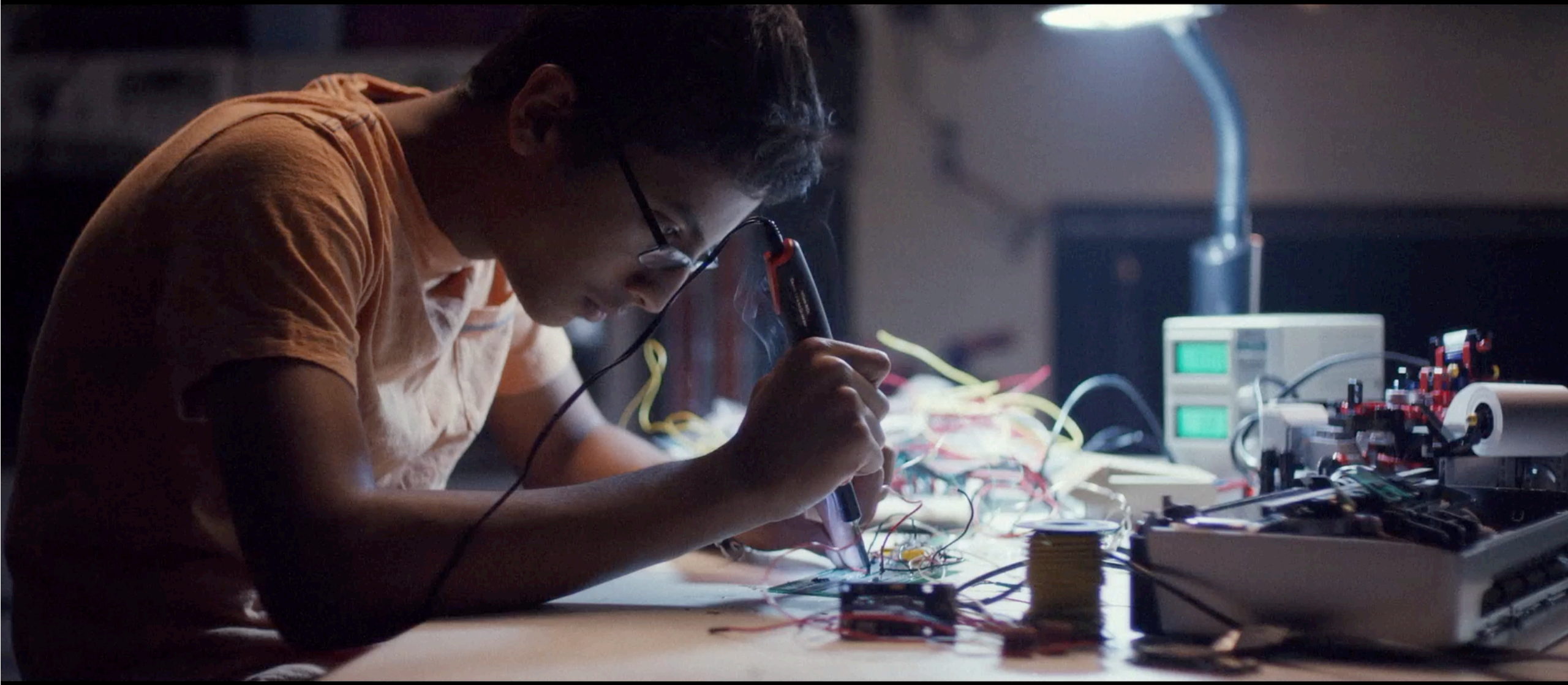
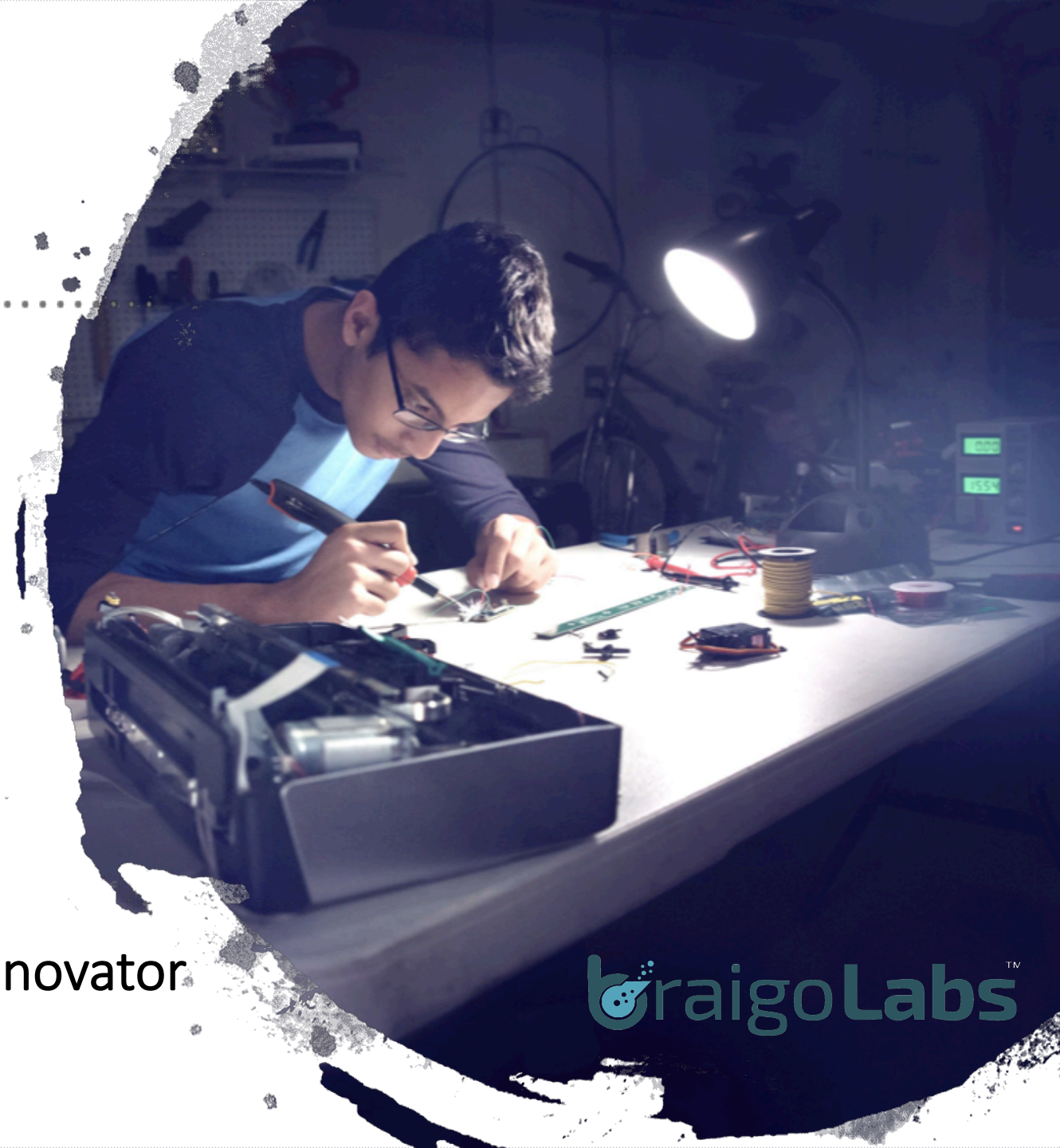


