

Making Hearing Happen

*Lessons learned from making eye care
affordable and accessible-applied to hearing*

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Sound World Solutions

***This presentation is about
businesses that use technology,
price and quality to change the
competitive landscape in favor
of the consumer***

Overview

Creating a Different Economic Paradigm

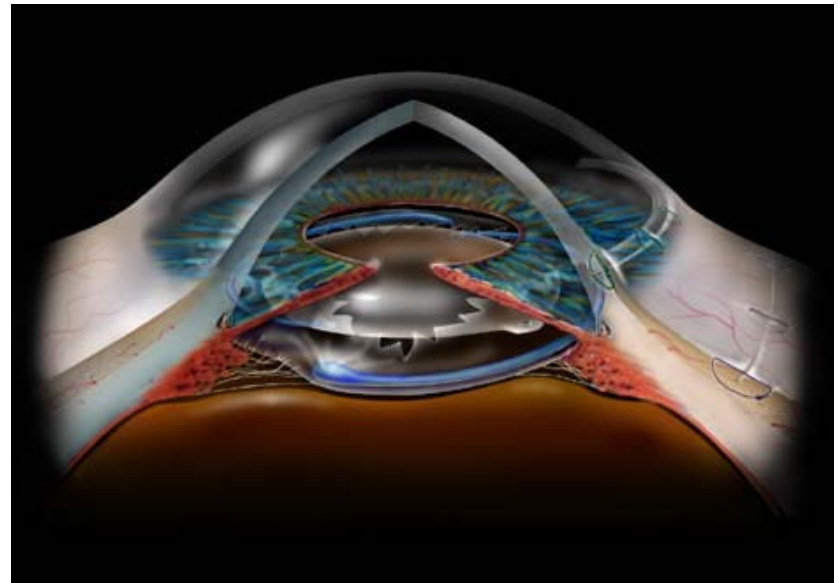
- Examples of sustainable eye care that serve all economic strata, where free is the lowest price
- The interplay of affordable technology combined with cost-effective and efficient service delivery
- Social enterprise business models with the right control and governance to ensure fidelity to social mission (pricing for affordability and accessibility)
- How lessons in eye care are applied to hearing

Applying Lessons Learned from Eye Care

- Self financing for all economic strata
- Tiered pricing where free is the lowest price
- Maximize distribution while attaining profitability vs. ROI or grants
- Choice to use profit and production capacity to serve
- Use pricing to change the competitive landscape in favor of the consumer
- Control and governance to insure fidelity to social mission
- Propinquity: reducing time between detection, treatment and client satisfaction
- Eco-systems approach: demystify manufacturing and distribution costs and remove non-value margin in supply chain to insure affordability to all in need
- Control of technology, manufacturing, distribution and pricing to insure affordable pricing

Global Blindness

- 285 million people are visually impaired
- Of these, 39 million are blind
- 246 million have moderate to severe visual impairment
- Cataract is the main cause of blindness

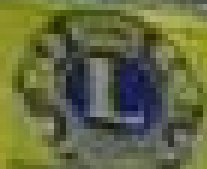


Innovative Models in Eye Care

- Over 300 eye care programs are self financing and providing 1M surgeries a year to low income
- Ecosystems approach for taking into account entire supply chain
 - Training, service delivery, pricing, competitive forces, low priced consumables

Aravind Patient Care 2012: **371,000 surgeries & 3.1M Patients**

- **51% surgeries were provided for free (24%) or below cost (26%)**
- **Generated a margin of 33% even after internally subsidizing eye care services .**
- **Over 300 eye care programs in the developing world are now self-financing while serving all economic strata, especially the poor.**



NO. 324/92

FREE EYE CAMP

Organised by:

Lions Club of Erode Fort

DIST. 324 92

LIONS CLUBS INTERNATIONAL FOUNDATION

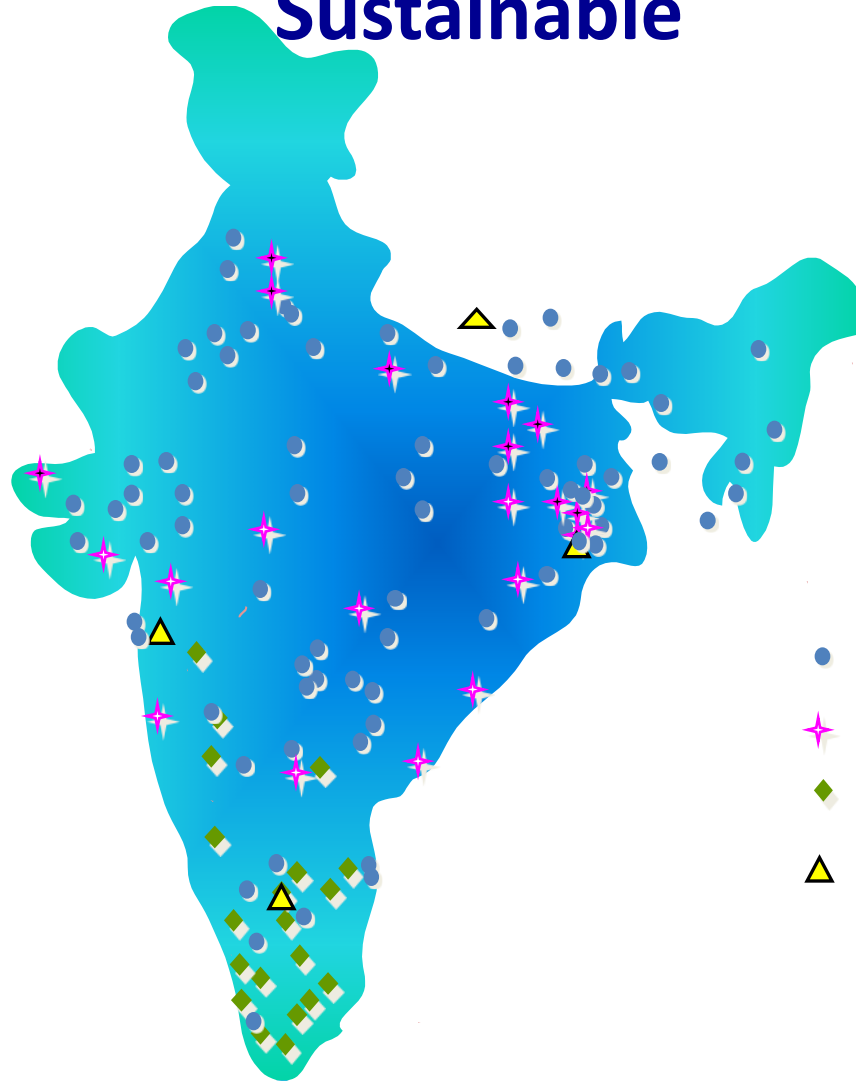


STRICTLY PRIVATE

Aravind Has Helped 285 Eye Hospitals Become Sustainable

Other Countries:

Bulgaria
Bolivia
Botswana
Cambodia
China
Egypt
Indonesia
Kenya
Malawi
Maldives
Nepal
Zambia
Zimbabwe
Guatemala
El Salvador
Tanzania
Tibet
Nigeria
Sri Lanka



● Lions (SF)	- 112
★ Sight Savers	- 53
◆ CBM	- 21
▲ WHO, ORBIS, IEF, RTS	

Participants: 1148

80% of these eye care programs have become profitable while serving the poor

He Eye System Liaoning, China



- 29,000 surgeries
- 390,000 patients examined
- 33% get surgery for free or below cost.
- Institution still has a profit of 17%

Magrabi Eye Hospital Egypt



Year	Expenditure	Revenue	Profit/loss	Total Cataract Surgery	% Free Cataract surgery	Total All Surgeries	% Free All Surgeries
2005	5,492,345	5,870,038	377,693	4727	49%	6,138	41%
2006	8,026,917	8,373,917	347,000	4260	60%	5,435	51%
2007	10,007,394	10,617,815	610,421	4447	58%	6,208	47%
2008	9,936,205	9,946,984	10,779	6859	41%	9,330	33%
2009	13,349,988	16,611,784	3,261,796	6356	43%	10,147	31%

Lumbini Eye Hospital, Nepal



Surgeries:	47,000
70% pay	\$33
20% pay	\$78
10%	free
Profit	\$222,222

Nepal is one of the 10 poorest countries in the world.

And yet Nepal has found way to serve all with eye care needs and with profit.

