

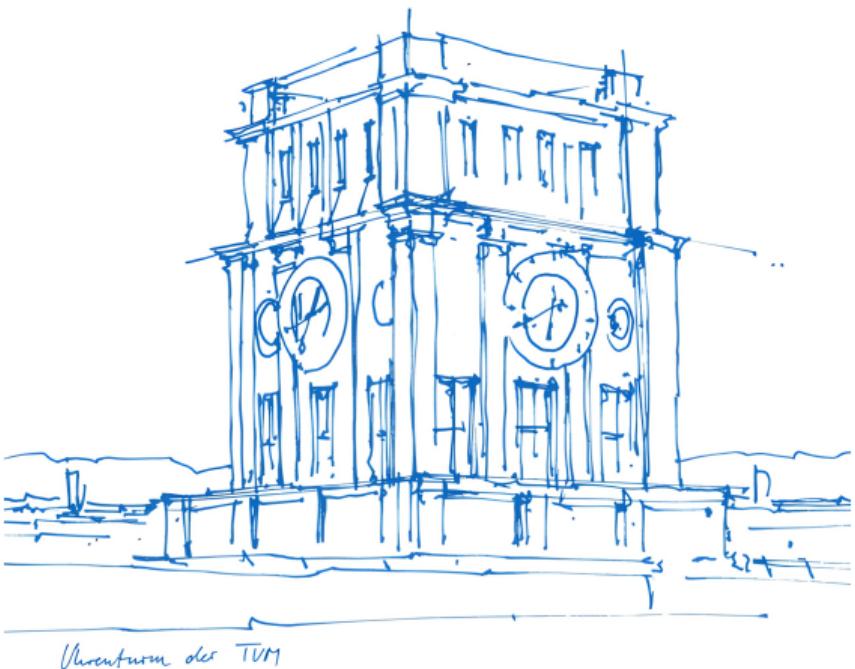
Open Source Lab

Source Code Hosting

Fabian Sauter, Christian Menges, Alexander Stephan

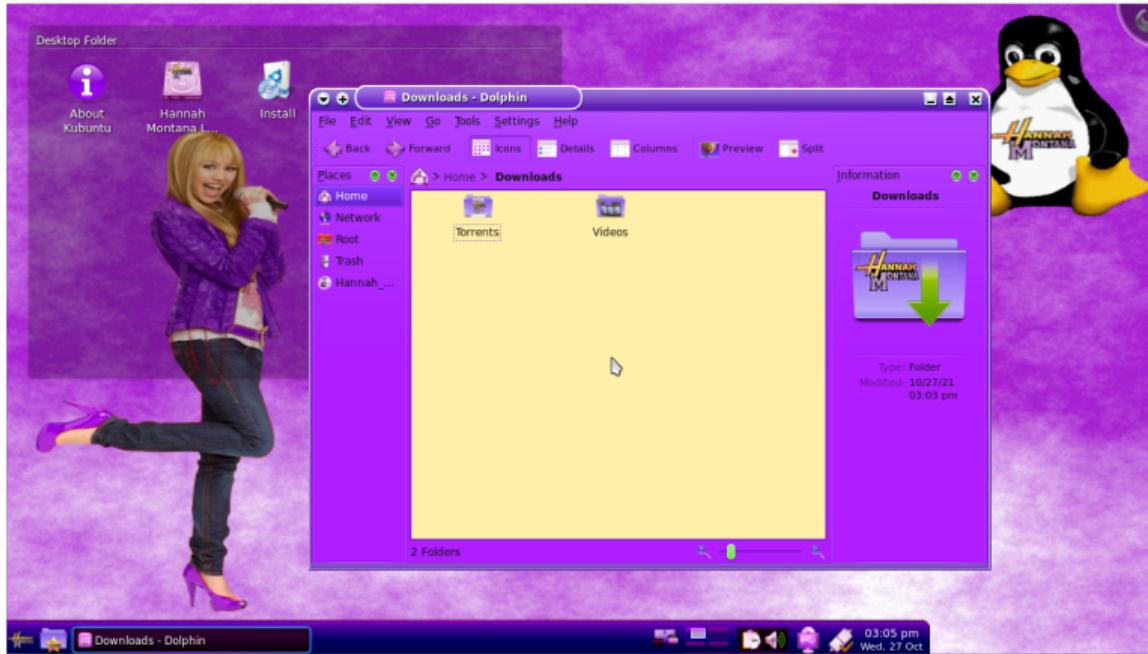
Chair of Connected Mobility
TUM School of Computation, Information and Technology
Technical University of Munich

Garching, November 22, 2022

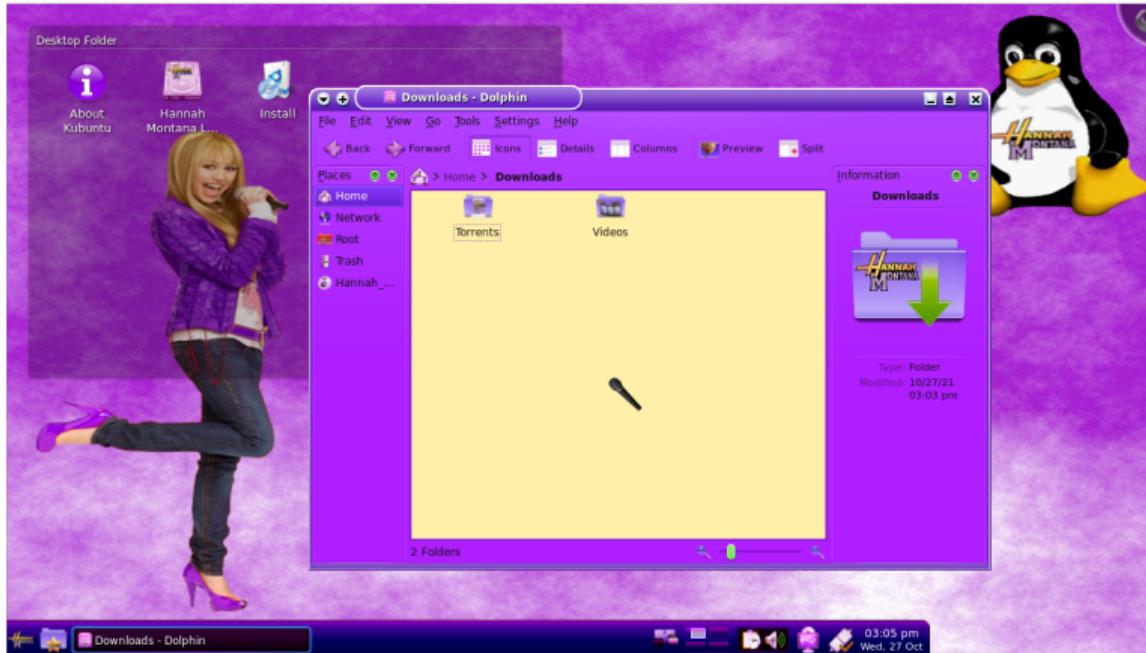


Why?