You are fortunate
but for the visually impaired it’s a dark world

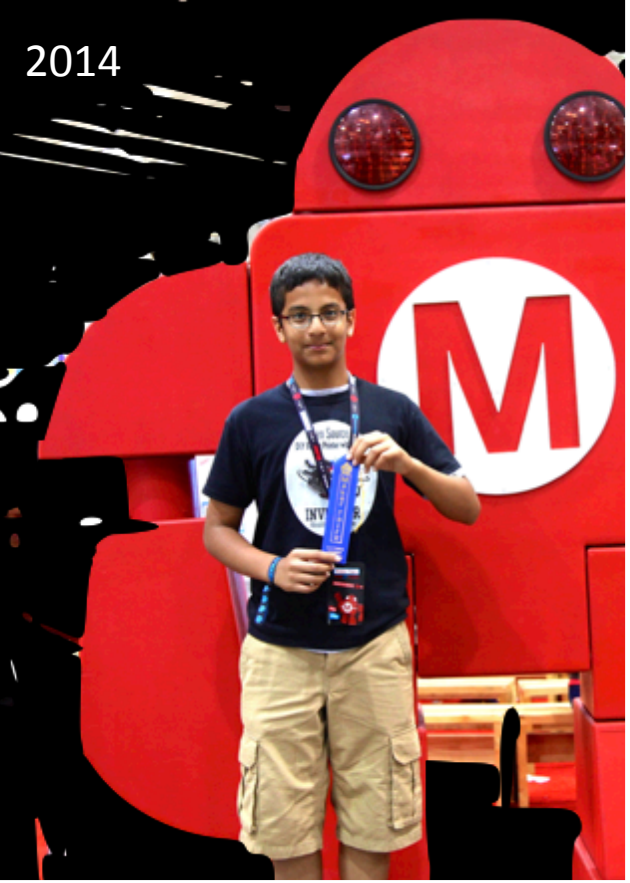
Shubham Banerjee

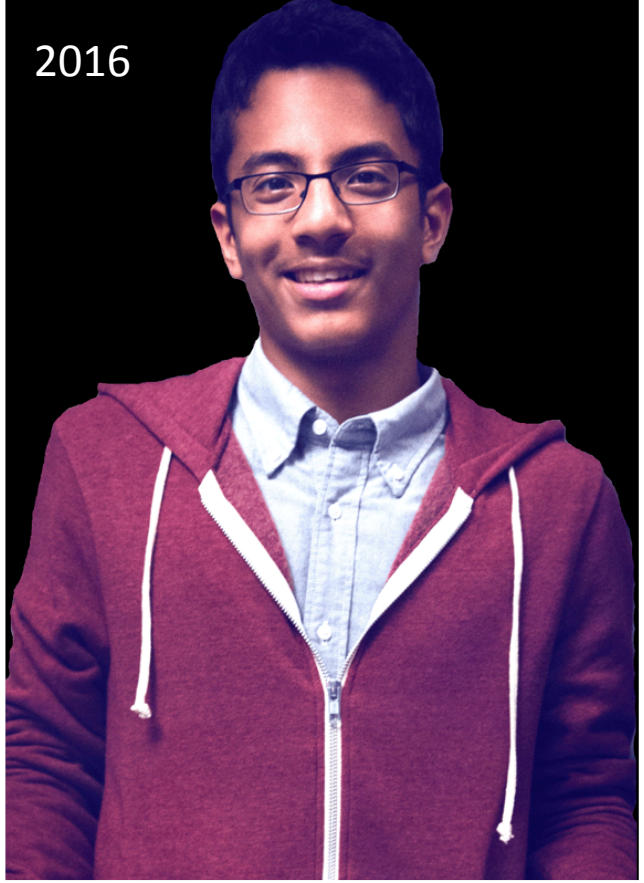
IXDA
interaction 19



Innovating for good:
My experiments as a 12-year old innovator

braigoLabs™





My Journey of discovery started in 2014 @ Age 12

A ”kid” had to step in because all of us failed to be an inclusive society

