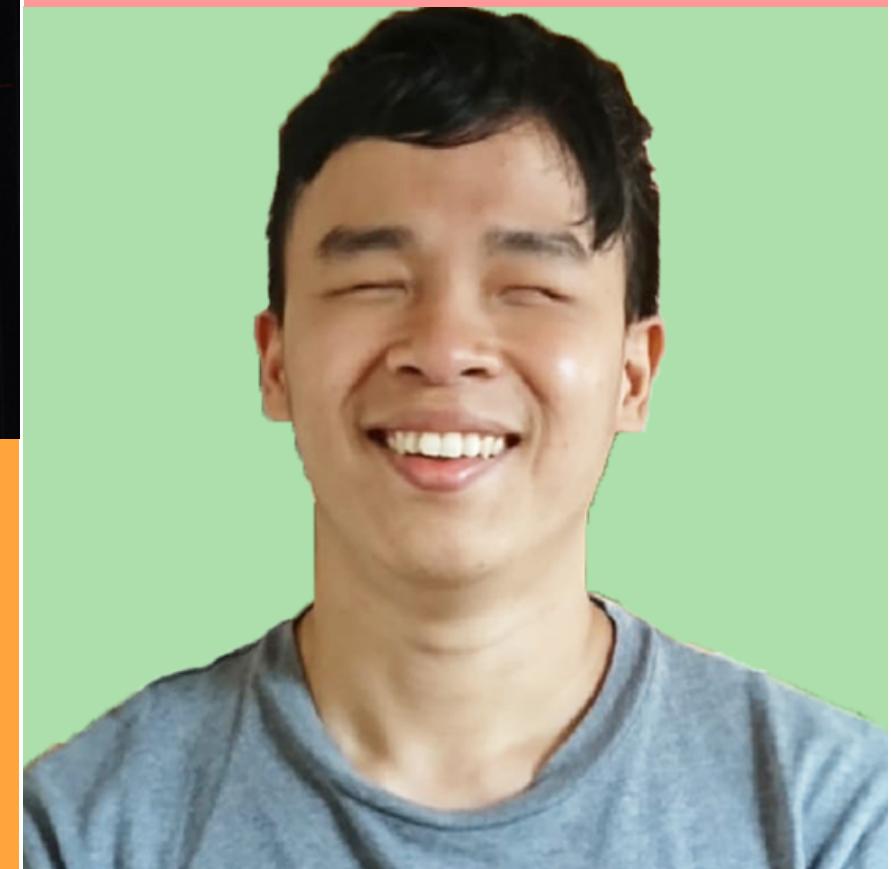
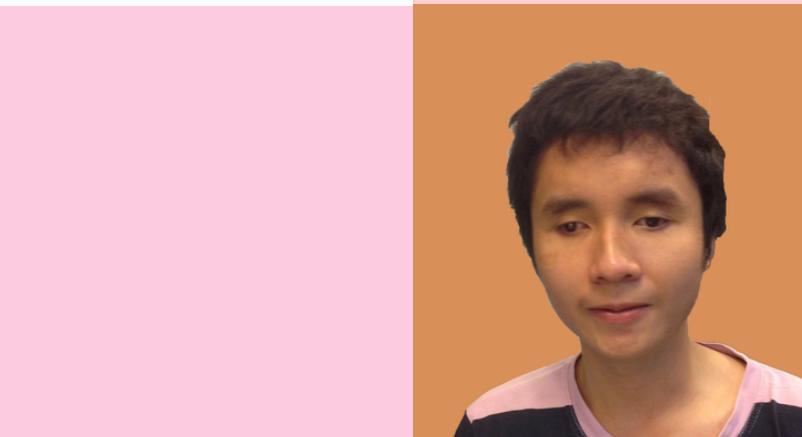
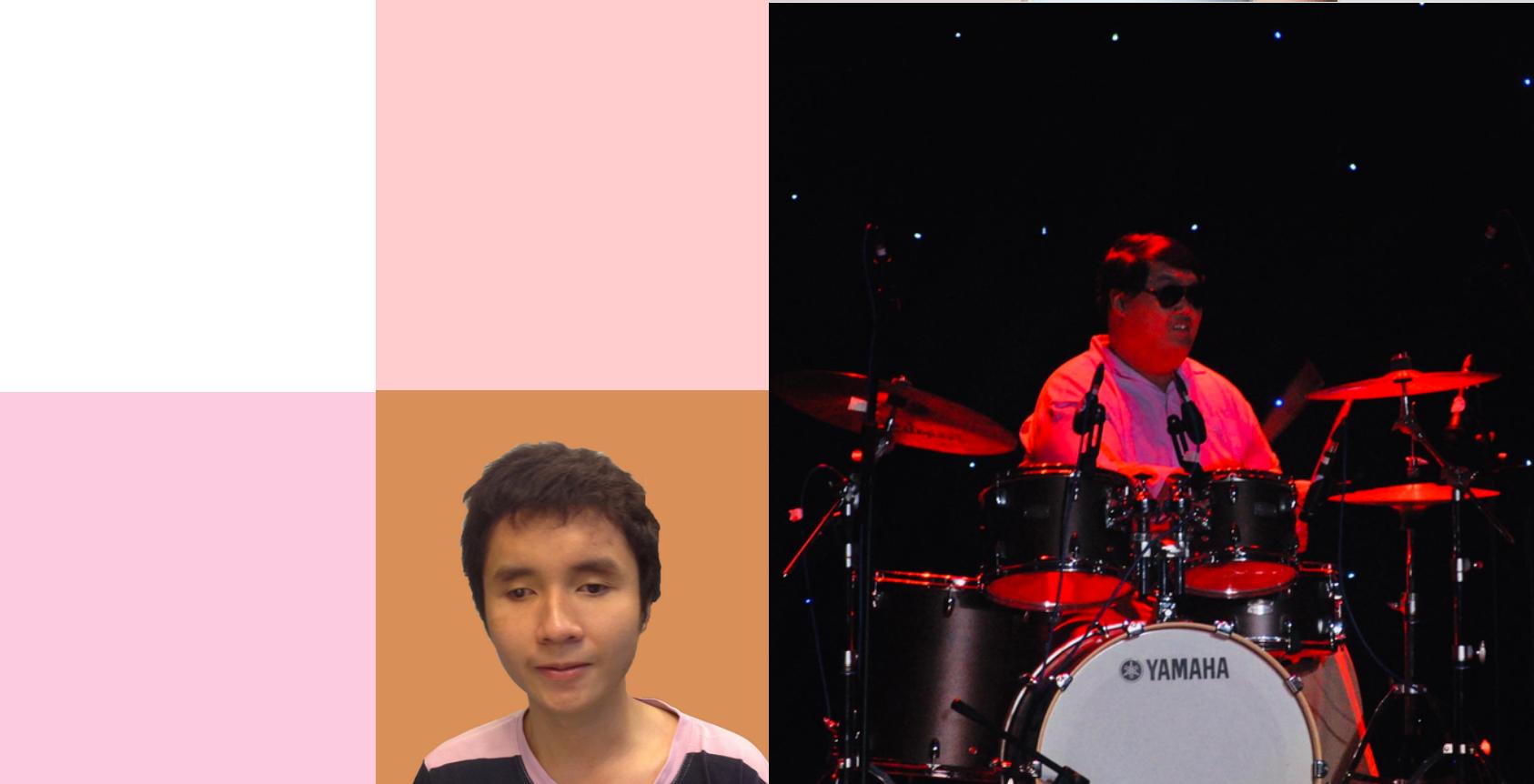


Rayo

Empowering **462 million** people with disabilities
with equal digital accessibility.



PROBLEM

Poor online accessibility causes difficulties for people with disabilities

98%

websites are
inaccessible

59%

more job opportunity loss
compared to non-disabled

462 Mn

underserved people
worldwide

Source: [ICT Solutions & Education](#), 2020

[TechCentral.ie](#), 2022

[World report on disability](#), 2011

Diverse Abilities and Barriers

Visual impairment

Keyboard support
Color combinations
Text alternatives

Physical

Keyboard support
Text alternatives
Navigation

Cognitive, learning & neurological

Navigation & page layout
Texts
Flickering content

Speech & Auditory

Voice-only interactions
Audio content
Texts

SOLUTION



First and only **AI-powered** browser to
make websites accessible.

Unique selling points

INCLUSIVITY

make websites barrier-free for various forms of disabilities.

EXPERIENCE

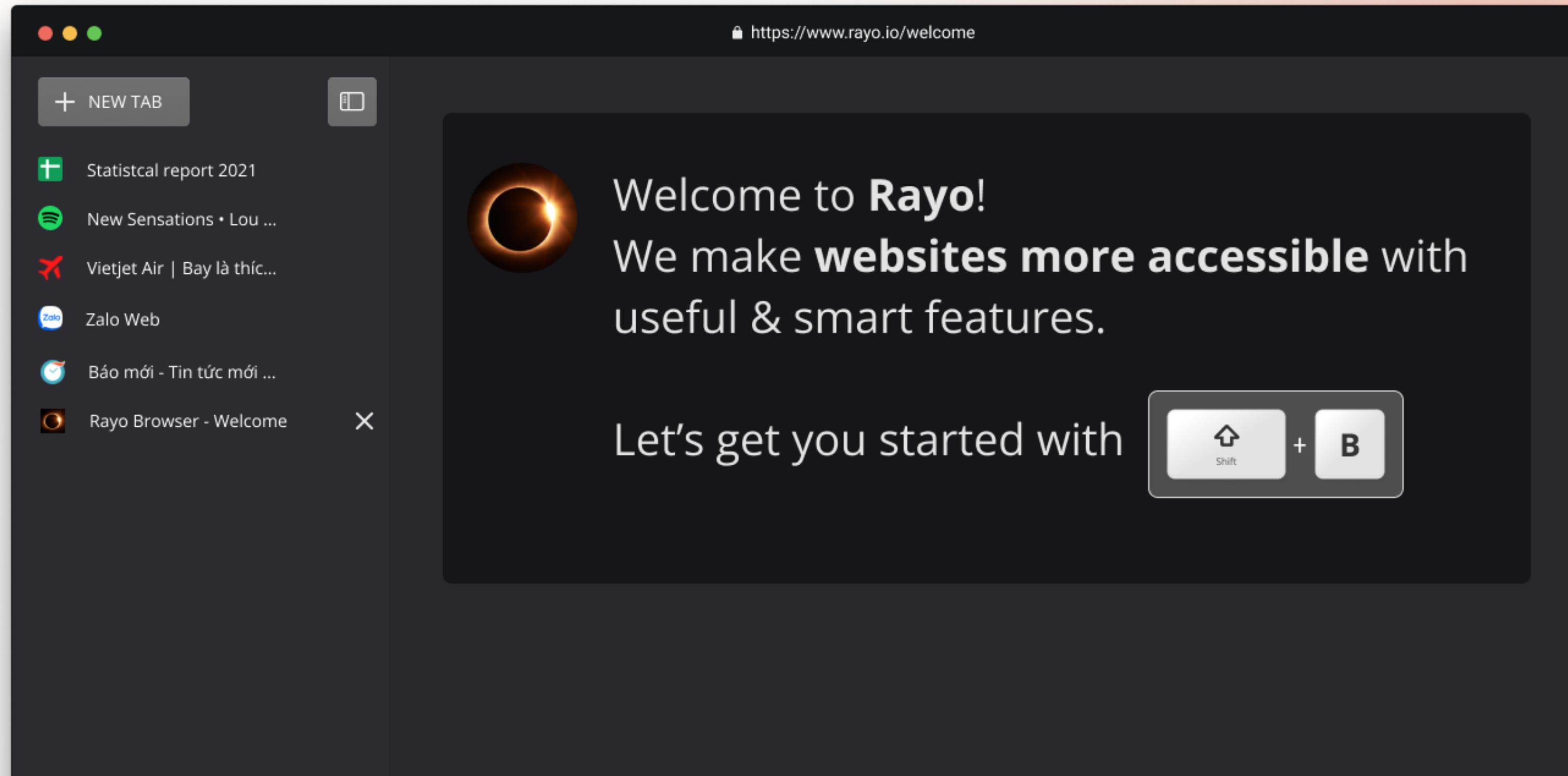
make web browsing hassle-free, fast & fun with AI task assistant.