A “free” Backup



A “free” Backup



A Way to Publish

A Way to Publish

softonic APPS SPIELE ARTIKEL Suchen Sie nach Apps, Artikeln,... Q Windows

» Windows » Werkzeuge

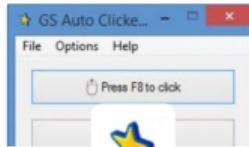
Werkzeuge für Windows

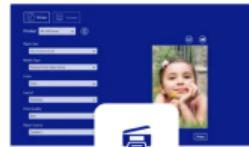
Werkzeuge Subkategorie Lizenz

Essentials Werkzeuge

Von Softonic empfohlen

 **DroidCam**
Mit DroidCam das Smartphone als Webcam am PC benutzen

 **GS Auto Clicker**
Kostenlose Software GS Auto Clicker ermöglicht die Aufzeichnung von...

 **Epson Print and Scan**
Kostenloses Tool für ein neues Druck- und Scancerlebnis

			
Download	Download	Download	
3.8 ★	4 ★	2.9 ★	
KOSTENLOS	KOSTENLOS	KOSTENLOS	

Empfohlene Artikel

 Nachrichten
Alles was Sie über den neuen Disney-Plus-...
[Mehr info](#)

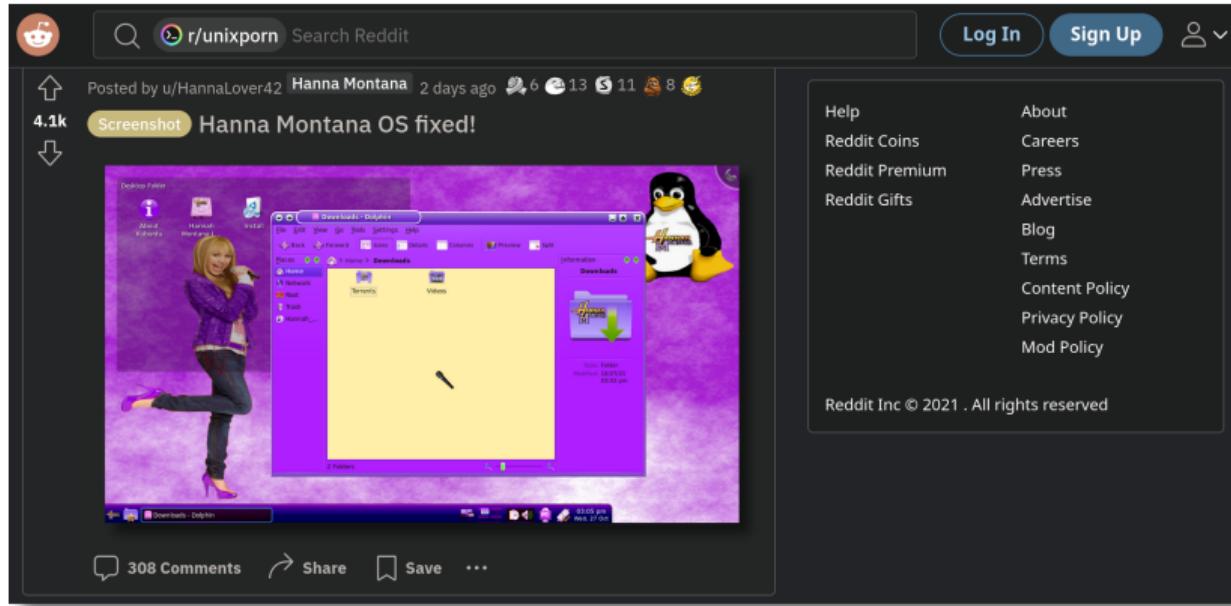
 Gesponsert
IObit ist wieder ganz vorne dabei – Advanced...
[Mehr info](#)

 Nachrichten
Vegas Pro 18 – schneller, einfacher und intelligente...
[Mehr info](#)

 Artikel
Top 10 National Geographic...
[Mehr info](#)