Now @ Age 17

STUDENT BY PROFESSION | INNOVATOR BY CHANCE | ENTREPRENEUR BY CHOICE

COMPANY

TRAVEL

COMMITMENTS

HIGH SCHOOL SENIOR

VARSITY QB

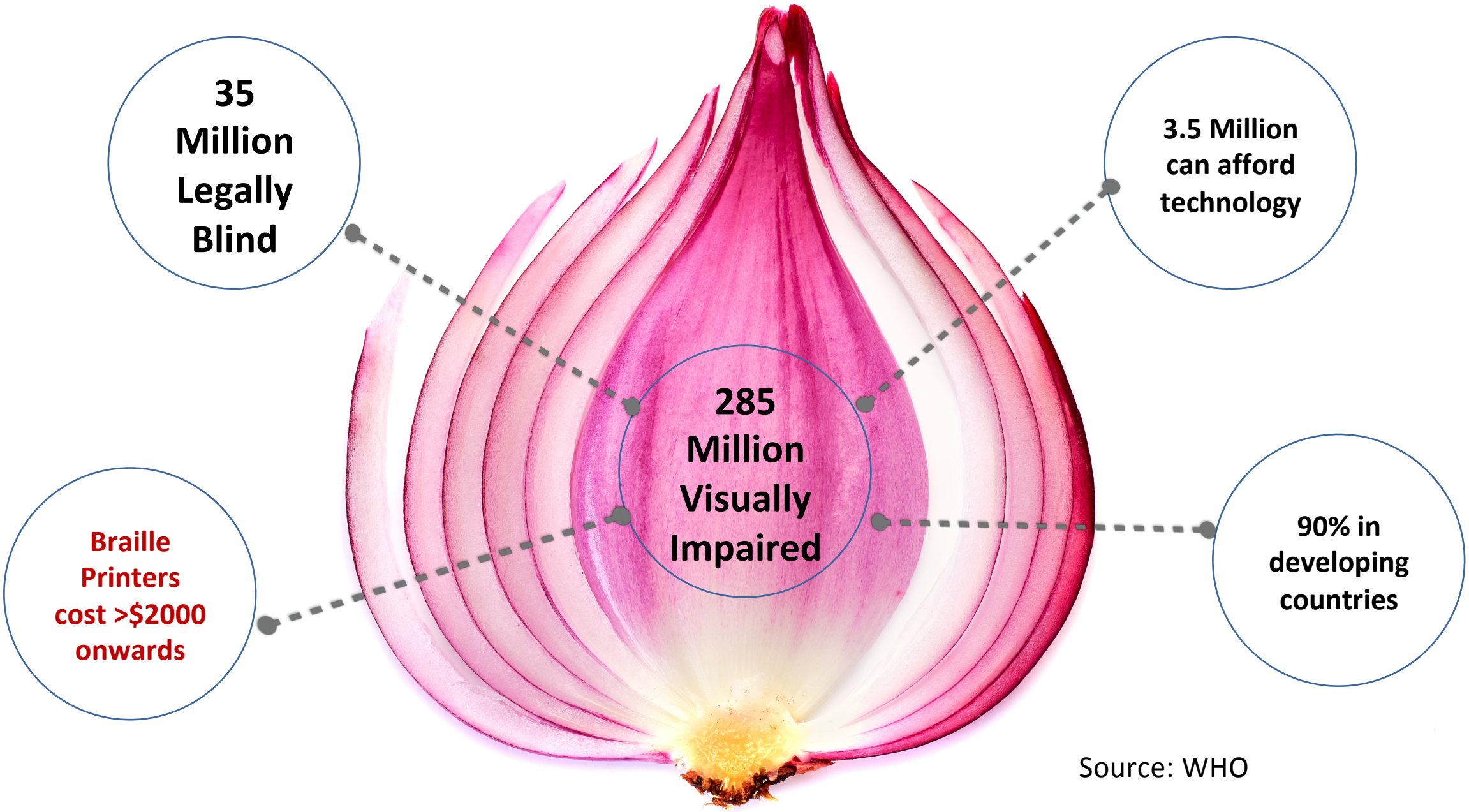
STUDIES , STUDIES

COLLEGE APPLICANT

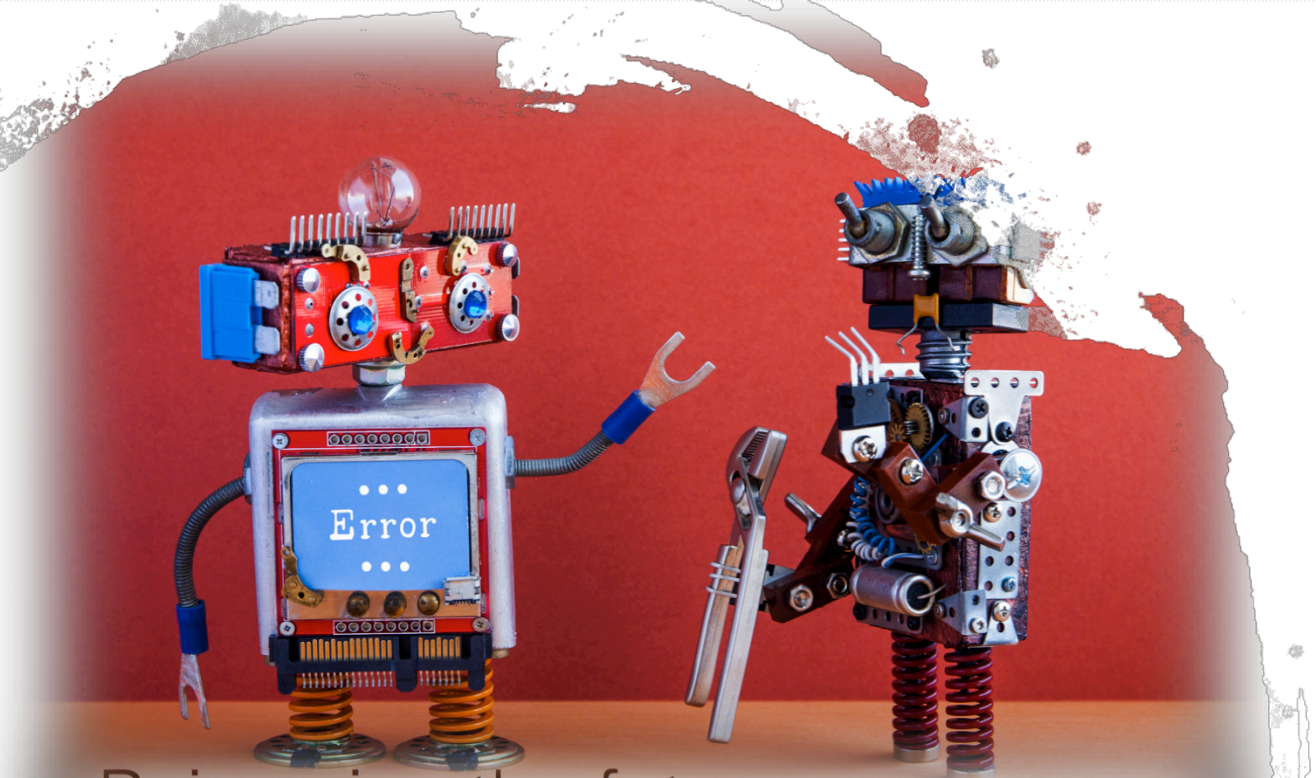
My journey started with a question to my parents “How do Blind People Read?” and their response

