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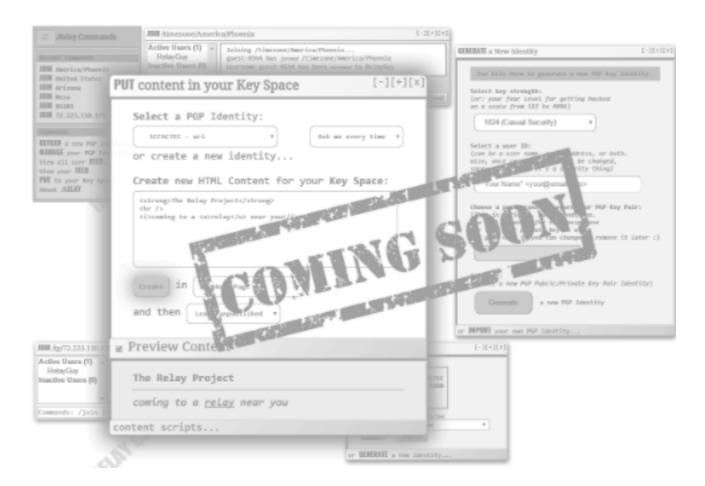
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Executive Summary

This summary outlines the development goals of The Relay Project and describes the principles prioritized by Relay and <u>Community Source</u>. As a community-owned, blockchain-powered Social Network, Relay intends to provide end-users with true permanent personal security and internet freedom they can rely on, forever. The Relay Network aims to become an entirely self-funded, community-operated network, and will provide people with direct access to the unlimited power and potential of the internet, where they, not corporate entities, are in control of their information and experience. With Relay, average and experienced users alike will feel empowered by their ability to edit and contribute to any element of their internet experience directly.

Harnessing the power of the online community, Relay provides a people's alternative to a brand-focused software industry and the privatized software services they've come to know.



Introduction

The Relay Project is a first-of-its-kind community-operated Social Network & Instant Messenger powered by blockchain technology. Utilizing PGP Encryption & WebRTC technology, and driven by Community Source principles, Relay offers a public alternative to the many emerging social media challenges brought about by a growing lack of private sector accountability and an increasingly singular user-experience.

Relay goes a *different way*. By *encrypting* sensitive **personal data** and securing it locally, *never on* centralized cloud servers, Relay gives the keys directly to the end-user.

Encryption is more than just privacy and security. **Public-key cryptography** is the key to building long-term, future-proof, reliable, and secure *Community-Sourced* software that is self-managed, with *zero points of failure*. Relay brings enterprise-level encryption functionality to the end-user through a simple, ever expanding user interface they control, empowering users to communicate with each other, provide and consume WebRTC Services, and publish *encryption-verified* content anywhere across The Relay Network.

Software Resiliency Comparison Chart - The Relay Project -		Relay	Facebook	Twitter	Slack	Instagram	Google Plus	Skype	SnapChat	WhatsApp	CryptoCat	Minds	Datt	IRC			
on	Key-pair encryption	>	X	X	√	X	X	Χ	√6	√ 6	√	√	√	√	Client-Side end-to-end encryption		
Encryption	Public key identity	✓	X	X	X	X	X	X	X	X	Х	X	X	Х	provides complete data privacy. Public Keys provide a way to verify		
굡	Client-side keys 1	>	X	X	X	X	X	X	X	X	√	X	>	√	data published by an Identity.		
ity	Public blockchain	✓	Х	X	X	X	X	X	X	X	Х	X	X	Х	Software reciprocity describes the		
Reciprocity	decentralized	✓	Х	X	X	X	Х	X	Х	X	Х	√	√	✓	methods by which user data is stored, exchanged and protected from loss or abuse.		
Rec	Import/Export data 2	✓	х	X	X	Χ	✓	X	X	X	х	Χ	X	х			
>	PK reputation	√	X	X	Х	Х	Х	Х	X	X	Х	Х	X	Х	Integrity describes how a network		
ntegrity	Conflict resolution	√	х	X	χ	χ	х	χ	х	X	х	χ	Χ	х	protects user reputations, limits exposure to abusive accounts, and		
_	Invite tree 3	√	х	X	χ	χ	х	Χ	х	X	х	χ	Χ	х	resolves conflicts between users.		
ion	Open source	√	X	X	Χ	Х	Х	X	X	X	1	1	√	1	Users of The Relay Project will always be able to view the source code, contribute changes and new apps, and even claim bounty money.		
Contribution	Users build apps	√	1	1	1	Х	Х	χ	Х	Х	Х	Х	Х	√			
Con	Users earn money 4	1	Х	Χ	χ	χ	Х	χ	Х	X	Х	χ	√	Х			
33	Stored on client	√	Х	Х	Х	Х	Х	√	Х	Х	Х	Х	Х	√	Data resiliency is defined as how well data is resilient to theft, manipulation, censorship, and loss.		
Resiliency	No 3rd party access	√	Х	X	Х	Х	Х	√	Х	X	Х	Х	Х	√			
Re	Client gatekeeper 5	√	X	X	Х	X	X	X	X	X	Х	Х	X	√	, , ,		

