

Bruh2023's ETS URL Shortener

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Challenge Requirements

- Trustable, and secure
- Using Software-as-a-Service (SaaS)
- Analytics Tracking





Software Stack



Built with
Firebase

Firebase

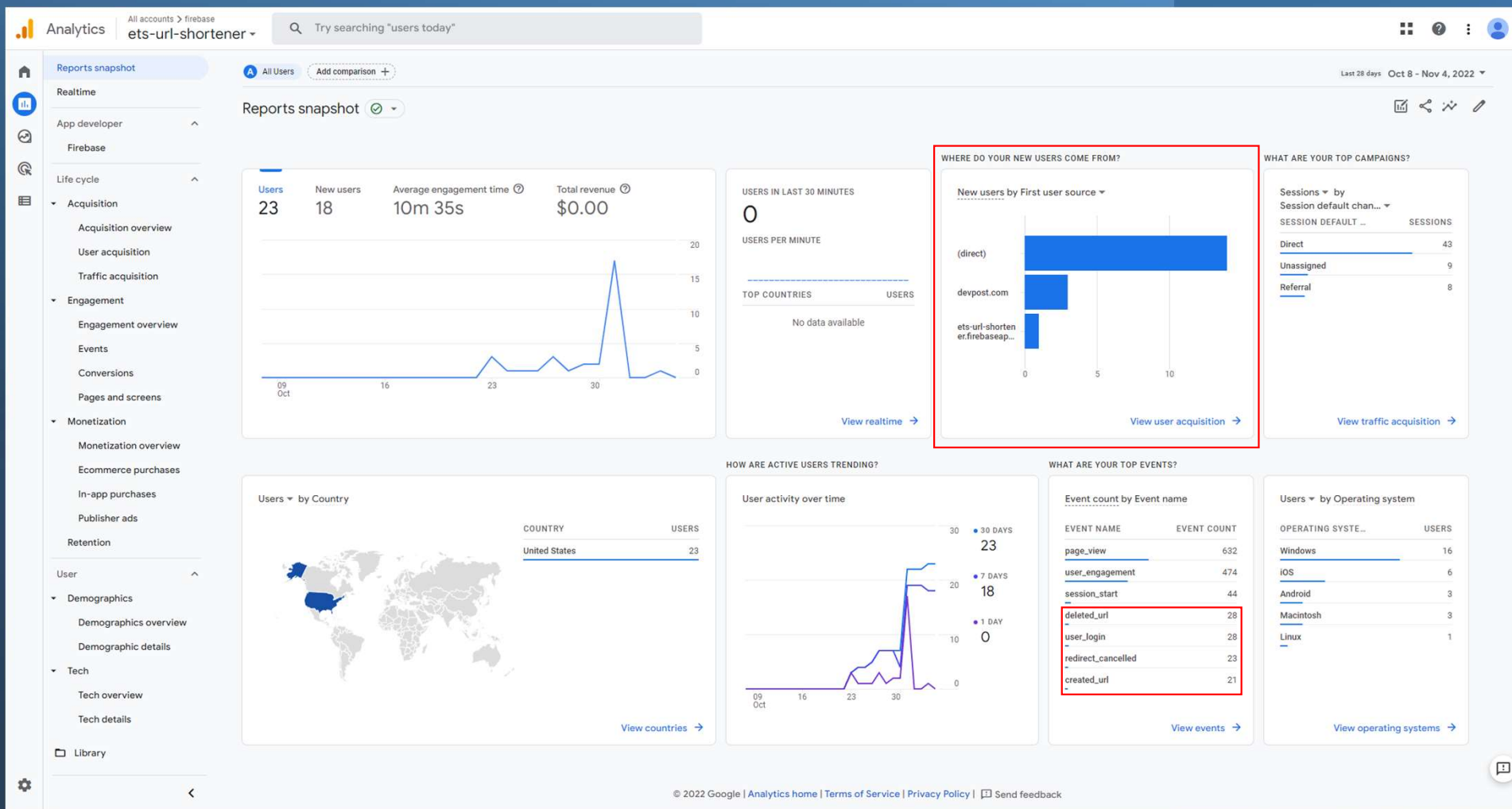
- A simple all-in-one SaaS provider.
- Flexible, scalable, and affordable.
- We are using their free services for
 - Hosting,
 - Firestore (Database),
 - Analytics, and
 - Authentication.

