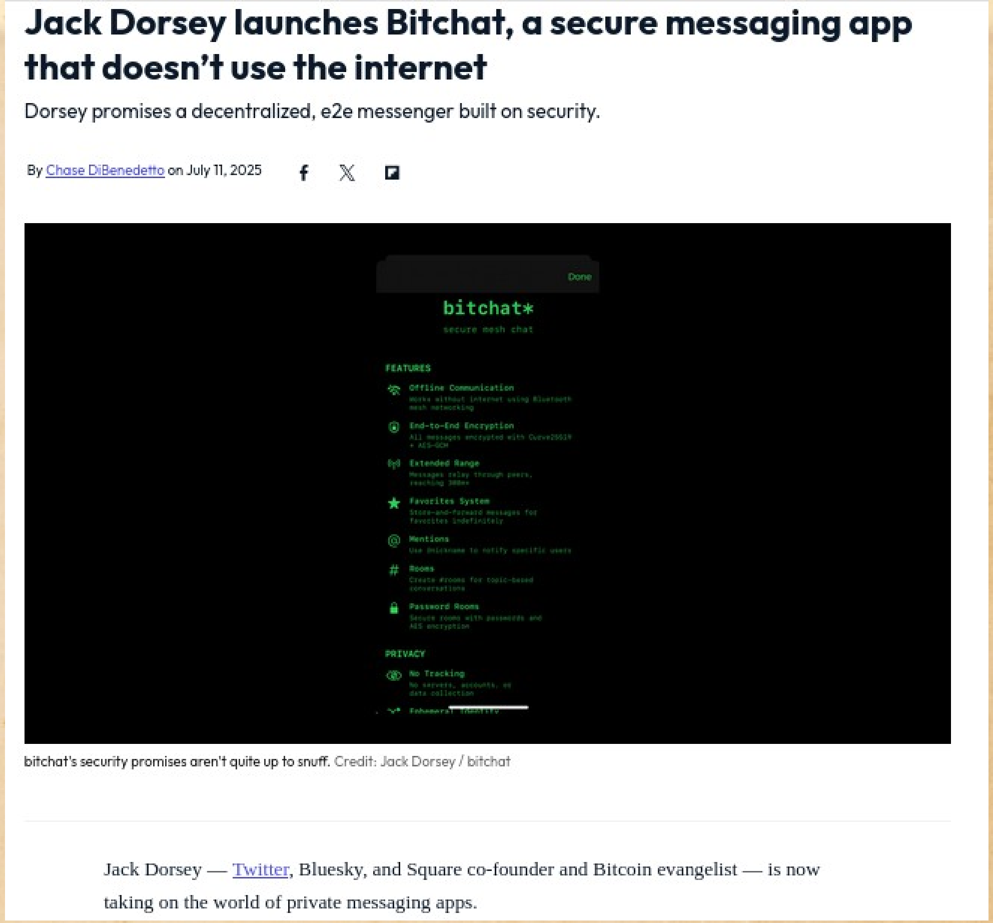
The BitChat protocol
an early review

- new peer-to-peer chat app
  - using Bluetooth Low Energy/BLE for mesh networking
- decentralized internet backup for long-distance communication
- continued development
- comparison to a similar research project

July 6, 2025



Jack Dorsey launches Bitchat, a secure messaging app that doesn't use the internet

Dorsey promises a decentralized, e2e messenger built on security.

By Chase DiBenedetto on July 11, 2025

Done

bitchat*

secure mesh chat

FEATURES

Offline Communication
Works without internet using Bluetooth mesh networking

End-to-End Encryption
All messages encrypted with Curve25519 + AES-GCM

Extended Range
Messages relay through peers, reaching 300m+

Favorites System
Store-and-forward messages for favorites indefinitely

Mentions
Use @nickname to notify specific users

Rooms
Create #rooms for topic-based conversations

Password Rooms
Secure rooms with passwords and AES encryption

PRIVACY

No Tracking
No servers, accounts, or data collection

Ephemeral Identity

bitchat's security promises aren't quite up to snuff. Credit: Jack Dorsey / bitchat

Jack Dorsey — Twitter, Bluesky, and Square co-founder and Bitcoin evangelist — is now taking on the world of private messaging apps.

BIT

- https://mashable.com/article/jack-dorsey-messaging-app-bitchat

Peer-to-peer human-to-human communications: text messaging

- BitChat is a new (2025) peer-to-peer chat app
- also providing a decentralized internet backup for long-distance communication
- continued developments:
  - about 50 distinct contributors each on the iOS and Android apps
  - iOS: 822 commits, including 74 in January 2026
  - Android: 442 commits, including 49 in January 2026

Peer-to-peer (p2p) chat app

- Bluetooth Low Energy (BLE) mesh communications
- each device may originate, receive, and forward messages
- works well with high density of devices
- independent of the Internet
- free: open source, free download, no advertising

Backup connection: decentralized internet storage for BitChat

- the Nostr network consists of volunteer relay nodes that cache content identified by the poster’s signature
- nodes are connected to and reachable over the Internet
- “The simplest open protocol that is able to create a censorship-resistant global "social" network once and for all.”