Grameen Eye Hospitals



Visualiza : Public and Private Together



Waiting room private



Operating theatre



Waiting room Social

Outpatient Visits	62,845
Surgeries paying	668
Surgeries free/below cost	3,213
% free/below cost	83
Total surgeries	3,881
Ophthalmologists	5
Expenses	16,805,593
Revenue	18,116,960
Profit	1,311,367

Chitrakoot- Sadguru NC

	2011-12
Exams & treatment	411,774
Surgeries	100,691
Surgery free or below cost	86,719
Percent free or below cost	86%
Surplus revenue	8%



**PACIFIC
VISION
FOUNDATION
EYE
INSTITUTE**
San Francisco
USA



Cataract surgery cost: Vancouver VS Aravind

Staff	Vancouver		Aravind		Aravind
	Minutes	Cost	Minutes	Cost	w/ Vancouver costs
OR Booking Clerk	26	13.13	5	0.071	2.52
Intraoperative RN	30	26.54	3	0.043	2.65
Pre/Post-Op RN	30	26.54	2	0.028	1.77
Sedation RN	30	26.54	4	0.057	3.54
Housekeeping	3.5	1.55	2.63	0.037	1.16
CSD Techs	50	24.39	50	0.71	24.39
Surgeon	38.67	342	5	1.25	44.22
Total cost USD		460.68		2.196	80.25

...Aravind's cost advantage is significantly influenced by higher labor productivity (and not just lower labor costs)

Aurolab

Interplay of technology, disruptive pricing and compassion

18M eyes regained sight through affordable Aurolab products

10% global market share of intraocular lenses

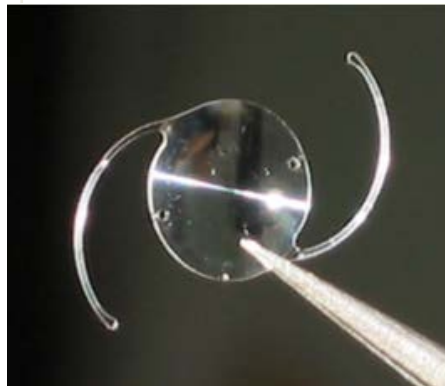
2.2M annual volume sold to 120 countries

CE Mark for most products, FDA for suture.

40% Margin



Average pricing	IOL	Suture	Pharma
Aurolab Price USD	\$3.50	\$1.10	\$1.50
Competitor Price	\$100+	\$10	\$60





Aurolab IOL Manufacturing



Making quality SUTURE affordable



- State of the art manufacturing
- US FDA and EUROPEAN CE MARK CERTIFICATION
- Aurolab price is \$23 per box VS. \$240 of competition



Change Competitive Landscape with Pricing

- **India market growth in cataract surgery after Aurolab 1992-2002:**
 - **2 companies grow to over 10**
 - **Commercial companies compete with Aurolab on price and quality**
 - **Market grows from 800,000 to 6 million cataract surgeries per year**
- **Big Co vs Aurolab /Indian Govt.**
 - **Aurolab forces competitor to reduce pricing for suture from \$240/ box to \$23 using competitive pricing as the weapon**

Sculpting Costs & Margins to fit Serving Others

Figures for 2007

IOL's	Aurolab	Alcon
Price	\$2-30 (\$4)	\$50-400 (\$130)
Volume	1M	7M
Revenue	\$5M	\$920M
Cost of goods	\$2.50	\$32
Manufacturing	\$1	\$1

- If Aurolab had sold as many IOLs as Alcon in 2007, they would have earned \$35M, as opposed to Alcon with \$920M for the same sales volume.
- Manufacturing costs may be the same but margins and distribution are vastly different.

Hearing Challenge: 600M in Need

- WHO estimates 278M people have disabling hearing loss and an additional 340M have mild or moderate loss.
- 7M hearing aids are sold each year
 - Only 10% go to developing world addressing 1% of need
- Numbers have remained constant over the last decade, and will remain so unless the industry experiences significant disruption with regard to pricing, distribution and accessibility to the customer

Market Needs

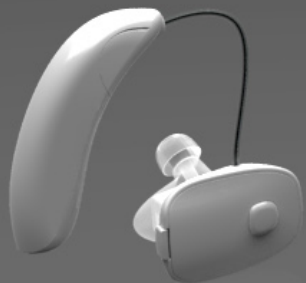
- People in both developing and developed markets need
 - Clarity and Amplification in real-world environments
 - Lower priced hearing solutions
 - Easier access/greater availability
 - Simpler process of buying and fitting the product
 - Real-time adjustment of listening profiles
 - Easier to use, especially with regard to batteries

Sound World Solutions has developed a technology platform capable of meeting all of these needs.