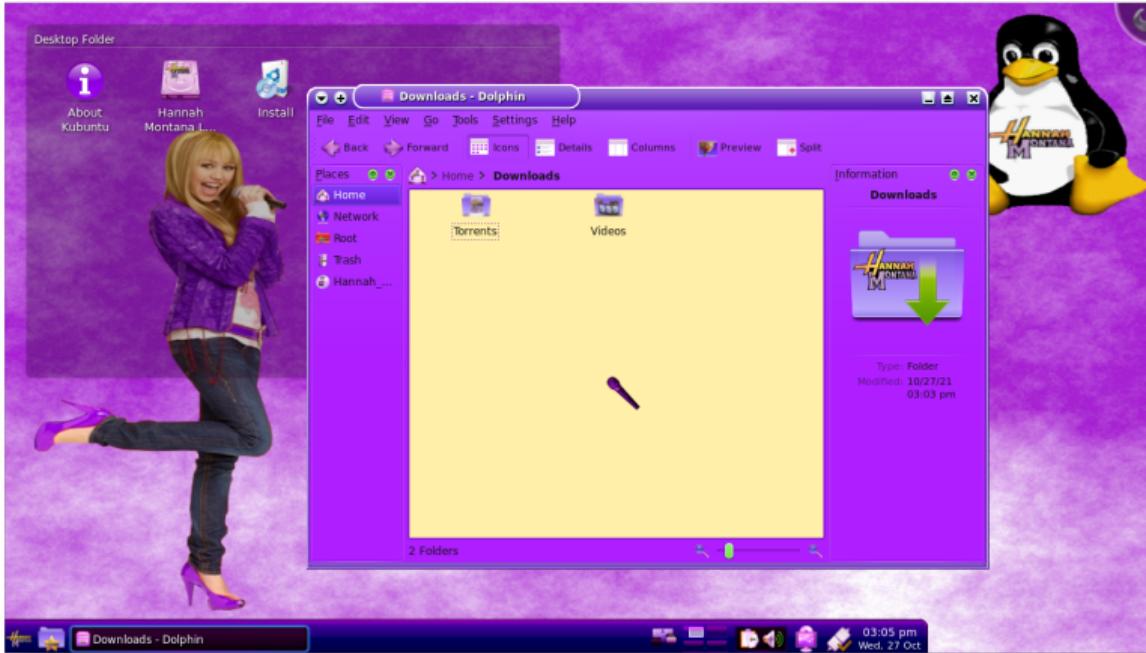
 Artikel
Top 10 animierte Disney Filme

Managing the Clouds



A screenshot of a Reddit post from the subreddit [r/unixporn](#). The post was made 2 days ago by user [u/HannaLover42](#) and has received 4.1k upvotes. The title of the post is "Screenshot Hanna Montana OS fixed!". The image shows a Linux desktop environment with a purple theme. A wallpaper of Hanna Montana is visible. A terminal window titled "Downloads - Dolphin" is open, showing a file named "Hanna Montana 14.05.2020 00.43 pm". The desktop also features icons for "Desktop Folder", "Nautilus", "Hannah Montana", and "VirtualBox". The right side of the screen displays a sidebar with links to "Help", "Reddit Coins", "Reddit Premium", "Reddit Gifts", "About", "Careers", "Press", "Advertise", "Blog", "Terms", "Content Policy", "Privacy Policy", and "Mod Policy". At the bottom of the sidebar, it says "Reddit Inc © 2021 . All rights reserved". Below the main image, there are buttons for "308 Comments", "Share", "Save", and "More".

Managing the Clouds

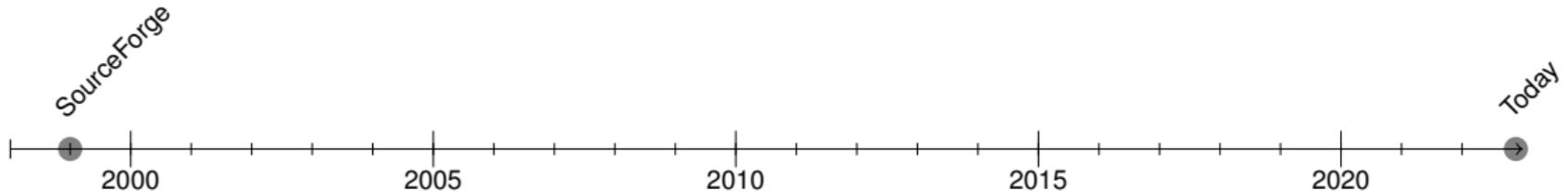


Evolution

- In FOSS development communities, a forge is a web-based collaborative software platform for both developing and sharing computer applications. A forge platform is generally able to host multiple independent projects.