Private Keys must only be stored only on a user's private device, never on a public cloud server.

Social Media created in a user's KeySpace can be imported/exported to another Blockchain-powered Social Network.
 The invite tree keeps track of who invited a member to the social network. This is used to manage abuse and ensure user integrity.

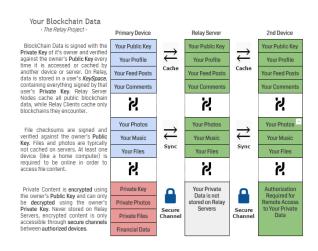
The invite tree keeps track of who invited a member to the social network. This is used to manage abuse and ensure user integrity
 Community Source Projects like Relay allow users to earn money when they contribute to a software project.

^{5.} Social Network GateKeepers control what social content you will see. Relay is a Client-Side GateKeeper, which gives all the control to the user.

^{6.} **KeyPair Encryption** is vulnerable to exploit if the critical credential (*The Private Key*) isn't properly protected by the software client.

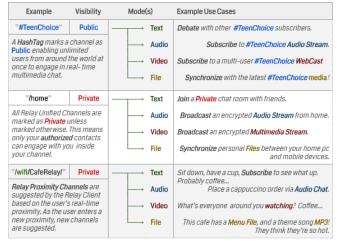
Product: What is Relay?

Relay is an instant messenger. Unlike Skype or Google Hangouts, Relay provides key-pair encrypted real-time text, audio, and video communication. Users experience all the benefits of previous messaging software, with the additional security of key-pair encryption. Similar to IRC or Twitter, Relay enables communities to build topical hierarchies of real-time communication with Unified Channels.



Unified Channels
- The Relay Project -

Relay allows users to create and join Unified Channels on the Relay Network. Similar to IRC, subscribing to a Unified Channel allows a user to chat with an unlimited amount of users subscribed to the same channel, regardless of which server they are connected to. Unlike IRC, Relay servers offer subscription modes for every channel. This enables such activities as audio/video/html5 streaming between unlimited unsers.



Relay is a social network. Like Facebook, Twitter, and Google+, The Relay Network allows all manner of content creation from timelines, to software services (SAAS), enabling such blockchain technology as voting, identity verification, and ecommerce payments. Users can even import content from previous social networks or websites.

Relay stacks and scales. Consisting of servers around the world, The Relay Network will link up real-time communication while avoiding data leaks and middleman attacks that plague existing cloud networks. *Unlike the cloud*, **Relay nodes do not store private data belonging to end users**. All data passed through the network is verified against the PGP Public Key Identity of its creator, so nobody can fake activity. The Relay Network *scales like cloud* but cannot *fail like cloud!*

Relay is apps. The Relay Project takes applications in a new direction. Apps don't need to be installed, they *lazy-load*. Written in universal Javascript, Relay apps work on all platforms, Android, iOS, Windows, Linux, and embedded systems. Additionally, applications written within the Relay App Framework will work on all future platforms that support Javascript API v8 or greater. Apps are created by the community, for the community, with aims for the best available solution to each application. Relay Apps can be run full-screen, or embedded within an app/extension, or even embedded within individual websites. Relay can run in desktop applications, mobile devices, even Wifi routers. The options are endless. *Write once, run anywhere!*

Relay is services. The Relay Project aims to be useful to commerce of all kinds. Within The Relay Network, job-seekers will find a consistent, fair, and accountable platform for publishing and fulfilling service requests. Better than a resume, each user's work and resume history is stored in their personal blockchain allowing workers to build reputations over the long term.

