


Jami and how it empowers users

LibrePlanet 2021

Amin Bandali



What is Jami?



Jami is free software for universal communication
that respects the freedom and privacy of its users



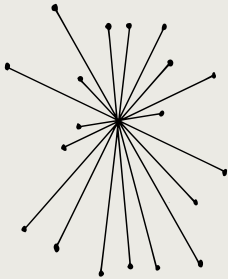
Jami is developed by **Savoir-faire Linux**® based in Montréal, Canada. Savoir-faire Linux is a team of free software consultants providing training, consulting, development, and support services for free software technologies.

- one-on-one conversations
- file sharing
- audio/video calls & conferences
- screen sharing in video calls & conferences
- recording & sending audio/video messages
- SIP phone software functionality
- cross-platform communication framework

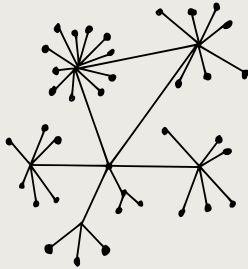
Architecture overview

Jami is

an **end-to-end encrypted** secure
and **distributed** voice, video,
and chat **communication platform**
that requires **no central server**
and leaves the power of **privacy**
and **freedom** in the hands of *users*



Centralized



Decentralized

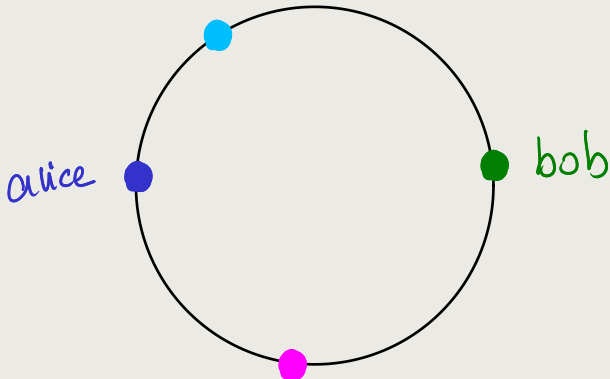


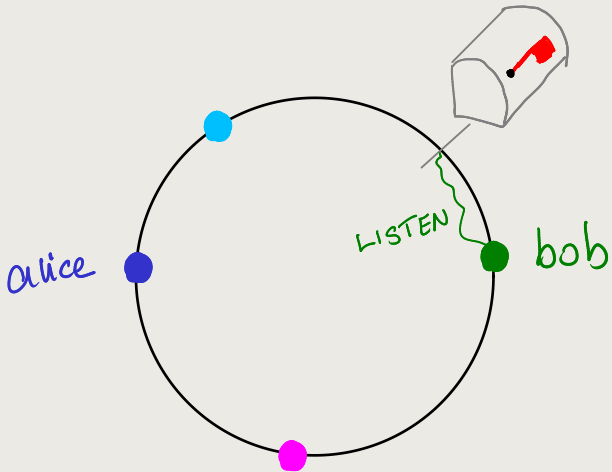
Distributed

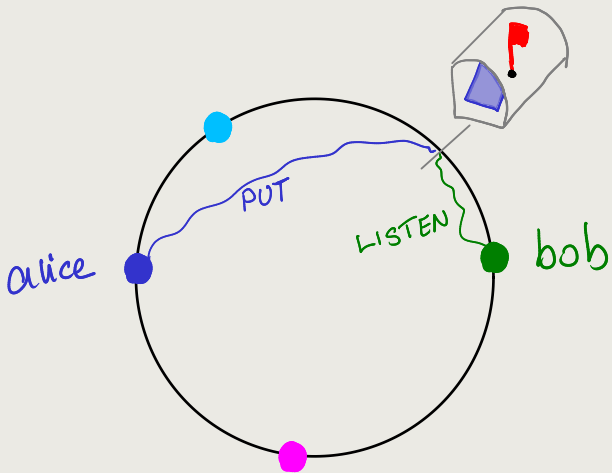
OpenDHT



- lightweight and scalable, designed for large networks and small devices
- high resilience to network disruption
- IPv4 and IPv6 support
- clean and powerful C++14 *map* API
- C, Rust, and Python 3 bindings
- public key crypto layer providing optional data signing and encryption (using GnuTLS)
- REST API with optional HTTP client+server and push notification support









TLS
ICE



SIP
TLS
ICE



SRTP

SIP

TLS

ICE



Development news

- many connectivity improvements
- automatic video bitrate adjustment
- detached host rendezvous points
- notification improvements
- bidi text in the chat view
- video renderer improvements
- conference call moderation
- improved error handling
- object copy reductions
- plugin API overhaul
- ... and more!

Rendezvous points

Windows taskbar icons: Start button, File Explorer, Microsoft Edge, Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Microsoft Teams, and System tray (Network, Volume, Battery, Time: 12:00 PM, Date: 11/12/2019).