Analytics

- Track user interactions in real time.
 - Created/Edited/Deleted a Short URL.
 - Accessed or Cancelled a redirect.
- Track where the user came from.
- An intuitive Analytics Console
 - To easily monitor everything.



Analytics Console



A close-up photograph of a metallic padlock resting on a complex, copper-colored printed circuit board (PCB). The PCB is covered in intricate patterns of circuitry and various electronic components. The padlock is positioned diagonally, with its shackle pointing towards the top left. The word "Security" is superimposed in a clean, white, sans-serif font over the center of the padlock and the underlying circuitry.

Security

Authentication Providers

Native providers


 Email/Password ✓

 Phone

 Anonymous

Additional providers

 Google

 Game Center

 Microsoft

 Facebook

 Apple

 Twitter

 Play Games

 GitHub

 Yahoo

Custom providers

 OpenID Connect

 SAML

The background is a dark blue field filled with intricate, light blue technical drawings. These drawings include various geometric shapes such as circles, arcs, and rectangles, along with lines representing axes, tangents, and normals. Some areas are filled with cross-hatching, and there are small numbers and letters scattered throughout, giving it the appearance of a complex engineering or architectural blueprint.

Our Unique Approach

Secure Links



Single Trust Policy

We trust state workers to provide good links

Trusted users can then create their own links easily

Unauthorized users cannot access the link shortener



During Pilot Phase

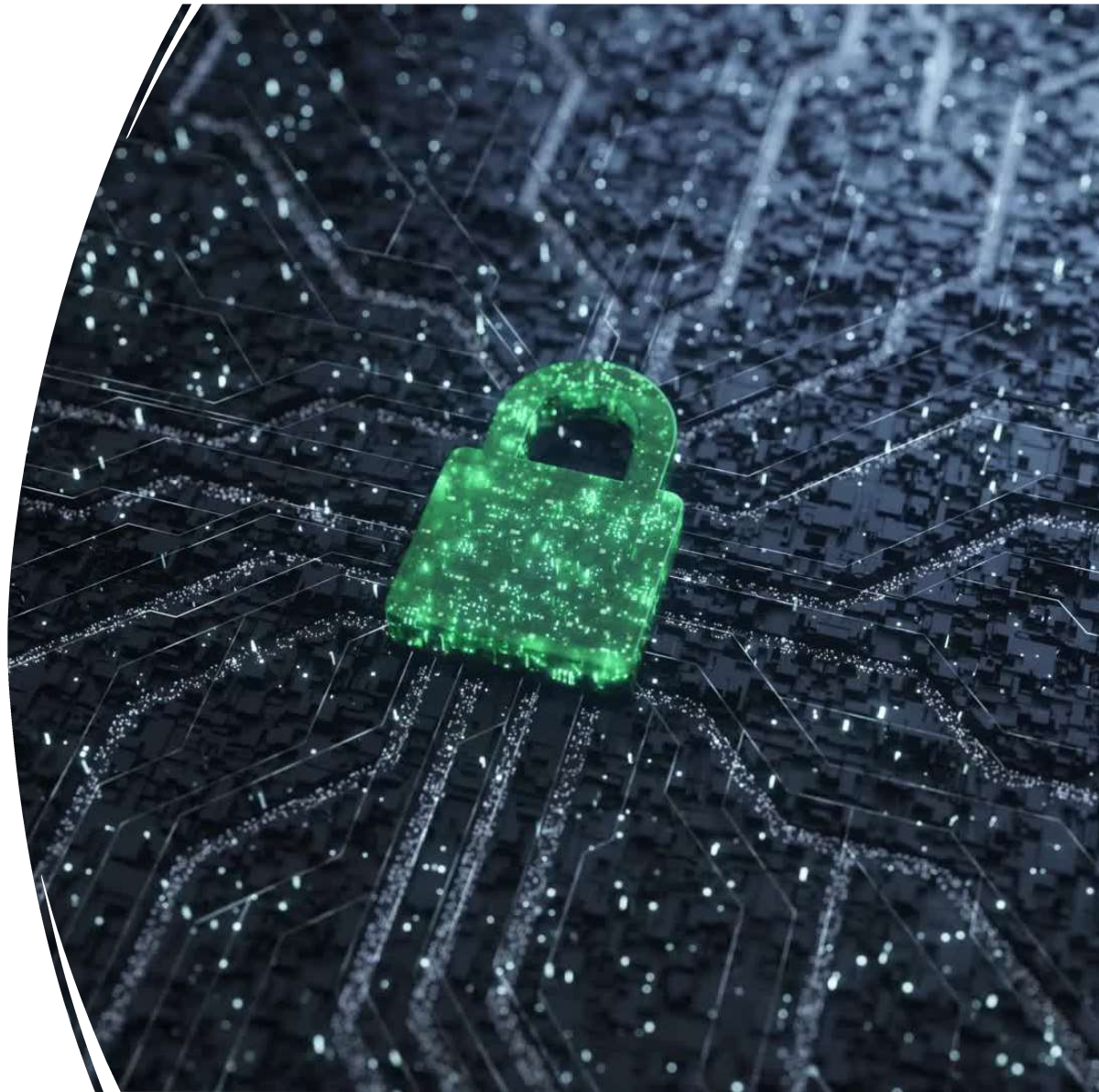
Roll out to specific VIPs

Restrict users by email address

Able to implement a request system but eventually allow seamless shortening

Passwordless Authentication

- All you need to memorize is your email; not another password.
- Reduces possible attack vectors for hackers.



Streamlined User Experience

A trusted user logs in



Creates a new short URL



Link is immediately ready for use.

A QR Code can be generated, or the short URL can be copied directly.



← with a logo for branding, too!



Utility & Impact

The diagram features a dark gray background with a light gray diagonal stripe running from the top right to the bottom right. In the center is a white icon of a person. Three arrows point towards this icon: a large orange arrow from the top, a yellow arrow from the bottom left, and a gray arrow from the bottom right.