Relay is proximity. Knowing their personal security is safe at all times, it becomes that much easier for end-users to trust proximity-based services when they leave the safety of their home. Relay enables secure proximity services by turning every beacon into a *Proximity Channel*.

Proximity Channels - The Relay Project -

Relay Clients will allow users to subscribe to Proximity Channels as proximity information becomes available. Channels can be used to communicate with nearby users and make use of local services. A subscribed user may remain subscribed to a Proximity Channel even after they have left that proximity.

Beacons	Prox	imity Variables	Generated Channels	Common Applications			
Bluetooth Devices	Name MAC IP	RelayPhone A5:b4:c3:d2:e1:f0 199.254.0.98	→ /bt/RelayPhone/ → /mac/a5b4c3d2e1f0/ → /ip/199.254.0.98/	Bluetooth Proximity Channels follow users wherever their Bluetooth device's signal goes, allowing other users to find and communicate with them when they beacon nearby.			
Wifi Routers	SSID IP BSSID MAC	CafeRelay 199.254.0.1 a0:b1:c2:d3:e4:f5 f0:e1:d2:c3:b4:a5	→ /ssid/CafeRelay/ → /ip/199.254.0.1/ → /bssid/a0b1c2d3e4f5/ → /mac/f0e1d2c3b4a5/	Wifi Proximity Channels allow users to communicate within or nearby a house or by subscribing to channels based on Wifi router beacon. No connection to the router is needed.			
GPS 8 Reverse Geocode	GPS Zipcode City County State Country	N34, W118 90210 Beverly Hills Los Angeles California United States	→ /gps/n34/wf18/ → /zip/90210/ → /city/beverly_hills/ → /county/los_angeles/ → /state/california/ → /country/united_states/	GPS Proximity Channels allow users to locate and communicate with other users in the same region or locality, without the need for a common beacon between them.			
Time Zone	Zone UTC	Pacific Standard GMT -8	→ /timezone/pacific/ → /utc/-8/	Time Zone Proximity Channels allow users in the same timezone to network with each other.			

Relay is non-profit with the goal of providing end-users with a true permanent personal security and *internet freedom* they can rely on, *forever*. The Relay Team believes end-users deserve direct access to client-stored keypair encryption and the unlimited power and potential of blockchain technology. With Relay, average and veteran users alike will feel *empowered* by their ability to edit and contribute to any element of their internet experience directly.

Relay Project Team Roles

People	Roles
Ari Asulin: Founder, CTO, Developer	Chief Executives:
Katie Kinkel: Co-Founder, CCO, Project Admin, Publicist	Ari Asulin Katie Kinkel Eitan Asulin
Eitan Asulin: Co-Founder, CFO, Project Admin, Promotion	
Arvind Katti: COO, Project Manager, Creative Advisor, Web Design & Software Development, IT, QA	Software and Web Development: Ari Asulin Arvind Katti Long Dao
Abe Milrom: Business, Marketing, & Development Advisor	Project Finance, Development and Promotion:
Long Dao: Creative Advisor, Software Developer, QA	Eitan Asulin Abe Milrom
Elizabeth Perez: Marketing Specialist & Consultant	
Matthew Prince: QA, Field Testing	Non-Profit Fundraising and Development: Arvind Katti Katie Kinkel
Phil Kinkel: QA, Field Testing	B.15 B.13 144 135
	Public Relations and Marketing: Arvind Katti Katie Kinkel Abe Milrom Elizabeth Perez
	Quality Assurance: Matthew Prince Long Dao Phil Kinkel Arvind Katti

Contact Information

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Relay Links:

Source Repository for Client and Server Code: https://www.github.com/clevertree/relay

Demo Website:

http://www.relayproject.net

Development Blog & Information:

https://www.facebook.com/the.relay.project

Documentation:

http://www.relayproject.net/docs/ExecutiveSummary.pdf

http://www.relayproject.net/docs/Funding-TheRelayProject.pdf

http://www.relayproject.net/docs/CommunitySourcePrinciples.pdf

http://www.relayproject.net/docs/SocialMarketplaceCommunitySourceFAQ.pdf

Frequently Asked Questions

Who's on The Relay Project Team and what's their background?