-Year 2013 - December

I opened a box that was enlightening and at the same time saddening


35 Million Legally Blind
3.5 Million can afford technology
285 Million Visually Impaired
Braille Printers cost >$2000 onwards
90% in developing countries

Source: WHO

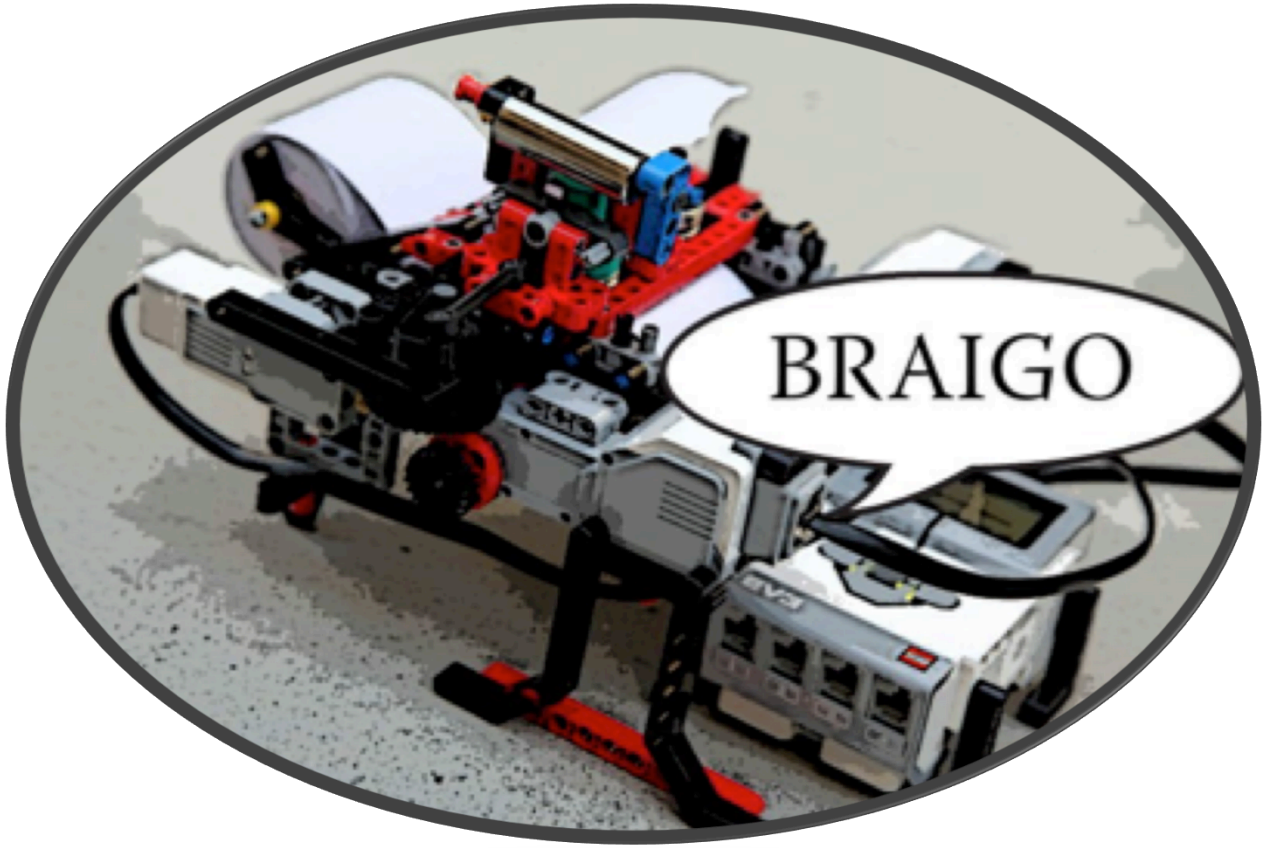


Reimagine the future

Innovation for every child

We simply failed to be INCLUSIVE in our innovation approach

And it all started with a smart toy



- Lego was fun for me
- I could tinker at home
- Now I know the concept works after one month of effort

Why are Braille Printers so costly?

BRAIGO 1.0 – “Braille” + “Lego”

Jan 2014

Braigo one pager concept

What you need to build Braigo

$349

LEGO mindstorms EV3

+

$9 +

$5

+

$2

+

A PC/Mac to program BRAIGO

Braille Concept

The brail language comprises of 6 dots - 2 x 3

The BRAIGO printer is positioned to print in 3x2 format

for example

= A in English vertically

= A in English horizontally

when you print - the pin makes a hole from the top of the paper so the Letter A horizontally has to be printed as a mirror image from top

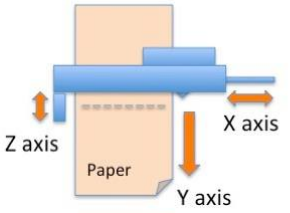
= A in English in BRAIGO

At the end of this presentation you will have reference for all the letters

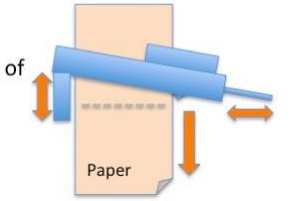
A	I	Q	Y	4
B	J	R	Z	5
C	K	S		6
D	L	T	#	7
E	M	U	0	8
F	N	V	I	9
G	O	W	2	
H	P	X	3	