Disclosure

- As a co-founder in Sound World Solutions, I own shares

Affordable Hearing



Attach to ear



2 minute assessment of
Listening Preference
& Programming



User adjustable
According to environment

Amplifier and Hearing Aid

- iPhone, Android, MAC, PC
- Excellent directionality and noise control for both telephone and amplification mode
- Can be configured with and without smartphone /computer
- Directional mic
- In-situ fitting
- Smallest Bluetooth headset in the market.
- Audio streaming
- Released both as personal amplifier (limited output) and hearing aid (max output of 130db and 70db of gain)

CS 50



CS 15



Cutting Edge Technology

- First to have smart phone app controlling device directly with audio streaming without need for intermediate device
- 16 channel device with 24 bit resolution
- Chip is Consumer from consumer Bluetooth market – 1B drives chipset to be better, faster, cheaper; more robust than any hearing aid chip
- Advanced signal processing
 - input compression
 - wide dynamic range compression
 - noise reduction
 - Feedback cancelation
 - multi channel output compression,
 - directionality using silicon microphones which have excellent matching and are robust in difficult environments

Customized fit with included assortment of ear tips

Universal molds made out of proprietary material to reduce feedback and enable fitting for severe loss without the need for a custom mold



Rechargeable batteries included

- Two batteries included
- Up to 9 or 16 hours of life
- Charger works on AC or via USB



Strategy - Developing Markets

- **Sustainable**, profitable business model that enables low cost, low risk rapid start-ups
- Add on business to pre-existing enterprises with market reach
 - doctors offices
 - social enterprise networks
 - Government programs
 - eye care programs
 - Mobile business able to reach beyond existing enterprises, enable entrepreneurial growth and increase access to hearing health
- Vast improvement over charitable events which fit groups of people over a period of days but lack follow on support



“Business in a bag”

Emerging Market Social Enterprises

Converting need into demand

- Develop pricing model to insure affordability and accessibility to all
- Design customer experience & determine how clients will be reached
- Define staff to train and provide training
- Develop outreach program and after sales support
- Business plan with projected costs, pricing, sales volume and revenue
- Making the product accessible to all, where 'free' is lowest price
- Define and fulfill regulatory requirements, if any