The Relay Project Team is made up of core founders and contributors. The team consists of software developers, creative designers, server administrators, and business & finance developers from many different backgrounds.

What is Relay and why do we need it?

With the emergence of WebRTC browser technology, consumers now have the opportunity to engage in commerce directly with corporations and each other. All they are missing is the implementation.

How will the Relay be priced for use?

The Relay Project is released under an open-source agreement, and is free to use by everyone forever. Usage is separated into 2 categories: Free and Registered.

Free usage

Provided to anyone who uses Relay software or network services but is unregistered. Free tier services will remain free forever and include all services not requiring prior registration.

Registered usage

Relay provides accountability through registered usage. This requires registration of a user's public key across the network. A registered user may take advantage of 100% of public services, including services that require registration to combat abuse. Such services include voting, creating public content on the Relay Network, moderation, merchant services.

There are two ways for a consumer to become registered on the Relay Network: purchasing a registration, and receiving an invite.

"Purchasing" a registration

Allows a user to immediately register with the Relay Network and operate fully. *Any one cent or greater purchase provides the Relay Network with a means of verifying consumer identity, therefore access becomes unlimited.

Receiving an invite

Allows a user to immediately register with the Relay Network. An invite may only be provided by another registered member whose identity has also been verified. This allows for the invitee to be registered without making a purchase or verifying identity. Should abuse issues arise, the matter may be escalated and the invitor might be asked to un-invite the abuse account.

What is Relay's target market?

The consumer market consists of all users of all software platforms all over the world using any language. Relay is for all users and will provide a large, fluctuating consumer base, ready for implementation of market and consumer

Are we ready for Relay? Is Relay marketable today?

Relay makes use of <u>WebRTC</u> software APIs. Recently all software platforms (including Microsoft Windows 10) have pushed their consumer bases to update their browsers. Relay works on the latest version of all major browsers by taking advantage of <u>already complete</u> WebRTC APIs released as recently as late 2015.

Will you acquire any patent licenses or intellectual property?

Yes. The Relay Project has plans to register accordingly and comply with patent and intellectual property law in every region.

Relay's target customer?

Relay is for everyone, from anywhere. The Relay Project targets all users on all platforms that support WebRTC including Windows, OSX, Linux/Unix, Android, iOS, and various hardware devices.

What roles are you going to need to fill in the future?

As The Relay Project grows, it will require increased staff in the areas of server management, development, finance, promotion, and legal practice.

What are your future products?

Aside from providing a Relay Client for every available platform, The Relay Project will contain and bundle it's own collection of apps. In Relay, apps are built into the main client, and lazy-loaded when requested. Apps can be built and submitted by anyone. Apps may also provide (SAAS) software services for E-commerce and other purposes. Apps will range from utilities to gaming to education based on the needs and contributions of the Relay community.

What are some examples of Apps powered by Relay?

Voting app

Provides democracy tools at all levels of the Relay framework. Users may create and host secret ballot votes as well as engage in voting, vote tally verification, and can debate in public forums. PGP Encryption ensures the voter's value and identity remain private. Voting UI and other tools may be integrated into 3rd party websites, enabling drop-in voting functionality anywhere on the internet

Comment app (& referred content)

Provides a way for users to add comments and other content to their *KeySpace* in such a way that it refers to *existing* content published by other users. This lets users add comments anywhere, feed entries, audio and video, even websites on the existing internet. Third party integration allows the comment app to appear anywhere on any web page, as well as let users comment on *websites that do not currently support comments*. It's up to the user.

Education apps

Relay can provide free supplementary education to all ages by enfranchising students directly with tools. Encryption provides absolute privacy and security allowing students to network with each other as provided by a community-managed curriculum. Encryption also provides a method of blind review allowing members of the Relay community to provide feedback and grading directly to active students without revealing their identities or locations. As a student's accomplishments and skills accumulate, they are recorded on their private blockchain, enabling an increasingly personalized education experience. Integration of BitCoin and other currencies will create a financial incentive for completing curriculums and fostering healthy competition between students.

Software services and cloud

Relay can provide software services that operate on some or all public Relay servers. This provides the end user with unlimited scale within the Relay Network. This also provides the network with cloud-like stability. All servers contain the same information and can fill in for roles and load when a server falls offline. Potential free or fee-based services could include: content hosting, real-time legal counsel, accounting and finance tools, media streaming, and data security.