PERSONALIZATION

designed just for YOU with highly customizable interface.

Keyboard-centric interface

Make it fast & straightforward for people with disabilities



Change web layout & appearance

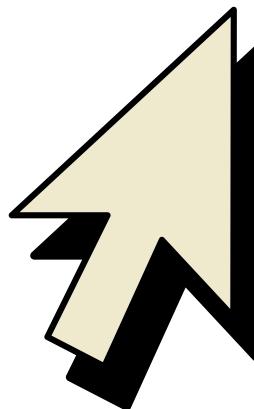
Easier to navigate websites

Change font to Open Dylexic

Increase font size

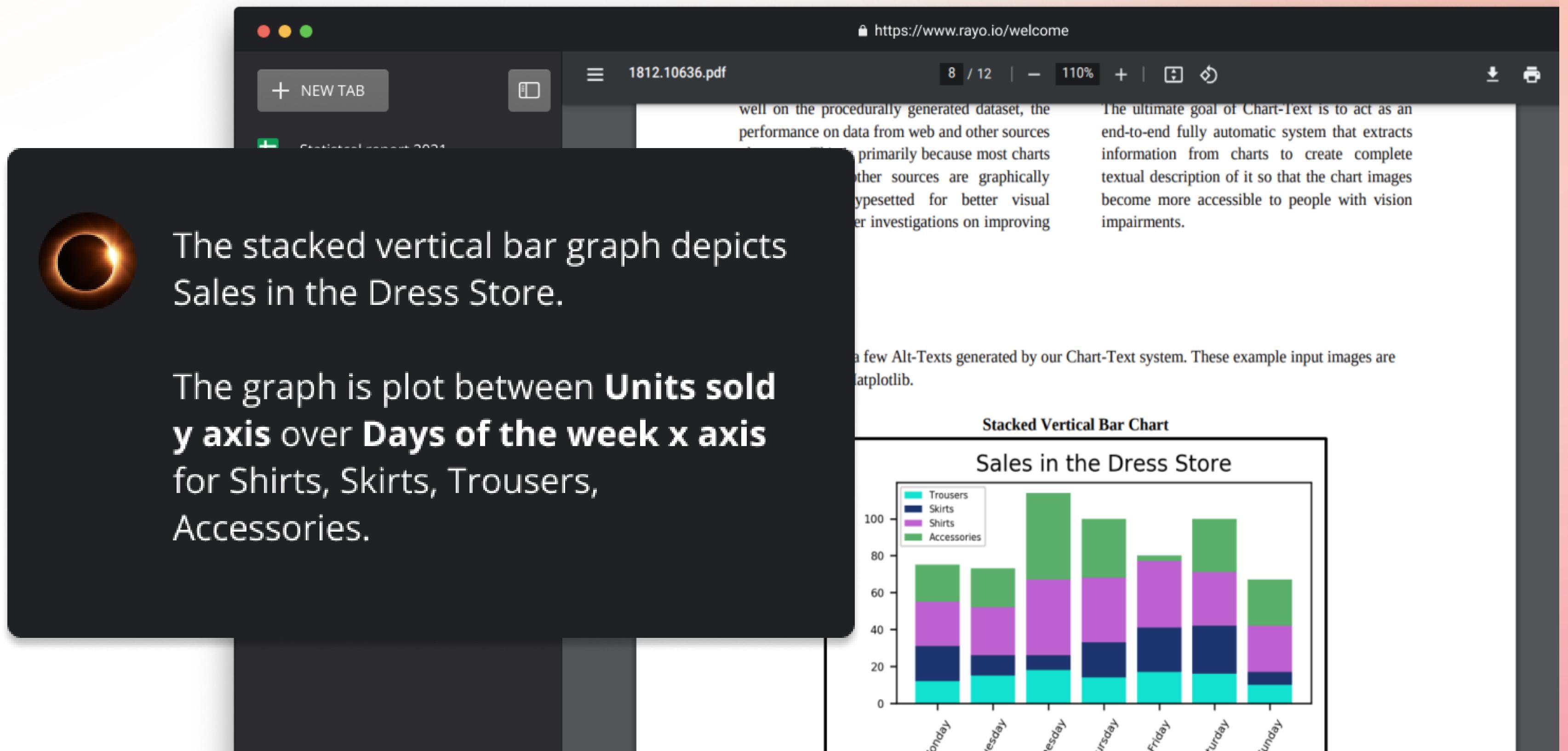
Bigger cursor

Change to monochrome mode



Describe graphics

Read charts, images, fill in missing alt-texts



Smart & helpful

Get jobs done with built-in assistant



What this website is about?



This website allows users to select and book a seat on the flight. There are **40 rows** in total, with seats labeled **A through F**.



Book me seat 14C



Seat 14C is booked ✓

<https://www.rayo.io/welcome>

MY BOOKING CHECK-IN ONLINE

BOOK YOUR SEAT

X

Departure flight

Return flight

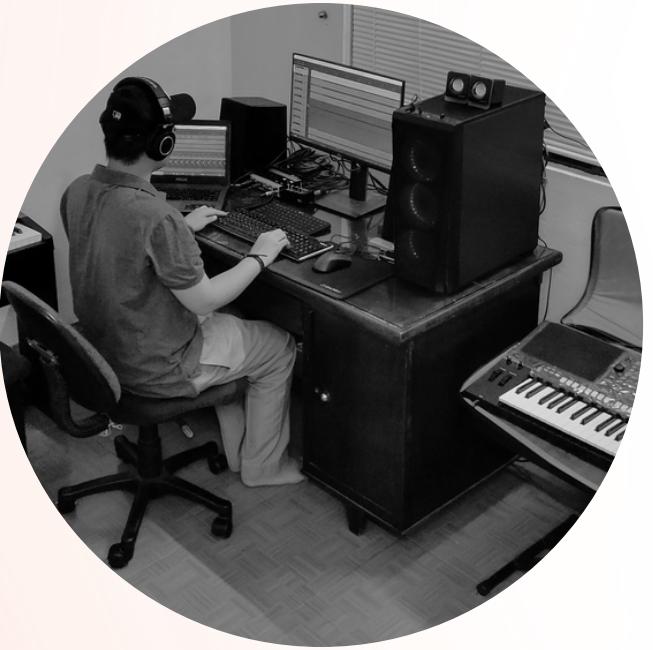
Adult
ASD ASD

SGN - HAN
5 - D

A	B	C	D	E	F
			8		
			9		
			10		
			11		
			12		
			14		
			15		
			16		
			17		
			18		
			19		
			20		
			21		



Hear from our testers



"I've spent on digital products, like **\$200 on Reaper** and **\$60-ish on products to improve UI**. I'm willing to spend, as long as the system is accurate."

Nhat Vo, Blind
Music Producer @Nhat Organ Studio

"I like the summary feature because I don't need to click on the website but understand the content."

Giang Nguyen, Blind
Technical Lead @Apple





"I liked the spatial audio cue. I think it'd be great to include it in the browser."

Nhan Hoai, Blind
Musician @Hoai Nhan Studio, Tester @DRD

"I liked the experience. It's great! I think it'll be very convenient to have features helping me to do simple tasks."

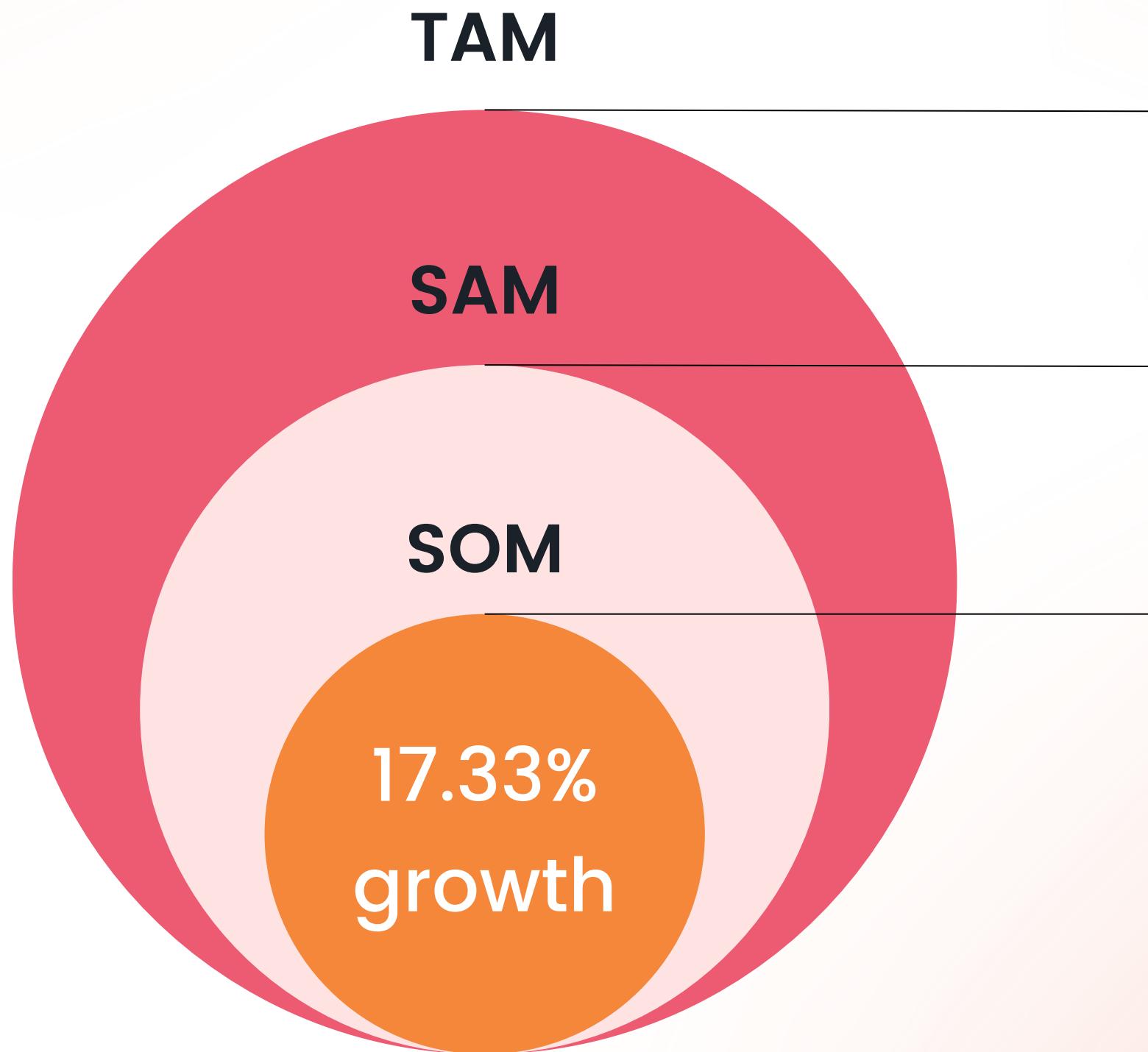
Tu Phan, Blind
Online Travel Agent @CaCao, Tester @DRD



Business Model

Tiers	Free	Paid \$3.99/mo or \$46.99/yr
Must-haves		
Performance (excl. chart reader)		
Read charts & images	up to 20 times	unlimited
Summarize websites	up to 3 times	unlimited
Assist tasks	up to 10 times	unlimited

Opportunity



\$86.9 Bn

from a global population of 1.85 Bn*
people with disabilities

\$13.3 Bn

from a global population of 284 Mn
people with visual impairment

\$667 Mn

from the initial target group of 14.2 Mn
(5% of SAM)

Source: [Return on Disability](#), 2020
[BlindLook](#), 2021

Competition



Traction

(1 week since pivot)

106
waitlist signups



56
willing to pay



3
partners



Traction

(1 week since pivot)