Braille Dots

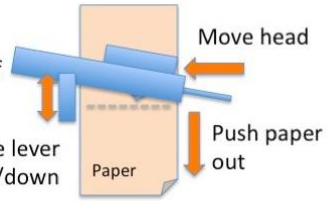
Design of movements



Movements of the head or paper



Punching of holes



Make: http://makezine.com/projects/braigo-a-diy-braille-printer-with-lego/

Opened Sourced it

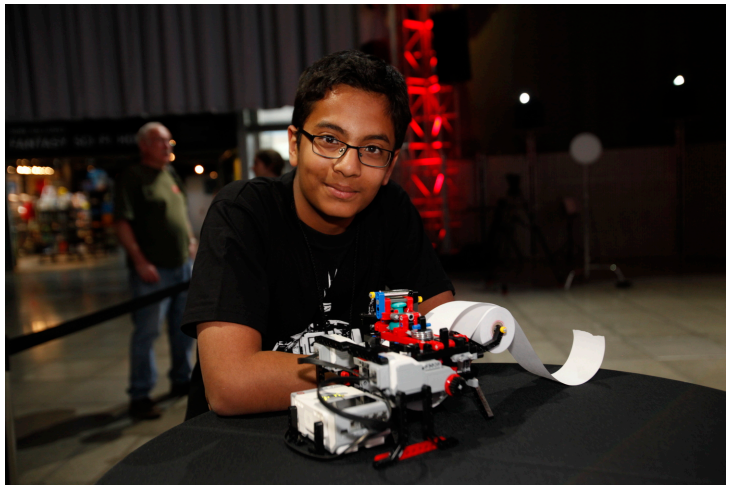
Life as I knew it, changed – not only for me but my family

First ever White House Maker Fair hosted by President Barak Obama in June 2014

Lego Mindstorms Maker Team – They Treat me so well and make me feel that I am one of their own

Meeting Inspirational People
Dale Daugherty – The founder of Maker Fair
Soren Torp Laursen – Lego President
And of-course Bill Nye (The Science Guy)

Opened up a new idea #BotsforGood



Many loved the idea that I tried to build something that will help someone else

Campus Party™

HUFF POST
YAHOO! NEWS
HET BELANG VAN LIMBURG
LEGO
CBS THIS MORNING
CNN
India Abroad
JOURNAL
npr
Maker Faire
abc
NBC BAY AREA
THE QUEEN LATIFAH SHOW
BBC WORLD SERVICE
boingboing
msnbc
FAST COMPANY
engadget
NY DAILY NEWS
BUSINESS INSIDER
c|net
CBC RADIO-CANADA
THE WALL STREET JOURNAL
GIGAOM
SLASHGEAR
LIVE SCIENCE
NBC NEWS
mnn mother nature network
SFGate San Francisco Chronicle
GEEK
GIZMODO
GAWKER
DIGITAL JOURNAL
SUNNEWS NETWORK

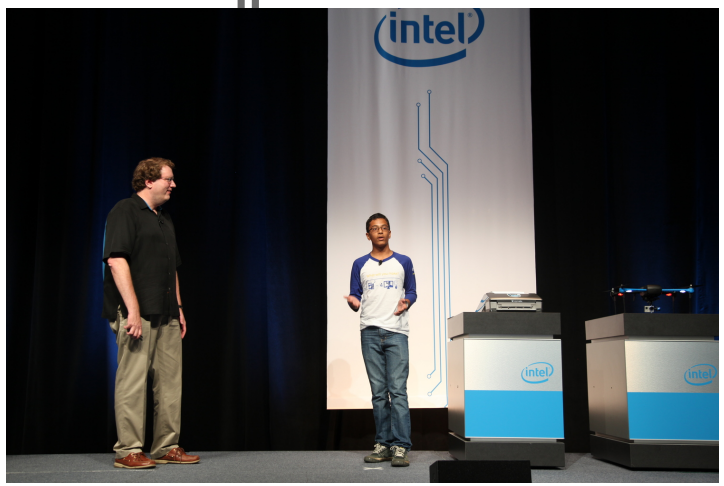
I started something unique, but I can’t stop now

My Dad became my angel investor. I needed money, I told him to take it from my college fund. ***Well he took it out from his retirement fund.***