What are some example Use Cases made possible by The Relay Project?

Hotel check-in

Using a public key identity to check into a hotel by pressing a single button on Relay.

- 1. User enters a hotel with a reservation associated with their personally identifiable public key.
- 2. User clicks 'identify' button on the Relay client. This sends out the user's public key to all channels in proximity, including the hotel lobby wifi router.
- 3. The hotel Relay client (listening on the Relay proximity channel associated with it's wifi router's BSSID) sees the public key, identifies the user, validates the reservation, and assigns hotel keys all instantly. No human interaction required.

Vending machine purchase

Using a public key to buy an item from a convenience store/vending machine.

- 1. User stands next to vending machine and hit the 'identify' button on the Relay client. This decrypts the user's private key and sends the user's public key to all channels in proximity, including the channel associated with the vending machine's own signal.
- The vending machine sees the user, verifies an active payment system, and then unlocks the access door. Any products removed during this session will be charged against the active payment system belonging to that user's public key. No human interaction or payment swiping.

Restaurant

Using a public key to eat at a restaurant.

- 1. User enters a restaurant and hits the 'identify' button on the Relay client. This decrypts the user's private key and authorizes payment at that restaurant's location.
- 2. The restaurant's staff are immediately informed of a new customer (with a verified payment account) and seats them if customary.
- 3. Anything the user orders or consumes during this session will be billed against the payment account after they leave. No human interaction or payment swiping required.

What revenue streams are available to investors?

In order to accomplish the stated goal of becoming financially self-sufficient, The Relay Project covers its operating expenses using revenue from different potential sources. Typically revenue comes directly from consumers through donations and purchases, or agreements with 3rd party contractors.

Registration fees

Usage of Relay is free forever. However, some services require the member's identity to be verified beforehand. In order to accomplish this, a transaction of *one cent or greater* is required to confirm the user's Name Identity via the existing financial system. Once completed, the user's public key is registered throughout the relay network, enabling *registered services*.

Priority access / premium tier

Priority access provides fast-lane access to Relay users through premium server access. Premium servers allow for improved bandwidth, quickery latency, and socket priority while accessing the Relay Network.

Software purchases

Relay provides clients for all platforms for free. Some users may opt to purchase a 'pro' version of the app which comes with registration. Typically app fees range from \$0.01 to \$5 per user.

CrowdFunding

The Relay Project allows for direct donations to the project or to individual product features. Funding comes in all currencies as well as BitCoin. Individual features can be funded directly by donating to *bounties* associated with those feature requests. Relay contributors may *claim* bounties they complete if they meet all requirements.

Default content

The Relay Client comes bundled with preloaded *Default Content* such as public key identities, search results, integrations with 3rd party APIs, etc. 3rd party merchants may provide Default Content at contracted rates to be bundled with the next version of the client. As users navigate The Relay Network, Default Content is displayed wherever no other public content exists. This might occur if a user attempts to search for products or services through Relay, but is not yet subscribed to any identities that provide those services. Default Content is typically the first thing a new user of Relay will encounter, and is the most effective method of garnering exposure within the Relay Network.

For example, if a computer drop shipper provided default content integration for their online store, that shipper's product results would show up in a Relay product search for computers by default.

Priority content

Priority content establishes a 'sponsored' tier to all applicable search results and *default content*. All Relay clients will prioritize sponsored content before regular content where applicable according to the contracted rates and terms.

For example, a third party may submit a priority public vote that appears before other votes published on the Relay Network. A priority vote would get maximum exposure and may enable such activities as political polling, group studies, market research, and event feedback.

Reseller access

A Relay Reseller is contracted to resell **all** functionality provided by Relay and run *private Relay servers* in accordance with contract policy. A Reseller account may *fork* the Relay open-source code repository in order to make *closed-source* modifications and customized clients. This contract also provides a Reseller with a legal umbrella under which they may create their own network rules and revenue streams. The networks created under this agreement would be compatible with each other as well as the public Relay network, and would allow connections between if so requested.

How is The Relay Project structured publicly and privately?

The Relay Project is made up of both public and private interests. Private interests are those who contributed their own time and/or money in the founding/development stages before the project becomes public. Private revenue is based on ROI schedules from registration/service fees, software licensing, and other forms of fundraising. Until this time, The Relay Project has observed many of today's issues, developed privately in response, with no private investors or outside party influence.