  (nostr-protocol

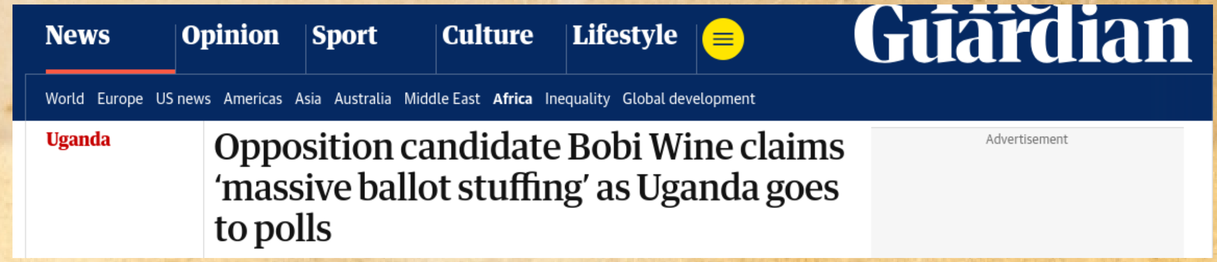
  on github)

BitChat, Direct Messages, and Nostr

- users can exchange keys and send direct messages to each other
- the messages are forwarded over the mesh and end-to-end encrypted
- keys are verified via QR code
  - in earlier versions, fingerprint verification was optional
- when the peer is not on the mesh and I am connected to the Internet, I store the message on Nostr, where my peer can retrieve it

Real-World: 2026 Presidential Election in Uganda

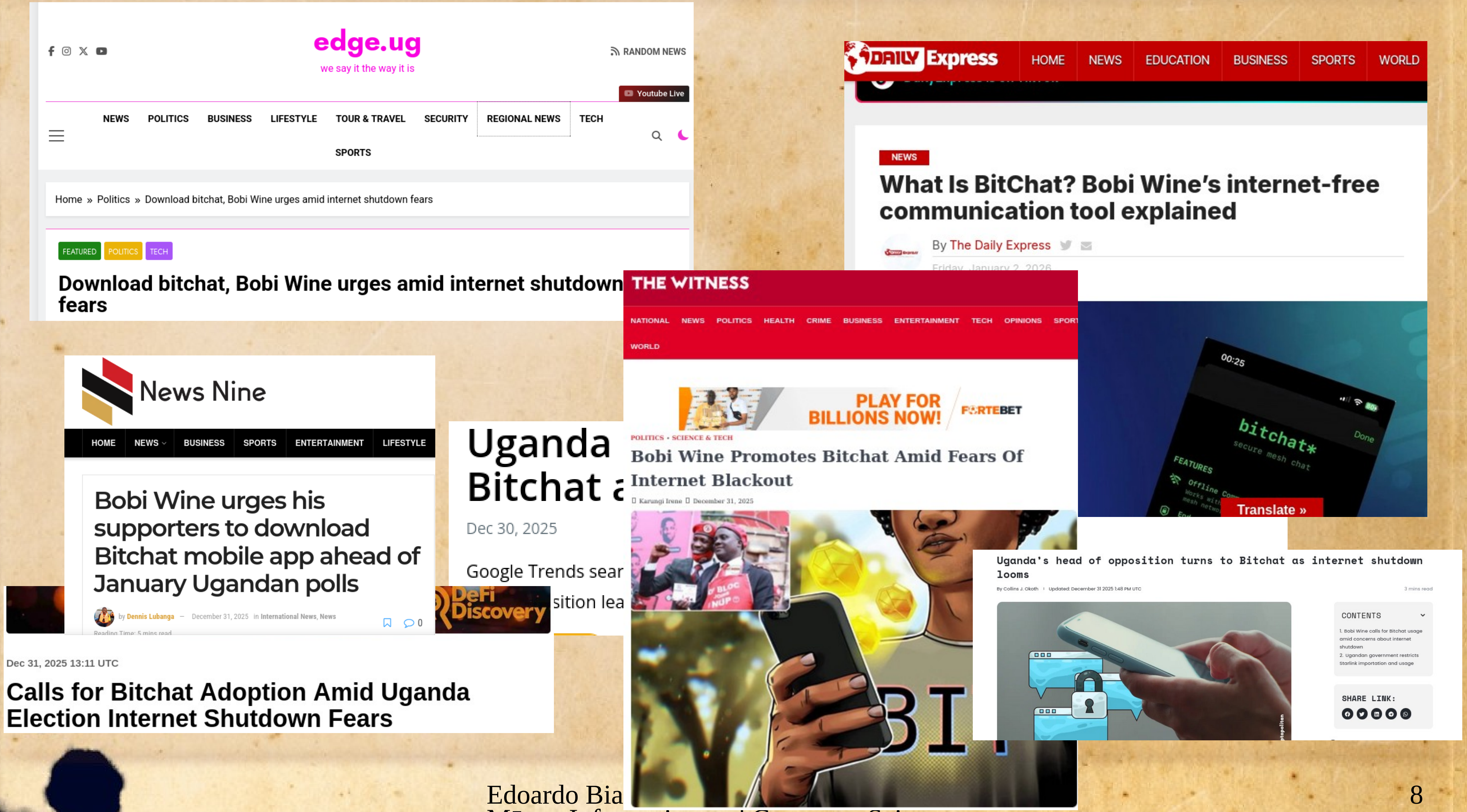
- Opposition leader Bobi Wine (Robert Kyagulanyi) urged his supporters to download BitChat ahead of the presidential election, expecting the government to cut off Internet access
- https://www.news9.africa/news/bobi-wine-urges-his-supporters-to-download-bitchat-mobile-app-ahead-of-january-ugandan-polls-11059/
- https://dailyexpress.co.ug/2026/01/02/what-is-bitchat-bobi-wines-internet-free-communication-tool-explained/
- https://witnessug.com/politics/bobi-wine-promotes-bitchat-amid-fears-of-internet-blackout/
- https://edge.ug/download-bitchat-bobi-wine-urges-amid-internet-shutdown-fears/
- https://cointelegraph.com/news/uganda-opposition-leader-promotes-bitchat-amid-fears-of-internet-blackout
- https://www.cryptopolitan.com/ugandas-head-of-opposition-bitchat/
- https://defi-discovery.com/news/bobi-wine-bitchat-uganda-election/
- The Ugandan government did indeed shut off the Internet