56
potential
paid users

\$3.99 = **\$223.44**
ARPU
potential
MRR

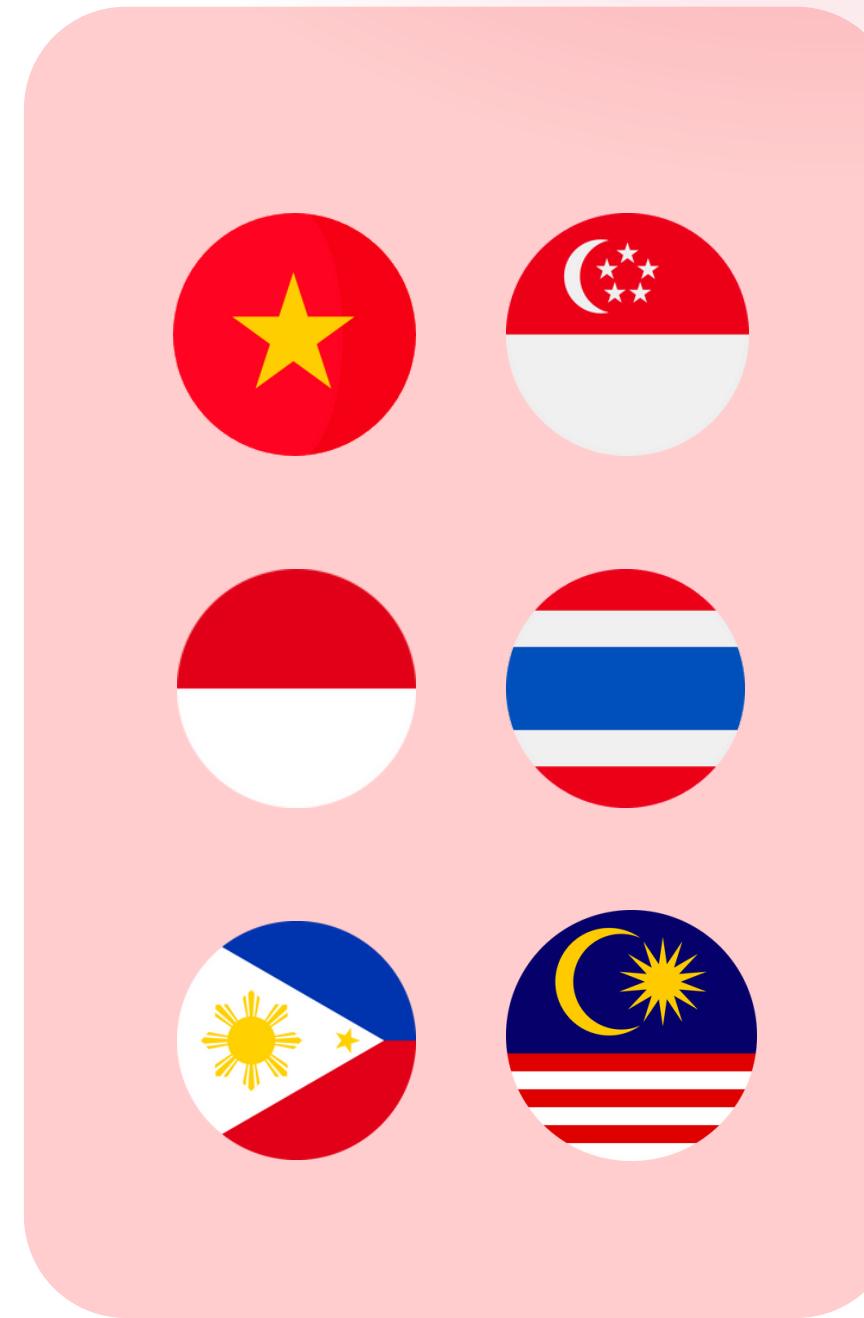
\$46.99 = **\$2,631.44**
yearly
ARPU
potential
ARR

6-month Growth trajectory

\$46.99 = **\$4.7M**

yearly potential

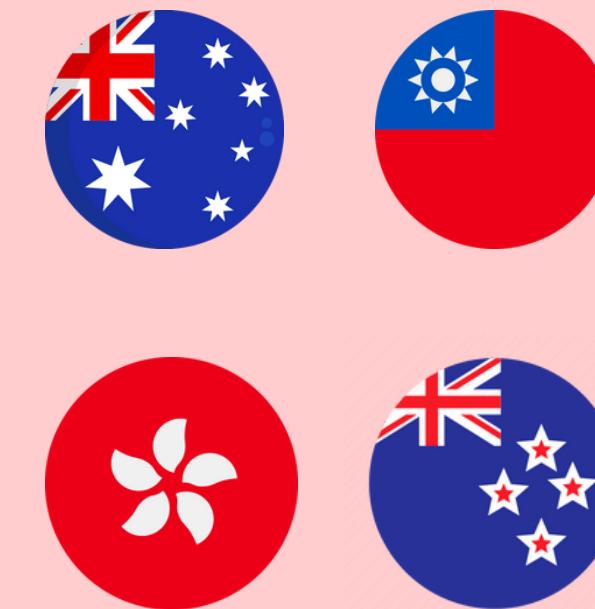
ARPU ARR



12-month Growth trajectory

8M **\$3.99** = **\$33M**
paid users ARPU potential
 MRR

\$46.99 = **\$392M**
yearly potential
ARPU ARR



Scalable Unit Economics

Average monthly revenue per premium user **\$3.99**

CAC per user **(-\$0.7)**

Variable costs **(-\$2.0)**

Unit contribution margin as dollar **\$1.29**

Unit contribution margin as ratio **32.33%**

Growth Hacks

Channel

Offline: vocational school & university events

Online: 100k-member communities on social media, Product Hunt

Key purchase

Door-to-door setup for early adopters

Network effect via incentives and referrals

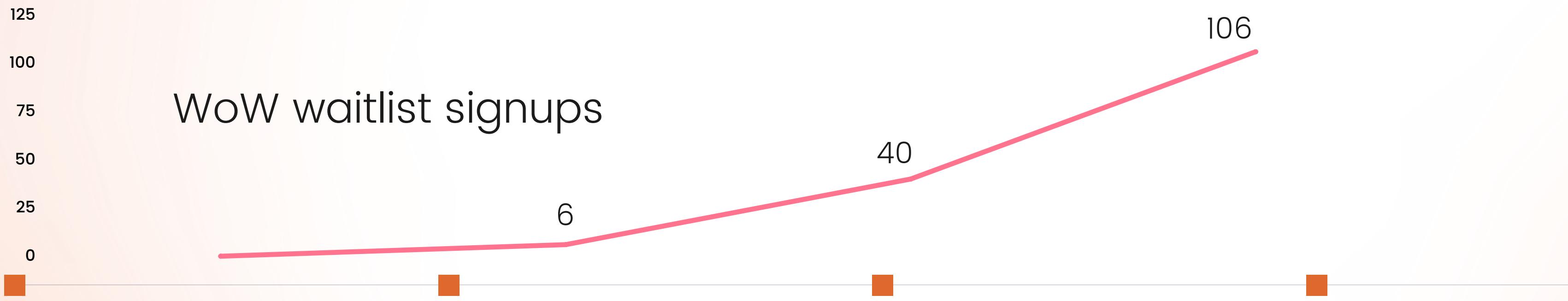
Partnership

Non-profit organizations &
micro-influencers

1-year product roadmap

	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Feature	Support popular screen readers & features for the visually impaired	Summarize content, read graphics & generate text/email	Automate actions, ie: booking seats, sending email, saving to Notion	Develop mobile browser
Integration	Allow migration from other browsers	Support Chrome extensions	Rayo for Student	Be My Eyes integration

WoW Progress



Week 6

- Idea validation
- **Pivot (target market)**

Week 7

- Value proposition
- **Pivot (business model)**

Week 8

- **Onboard CTO**
- **Pivot (everything from solution)**
- Features & UX
- **Onboard advisors**

Week 9

- IC
- Key feature testing
- Traction

Behind Rayo



Dung, CEO



Tri, CTO



3+ years with proven track records in tech startups across Vietnam, Singapore, Australia, the UK & US.



Developer specialized in AI research across Vietnam and Australia. 1st Prize in International Data Science Competitions.



Anh, Coach



Nick, Advisor



Giang, Advisor



why us. why now.

Product

Breakthrough
assistive
technologies

Market

Underserved
market

Price

Affordable for
anyone,
anywhere

Founder

Global team with
strong expertises

Network

Ready customer
base

APPENDIX



More problems of website accessibility

news.bloomberglaw.com/daily-labor-report/lack-of-internet-web-accessibility-harm-employment-for-disabled

Lack of Internet, Web Accessibility Harm Employment for Disabled

June 17, 2022, 4:33 PM

Listen Print Email

People with disabilities less likely to have internet, DOL report finds
Poverty, web accessibility contribute to employment disparity

Disparities in access to the internet and accessible websites is driving a gap in employment rates for people with disabilities, even as the prevalence of remote working opportunities has opened the door for them.

While the Covid-19 pandemic made the digital world more vital for day-to-day activities—including work—web accessibility for those with disabilities isn't guaranteed in the same way physical commercial spaces are.

Disabled workers are 13% less likely to have internet access at home and 11% less likely to own a computing device, according to a [recent report](#) from the Department of Labor's Office of Disability Employment Policy, which further narrows their opportunities for employment. At the same time, as the unemployment rate doubled between late 2019 and late 2020, workers with disabilities became unemployed and stayed unemployed at higher rates than workers without disabilities.

Workers with disabilities who did have internet access were more likely to stay employed, the report found. Meanwhile, there was no correlation between internet access and employment retention among workers without disabilities.

The primary barrier to internet access for those with disabilities was cost.

Poverty is the root of the issue, according to [Charles Catherine](#), director of corporate



J. Edward Moreno

Related Articles

- Disability Bias in AI Hiring Tools Targeted in US Guidance (1)
May 12, 2022, 11:33 PM
- Company to Pay Disabled Worker, Provide ADA Training in EEOC Settlement
Jan. 9, 2013, 12:00 PM
- Disabled Worker Not Entitled to Preferred ADA Accommodation: A Transfer From Boss
Dec. 23, 2014, 12:00 PM
- Over Long Haul, ADA Boosted Wages of Workers With Disabilities, Study Finds
Dec. 9, 2013, 12:00 PM

Law Firms

Web accessibility harm employment for people with disabilities

Bloomberg Law, 2022

More problems of website accessibility

Engagement in education

1 in 10

(10%) school students
aged 5–18 have disability

9 in 10

89%) school students
aged 5–18 with disability
go to a mainstream
school and 12% go to a
special school

9.1% of people

aged 15–64 with disability
are studying for a
non-school qualification
(15% without disability)

Global companies with disability inclusion

Bloomberg



accenture



Google



CATERPILLAR®

3M

**Boston
Scientific**



Deloitte.