Microsoft Teams window title: Michael (michaeli) [Settings] [Maximize] [Close]

Search: Find or start a co... +

Participants list:

- Bruce Hay... (brucehayler) - Talking
- John Sawyer (johnsawyer) - Talking
- Oliver (olivier56) - 16:40
- Will Do... (willdoohan) - 2019-11-12
- Daniell... (danielleca) - 2019-11-12
- Justin C... (justinclark) - 2019-11-12
- Rocio (roci26) - 2019-11-12
- Laura Sc... (laurascott) - 2019-11-12
- Camille (camille33) - 2019-11-12
- Marc (marc258) - 2019-11-12
- Lyna La... (lynalaurens) - 2019-11-12
- Lena Kean (lenakean) - 2019-11-12
- Julie (julie42) - 2019-11-12

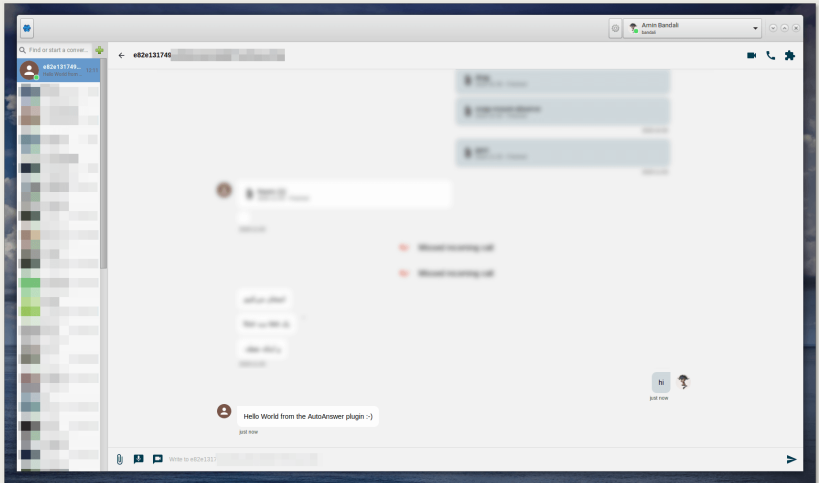
Current Call: John Sawyer (johnsawyer) - Talking 00:41

Video thumbnails:

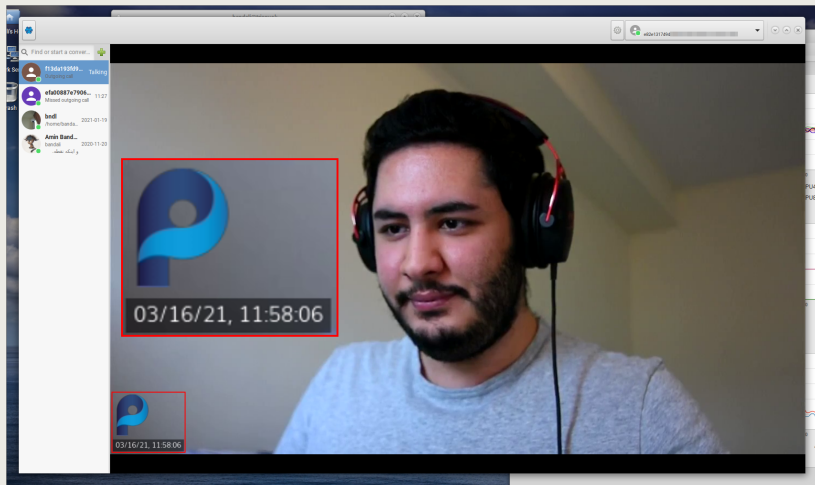
- John Sawyer: A man wearing a red beanie and a dark jacket, smiling, with a beach and ocean in the background.
- Participant 2: A close-up portrait of a man with wavy brown hair.
- Participant 3: A man in a blue t-shirt looking upwards, with a building and plants in the background.

Call controls: End call, Add participants, Mute, Unmute, Video on, Video off, Chat.