September 2014

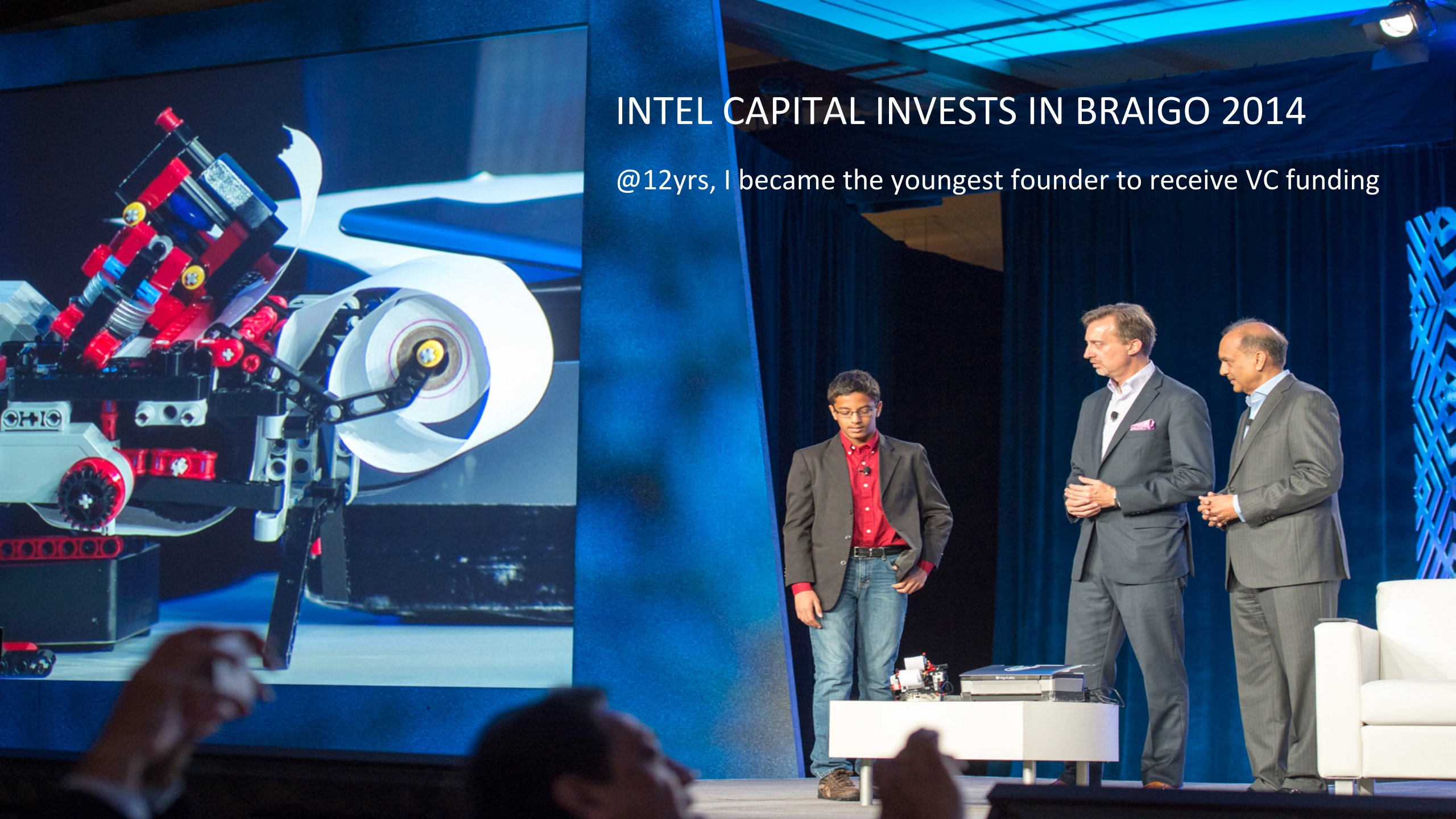
A new kind of Braille Printer @IDF 2014

- Almost Silent
- Low Cost
- On Chip conversion of Braille – No extra Software needed
- Portable
- Connected Printer



INTEL CAPITAL INVESTS IN BRAIGO 2014

@12yrs, I became the youngest founder to receive VC funding



Birth of Braigo 2.0

V1.0

MARCH 2014

V2.0

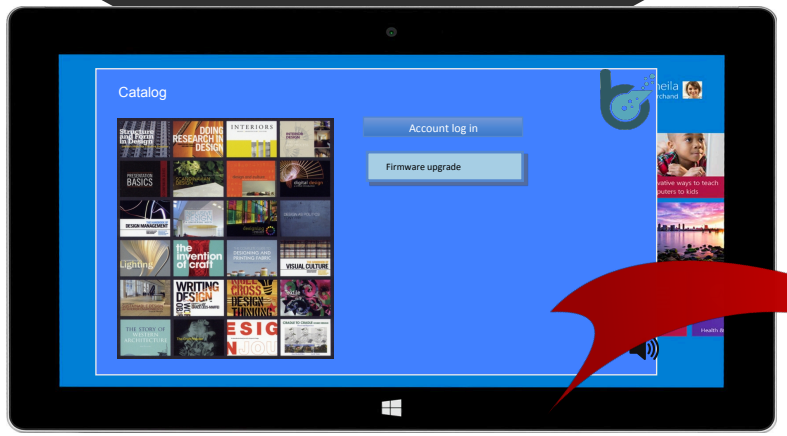
SEPT 2014

Campus Party™

SW

FEB 2015

Vision



Braigo Content Cloud

Content Consumption

Mobility

Continuous Innovation

siliconbeat

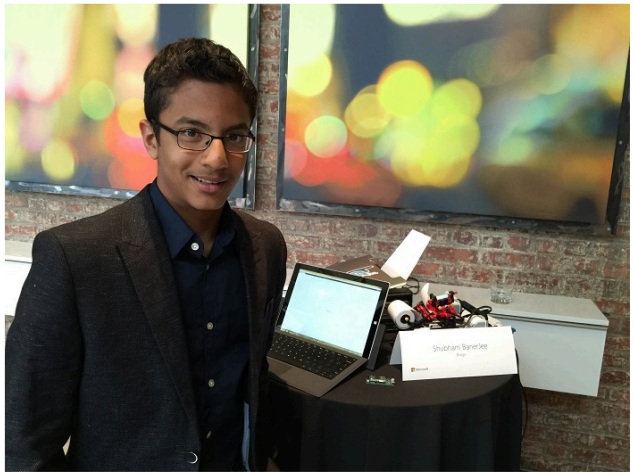
The tech blog of The Mercury News | Home to Good Morning Silicon Valley

SILICONVALLEY.COM
TWITTER
FACEBOOK
GOOGLE+
RSS

Social | Web | Mobile | Cloud | Gadgets | Cleantech | VC | Data | Games | Policy | Media

13-year-old Santa Clara entrepreneur joins with Microsoft

By Heather Somerville / May 18, 2015 at 12:29 PM



One of the biggest tech companies is getting behind one of the youngest tech entrepreneurs.

Microsoft has partnered with Santa Clara eighth-grader Shubham Banerjee to help the

