



Introducing SyncStar

Create Bootable Media At Conference Kiosks



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Foundation

আধাৱ / प्रतिष्ठान



Introduction

পরিচয় / परिचय

- Working as Senior Software Engineer

Fedora Infrastructure and Release Engineering
Red Hat Community Linux Engineering

- Served in Fedora Council

Previously as a community initiative lead
Recently as an elected representative

- Mentored in Outreachy Internships

Previously in the Fedora Websites and Apps team
Recently in the Fedora Infrastructure team

- Speaking in FOSS Events

Multiple talks in FOSDEM and CentOS Connect
Representation during Fedora Project events





Fedorator

কেডোরটাৰ / फेडोरैटर

- Kiosk Self-Service Device

Writes Fedora Linux image onto USB flash drives
Intended to be used in Fedora Project booths

- Hardware in Building Service

Touchscreen was used with two open USB ports
Raspberry Pi was placed in a 3D printed case

- Powered by Open Source

Codebase made in Python is free and open source
Anyone with these resources could make these

- Built during Flock 2017

Workshop initiative was driven by David Labsky
Around seven documented managers present

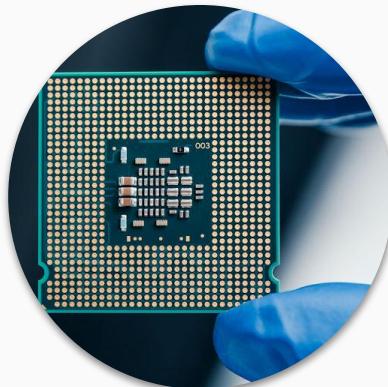


Challenges

आशन / चुनौतियाँ

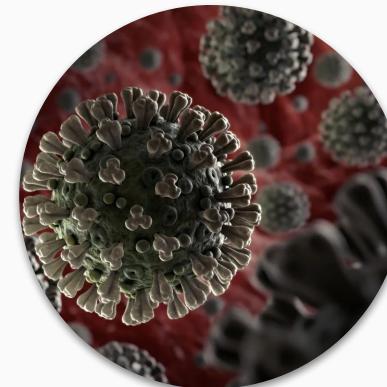
- Global Semiconductor Shortage

Raspberry Pis and other devices were inaccessible
Logistics hurt several regions worldwide



- Paused In-Person Conferences

People could not meet due to COVID 19 pandemic
Not much effectiveness in online conferences



- Availability of 3D Printers

Access to 3D printers and touchscreens was less
Increased the barrier of entry for managers



- Poor Presence On Resuming

Less interest when in-person conferences started
Lack of capital to spend on newer resources

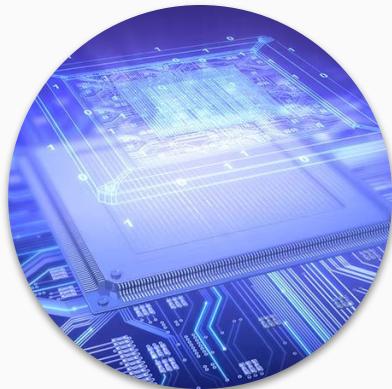


Objective

ଓଡ଼ିଆ / ଉତ୍ତରାଷ୍ଟ୍ରୀ

- Reduced Hardware Dependence

No Raspberry Pis? No touchscreen? No problem
Project can run everywhere with a USB port



- Improved Self-Service Interaction

User interaction can happen on a separate device
Headless service has browser based frontend



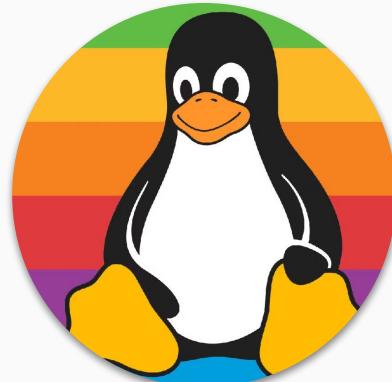
- Tried, Tested and Ergo Trusted

100% functional coverage with over 46 testcases
Packaged and published on Fedora and PyPI



- Support for Literally Everyone

Support for all GNU/Linux distributions available
Try the service out in your conference kiosk





Architecture

शापडा / वास्तुकला

- **Uses Flask and Celery**

Keeps it convenient with the scaling up complexity
Allows for tracking tasks reliably and flexibly