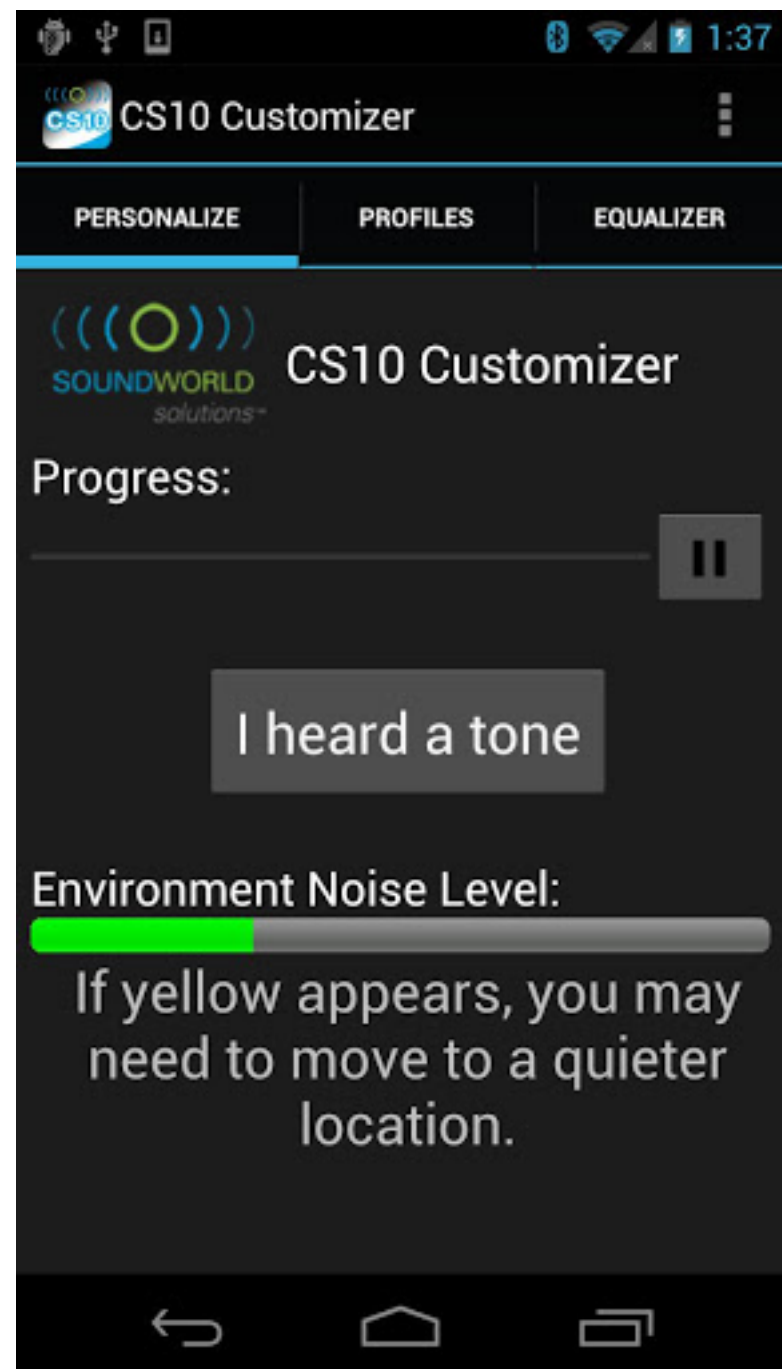
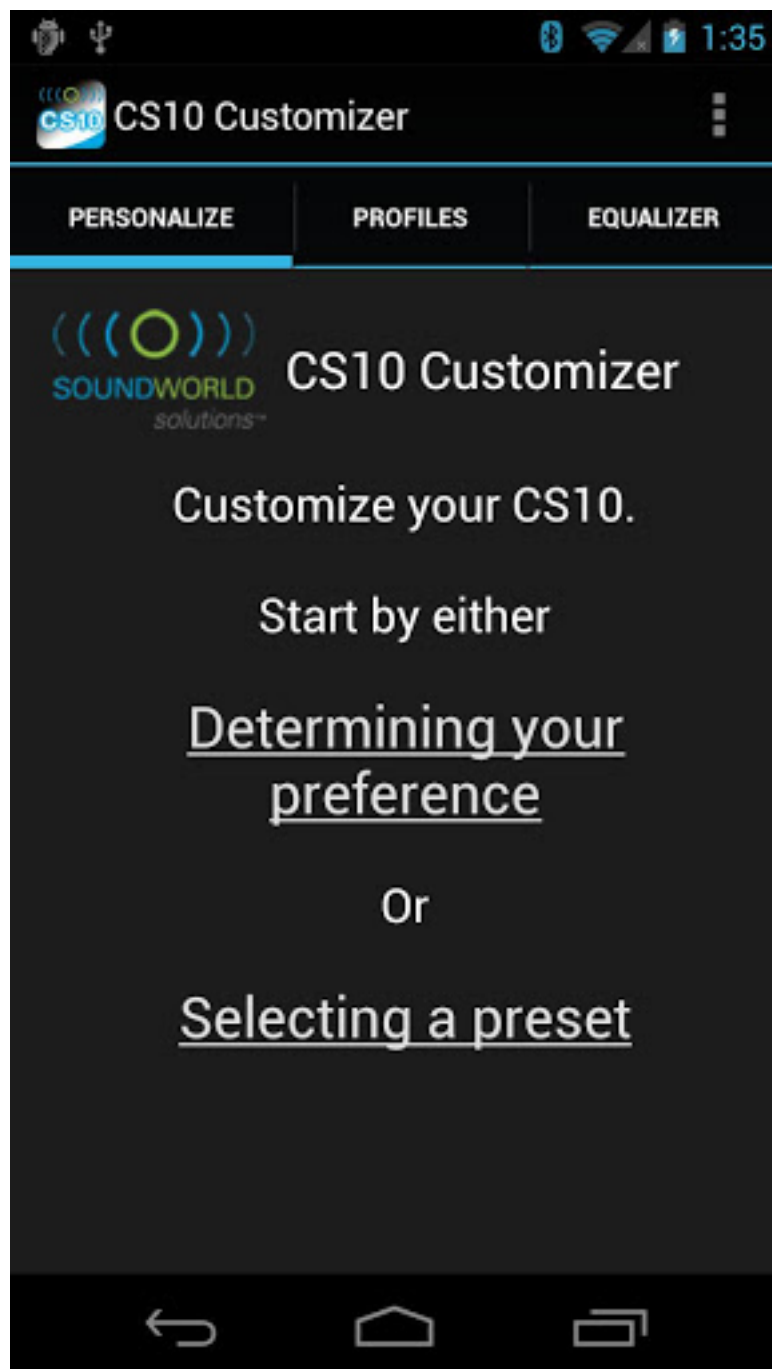
Developing Country Value Proposition