TC

Startups
Apps
Gadgets
Events
Videos
Podcasts
—
Crunchbase
Advertise
More

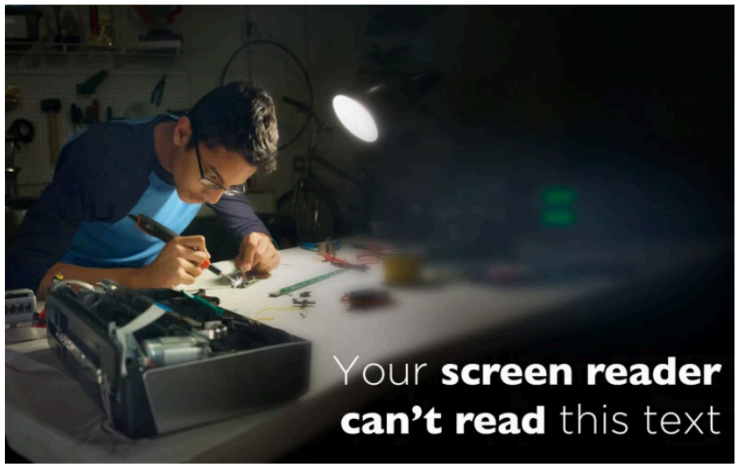
Search

Facebook
Apple
Fundings & Exits
Cybersecurity 101

Braigo launches web app to help blind people parse text on images

Haje Jan Kamps 2 years ago

Comment

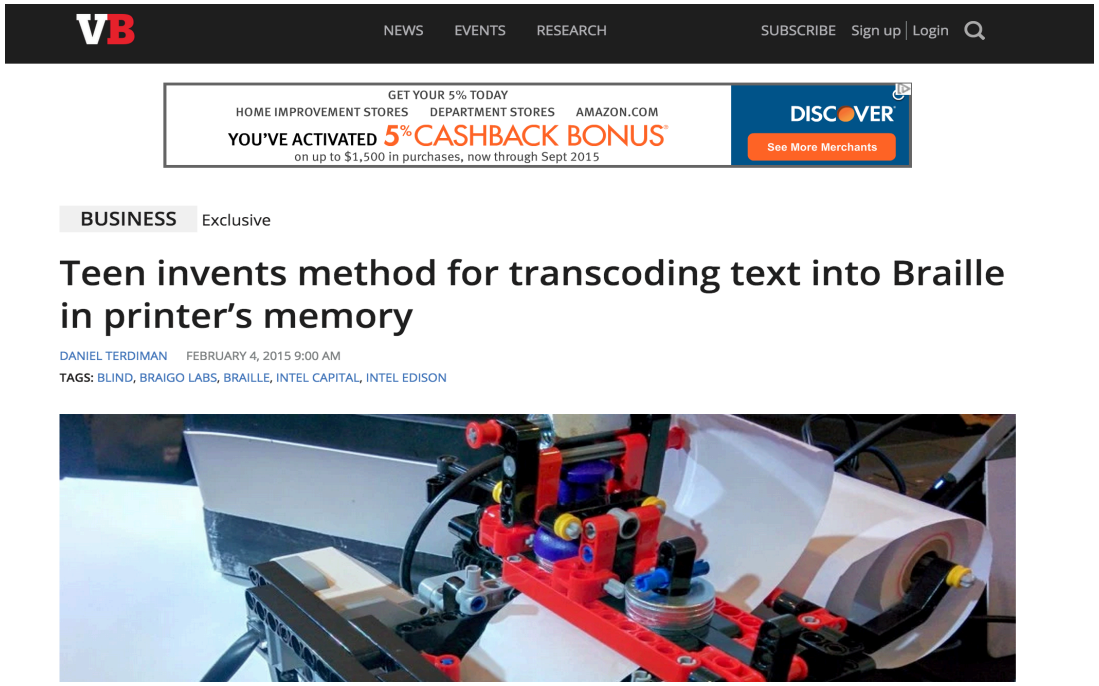


The internet is all about sharing information, but a lot of the information shared assumes that its users are able to rely on their senses to consume said information.

case, and for the more than 285 million people around the

impaired, browsing the 'net can be a less than fruitful

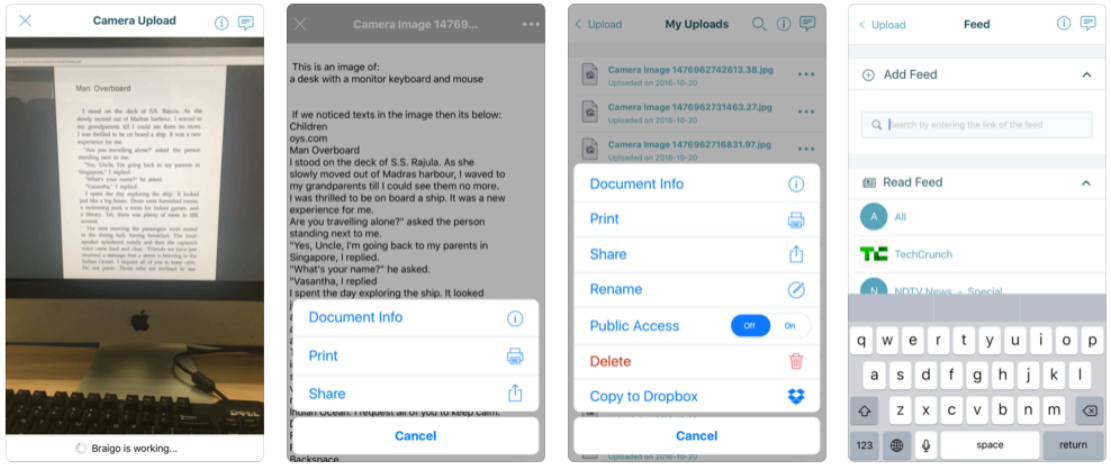
Think Different



Braigo Accessibility App

WEB APP & iOS APP

BRAIGO LABS™ LAUNCHES "BRAIGO ACCESSIBILITY COMPANION" APP FOR IPHONES AND IPADS



My Journey continues, but the real debate started

Soul searching needs to happen

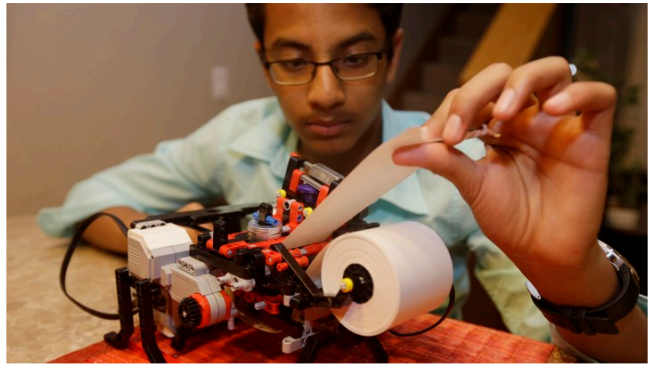
The Atlantic Popular Latest Sections

EDUCATION

Why Did Intel Quit the Science Fair?

It may have found something shinier.