- **Convert and Copy Files**

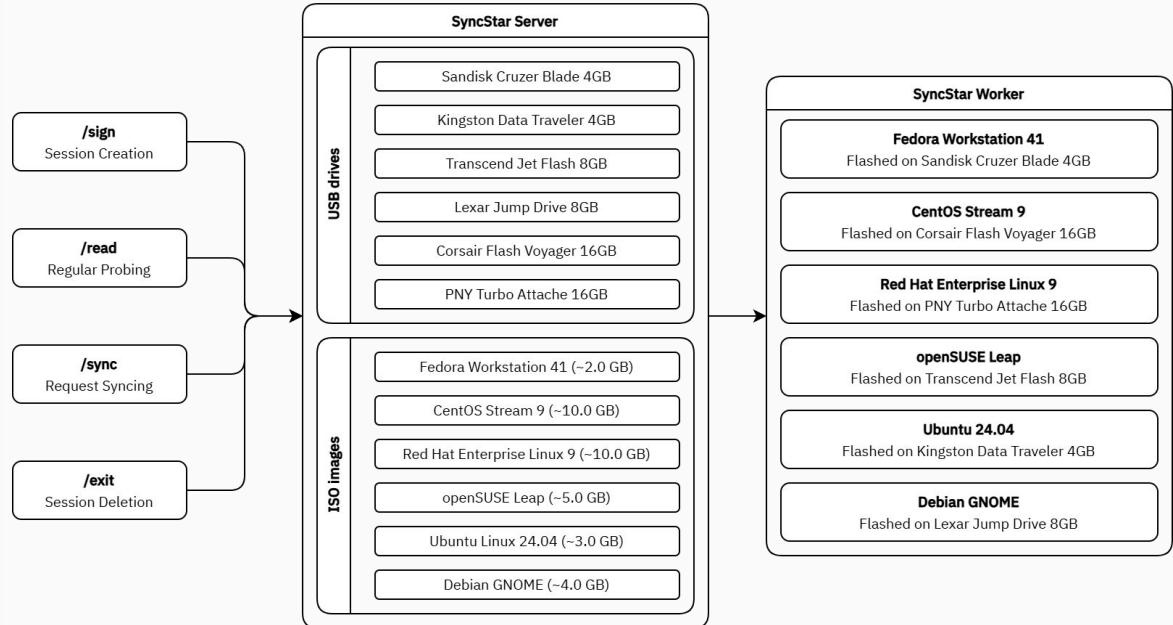
Wraps GNU CoreUtils DD for actual synchronizing
Nature of the ISO image is retained on flashing

- **ReactJS-Based Frontend**

Makes it simple with the foundational components
Easy to achieve community of contributors

- **Only Four Basic Endpoints**

Parallelism is supported in the miniature processes
Automated with more USB ports and more OSes





Robustness

বর্ণিতা / মজবুতি

- Insufficient capacity

Synchronization is aborted if size is excessive
Visual cues are provided to inform issues

- Authenticated endpoints

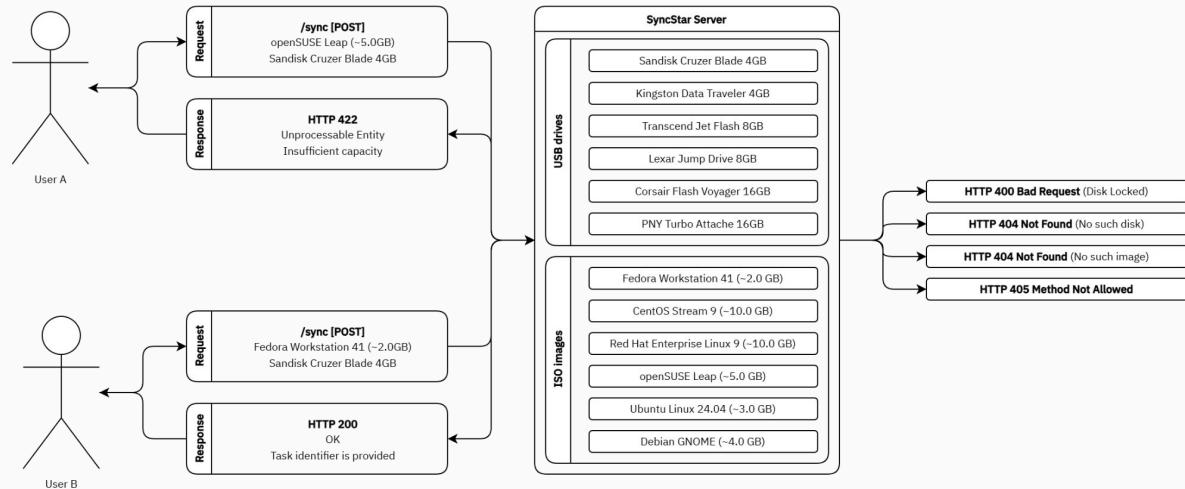
All endpoints require an existing session to operate
Should be safe in a relatively open network too

- Improper methods

Operations will not work without proper methods
Safeguards against mistakenly opening links

- Absent specificities

Synchronization does not progress without assets
Requested images and drives are required





Scenario

दृष्टकम् / परिदृश्य

- Initializing the Kiosk Service

Setup the service on the conference booth device
Open up the dashboard in the same network

- Welcoming the Booth Visitors

Present the branded USB drives on the booth desk
Allow the visitors to explore the swags available

- Propagate the FOSS Distribution

Let the visitors start the synchronization process
Strike up a conversation while it progresses