Uganda

Opposition candidate Bobi Wine claims ‘massive ballot stuffing’ as Uganda goes to polls

Decentralized Communications are harder to shut down



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What Is BitChat? Bobi Wine's internet-free communication tool explained

By The Daily Express

Friday, January 2, 2026

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Bobi Wine Promotes Bitchat Amid Fears Of Internet Blackout

Karungi Irene December 31, 2025

News Nine

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Bobi Wine urges his supporters to download Bitchat mobile app ahead of January Ugandan polls

by Dennis Lubanga — December 31, 2025 in International News, News

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Reading Time: 5 mins read

Uganda Bitchat a

Dec 30, 2025

Google Trends sear
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DeFi Discovery

Dec 31, 2025 13:11 UTC

Calls for Bitchat Adoption Amid Uganda Election Internet Shutdown Fears

Uganda's head of opposition turns to Bitchat as internet shutdown looms

By Collins J. Okoth | Updated: December 31 2025 1:48 PM UTC 3 mins read

CONTENTS

1. Bobi Wine calls for Bitchat usage amid concerns about internet shutdown
2. Ugandan government restricts Starlink importation and usage

SHARE LINK:

a similar research project

- AllNet, begun in 2011
- one steady (but busy) researcher, maybe a dozen students and friends and relatives, 4 regular users including the author
- uses 802.11 in peer-to-peer mode (Independent Basic Service Set, IBSS)
  - 802.11 p2p is not supported on iOS
- and a Distributed Hash Table (DHT) for Internet backup
- studied how to integrate Bluetooth mesh networking, but do not (yet) support BT/BLE

https://alnt.org

Similarities between BitChat and AllNet

- peer-to-peer communications
  - with Internet (when available) for backup
- private messages are encrypted
  - privacy by default!
- broadcast messages are signed
- secure exchange of public keys
  - with a QR code for BitChat, a shared secret random string for AllNet
-

Comparison of BitChat and AllNet

- BitChat:
- many users and developers
- messages and chats are ephemeral (IRC model)
  - easy to start using
  - history is easily deleted
- leverages Nostr
- geohash-based chat rooms:
  - bitchatexplorer.com
  - bitmap.lat
  - bitchat.land
-

- AllNet:
- small group of steady users, a handful of developers
- messages and chats are kept until manually deleted (email model)
  - exchange keys before using
- messages are cached and forwarded until acknowledged
- created custom Distributed Hash Table/DHT
- supported on desktops as well as iOS

Explanations for the quick success of BitChat

- supported by a famous person
- quickly became known and inspiring among technical people interested in security and privacy
- developers created and are supporting very functional apps on iOS and Android
- designed and implemented a very effective p2p communication protocol, including cross-platform mesh communications over BLE
  - problem: the average person still has not heard of BitChat
  - not a problem: ignoring the desktop

Successes so far

- “Bitchat has surged to the top of Apple and Google app stores in the African country after clocking more than 28,000 downloads in 2026”, and “Its usage has also jumped more than three times in Iran” reuters, Jan 14 2026
- recent improvements include:
  - support for multimedia
  - QR codes for key exchange
- continuing evolution

BIT

Mesh Networking

- in the Internet, some machines act as routers to connect other machines (hosts, end systems, clients, servers) to the Internet
- with a sufficient density of wireless devices, each can connect to the next, broadcasting data to all
  - which can lead to snooping
- encrypted data is seen by all, but only decrypted by the intended receiver
- gets around internet blackouts