Plugins



AutoAnswer



WaterMark

discover more Jami plugins

jami.net/plugins

learn more about the plugins SDK

jami.net/plugins-sdk

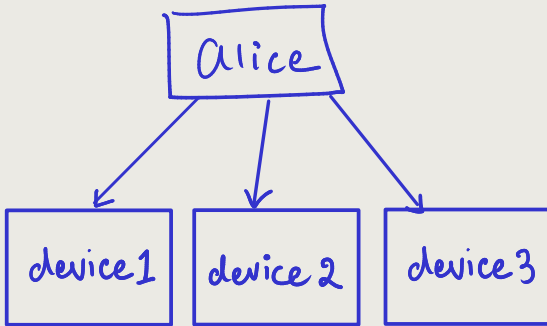
discover more Jami plugins

jami.net/plugins

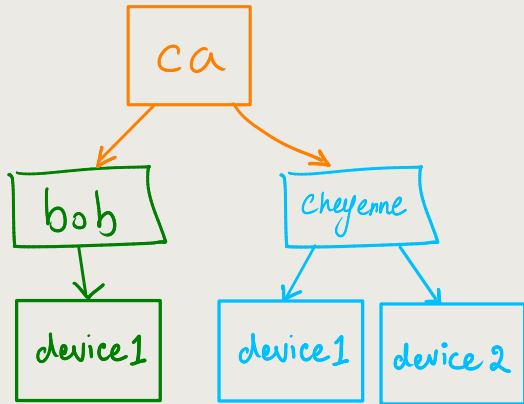
learn more about the plugins SDK

jami.net/plugins-sdk

JAMS

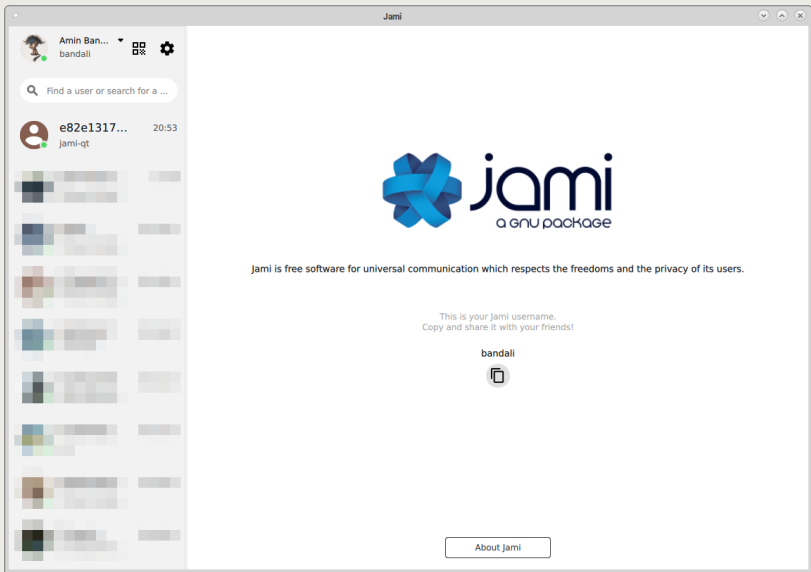


Jami account & device management

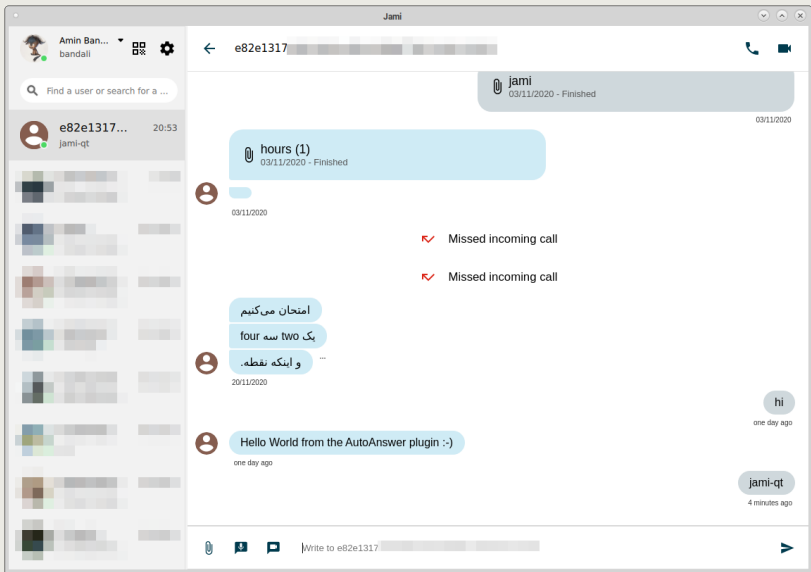


Jami account & device management (with JAMS)