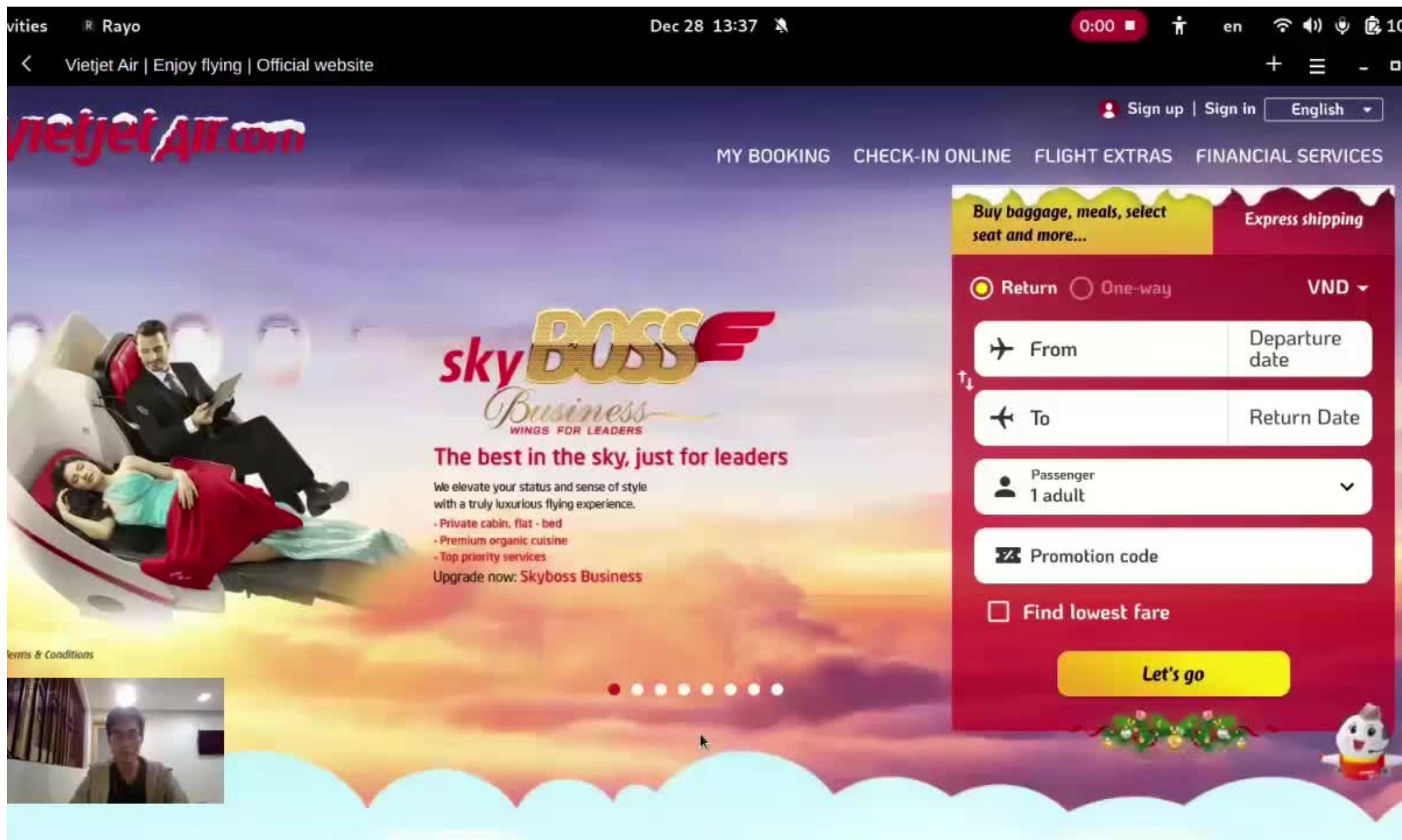


BCT Partners, 2022

Flexjobs, 2022

CNBC, 2022

Demo video



YouTube, 2022

Landing Page

The screenshot shows a dark-themed landing page for 'Rayo'. At the top left is the Rayo logo (an orange 'R' icon) and the word 'Rayo'. At the top right are 'Features' and 'Updates' links. A large central modal window has a dark background. It displays the text 'Welcome to Rayo! We make websites more accessible with useful & smart features.' followed by 'Let's get you started with' and two small icons. Below that is another button labeled 'Or we can skip this' with two small icons. To the left of the modal is a sidebar with a list of items: 'Recent activity (2021)', 'Recent submissions - 1 day', 'Recent add & Rayo files', 'Data feeds', 'Recent feeds - 1 day', and 'Rayo Browser - extensions'. At the bottom right of the main area is a small button labeled 'Get started in Rayo'.

We foster online

[Get started in Rayo](#)

[Rayo landing.page](#)

	Chrome	Edge	Firefox	SigmaOS	RAYO
Must haves					
UI adjustment (content, lighting, etc.)	w. Extension	w. Extension	w. Extension	Yes	Yes
Screen reader accessibility	Yes	Yes	Yes	Yes	Yes
Page structure showcase	w. Extension	w. Extension	w. Extension	No	Yes
Alt text auto. generator	Yes	Yes	No	No	Yes
Keyboard accessibility	Yes	Yes	Yes	Yes	Yes
Mobile	Yes	Yes	Yes	Yes	Yes
Performance					
Chart and formula reader	Medium	Medium	Low	Low	High
Detailed error alerts	Low	Low	Low	Low	High
Reader mode	Low	Medium	Medium	Low	High
Data migration from other browsers	High	High	High	High	High
Chrome extension compatibility	High	High	Low	High	High
Captcha solver	Medium	Medium	Low	Low	High
Ads & pop-ups remover	Medium	Medium	Medium	High	High
Delighters					
Action bar	No	No	No	Yes	Yes
Assisted navigation (AI)	No	No	No	No	Yes
Search result summarizer (AI)	No	No	No	No	Yes
Task assistance (AI)	No	No	No	No	Yes
Spatial audio cue	No	No	No	No	Yes
Tabs organizer	No	No	No	Yes	Yes

Proven model

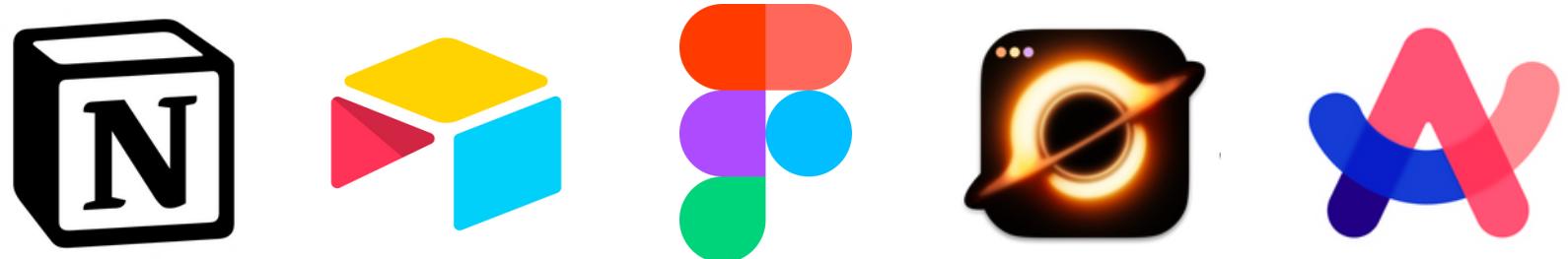
Company	Focus	Founding year	Revenue model	Revenue	Last funding round
Arc by The Browser Company	Productivity	2019	\$12/mo subscription	\$1–5M	\$13M Series A May 25, 2021
SigmaOS	Productivity	2021	\$10/mo subscription \$15 enterprise license	<\$5M	\$4M Seed Nov 16, 2022
SideKick	Productivity	2019	\$8/mo subscription	<\$5M	\$2M Seed Mar 22, 2021

Source: [Tech.eu](#), 2022

[Bloomberg](#), 2022

More on Revenue model

1. Rayo for teams



2. Affiliate commission



3. Add-on products



4. Marketplace commission



Source: [FourWeekMBA](#), 2022
[Unique Business Model](#), 2020
[YouTube](#), 2022

Income Statement

	USD	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Revenue	USD	439	3,192	23,940	143,640	335,160	404,985	809,970	1,851,360	3,702,720	7,405,440	16,662,240	33,324,480
Download		1,000	4,000	20,000	120,000	240,000	290,000	580,000	1,160,000	2,320,000	4,640,000	9,280,000	18,560,000
CVR to Premium	%	11%	20.00%	30.00%	30.00%	35.00%	35.00%	35.00%	40.00%	40.00%	40.00%	45.00%	45.00%
Premium users		110	800	6,000	36,000	84,000	101,500	203,000	464,000	928,000	1,856,000	4,176,000	8,352,000
Revenue	USD	439	3,192	23,940	143,640	335,160	404,985	809,970	1,851,360	3,702,720	7,405,440	16,662,240	33,324,480
COGS	USD	670	3,234	19,258	115,548	249,612	301,615	603,229	1,295,952	2,591,904	5,183,808	11,083,568	22,167,136
Server/Infrastructure Costs	USD	670	3,234	19,258	115,548	249,612	301,615	603,229	1,295,952	2,591,904	5,183,808	11,083,568	22,167,136
Gross Profit	USD	(231)	(42)	4,682	28,092	85,548	103,371	206,741	555,408	1,110,816	2,221,632	5,578,672	11,157,344
Gross margin	%	-52.6%	-1.3%	19.6%	19.6%	25.5%	25.5%	25.5%	30.0%	30.0%	30.0%	33.5%	33.5%
SG&A	USD	6,511	3,031	3,531	4,071	4,311	4,591	4,919	5,304	5,759	6,297	6,934	7,690
Payroll	USD	600	1,941	1,941	1,941	1,941	1,941	1,941	1,941	1,941	1,941	1,941	1,941
Marketing & Growth	USD	258	458	958	1,498	1,738	2,018	2,346	2,732	3,186	3,724	4,361	5,118
Tech Support & Services	USD	193	172	172	172	172	172	172	172	172	172	172	172
Development	USD	5,300	300	300	300	300	300	300	300	300	300	300	300
Other Expenses	USD	160	160	160	160	160	160	160	160	160	160	160	160
EBITDA	USD	(6,742)	(3,073)	1,151	24,021	81,237	98,780	201,822	550,104	1,105,057	2,215,335	5,571,738	11,149,654
EBITDA margin	%	0.0%	0.0%	4.8%	16.7%	24.2%	24.4%	24.9%	29.7%	29.8%	29.9%	33.4%	33.5%
D&A	USD	0	0	0	0	0	0	0	0	0	0	0	0
EBIT	USD	(6,742)	(3,073)	1,151	24,021	81,237	98,780	201,822	550,104	1,105,057	2,215,335	5,571,738	11,149,654
EBIT margin	%	0.0%	0.0%	4.8%	16.7%	24.2%	24.4%	24.9%	29.7%	29.8%	29.9%	33.4%	33.5%
Interest expense	USD	292	292	292	292	292	292	292	292	292	292	292	292
Net income (without Taxes)	USD	(7,033)	(3,365)	860	23,730	80,946	98,488	201,531	549,812	1,104,765	2,215,044	5,571,447	11,149,362
Net margin		0.0%	0.0%	3.6%	16.5%	24.2%	24.3%	24.9%	29.7%	29.8%	29.9%	33.4%	33.5%

Growth Plan

		Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Users													
Total Download		1,000	4,000	20,000	120,000	240,000	290,000	580,000	1,160,000	2,320,000	4,640,000	9,280,000	18,560,000
CVR to Premium %		11.00%	20.00%	30.00%	30.00%	35.00%	35.00%	35.00%	40.00%	40.00%	40.00%	45.00%	45.00%
Total Premium Users		110	800	6,000	36,000	84,000	101,500	203,000	464,000	928,000	1,856,000	4,176,000	8,352,000
New Monthly Users		1,000	3,000	16,000	100,000	120,000	50,000	290,000	580,000	1,160,000	2,320,000	4,640,000	9,280,000
Organic		400	400	500	1,000	2,000	4,000	8,000	16,000	32,000	64,000	128,000	256,000
Paid		100	100	15,500	99,000	118,000	46,000	282,000	564,000	1,128,000	2,256,000	4,512,000	9,024,000
New Monthly Premium Users		110	690	5,200	30,000	48,000	17,500	101,500	261,000	464,000	928,000	2,320,000	4,176,000
ARPU	USD	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99
MRR	USD	439	2,753	20,748	119,700	191,520	69,825	404,985	1,041,390	1,851,360	3,702,720	9,256,800	16,662,240
Customer Acquisition Cost (CAC)													
Marketing & Growth expenses	USD	258	458	958	1,498	1,738	2,018	2,346	2,732	3,186	3,724	4,361	5,118
New user acquired		1,000	3,000	16,000	100,000	120,000	50,000	290,000	580,000	1,160,000	2,320,000	4,640,000	9,280,000
CAC	USD	0.26	0.15	0.06	0.01	0.01	0.04	0.01	0.00	0.00	0.00	0.00	0.00
CAC (Premium Users)	USD	2.35	0.66	0.18	0.05	0.04	0.12	0.02	0.01	0.01	0.00	0.00	0.00
Customer Gross Margin													
Subscription Revenue	USD	439	3,192	23,940	143,640	335,160	404,985	809,970	1,851,360	3,702,720	7,405,440	16,662,240	33,324,480
Gross margin %		-52.59%	-1.33%	19.56%	19.56%	25.52%	25.52%	25.52%	30.00%	30.00%	30.00%	33.48%	33.48%
Gross margin	USD	-230.83	-42.40	4,682.00	28,092.00	85,548.00	103,370.50	206,741.00	555,408.00	1,110,816.00	2,221,632.00	5,578,672.00	11,157,344.00
Lifetime Value													
Churn %		5.00%	5.00%	5.00%	5.00%	4.50%	4.50%	4.50%	4.50%	4.30%	4.30%	4.30%	4.30%
Lifetime value (LTV)		80	80	80	80	89	89	89	89	93	93	93	93
CAC Ratios													
LTV/CAC		309	523	1,333	5,327	6,122	2,197	10,961	18,827	33,781	57,808	98,723	168,255

