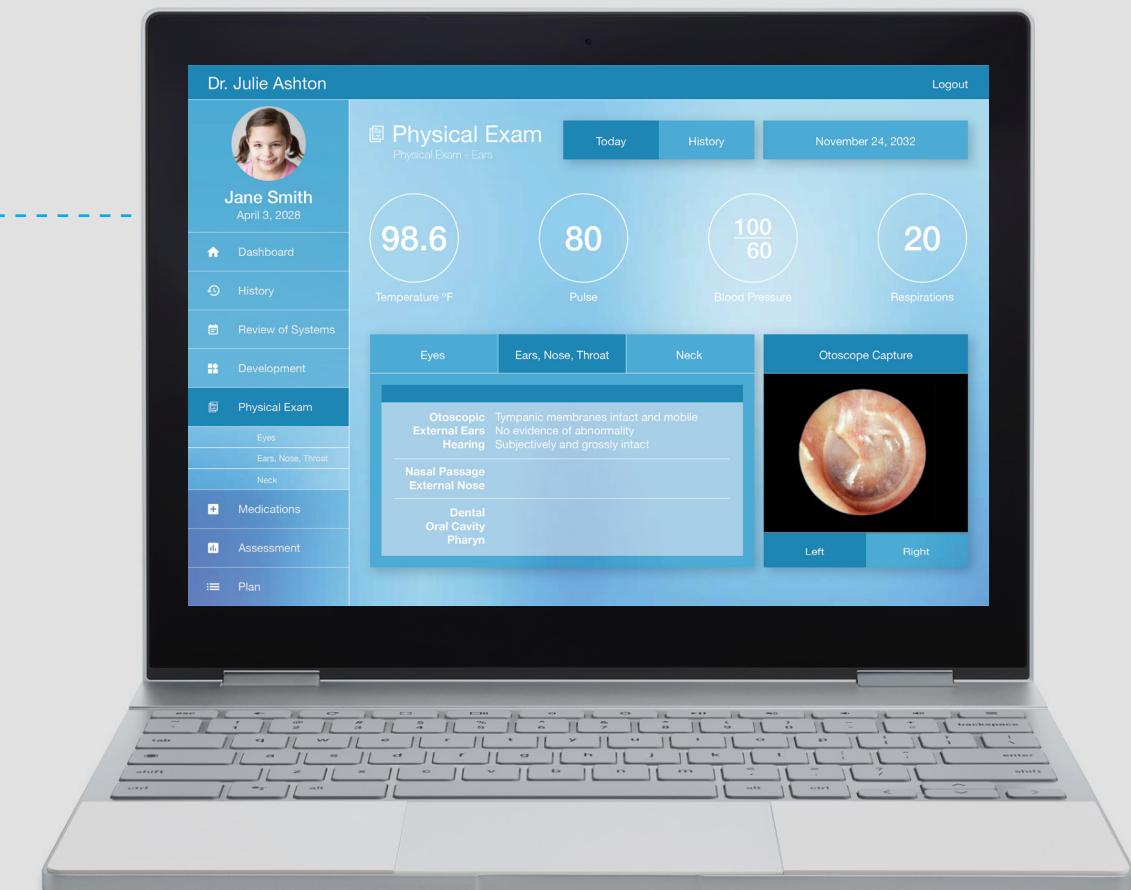
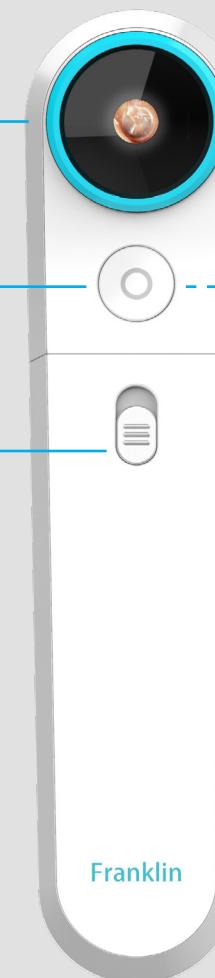
### Record

Press the “record” button to upload a photo of the ear to the patient’s EHR.