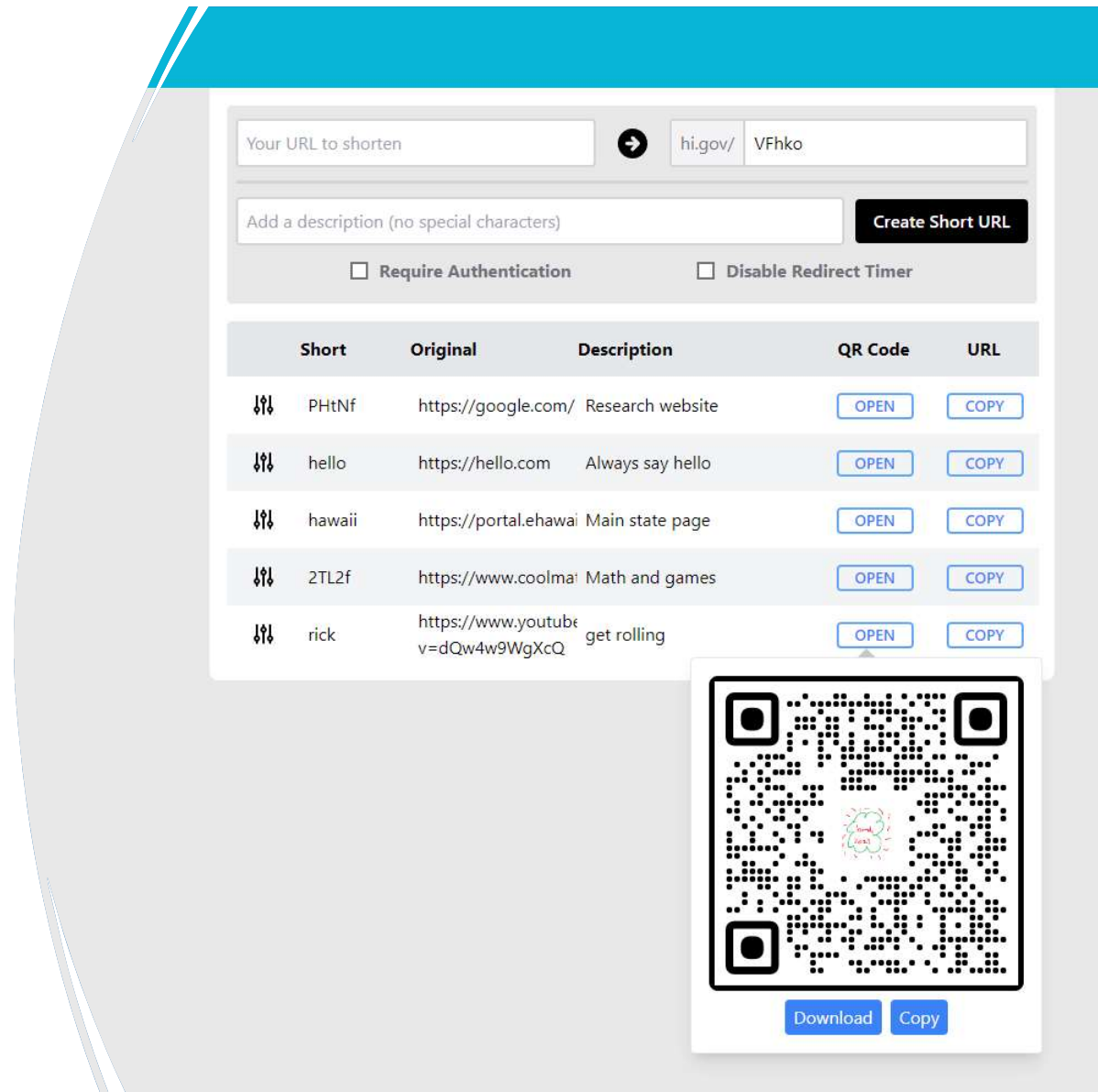
Impact on
current and new
users

User-friendly
Interface

Creating Positive Change

Designing for the end user

- Key values
 - Simple
 - Intuitive
 - Responsive
- Vision
 - Accessible
 - Broad coverage

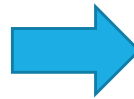


UTILITY — ETS ADMINS

Currently

Admins manually configures a short URL by editing the primary webserver.

- Time consuming process
- Manually remove and manage URLs
- Possibility for human error



With our solution

Links are created and stored in a database

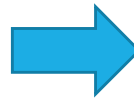
- Easy to manage database
- Analytics console
- Low maintenance

POSITIVE CHANGE — STATE WORKERS EVERYWHERE

Currently

Send a request to ETS admins

- Wastes time waiting for response
- Share hard to read long links
- Contact ETS for any changes/removal
- Users may become impatient and use 3rd party shorteners instead.



With our solution

Easily create and manage links from anywhere

- Share secure links
- Increase communication efficiency
- Instantly share via links or QR codes
- Share links for internal or external use
- Update and remove links in real time

A close-up, artistic photograph of a camera lens. The lens is dark and occupies the right side of the frame. The background is dark with soft, out-of-focus light spots (bokeh) in shades of blue, green, and yellow. The text "Solution Demo" is centered over the lens area.

Solution Demo




Authentication

Email

example@email.com

[Login](#)



Your URL to shorten  hi.gov/ 9JStj

Add a description (no special characters) [Create Short URL](#)

☐ Require Authentication ☐ Disable Redirect Timer

Short	Original	Description	QR Code	URL
 PHtNf	https://google.com/	Research website	OPEN	COPY
 hello	https://hello.com	Always say hello	OPEN	COPY
 hawaii	https://portal.ehawai	Main state page	OPEN	COPY
 2TL2f	https://www.coolma	Math and games	OPEN	COPY
 rick	https://www.youtube v=dQw4w9WgXcQ	get rolling	OPEN	COPY



That's all, thank you!