HANA SCHANK OCT 13, 2015



Shubham Banerjee invented a low-cost machine to print Braille and brought it to Maker Faire, a new Intel investment. (MARCIO JOSE SANCHEZ / AP)

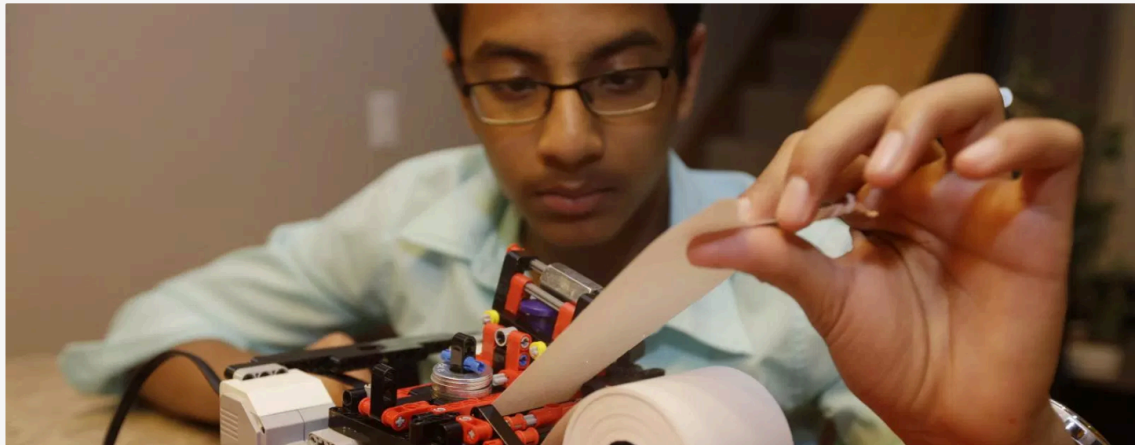
Share Tweet Email

It may have been a summer filled with high-profile breakups, but for educators, perhaps the most shocking split came this September—not in Hollywood, but Silicon Valley—when Intel and the Science Talent Search (STS) announced they were ending their 17-year relationship. Like a jilted lover, the Society for Science & the Public announced it would be seeking new sponsorship for its high-school competition, which has effectively served as the country's

LATEST OBSESSIONS FEATURED QUARTZ EMAILS EDITIONS BECOME A MEMBER

Science fairs aren't actually preparing your kids to do anything

By Jenn Choi · March 24, 2015



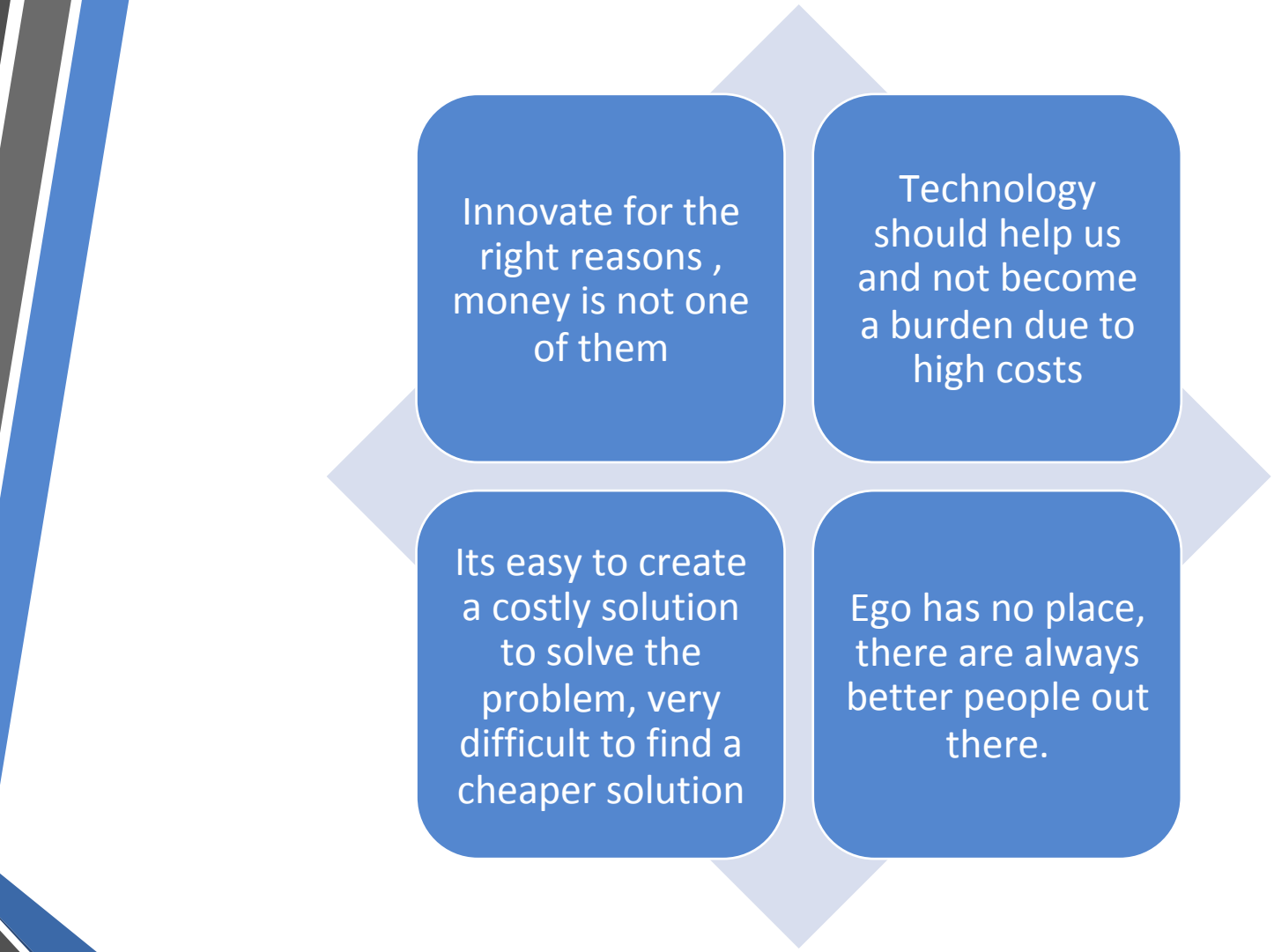
40+ International & national awards and recognitions for Innovation later….

My school life became tougher

Managing my passion and maintaining a regular school life was a challenge.

But, I tired to balance to be a normal teenager and expectations from the outside world.

Key Takeaways



Key Takeaways

Young Innovators are in all parts of the world

Difference is , many are innovating to survive in harsh conditions

CHALLENGE: Can you use the product YOU DESIGN with your eyes closed?

THANK YOU