Engineering cost

	A	B	C	D	E	F	G
1	User usage for each feature	num usage per day	unit per usage: unit is ima	unit per user per day	unit per user per month	unit cost	user cost per month
2	summarization	0.3	75000	22500	675000	0.000002	1.35
3	code gen	0.6	500	300	9000	0.000002	0.018
4	object detection for missing alt text images	10	1	10	300	0.00225	0.675
5	word commands	100	1	100	3000	0	0
6	Total						2.043
7							
8							
9	Freemium usage for each feature		unit per usage: unit is ima	max user usage per month	unit per user per month	unit cost	user cost per month
10	summarization		75000	3	225000	0.000002	0.45
11	code gen		500	10	5000	0.000002	0.01
12	object detection for missing alt text images		1	20	20	0.00225	0.045
13	word commands		1	0	0	0	0
14	Total						0.505
15							
16							
17	Website Hosting & Domain	per month	6 months	yearly			
18	Hosting		15	90			
19	Email domain (e.g. claire@rayobrowser.cor		12	72			
20	Domain (e.g rayobrowser.com)				21		
21	TLS, etc				8	30	
22	Total		27	162	31		
23					32	Cost of development	
24					33	Browser	fixed
25					34	AI - in-house hardware for testing	per month
26					35	AI - cloud NVIDIA RTX 6000 for production	6 months
27					36	AI - possible cluster	
28					37	Data crawling + cleaning	months
29					38	Total	total
30					39		
31					40	Cost of developer	
32					41	Num part-time developer	2
33					42	Salary per month	500
34					43	Number of months	6
35					44	Total salary	6000
36					45		
37					46	Total cost after 6 months	16832
38					47		

Go to market

What

- Key purchase: invite-only, door-to-door setup for early-adopters in HCMC, easy data migration from other browsers
- Message: hassle-free and fun web browsing, simple tasks with AI

Who

- First market: Vietnam
- Age: 18 - 54
- Forms of disabilities: visual impairment and blindness
- Household monthly income: \$714 and upper

How

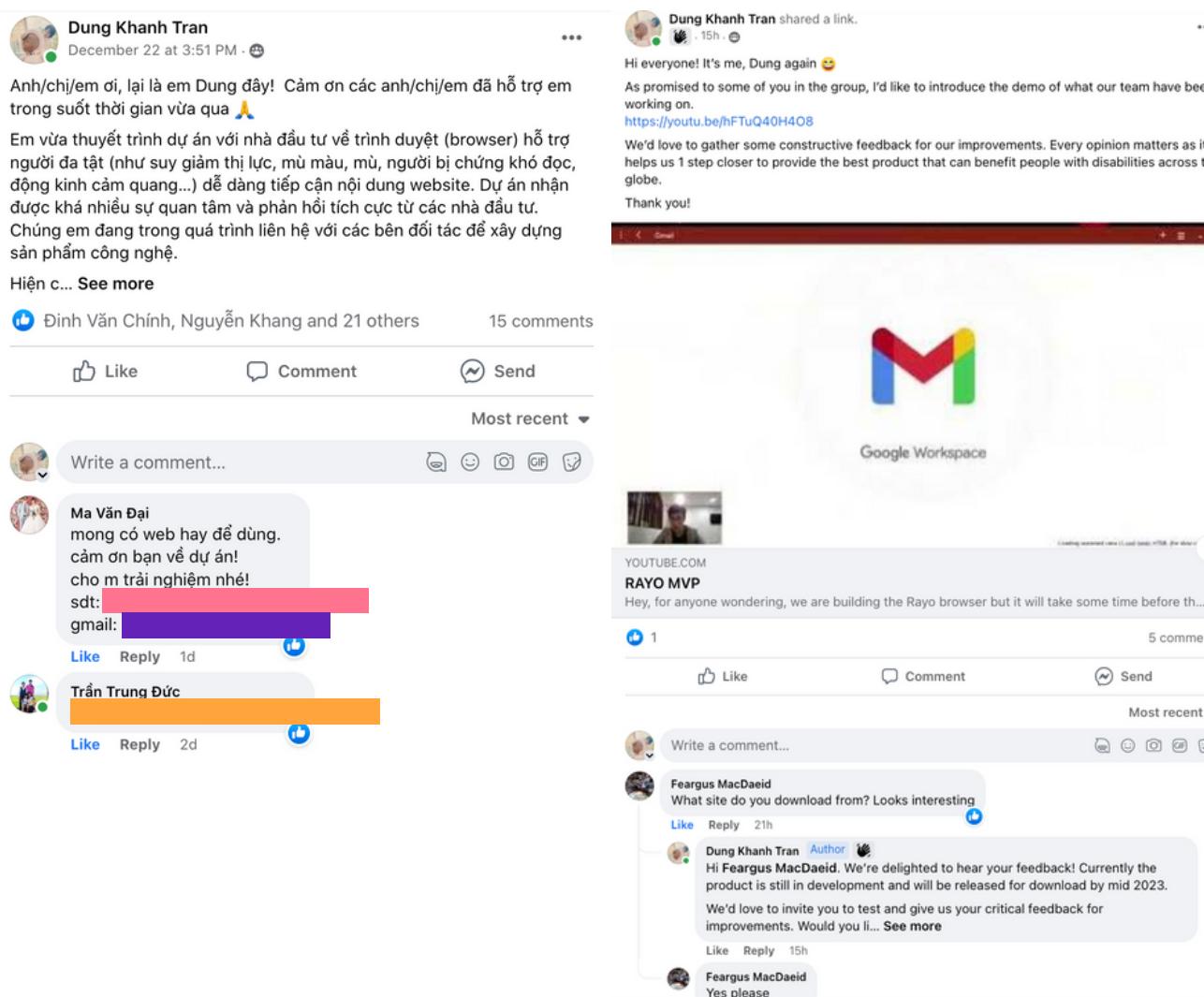
- Pilot: 31-day freemium with setup assistance
- 3 months after pilot: \$50 credit score, referral program, UGC

Where

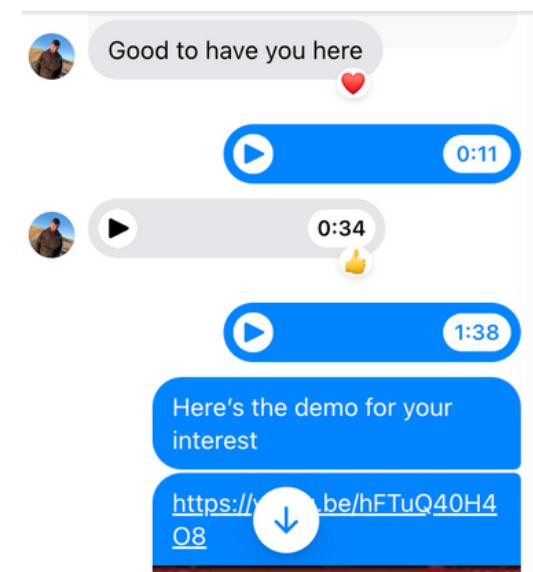
- Offline: local events, educational programs, vocational school & university events
- Online: FB communities, Product Hunt, SMM, SEO, Earned channels (guest blogs, press)
- Distribution partners: NGOs for PwDs, micro-influencers

How we went to market

We bombarded FB groups



We chatted with strangers on Messenger



How we went to market

We blackmailed NGOs

 **Dung Claire Tran** <trai
to vancu, joanacookson > 

Chào anh Cử,

Em là Dung, Nhà khởi nghiệp Antler. Em được phép tốt nhất cho cộng đồng của người khiếm thị.

Hiện em và Joana đang mong nhận được phản hồi.

Thân ái,
Trần Khánh Dung
Nhà khởi nghiệp tại Antler

trankhanhdung1003@gmail.com
+84907080989
<https://linkedin.com/in/dungclairetran>

Nguyễn Văn Cử
to Minh-Hao, me, nguyenvantri2820@gmail.com, nickcanfield29@gmail.com >

 Detect language > English [Translate message](#) [Turn off for: Vietnamese](#)

Hi Dung

Vậy thống nhất gặp 9h sáng mai tại văn phòng DRD 311K8, đường số 7, P. An Phú, TP.Thủ Đức (Q.2 cũ) anh sẽ mời 2 bạn khiếm thị và có anh Hảo phụ trách IT DRD làm việc cùng

Số của Hảo: 0989001100

Thân mến

MBA. Nguyễn Văn Cử
Deputy Director
Phó giám đốc
Disability Research and Capacity Development Center (DRD)



E. vancu@drdvietnam.org
P. (+84) 907 206 021
A. 311K8 Thu Thiem Resettlement,
An Phu Ward, Thu Duc City, Vietnam
W. drdvietnam.org

 **Nguyễn Văn Cử**
to me, joanacookson@gmail.com >

 Detect language > English [Translate message](#) [Turn off for: Vietnamese](#)

Dear chị Dung

DRD rất vui khi nghe tin này và sẵn sàng hợp tác cung cấp thông tin để người khiếm thị được hưởng lợi từ chương trình của bên chị. Vậy nhờ chị cho biết DRD cần làm gì cho các bước tiếp theo nhé.

Trân trọng

MBA. Nguyễn Văn Cử
Deputy Director

D Dang Hoai Phúc Thu, Dec 29, 2022, 1:09 PM (5 days ago)   

to me ▾

Chào from: **Dang Hoai Phúc** <phuc@saomaicenter.org>
Về cơ to: Dung Claire Tran
<trankhanhdung1003@gmail.com>
Dung date: Dec 29, 2022, 1:09 PM
Mến, subject: Re: [SAO MAI x RAYO] Lời mời hợp tác
Phúc signed-by: saomaicenter.org
... security:  Standard encryption (TLS) [Learn more](#)
➤: Important mainly because you often read messages with this label.

 **Dung Claire Tran** Thu, Dec 29, 2022, 1:11 PM (5 days ago) 

Dạ, vậy ổn rồi! Trong BGN có sẵn chữ ký của em rồi. Anh Phúc chỉ cần kí thôi ạ. Tụi em chấp nhận chữ ký online nghe anh ơi. Anh cần hỗ trợ g...

 **Dung Claire Tran** Mon, Jan 2, 5:44 PM (20 hours ago) 

Anh Phúc ơi, Anh sao rồi? Chúng em mong nhận được BGN có chữ ký của anh ạ!

D Dang Hoai Phúc 10:11 AM (4 hours ago)   

to me ▾

Hi Dung,

Mai mình đi làm lại rồi in kỹ gửi bản scan lại nha.

Phúc

How we went to market

We met people offline



Upcoming: hijack people at events

The image shows a Facebook event page for "Ánh Sáng Mùa Xuân" (Light of Spring) organized by the "HỘI TỪ THIỆN THÁNH LINH" (Thien Linh Charity Association). The event is scheduled for Sunday, January 8, 2023, at 9 AM at the "Chợ Gạo - Tiền Giang" (Rice Market - Tien Giang). The cover photo features three heart-shaped frames showing people at the market. The post includes a red "8" indicating it's the eighth post in a sequence. Below the post, there are buttons for "About" and "Discussion", and social sharing options like "Interested" and "Invite".