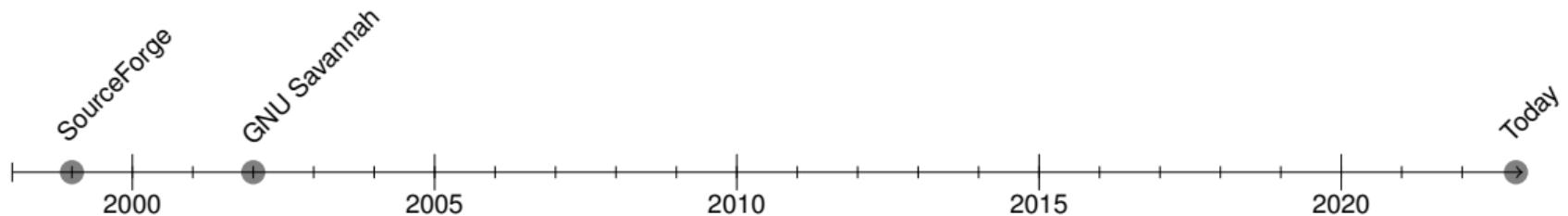
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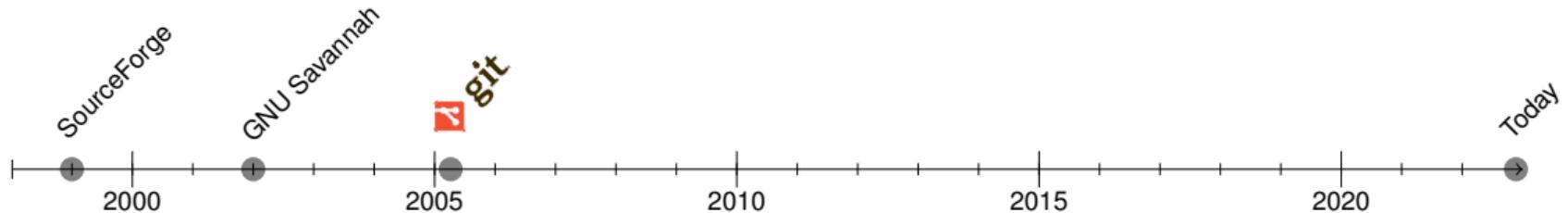
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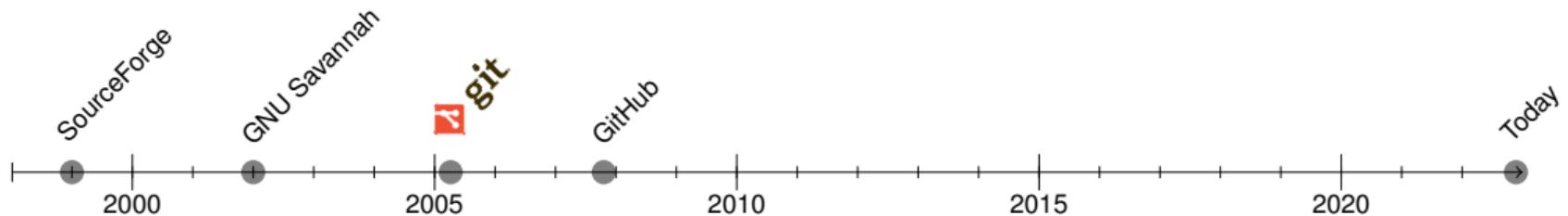
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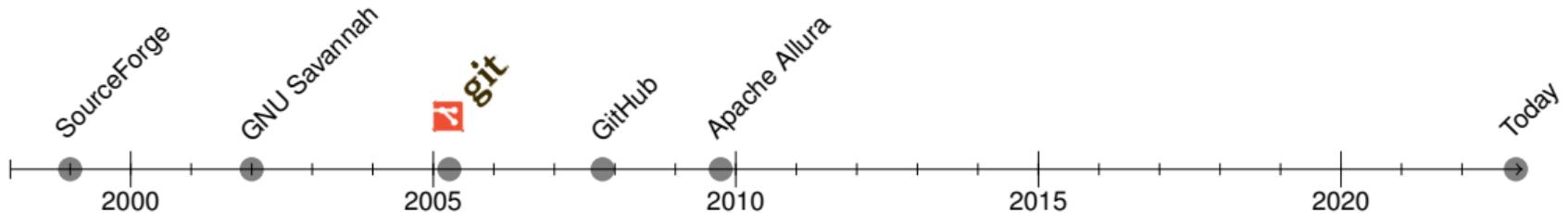
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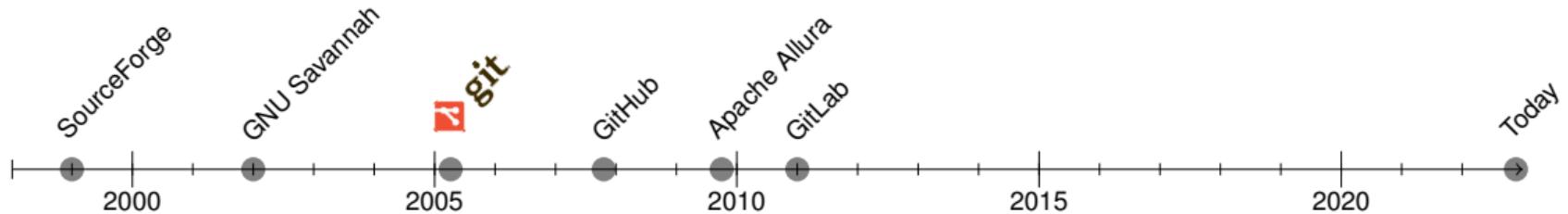
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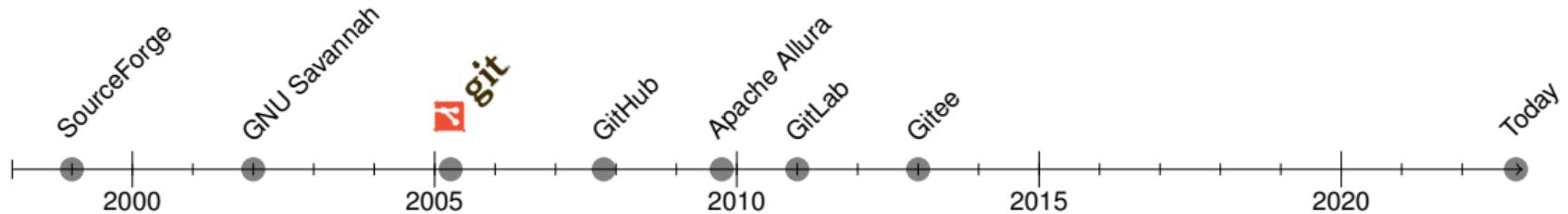
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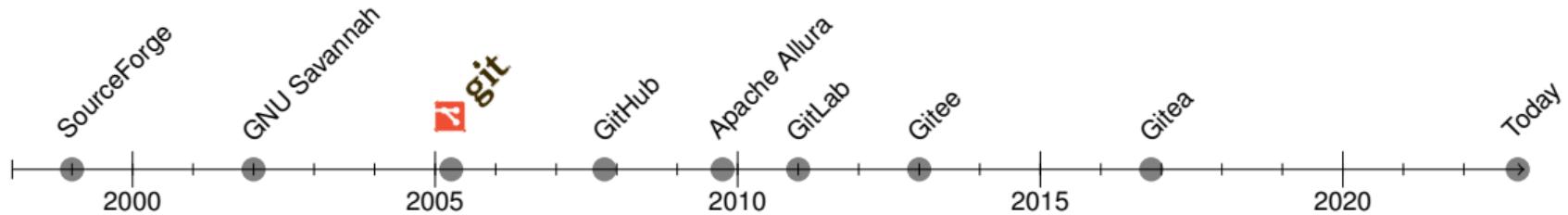
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Evolution

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Mailing Lists

A mere historical curiosity?

- List of subscribers who receive all messages sent to a “reflector” email address.
- Code changes are proposed by sending an email with a textual diff.
- List members debate the change with email replies.
- Subsequent changes are more diffs.
- Usability depends on the quality of your email client and how he handles threading.

Mailing Lists

A mere historical curiosity?

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- Usability depends on the quality of your email client and how he handles threading.

Advantages

- The threaded nature of emails.
- User generation of patches.
- Free mixing of discussion and patches.
- Does **not** depend on a company!