- Continue in Careful Discretion

Allow other attendees to use their USB flash drives
Advertise for participation in the community



my Galaxy E62

2024 10:34



Deployment

विश्वासि / परिनियोजन

- Engaging Presentation

Delivered a presentation for background info
Had a participation of about eighty people

- Randomized Raffle

Aaditya Singh and Siddhartha Sitaula helped
Flash drives awarded to correct answers

- Roleplaying Events

Sumantra Mukherjee and Justin Wheeler helped
Enacted the visitor and attendant interaction

- Flashing Procedure

SyncStar booth established near registration
Winners were provided distribution of choice





Workshop

কর্মশালা / কার্যশালা

Illustrations

दृष्टान्त / चित्रण

SyncStar

v0.2.0

Available

- Fedora Workstation 41 (Requires at least 2.29 GiB of storage)
- Fedora Workstation Rawhide (Requires at least 2.29 GiB of storage)
- CentOS Stream 9 (Requires at least 11.23 GiB of storage)
- OpenSUSE Leap 15.6 (Requires at least 4.31 GiB of storage)
- EndeavourOS Neo 22-Sep-2024 (Requires at least 2.77 GiB of storage)
- Solus GNOME 14-Oct-2024 (Requires at least 2.85 GiB of storage)
- Debian 12.8.0 (Requires at least 3.72 GiB of storage)
- Ubuntu Desktop 24.04.1 (Requires at least 5.78 GiB of storage)

Preparing

You have selected the following USB storage device.

Kingston DT_101_G2 (3.61 GiB on /dev/sdc) (9703880E)

Choose from the following images for synchronization.

- Fedora Workstation 41 (Requires at least 2.29 GiB of storage)
- Fedora Workstation Rawhide (Requires at least 2.29 GiB of storage)
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No images selected

Sync Back

Progress

No running synchronizations detected

Last updated on 21:21:58 12/03/24 IST

Logout



SyncStar

v0.2.0

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- CentOS Stream 9 (Requires at least 11.23 GiB of storage)
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SyncStar

Please sign in to continue

Username: Password:

Sign in

Pending

- SanDisk Cruzer_Blade (28.32 GiB on /a) (88EC35BA)
- hp v228w (14.45 GiB on /a) (39EF8151)
- hp v210w (15.12 GiB on /a) (52A66AB5)
- Kingston (3.61 GiB on /a) (9703880E)
- SanDisk C (1.86 GiB on /a) (87707854)
- Sony Storage_Media (28.88 GiB on /dev/sdf) (DCCDA991)

Progress

No running synchronizations detected

Last updated on 21:22:37 12/03/24 IST

Logout

Participation

অংশগ্রহণ / सहभागिता





Volunteers

व्याख्यामेवक / स्वयंसेवक



Attendant

- Welcome the **attendee** to the conference booth
- Share about the GNU/Linux distribution represented
- Guide the **attendee** into using the kiosk service
- Allow the **attendee** to take away the USB flash drive
- Initiate a relevant conversation with the **attendee**



Attendee

- Come to the **attendant** at the conference booth
- Inquire about the GNU/Linux distribution represented
- Ask the **attendant** about using the kiosk service
- Ask the **attendant** if the USB flash drives are swags
- Initiate a relevant conversation with the **attendant**



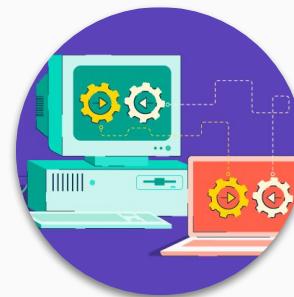
Rationale

न्योक्तिकाला / औचित्य



Engagement

- Preflashed drives might not be suited or trusted
- Walking through the syncing process is empowering
- Opportunities to build community connections
- Encourage sustainability with bring-your-own-drive
- Visitors can take the environment for a spin



Compatibility

- Preflashed drive might not account for hardwares
- Recent version of operating system can be provided
- USB drives can later be used for other purposes
- Different requirements can be addressed with spins
- Visitors can verify the synced image for integrity



Thank you

ধন্যবাদ / ଧନ୍ୟବାଦ

Contact

Fedora. <https://fedoraproject.org/wiki/User:T0xic0der>
GitHub. <https://github.com/gridhead>
LinkedIn. <https://www.linkedin.com/in/gridhead>
PyPI. <https://pypi.org/user/t0xic0der/>
Telegram. <https://t.me/gridhead>
Twitter. <https://x.com/gridheader>

Project

Fedora. <https://src.fedoraproject.org/rpms/syncstar>
GitHub. <https://github.com/gridhead/syncstar>
Packages. <https://packages.fedoraproject.org/pkgs/syncstar/>
PyPI. <https://pypi.org/project/syncstar/>
Updates. <https://bodhi.fedoraproject.org/updates/?packages=syncstar>
Magazine. <https://fedoramagazine.org/introducing-syncstar/>