THÔNG BÁO CHƯƠNG TRÌNH TỪ THIỆN
"ÁNH SÁNG MÙA XUÂN"
08/01/2023
TIỀN GIANG

SUNDAY AT 9 AM

Thông báo chương trình từ thiện :"Ánh Sáng Mùa Xuân" - Hội Khiếm Thị Tiền Giang (08/01/2023)

About Discussion Interested Invite

Details

36 people responded

Event by Sang Nguyen and HỘI TỪ THIỆN THÁNH LINH

Chợ Gạo - Tiền Giang

Customer persona



Lan Anh, 26 years old, blind

- An elementary school teacher in Long An
- English learner at night
- Had difficulties reading resources on websites, as her screen readers keep reading unimportant information, instead of the main content.



Hoang Kiem, 33 years old, blind

- A masseur at night and music producer during the day
- Had difficulties using music composing software on desktop, due to unlabelled icons

Customer persona



Le Kim, 23 years old, blind

- A student at a vocational school in Ho Chi Minh
- Had difficulties in using online exam websites, as most of them are not well-structured for screen readers.



Giang Nguyen, 28 years old, blind

- A software developer at Apple Singapore
- Is taking an MBA on Coursera
- Faced trouble accessing websites not supporting keyboard shortcuts, which impacted his study and work performance.

Food for thoughts



Who are they?

Superhuman is the fastest email experience ever made.

What's cool about them?

Paid email service, price ranging from **\$30 to \$285 per month**.

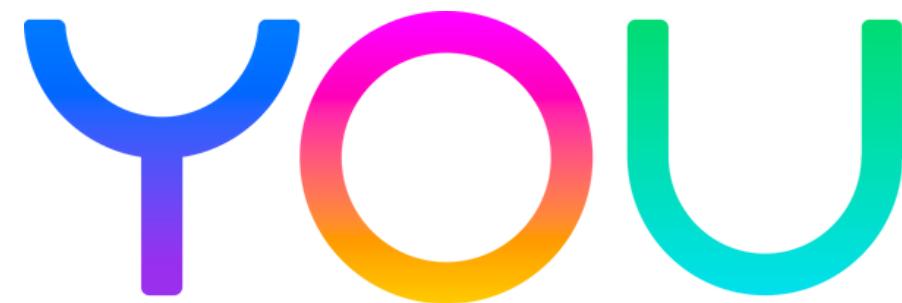
Who are they?

Kagi Search is a privacy-focused, user-centric search engine.



What's cool about them?

Pro plan with ad blocks & private search costs **\$10 per month**.



Who are they?

You.com is an AI-powered search engine for developers.

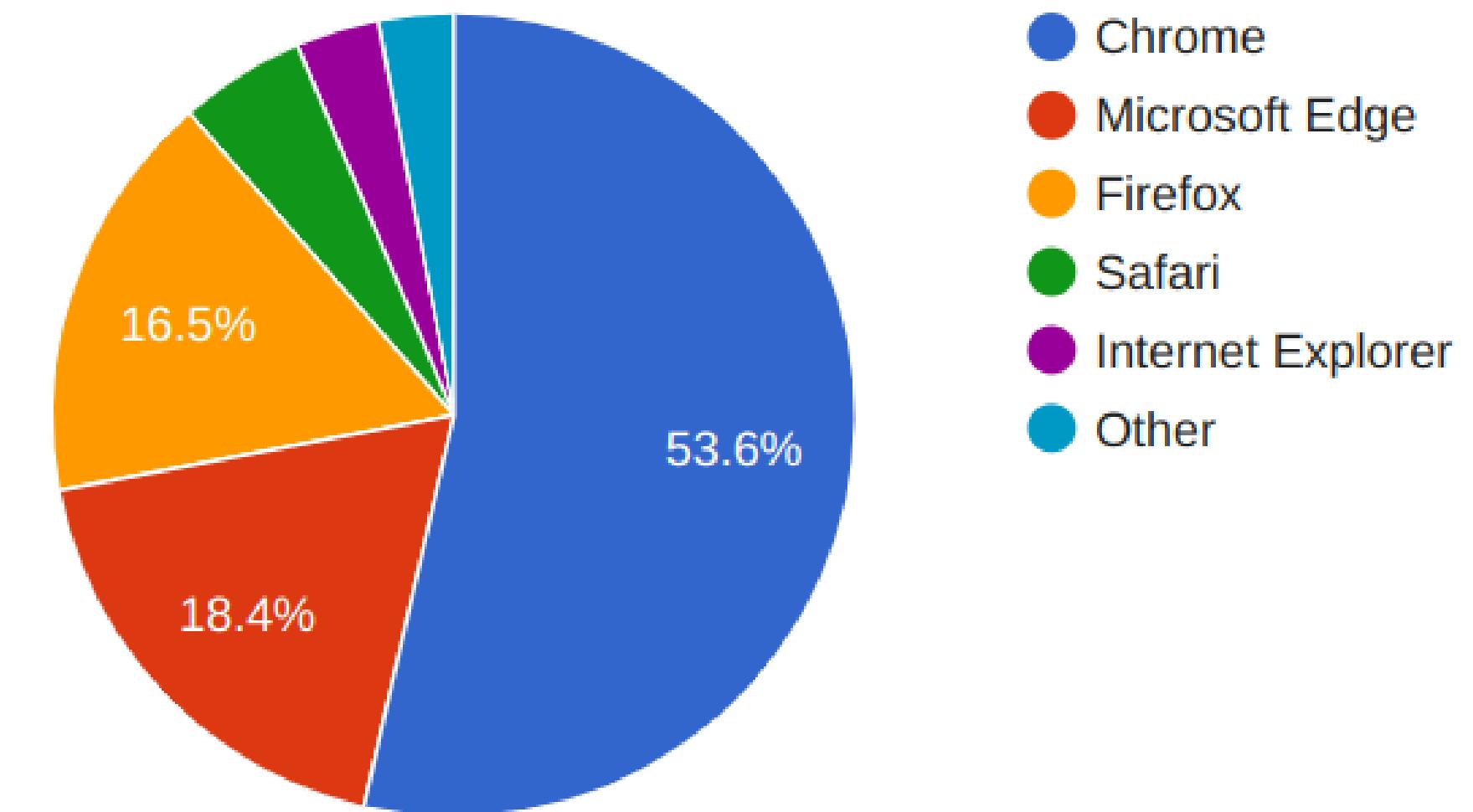
What's cool about them?

People simply **love** them.