Based on: <https://begriffs.com/posts/2018-06-05-mailing-list-vs-github.html>

Mailing Lists - Example

```
From      Chengfeng Ye <>
Subject   [PATCH] sound/usb: fix null pointer dereference on pointer cs_desc
Date      Sun, 24 Oct 2021 04:17:36 -0700

The pointer cs_desc return from snd_usb_find_clock_source could
be null, so there is a potential null pointer dereference issue.
Fix this by adding a null check before dereference.

Fixes: 9ec73005 ("ALSA: usb-audio: Refactoring UAC2/3 clock setup code")
Signed-off-by: Chengfeng Ye <cyeaa@connect.ust.hk>
---
sound/usb/clock.c | 4 +---
1 file changed, 4 insertions(+)

diff --git a/sound/usb/clock.c b/sound/usb/clock.c
index 81d5ce07d548..98345a695dcc 100644
--- a/sound/usb/clock.c
+++ b/sound/usb/clock.c
@@ -496,6 +496,10 @@ int snd_usb_set_sample_rate_v2v3(struct snd_usb_audio *chip,
                                union uac23_clock_source_desc *cs_desc;

        cs_desc = snd_usb_find_clock_source(chip, clock, fmt->protocol);
+
+       if (!cs_desc)
+           return 0;
+
        if (fmt->protocol == UAC_VERSION_3)
            bmControls = le32_to_cpu(cs_desc->v3.bmControls);
        else
@@
2.17.1

share 0
```

Source: <https://lkml.org/lkml/2021/10/24/86>

Git Diff

```
git diff <commit-hash-1> <commit-hash-2>
```

```
diff --git a/cpr/curlholder.cpp b/cpr/curlholder.cpp
index 4596ed7f..c70026ec 100644
--- a/cpr/curlholder.cpp
+++ b/cpr/curlholder.cpp
@@ -29,7 +29,7 @@ CurlHolder::~CurlHolder() {

    std::string CurlHolder::urlEncode(const std::string& s) const {
        assert(handle);
-   char* output = curl_easy_escape(handle, s.c_str(), s.length());
+   char* output = curl_easy_escape(handle, s.c_str(), static_cast<int>(s.length()));
        if (output) {
            std::string result = output;
            curl_free(output);
@@ -40,7 +40,7 @@ std::string CurlHolder::urlEncode(const std::string& s) const {

    std::string CurlHolder::urlDecode(const std::string& s) const {
        assert(handle);
```

Git Patch

```
git format-patch -1 <commit-hash>
```

```
From 67b5c0be845d6b6e3a3bf8ed0c1fe38c533c22dc Mon Sep 17 00:00:00 2001
```

```
From: Kili <kili+git@mailbox.org>
```

```
Date: Tue, 19 Oct 2021 17:45:37 +0200
```

```
Subject: [PATCH] Fix bugprone narrowing conversions
```

```
---
```

```
cpr/curlholder.cpp | 4 +---
```

```
cpr/util.cpp | 3 +-+
```

```
2 files changed, 4 insertions(+), 3 deletions(-)
```

```
diff --git a/cpr/curlholder.cpp b/cpr/curlholder.cpp
```

```
index 4596ed7f..c70026ec 100644
```

```
--- a/cpr/curlholder.cpp
```

```
+++ b/cpr/curlholder.cpp
```

```
@@ -29,7 +29,7 @@ CurlHolder::~CurlHolder() {
```

```
    std::string CurlHolder::urlEncode(const std::string& s) const {
```

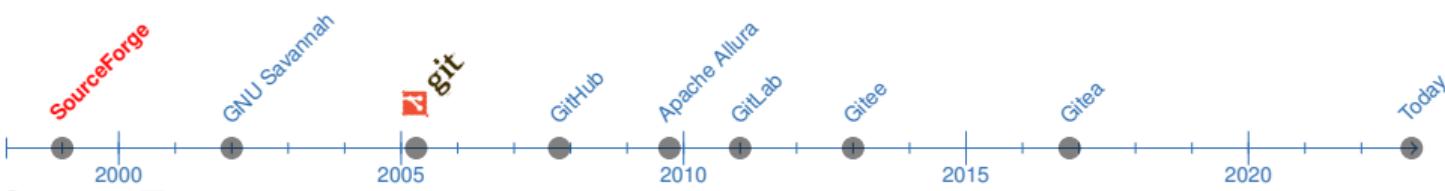


SourceForge

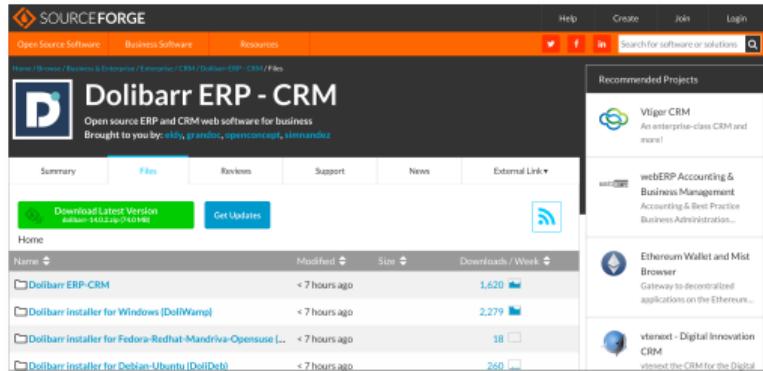
The screenshot shows the SourceForge project page for Dolibarr ERP - CRM. The top navigation bar includes links for Help, Create, Join, and Login. A search bar is present. The main content area displays the project summary, files, reviews, support, news, and external link sections. A prominent green button allows users to download the latest version. The file list shows several installer packages for different operating systems, all uploaded within the last 7 hours. To the right, a sidebar lists recommended projects like Vtiger CRM, webERP Accounting & Business Management, Ethereum Wallet and Mist Browser, and vternext - Digital Innovation CRM.

Name	Modified	Size	Downloads / Week
Dolibarr ERP-CRM	< 7 hours ago	1.620	1,620
Dolibarr installer for Windows (DoliWmp)	< 7 hours ago	2.279	2,279
Dolibarr installer for Fedora-Redhat-Mandriva-OpenSuse ...	< 7 hours ago	18	18
Dolibarr installer for Debian-Ubuntu (DoliDeb)	< 7 hours ago	260	260

<https://sourceforge.net>



SourceForge



<https://sourceforge.net>

- Founded in 1999
- First provider of a centralized location for free and open-source software
- PHP backend released in January 2000 (SourceForge Alexandria)
- Last **free** release November 2001
- Then SourceForge Enterprise Edition or SFEE ⇒ TeamForge
- Between 2003 and 2005, a lot of stuff was broken
- 2006 first profitable quarter and integration of Google ads
- Since 2013, bundleware



SourceForge

The screenshot shows the SourceForge project page for Dolibarr ERP - CRM. The page includes a header with navigation links like Help, Create, Join, and Login, and a search bar. Below the header, there's a banner for Dolibarr ERP - CRM, which is described as "Open source ERP and CRM web software for business". The main content area shows a table of files for download, including "Dolibarr ERP-CRM" and "Dolibarr installer for Windows (DoliWmp)". To the right, there's a sidebar titled "Recommended Projects" featuring Vtiger CRM, webERP Accounting & Business Management, Ethereum Wallet and Mist Browser, and vternexx - Digital Innovation CRM.