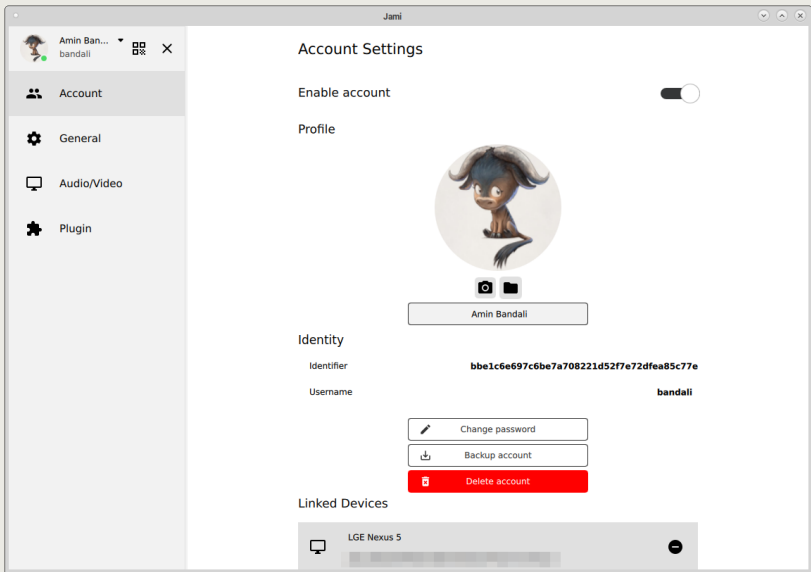
jami-qt **client**



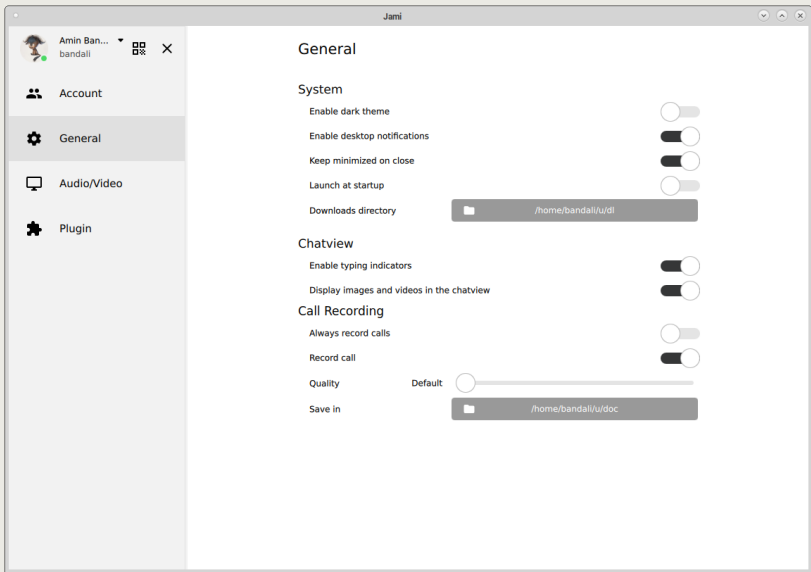
jami-qt - main window



jami-qt - chat view

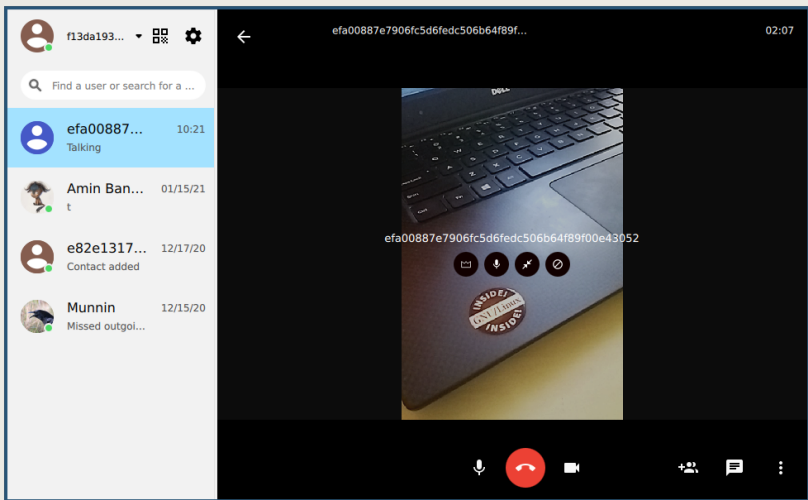


jami-qt - settings view (account)



jami-qt - settings view (general)

Moderation



jami-qt - moderation

Swarm chat

characteristic features of swarm chats:

- split and merge based on connectivity
- message history synchronization
- no central authority or server
- non-repudiation: each device must be able to verify validity of old messages and replay the whole history
- PFS during transport
- device-local storage

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four modes for swarm chats:

- 1-to-1 (conversation with another Jami user)
- admin-invite-only (e.g. a class where the teacher can invite people, but not students)
- invite-only (a private group of friends)
- public (a public chat forum)

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each conversation will be a git repository

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reasons for using git include:

- need to synchronize and order messages
- git is distributed by nature
- widely used and popular
- can verify commits using hooks and cryptographic signatures
- can be stored in a database if needed
- conflicts arising from splits/merges are much better handled by using commit messages rather than files

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demo time!

download jami-qt
jami.net/download

Community

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- `forum.jami.net`
- `jami@gnu.org`
- `#jami` on freenode
- `git.jami.net`
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Thanks !

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(GPLv3+)