Internet browser market



Global market size, CAGR = 17.33%



Browser usage by PwD

Source: [MarketResearch](#), 2020
[WebAIM](#), 2021

Assistive Technologies for Visually Impaired Market Worldwide

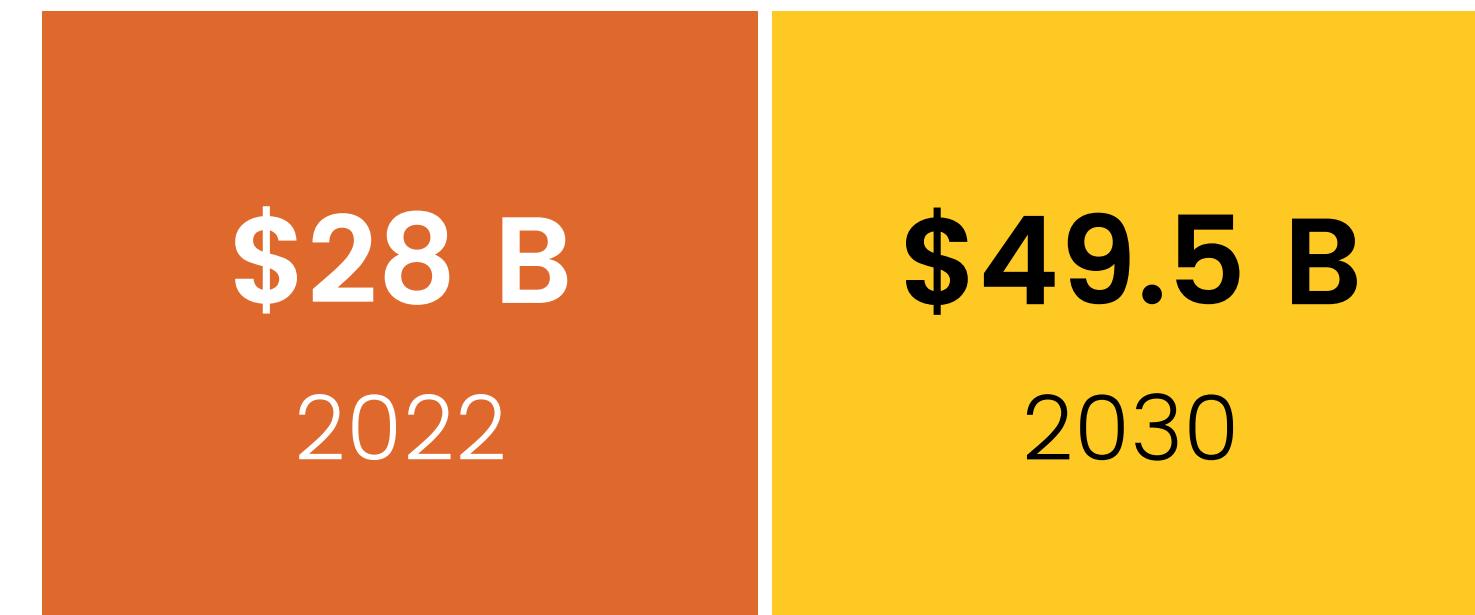
Source: [ResearchAndMarkets](#), 2021



Global market size, CAGR = 7.8%

Size of the Disabled and Elderly Assistive Technologies Market Worldwide

Source: [Statista](#), 2022



Global market size, CAGR = 7.52%

We chatted with 20 people with disabilities in Vietnam



Giang Nguyen
Software Engineer @Apple



Nam Duong
Software Engineer @FPT

20 /20
owned at least 1 device

11 /20
were paid users of
premium apps/ services

20 /20
found it hard to
access content online

8h /day
was the lowest amount of
time spent on-screen

\$310 /mo
was the highest
purchase

4 /5
office workers said inaccessibility
affected their work performance

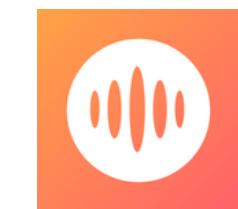
12 /20
spent on online
shopping

\$338 /mo
was the average
income



Cuong Dang
Tech Lead @Sao Mai

Top apps/ websites that cause trouble



We chatted with 7 people with disabilities worldwide



1



1



1



1



1



1



1

6 /7

found it hard to access content online

7 /7

owned at least 1 device

3 /7

were paid users of premium apps/ services

\$150 /mo

was the highest purchase

3 /7

viewed themselves as proficient Internet users

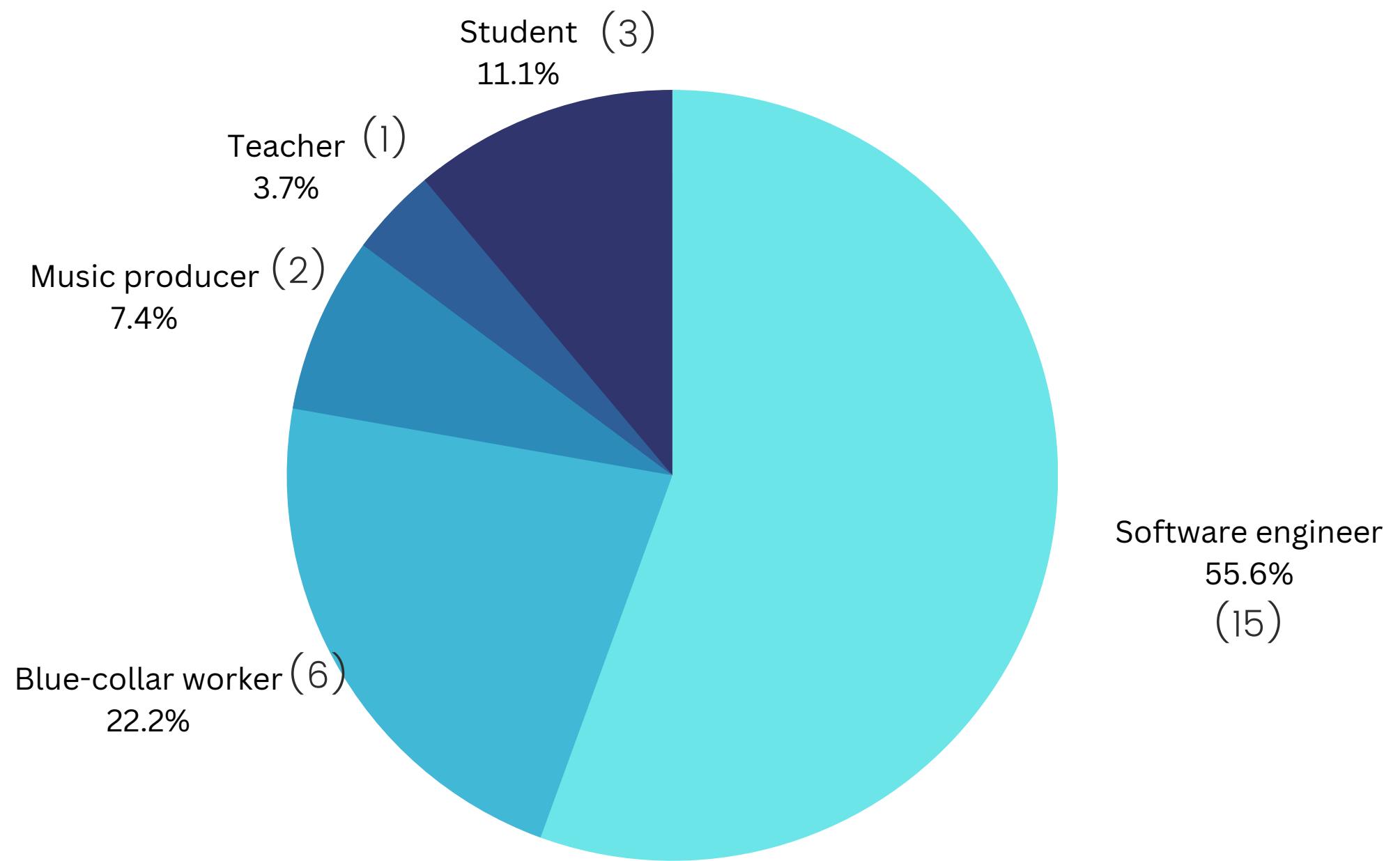
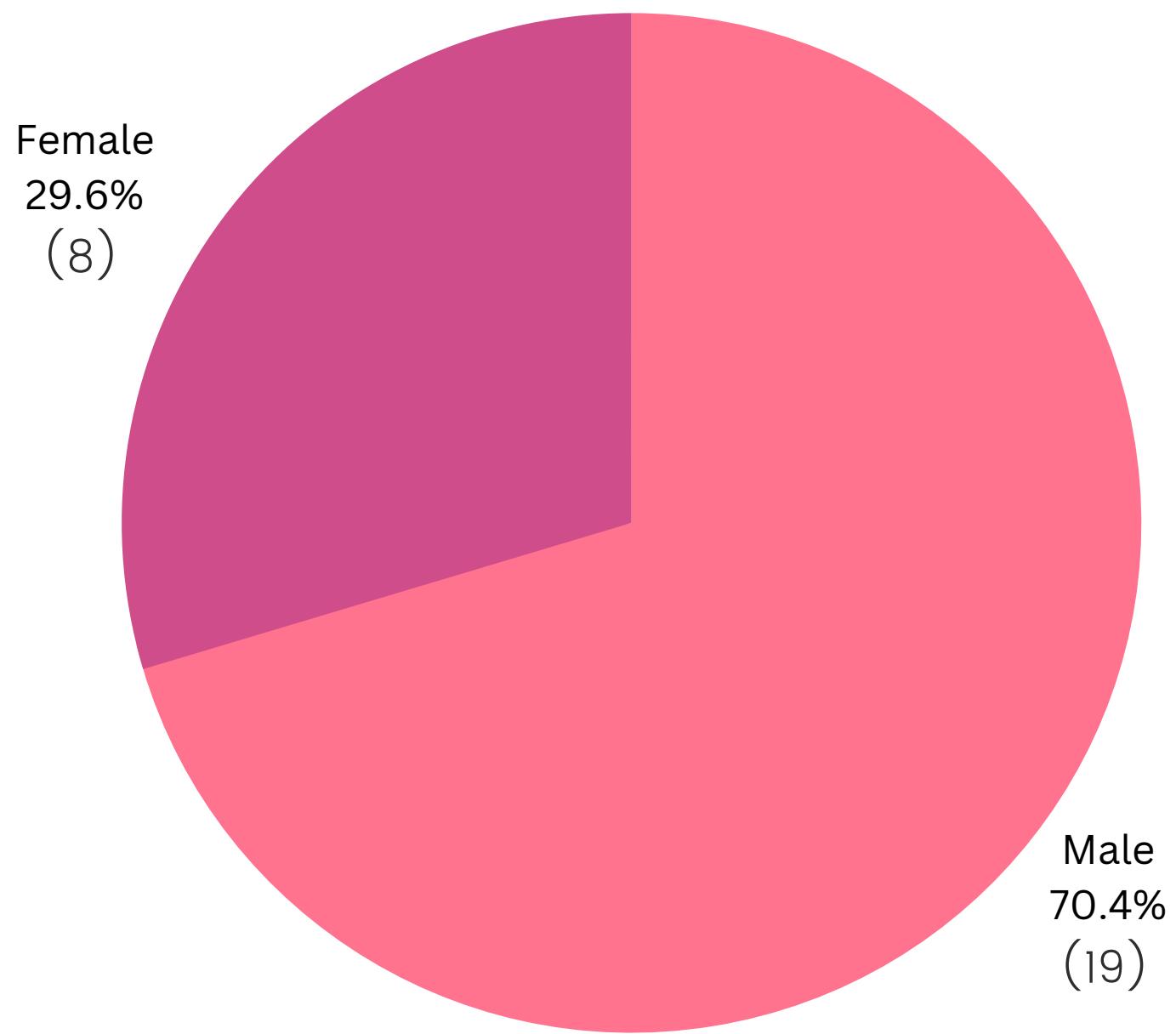
5h /day

was the lowest amount of time spent on-screen

\$810 /mo

was the average income

Demographics of our testers



We discussed with 8 experts



Minh Anh
Senior Applied
Scientist @Speechify



Giang Nguyen
Software Engineer
@Apple



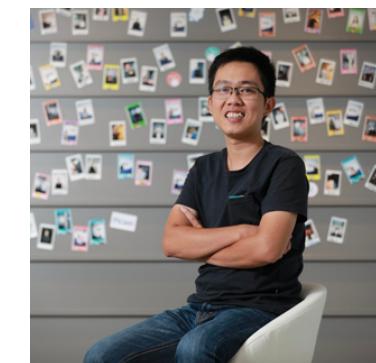
Mai Vo
ex-Digital Responsibility
Lead @Google



Quang Cáp
Software Engineer
@Netcompany



Ann Tran
UX Design
Consultant @Slalom



Son Trinh
Product Manager
@iKala



Mai Trinh
UX Researcher
@Glints



Linh Phung
Machine Learning Engineer
@OneMount

“Inclusive designs do not only help the extreme cases but also **help the majority where over $\frac{1}{4}$ of the world's population has eye disorders, such as color blindness.”**

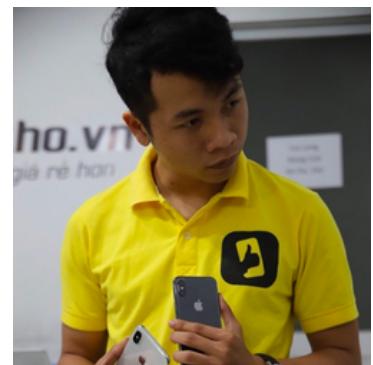


Khoa Nguyen
Founder @Vietnam Design Thinkers

VIETNAM
DESIGN
THINKERS



We discussed with 9 brands



Tuan Anh
CEO & Founder
@Gia Kho Group



Kenz Tran
Regional Performance
Manager @MediaCom



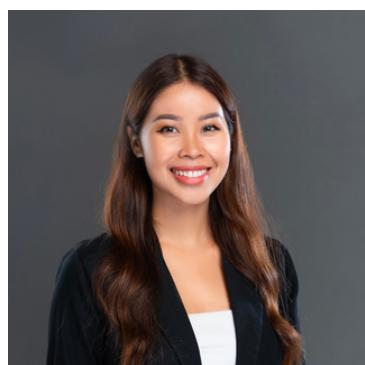
Nguyen Tran
ex-Marketing Manager
@Tiki



Gurpreet Wadhwa
ex-VP of Marketing
@Lazada



Vi Hoang
General Manager
@Dai Viet group



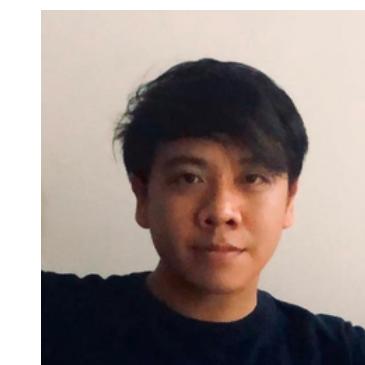
Huong Nghiem
Customer Success
Manager @MoEngage



Phuong Hoang
Brand Manager
@Nestle



Duy Nguyen
CEO & Founder
@mia.vn



Nam Vo
CTO & Founder
@Fundiin

People with Disabilities

1.85B people in the world are living with disabilities

5.2M Vietnamese are living with disabilities (5.8%)

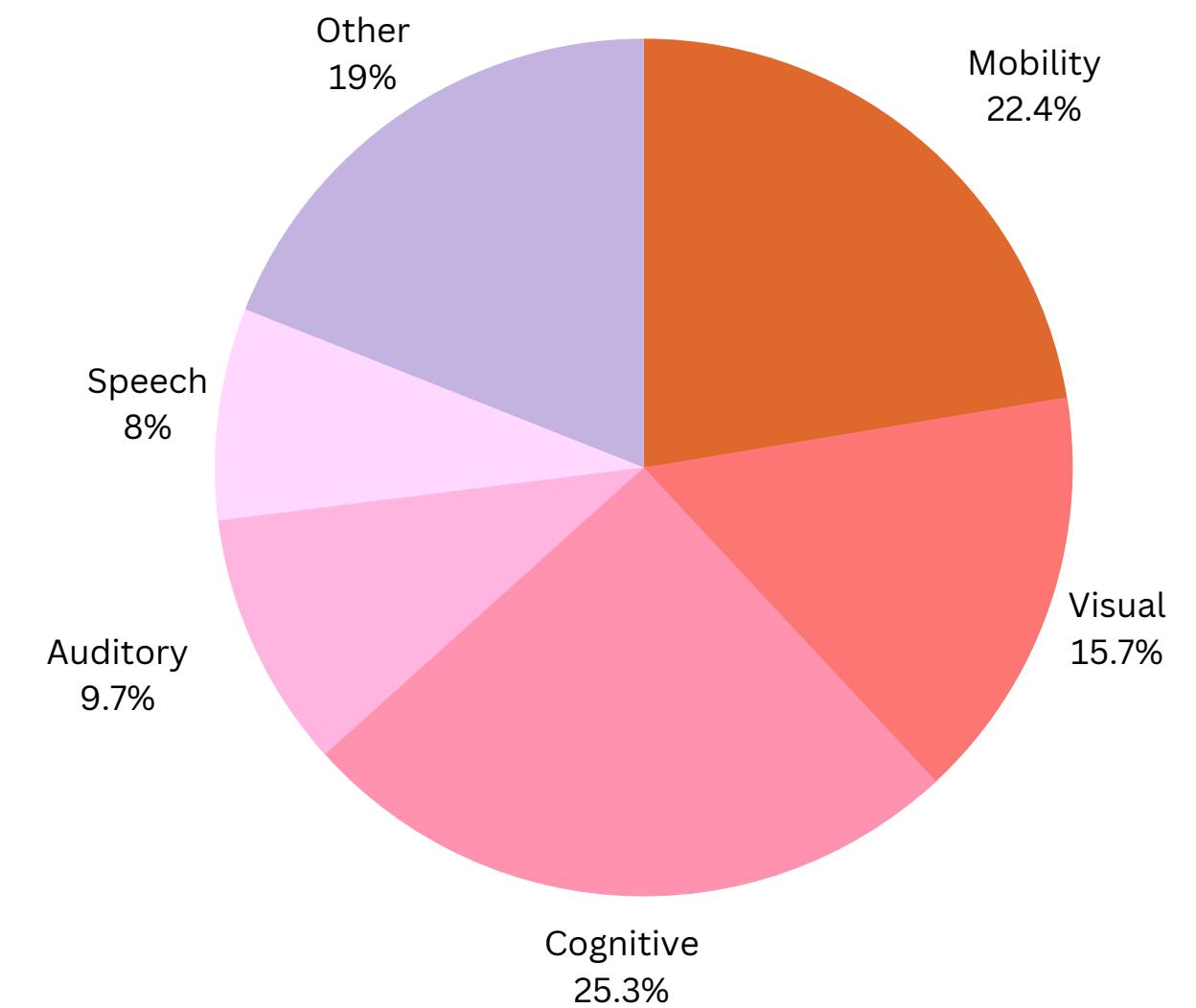
4.4M are employed (86.0%)