Name	Modified	Size	Downloads / Week
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<https://sourceforge.net>

- Has been temporarily banned in China three times: in September 2002, July 2008 (for about a month), and August 6, 2012 (for several days).
- September 2012: Acquired from Geeknet by the online job site Dice.com for \$20 million
- January 2016: Sold to the San Diego-based BIZX, LLC (Slashdot Media since 2019) for an undisclosed amount



Apache Allura

The screenshot shows the Apache Allura Git interface. At the top, there's a navigation bar with links for Home, Projects, Apache Allura™, Git, Register, and Log In. The main area displays a commit tree for the 'master' branch. The tree view includes a 'History' button and a 'Browse Commits' link. Below the tree, there's a 'Fork' button, a 'Merge Requests' section with 4 items, and a 'Forks' section with 49 items. On the left, there's a sidebar for 'Branches' with 'master' selected, and a list of other branches: 42cc, 42cc_1532, 42cc_1937, 42cc_2886, and 42cc_3019. The commit list shows the following entries:

File	Date	Author	Commit
Allura	4 days ago	Dave Brondsema	[04114f] Log more details about image failures
AlluraTest	2021-09-13	Dave Brondsema	[08b159] [#B396] upgrade decorator
ForgeActivity	2021-10-08	Dave Brondsema	[3fc130] Handle historical activities with null icon_url...
ForgeBlog	2021-09-29	Dave Brondsema	[111kd2] Add type hints for all mapped classes' query attrs
ForgeChat	2021-09-29	Dave Brondsema	[111kd2] Add type hints for all mapped classes' query attrs
ForgeDiscussion	2021-09-29	Dave Brondsema	[111kd2] Add type hints for all mapped classes' query attrs

<https://forge-allura.apache.org/p/allura/git/ci/master/tree/>



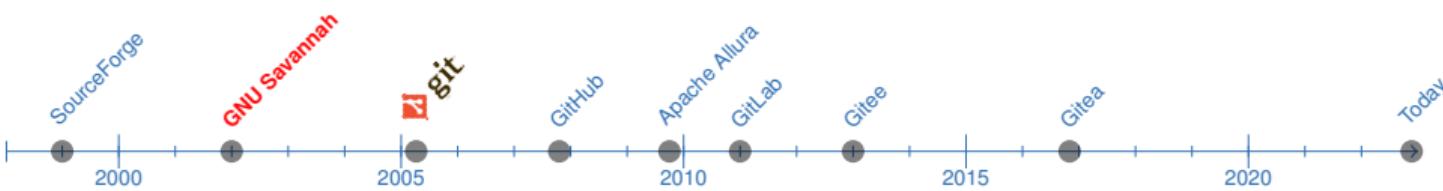
Apache Allura

The screenshot shows the Apache Allura project page for the 'Allura' repository. The top navigation bar includes links for 'Wiki', 'Git', 'Activity', 'Tickets', 'External Link', 'Website Repo', 'Pastebin', and 'Feedback'. The main content area displays a file tree for 'master' with one item: 'Allura'. Below the tree is a commit history table:

File	Date	Author	Commit
Allura	4 days ago	Dave Brondsema	[04f14f] Log more details about image failures
AlluraTest	2021-09-13	Dave Brondsema	[08b159] [#8396] upgrade decorator
ForgeActivity	2021-10-08	Dave Brondsema	[3fc130] Handle historical activities with null icon_url...
ForgeBlog	2021-09-29	Dave Brondsema	[1f1kd2] Add type hints for all mapped classes' query attrs
ForgeChat	2021-09-29	Dave Brondsema	[1f1kd2] Add type hints for all mapped classes' query attrs
ForgeDiscussion	2021-09-29	Dave Brondsema	[1f1kd2] Add type hints for all mapped classes' query attrs

- Started in October 2009 as a Python, open-source reimplementation for the developer tools from SourceForge
- First announced in March 2011
- Platform for new projects on SourceForge since July 2011
- Since March 2013, part of the Apache Software Foundation (ASF)

<https://forge-allura.apache.org/p/allura/git/ci/master/tree/>



GNU Savannah

The screenshot shows the GNU GRUB - Git Repositories page on the Savannah website. The page features a cartoon illustration of a bull wearing a yellow hoodie and holding a briefcase. The main content area has a yellow header bar titled "Browsing the Git Repository". Below it, a text block explains the purpose of the repository, followed by a bulleted list: "• Browse Sources Repository". Another yellow header bar titled "Getting a Copy of the Git Repository" contains sections for "Anonymous clone:" and "Member clone:", each with a code snippet for cloning the repository via git.

GNU GRUB - Git Repositories

Group Main Homepage Download Mailing lists Source code Bugs
Tasks News

Not Logged in Login New User

This Page Language Clean Reload Printer Version

Search in Projects Search

Hosted Projects Hosting requirements Register New Project Full List Contributors Wanted Statistics

Site Help User Docs: Cookbook User Docs: In Depth Guide Get Support

Browsing the Git Repository

You can Browse the Git repository of this project with your web browser. This gives you a good picture of the current status of the source files. You may also view the complete histories of any file in the repository as well as differences among two versions.