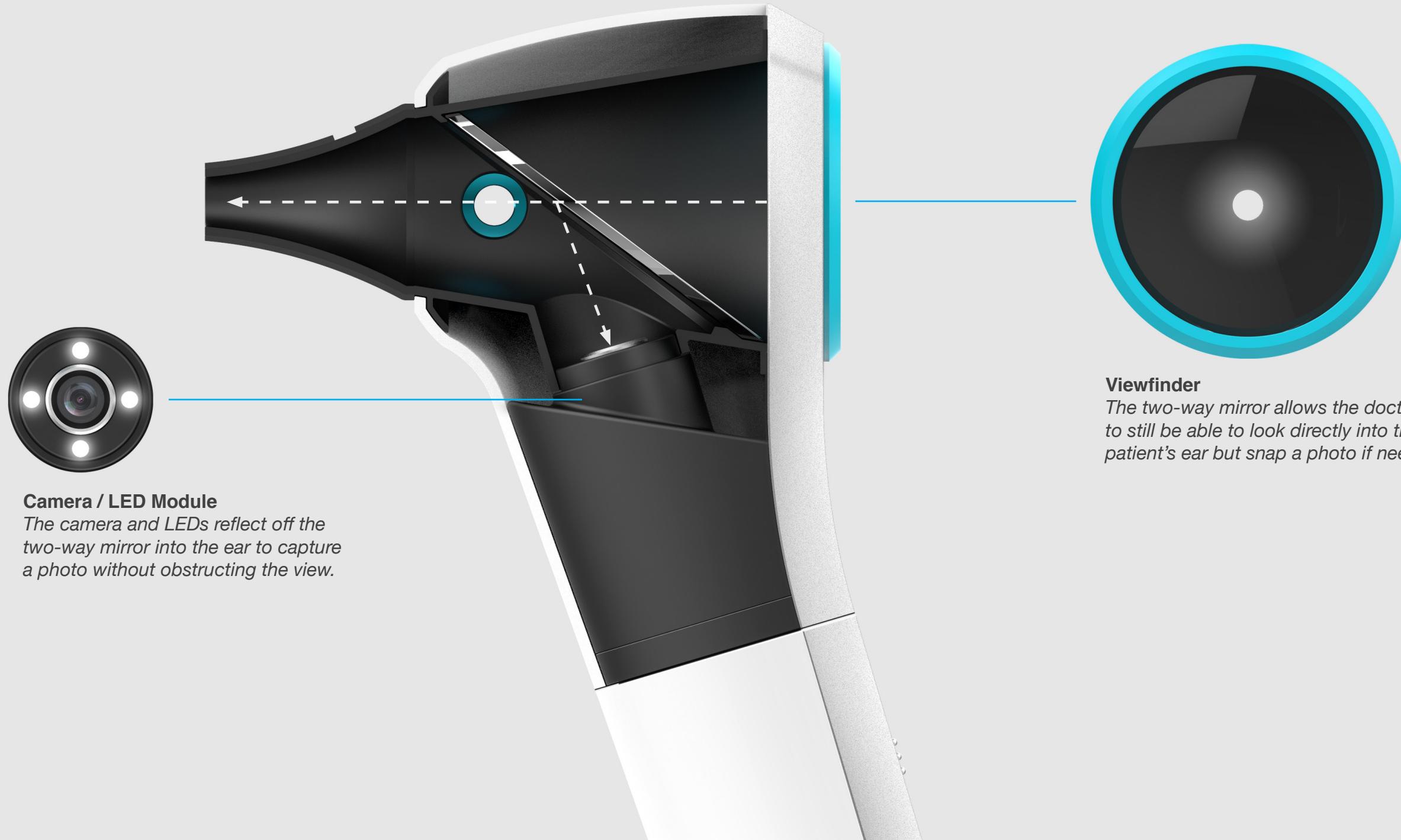
1

### Power On

Slide the power switch up to activate the camera / LED module.



## FINAL DESIGN | DIGITAL OTOSCOPE



## FINAL DESIGN | SUMMARY





**Thank you!**