\$3T+ is the income of the global population with disabilities

1.5M age 20-39 yo (28.9%)

1.14B Asian people are living with disabilities (62%)

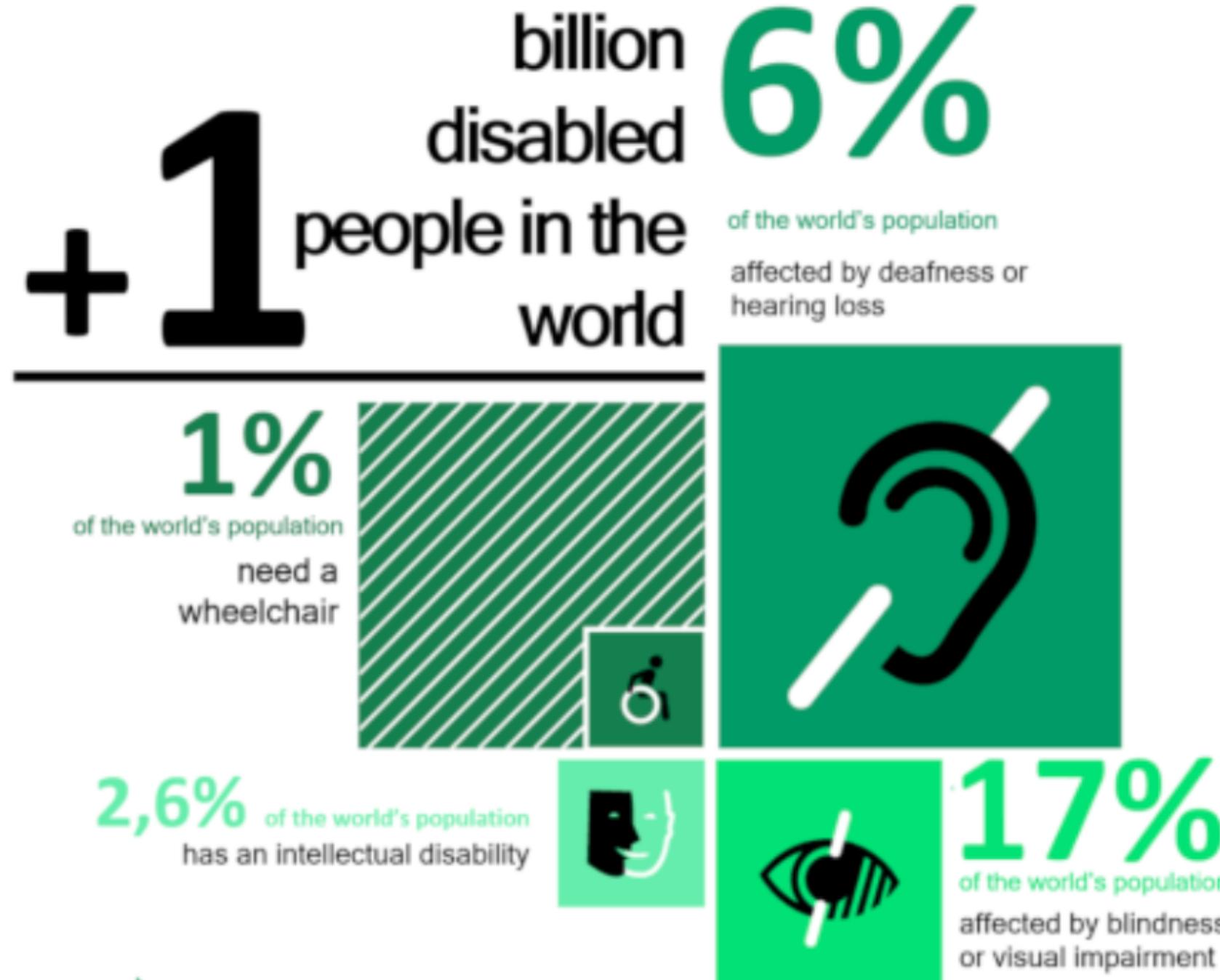
2.6M are females (50.5%)



Source: [Global Economics of Disability](#), 2020
[MIUSA.org](#), 2016

People with Disabilities

80% disabilities acquired
between 18 - 64



Source: [Inclusive City Maker](#), 2021

Internet usage

61M American adults with disabilities

37.82M Americans with disabilities own a computer (62%)

43.92M Americans with disabilities own a smartphone (72%)

28.67M Americans with disabilities own a tablet computer (47%)

3 in 4 Americans with disabilities use the internet on a daily basis

41.1M people with disabilities rate themselves as Internet proficient (41.1%)

9.15M Americans with disabilities never go online (15%)

Source: [Center for Disease Control and Prevention](#), 2022

[Pew Research Center Survey](#), 2021

[WebAIM Screen Reader User Survey #9 Results](#), 2021

Tools & techniques

Perception

- Audio descriptions
- Text-to-speech

Understanding

- Easy-to-understand content
- Alternative presentation

Input

- Keyboard accessibility
- Speech-to-command

Interaction

- Keyword search & navigation
- Page maps

Source: [W3C](#), 2017

Proofs of Traction



Name	Email	Phone	Source
Đinh Văn Chính	[REDACTED]	[REDACTED]	Messenger
Ma Văn Đại	[REDACTED]	[REDACTED]	Facebook group
Lê Minh Thành	[REDACTED]	[REDACTED]	Facebook group
Nguyễn Nhật Phúc	[REDACTED]	[REDACTED]	Facebook group
Phúc Đặng	[REDACTED]	[REDACTED]	Partner
Dải Ngân Hà	[REDACTED]	[REDACTED]	Facebook group
Nguyễn Minh Trí	[REDACTED]	[REDACTED]	Facebook group
Trần Trung Đức	[REDACTED]	[REDACTED]	Facebook group
Diệp Vũ Văn	[REDACTED]	[REDACTED]	Facebook group
Võ Văn Nhật	[REDACTED]	[REDACTED]	Messenger
Võ Minh Vũ	[REDACTED]	[REDACTED]	Facebook group
Gia Phú Trần	[REDACTED]	[REDACTED]	Facebook group
Tư Văn Vũ	[REDACTED]	[REDACTED]	Facebook group
Lệ Kim	[REDACTED]	[REDACTED]	Messenger
Nguyễn Khang	[REDACTED]	[REDACTED]	Messenger
Hoàng Kiêm	[REDACTED]	[REDACTED]	Messenger
Thiện Võ	[REDACTED]	[REDACTED]	Messenger
Giang Nguyễn	[REDACTED]	[REDACTED]	Partner
Vinh	[REDACTED]	[REDACTED]	Messenger
Hồ Đinh Nhuận	[REDACTED]	[REDACTED]	Messenger
Huỳnh Minh Khang	[REDACTED]	[REDACTED]	Messenger
Dương Tuấn Nam	[REDACTED]	[REDACTED]	Messenger
Phùng Minh Tuan	[REDACTED]	[REDACTED]	Sao Mai
Ly Van Hoang	[REDACTED]	[REDACTED]	Sao Mai
Nguyen Manh Hung	[REDACTED]	[REDACTED]	Sao Mai

Proofs of Partnership

6. Quyền hạn

BGN này sẽ được điều chỉnh và giải thích theo luật pháp Việt Nam.

Để làm bằng chứng, các Bên đã từng thực hiện BGN này bằng chữ ký của đại diện được ủy quyền của họ kể từ ngày được viết ở trên.

TRẦN KHÁNH DUNG



Trần Khánh Dung
Đồng sáng lập & Giám đốc Điều hành, Rayo

TRUNG TÂM HƯỚNG NGHIỆP VÀ
CÔNG NGHỆ TRỢ GIÚP CHỐNG NGƯỜI
MÙ SAO MAI



Đặng Hoài Phúc
Giám đốc Điều hành, Sao Mai



TRAN KHANH DUNG



Tran Khanh Dung
Rayo, Co-Founder & Chief Executive Officer

NGUYEN HOANG GIANG



Nguyen Hoang Giang
Technical Lead

Proofs of Partnership

6. Jurisdiction

This MOU shall be governed by and interpreted in accordance with the laws of Vietnam.

In witness whereof, the Parties have each executed this MOU by signature of their authorized representatives as of the date written above.

TRAN KHANH DUNG



Tran Khanh Dung

Rayo, Co-Founder & Chief Executive Officer

IT X SERVICES COMPANY LIMITED
(ALLXONE)



Ha Ngoc Hieu

AllXone, Legal Representative

Proofs of Partnership

Trả lời: Trả lời: [DRD x RAYO] Lời mời hợp tác Inbox x



Minh-Hao Nguyen

to me, Nguyễn, nguyenvantri2820@gmail.com ▾

Thu, Jan 5, 11:39 AM (18 hours ago)



Vietnamese ▾ > English ▾ Translate message

Turn off for: Vietnamese x

Anh cảm ơn Dung và Trí rất nhiều,

Anh xem qua và tham khảo anh Cử rồi báo lại hai em nha

Hy vọng được hợp tác với MOU để ra sản phẩm hỗ trợ NKT

Chúc 2 em một ngày tốt lành

Anh Hảo

Mr. Nguyễn Minh Hảo

Nhân viên IT/ IT Officer

TRUNG TÂM KHUYẾT TẬT VÀ PHÁT TRIỂN

Disability Research and Capacity Development (DRD)

311K8 KHU TÁI ĐỊNH CƯ THỦ THIỆM, ĐƯỜNG SỐ 7, PHƯỜNG AN PHÚ, QUẬN 2, TP.HCM

311K8 Street 7, Thu Thiem Resettlement, An Phu Ward, District 2, Ho Chi Minh City, Vietnam ([View Map](#))

Email: minhhao@drdvietnam.org

Web: www.drdvietnam.org - 1forchange.vn

Tel:(+84) 28 - 62 67 99 11 - 62 67 99 22 (Ext 142)

Tel: (+84) 989 001100



Đời rất đẹp khi trái tim đến với trái tim
Life is very beautiful when hearts open

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-  "What Are the Best Accessibility Tools for People With Disabilities?", [Fresh Business Thinking](#), 2022
-  "Diverse abilities and barriers?", [W3](#), 2017
-  "Web content accessibility guidelines", [W3](#), 2018
-  All user interviews [here](#) and [here](#)
-  Rayo MVP [here](#)