- Browse Sources Repository

Getting a Copy of the Git Repository

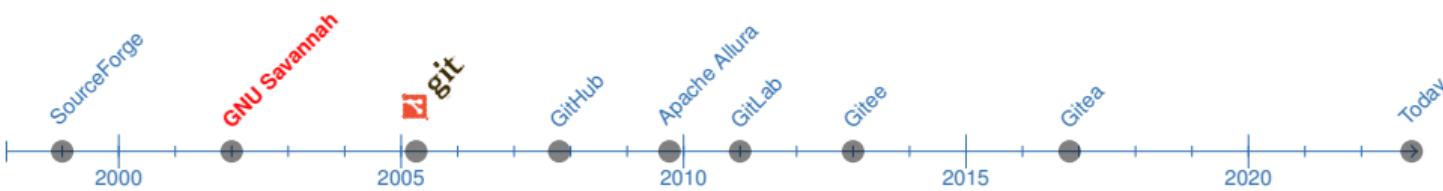
Anonymous clone:

```
git clone https://git.savannah.gnu.org/git/grub.git
```

Member clone:

```
git clone <membername>@git.savannah.gnu.org:/src/git/grub.git
```

<https://savannah.gnu.org>



GNU Savannah

The screenshot shows the GNU GRUB project page on the Savannah website. The header includes a logo of a yellow bull, the title "GNU GRUB - Git Repositories", and a navigation bar with links for Group, Main, Homepage, Download, Mailing lists, Source code, and Bugs.

Browsing the Git Repository

You can Browse the Git repository of this project with your web browser. This gives you a good picture of the current status of the source files. You may also view the complete histories of any file in the repository as well as differences among two versions.

- [Browse Sources Repository](#)

Getting a Copy of the Git Repository

Anonymous clone:

```
git clone https://git.savannah.gnu.org/git/grub.git
```

Member clone:

```
git clone <membername>@git.savannah.gnu.org:/src/git/grub.git
```

<https://savannah.gnu.org>

- Loïc Dachary installed SourceForge for GNU projects.
- SourceForge turned into proprietary software ⇒ fork (2001/2002)
- Only for free software without **ANY** proprietary parts like image formats, etc.
- Split into `savannah.gnu.org` and `savannah.nongnu.org`
- Host for all GNU projects



GitHub

A screenshot of a GitHub repository page for the project "TUM-Dev / tum-thesis-latex". The repository is public and has been forked from "fwalch/tum-thesis-latex". The page shows the following details:

- Code tab:** master branch selected, Go to file, Code button, About button.
- Branch status:** This branch is even with master.
- Contributors:** serenita and COM8.
- Recent commits:**
 - Adjustet links in the README to act... by serenita on Jul 23, 54 commits ago.
 - .github/workflows GitHub actions CI by fwalch 6 months ago.
 - build Add dark theme by fwalch 5 months ago.
 - chapters Simplify template. by fwalch 6 years ago.
 - data Initial commit. by fwalch 8 years ago.
- Tags:** 1 tags.

<https://github.com>



GitHub

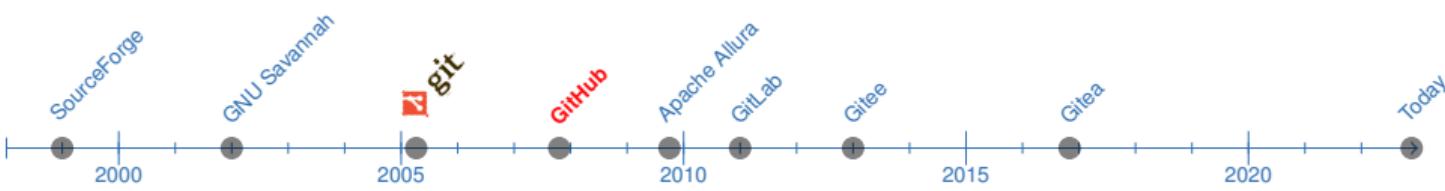
The screenshot shows a GitHub repository page for `TUM-Dev/tum-thesis-latex`. The page includes a header with notifications, stars (12), forks (169), and a link to the repository's code. Below the header, there are tabs for Code, Issues, Pull requests, Actions, Security, and Insights. The Code tab is selected. The main content area shows the master branch status (even with master) and a list of recent commits:

- serenita and COM8 Adjustet links in the README to act... (on Jul 23, 54)
- .github/workflows GitHub actions CI (6 months ago)
- build Add dark theme (5 months ago)
- chapters Simplify template. (6 years ago)
- data Initial commit. (8 years ago)

On the right side, there are sections for About (describing it as a LaTeX template for TUM Bachelor/Master theses), latex, latex-template, and hackoberfest. There are also Readme, Releases, and Tags sections.

<https://github.com>

- Initially written using Ruby on Rails, but more recently broken up into services using e.g. Go, Java and even some Haskell
- Development of the GitHub.com platform began on October 19, 2007
- Launched in April 2008
- 2010 surpassed SourceForge and Google Code



GitHub

The screenshot shows a GitHub repository page for `tum-thesis-latex`. The page includes a navigation bar with Code, Issues, Pull requests, Actions, Security, and Insights. The repository is public, forked from `fwalch/tum-thesis-latex`, and has 12 stars and 169 forks. The master branch is selected. The repository description is "A LaTeX template for TUM Bachelor/Master theses." It features labels for `latex`, `latex-template`, and `hackoberfest`. The repository history shows several commits from users like serenita and COM8, including updates to README links, GitHub actions CI, and a dark theme. The latest commit is from July 23, 2023.

<https://github.com>

- November 2011 GitHub Enterprise is available (self-hosted)
- July 2012 Andreessen Horowitz invested \$100 million in venture capital
- Bought by Microsoft in 2018 for \$ 7.5 Billion
- November 2020, source code for GitHub Enterprise Server was leaked
- Freemium model (Support, GitHub Enterprise Server, Job postings, CI minutes, ...)



GitHub

The screenshot shows a GitHub repository page for `tum-thesis-latex`. The page includes a header with notifications, stars (12), forks (169), and a link to the repository's code. Below the header, there are tabs for Code, Issues, Pull requests, Actions, Security, and Insights. The Code tab is selected. The repository description is "A LaTeX template for TUM Bachelor/Master theses." It features a master branch that is even with the main branch. The repository has 54 commits, with the most recent being a GitHub actions CI update by `serenita and COM8` on July 23. Other commits include updates to `.github/workflows`, `build`, `chapters`, and `data`. The repository also includes a `Readme` file and a section for `Releases`.

<https://github.com>

- Censorship: youtube-dl, Russian suicide manuals
- “Supports” Open Source, but their code is **not** Open Source!
- 2019 blocking developers in Iran, Crimea, Cuba, North Korea, and Syria
- Hosts the code for ICE (U.S. Immigration and Customs Enforcement)
- Some internal drama...