There are at least two approaches investors can take with Relay today:

- > short-term Investors fund The Relay Project in order to find more venture capital or take it public (first round of investment). ROI is achieved from both investment capital and private revenue.
- ➤ long-term Investors fund The Relay Project betting on early access to new technology and exclusive control over private licensing. As applications of Relay and demand increase and new types of technology are explored (voting, payment security, p2p services), Relay will become marketable to many new industries; hotels, restaurants, education, peer-2-peer human services, etc.

With the latter approach, investors are purchasing a fraction of a controlling interest in the project's board of directors, made up of both public and private interests.

Remember all requirements are flexible! We want our sponsors to engage so that everyone is satisfied, as with the nature of Relay, we are all in this together!

Project Plan & Status

The Relay Project is in year number two of development, completing essential Phase 1 steps (the Framework) and development into Phase 2. Upon launch, the Relay Client will be available for both desktop and mobile devices on all platforms. The status of each phase of development is indicated below:

	Key Pair	Key-pair generation	90%				
WD WD	Encryption	Key-pair management	30%				
4		Keyspace signature verification	40%				
논		Partial keys and password handling	15%				
eWi	Host	Modern (webRTC) browsers	90%				
Jam Lam	Platform Integration	Android app (Play Store)	20%				
hase 1: Framework + R&I	integration	Chrome OS (extension)					
se 1		iOS app (Apple Store)					
ha		Windows (desktop and phone)	0%				
_	Server	Server-side signature verification	60%				
	Instant	UI: Contacts, messages and inbox	10%				
hase 2: Messenger	Messenger Client	UX: Onboarding, registration, and login	10%				
Sel	Onone	HTML5 chat and audio/video calls	10%				
Mes		Contact online status subscription	20%				
2:		2-Way encryption (Public-key handshake)	20%				
Se	Host Platform Integration	Android/Chrome messenger client	20%				
Ph		IPhone, IPad messenger clients	0%				
		Windows Phone messenger client	0%				
	Server	Contact status subscription	20%				
Launch client and server (all platforms)							
(A)	UI/UX	HTML5 chatroom UI	20%				
ne		Channel subscription manager UI	20%				
iase 3: Unified Channels	Channel	Text/HTML5 chatbox	40%				
d C	Streaming	Audio/Video broadcast and subscription	10%				
ifie		File transfer	10%				
5	Proximity	Proximity scanner (BT, WIFI, NFC, GPS,)	40%				
ç	Channels	Channel customization and redirects	0%				
lase		Proximity services and identity broadcast	10%				
문	Server	Channels and client subscriptions	10%				
		Unified relay channels	10%				
Launch Unified and Proximity Channel services							
		,					

논	Publishing	Feed & timeline	30%		
NO.	KeySpace	File storage and synchronization	0%		
Phase 4: Social Network	File Storage	File sharing	0%		
cia	KeySpace	Forums, comments, likes and signatures	20%		
S	Content	Content sharing	0%		
e 4	Payment	3rd-party payment integration	0%		
has	Services	Remote payment authorization	0%		
_	Server	Keyspace POST serving and caching	20%		
Launch social network features					
Phase 5: Applications	Voting	Voting booth interface	20%		
	System	Ballot hosting and management	10%		
ica	Vendor	Table reservation services	0%		
ldd/	Services	Touch-free proximity payment	0%		
5:/	Hotel	Hotel reservation services	0%		
ase	Services	Proximity check-in	0%		
문	Education	Self-motivated educational applications	0%		
	Games	User-contributable games and media	0%		
	Server	Application Framework	10%		
Launch Application Platform					

An up-to-date list of features can be found here: https://github.com/clevertree/relay/

Summary

Relay is an accumulation of ideas and concepts that have been discarded, displaced, or forgotten. The team behind The Relay Project consists of veteran internet and relatively new users alike who have come together with shared ideas for the future. The internet has become more robust, yet can seem so limiting and disconnected. It impacts the lives of people every day, but can leave them feeling confused and helpless. The Relay Project is determined to repurpose the experience towards the user, so they can focus beyond the noise and better their internet experience for themselves, and share that experience with everyone.