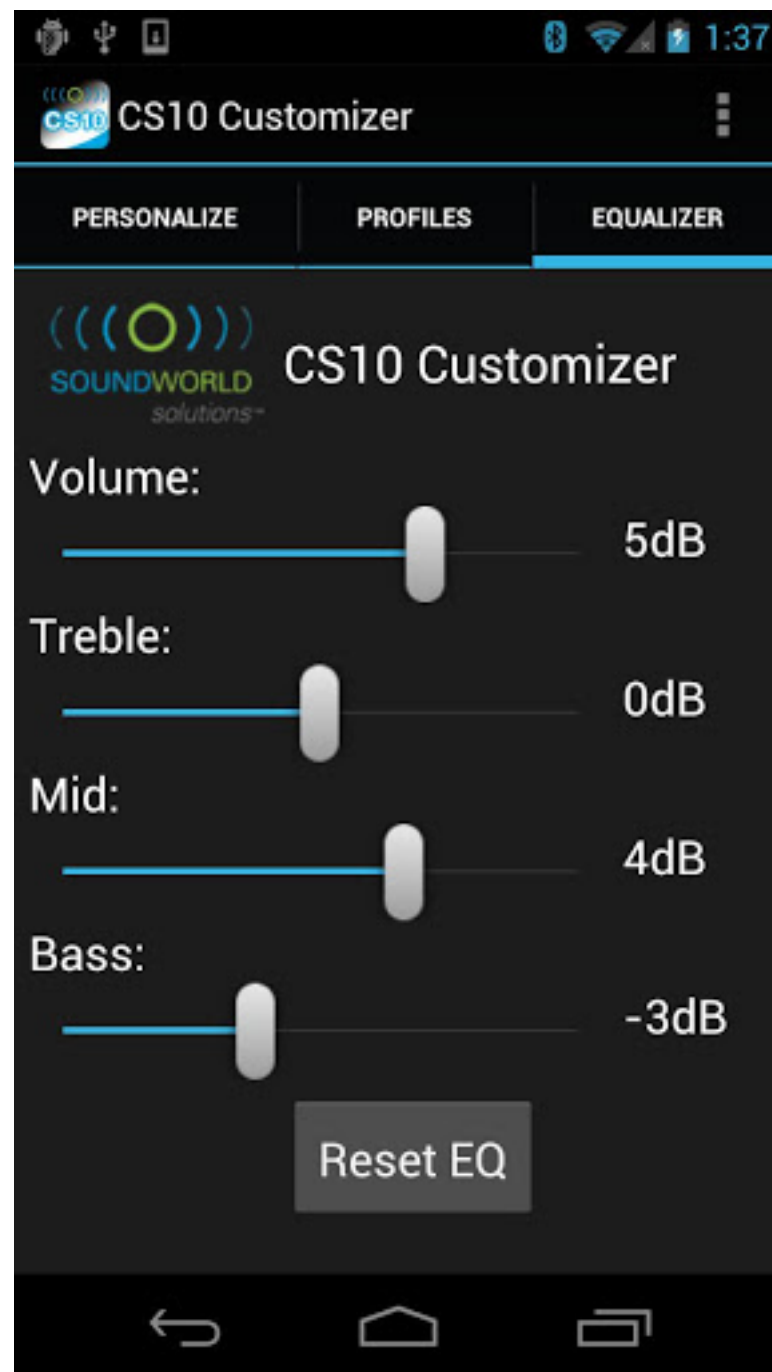
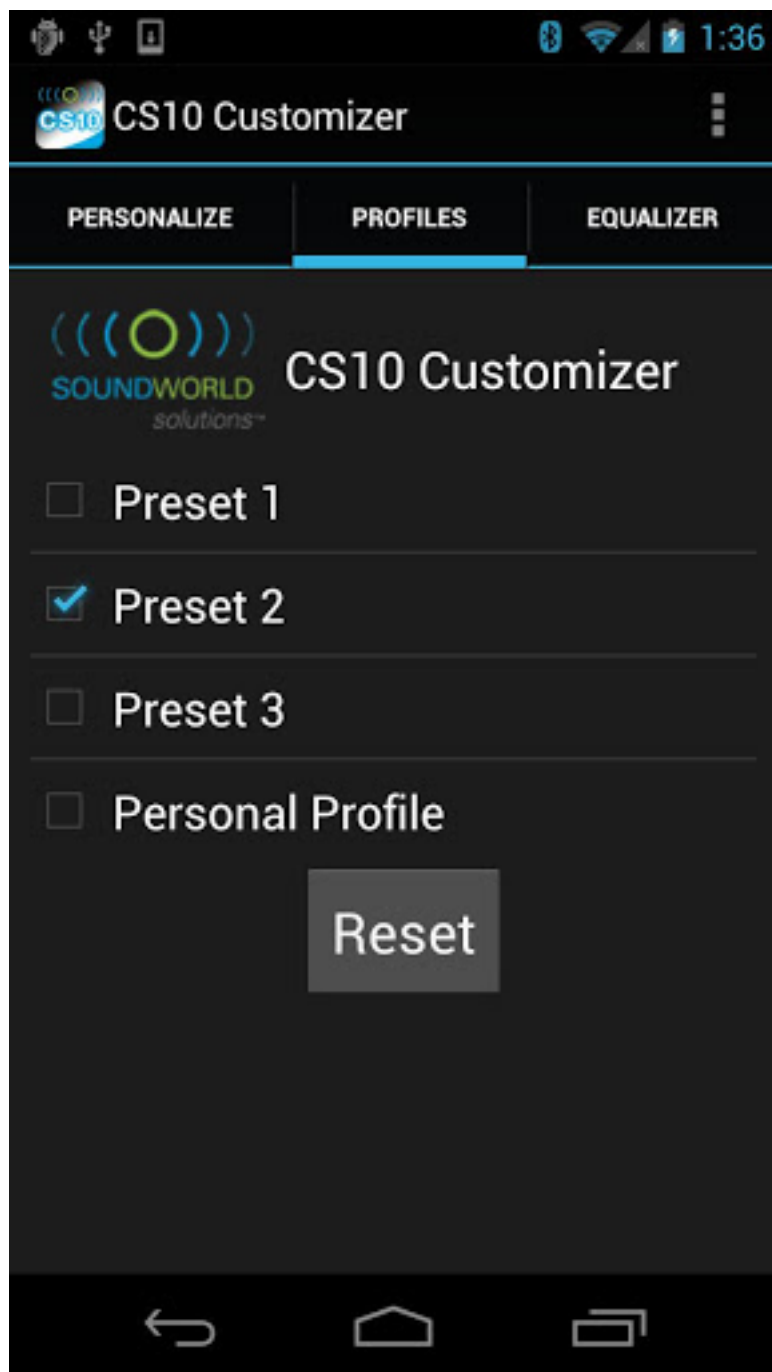
Attributes	Sound World Solutions	Traditional Hearing Solutions
Retail Price	\$80-\$300	\$1,700 - \$3,000
Battery cost/year	Rechargeable, \$12/year	Not rechargeable, \$52/year
Fitting equipment	\$350	\$25,000
Training time	1 week	2-4 years
Fitting time	Half hour; 1 visit	2 hours; 3+ weeks
Locations	Mobile	Hours away

- Fitting hearing instruments where we are not making clinical diagnosis
- Business model that makes hearing affordable and accessible to all

Reaching the Underserved in the US

- Federally Qualified Healthcare Centers
- 638 American Indian clinics
- Latino community organizations and clinics
- County Public Health Departments
- Home Health Care Agencies'
- ***Reduce costs and focus on fee affordable fee for service/product instead of reimbursement***





Changing the Competitive Landscape with Pricing as the Lever

- It's not just about reducing costs, it's about changing the entire business model in order to reduce price.
- Discover and analyze "non-value added margin", and create systems that eliminate non-value margin.
- Understand political environment in which the status quo of high pricing, lack of competition and transparency can live and thrive -- in order to formulate disruptive interventions.
- Use price as the weapon to change the competitive landscape in a given industry in favor of the consumer.