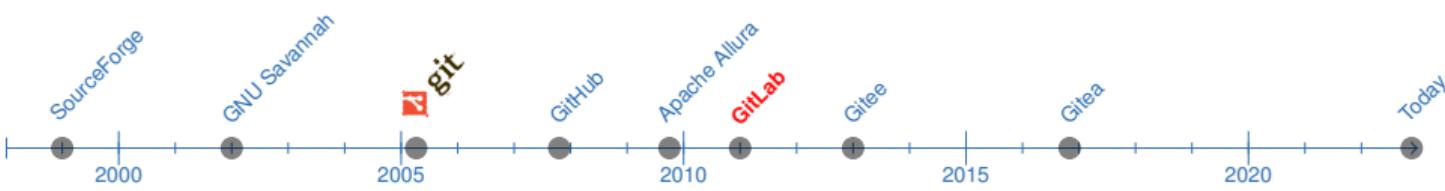


GitLab

Screenshot of the GitLab interface for the **linux-stable** project. The page shows basic project statistics: 1,044,422 Commits, 88 Branches, 3,889 Tags, 2.3 GB Files, and 2.3 GB Storage. It also displays a mirror from `linux-stable`, a link to `Read more`, and information that it was forked from `linux-kernel / torvalds-linux`. The main repository view includes a dropdown menu for branches ('master' is selected), a search bar, and a 'Clone' button. A recent commit by Linus Torvalds is highlighted: **Linux 5.15-rc6**, authored 1 day ago, with the commit hash `519d8195`. Below this, there are links for 'README' and 'Other'. A table at the bottom provides details for a single file entry:

Name	Last commit	Last update
Documentation	Merge tag 'for_linus' of git://.../linus	1 day ago

<https://gitlab.com>



GitLab

The screenshot shows the GitLab interface for the 'linux-stable' project. Key details visible include:

- Project ID:** 11284407
- Commits:** 1,044,422
- Branches:** 88
- Tags:** 3,889
- Storage:** 2.3 GB Files, 2.3 GB Storage
- Mirror:** Mirror from linux-stable
- Recent Activity:** Commit by Linus Torvalds (Linux 5.15-rc6) authored 1 day ago.
- File List:** README, Other
- Table Headers:** Name, Last commit, Last update
- Table Data:** Documentation, Merge tag 'for_linus' of git://... (Last updated 1 day ago)

- Code written in Ruby and later parts in Go
- First version 2011
- GitLab.com since 2012
- Since July 2013: GitLab CE: Community Edition and GitLab EE: Enterprise Edition under the MIT License.
- February 2014 Gitlab EE changed to the “GitLab Enterprise Edition License”
- You can host your own instance
- Freemium model (Support, GitLab EE, CI minutes, ...)

<https://gitlab.com>



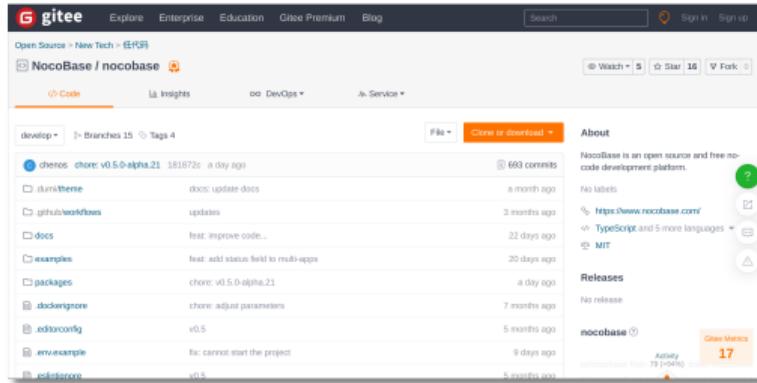
Gitee

Screenshot of the Gitee platform interface, showing a repository page for `Nocobase/nocobase`. The page includes navigation tabs for Code, Insights, DevOps, and J.A. Services. It displays a list of recent commits, a file browser, and various repository statistics like 693 commits and 17 stars. The interface is clean and modern, similar to GitHub.

<https://gitee.com>



Gitee



<https://gitee.com>

- “Chinese” GitHub
- Operator: Shenzhen AOSI Network Information Co., Ltd.
- Launched by Open Source China in 2013
- Since May 2020, Gitee has grown from 5 million registered users to 8 million (as of May 2022)



Gitea

Screenshot of the Gitea web interface showing a repository page for 'Lruihao / FixIt'. The page includes navigation links for 'Erkunden' and 'Hilfe', and buttons for 'Registrieren' and 'Anmelden'. The repository details show it is a mirror of <https://github.com/Lruihao/FixIt>, with 1003 commits, 6 branches, 6 tags, and 54 MB of data. The 'Code' tab is selected. The commit history lists several recent changes:

- Cell (314fc989cd) - Chore: inject a theme meta tag in the ... (vor 3 Tagen)
- .github (Chore: update contributors.md) (vor 3 Wochen)
- archetypes (Feat: add new front matter 'authorEmail') (vor 2 Wochen)
- assets (Perf: complete giscus comment system (#1130)) (vor 4 Tagen)

<https://gitea.io>



Gitea

The screenshot shows a Gitea repository page for 'Lruihao / FixIt'. The page includes a header with navigation links like 'Erkunden' and 'Hilfe', and buttons for 'Registrieren' and 'Anmelden'. Below the header, there's a summary card for the repository, showing 1003 Commits, 6 Branches, 54 MB of storage, and a link to the HTTPS endpoint. A dropdown menu shows the current branch is 'master'. The main content area displays a list of recent commits:

Commit	Message	Time
Cell	Chore: inject a theme meta tag in the ...	vor 3 Tagen
.github	Chore: update contributors.md	vor 3 Wochen
archetypes	Feat: add new front matter 'authorEmail'	vor 2 Wochen
assets	Perf: complete giscus comment system (#1130)	vor 4 Tagen

<https://gitea.io>

- Open-source forge software
- Written in go
- Came from a fork of Gogs in November of 2016 since it was under the control of a single maintainer. Users were frustrated.
- Design based on the old GitHub design
- Code hosted on GitHub:
<https://github.com/go-gitea/gitea>