

EXHIBIT A



The Chromium Projects

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The Chromium OS designs and code are preliminary. Expect them to evolve.

The Chromium projects include Chromium and Chromium OS, the open-source projects behind the [Google Chrome](#) browser and Google Chrome OS, respectively. This site houses the documentation and code related to the Chromium projects and is intended for developers interested in learning about and contributing to the open-source projects.

Chromium

Chromium is an open-source browser project that aims to build a safer, faster, and more stable way for all users to experience the web. This site contains design documents, architecture overviews, testing information, and more to help you learn to build and work with the Chromium source code.



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Chromium OS

Chromium OS is an open-source project that aims to provide a fast, simple, and more secure computing experience for people who spend most of their time on the web. Learn more about the [project goals](#), obtain the latest build, and learn how you can get involved, submit code, and file bugs.

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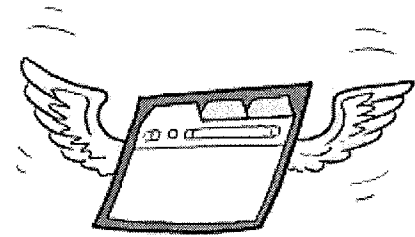
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Learn how to

- [Browse or search the sources online](#)
- Build Chromium on [Windows](#), [OS X](#), [Linux](#) or for [ChromeOS](#).
- Debug on [Windows](#), [OS X](#), or [Linux](#)
- [Submit a patch](#)
- [Report a bug](#)

Other important links

- [Discussion Groups](#) (such as [chromium-discuss](#))
- [Chromium Blog](#)
- [Chromium Issues List](#)
- [Chromium Release Calendar](#)
- [For Webmasters: Common pitfalls making a site work in multiple browsers.](#)
- [For Web Developers: Google Chrome Developer Tools](#)

Sections

- [Getting Involved](#): learn how you can help the Chromium project
- [For Developers](#): design docs, how-tos, and other useful information for developers
- [For Testers](#): bug reporting guidelines, test plans, and other quality-related documentation
- [User Experience](#): the design philosophy behind many of Chromium's features
- [Contact](#): report a bug or a security issue, or get in touch with individual members of the team
- [Get the Code](#): get the source code. To learn how to build it, refer to the [For Developers](#) page
- [Security](#): learn about Chromium security, and how to contact us or get involved
- [Privacy](#): information about Chromium privacy, how to get more information, and how to contact us

Life Of A Chromium Developer

Interested but don't know where to start? Need a quick crash course on Chromium development? Take a look through the Life Of A Chromium Developer slide deck:

[Life of a Chromium Developer](#)



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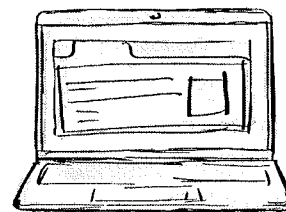
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Chromium OS

Chromium OS is an open-source project that aims to build an operating system that provides a fast, simple, and more secure computing experience for people who spend most of their time on the web. Here you can review the project's design docs, obtain the source code, and contribute. To learn more about the project goals, read the [announcement blog post](#).



Videos

- [What is Google Chrome OS?](#)
- [Chromium OS Security](#)
- [Chromium OS & Open Source](#)
- [Chromium OS Fast Boot](#)

For contributors

- [Getting involved](#)
- [Getting developer hardware](#)
- [Process for contributing](#)
- [Tree sheriffs](#)

For UI designers

- [User experience: Chromium/OS](#)

For everyone

- [Chromium OS FAQ](#)
- Join the right [discussion groups](#) (if in doubt, go to [chromium-os-discuss](#) or use the IRC channel [irc.freenode.net/#chromium-os](#))
- [Report bugs](#) or [view existing bugs](#)

Source code

- Read the [Chromium OS Developer Guide](#) to learn how to build the source
- [Browse](#) the source
- [Overview](#) of the source
- [Coding Style](#)
 - For languages other than Python follow the [Google Style Guide](#)
 - Python code follows [PEP-8](#), except:
 - 2-space indent instead of 4-space
 - MixedCase for method and function names (NOT `lower_case_with_underscores`)
 - For third-party code, of course we follow the external project style guides.
- [Testing](#) -- how to run tests on Chromium OS
- [Licenses](#)

How Tos and Troubleshooting

- [High Level Developer FAQ](#)
- [All How Tos and Troubleshooting...](#)
- [Poking around your Chrome OS Notebook](#)

Design docs

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[For Testers >](#)

Bug Life Cycle and Reporting Guidelines

Important links

Chromium (the web browser)

- Report bugs at

<http://code.google.com/p/chromium/issues/entry>

- Specifically:
 - [Bug Reporting Guidelines for the Mac & Linux builds](#) (with links to known issues pages)
 - [Instructions for reporting crashes](#).
- View existing bugs at <http://code.google.com/p/chromium/issues/list>

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- 5 Bug life cycle
- 6 Deciding where to submit your bug
 - 6.1 Filing bugs that you find in Chromium OS
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- 7 Read <http://www.chromium.org/getting-involved/bug-triage> if you're interested in helping with bug triage.
- 8 Helping with bug triage

Chromium OS (the operating system)

- Report bugs at <http://code.google.com/p/chromium-os/issues/entry>
- View existing bugs at <http://code.google.com/p/chromium-os/issues/list>

You need a [Google Account](#) associated with your email address in order to use the bug system.

Bug reporting guidelines

- Make sure the bug is verified with the latest Chromium build.
- If it's one of the following bug types, please provide some further information:
 - **Web site compatibility problem:** Please provide a URL to replicate the issue.

- **Hanging tab:** See [Reporting hanging tab bugs](#).
- **Crash:** See [Reporting crash bugs](#).
- Provide a high-level problem description.
- Mention detailed steps to replicate the issue.
- Include the expected behavior.
- Verify the bug in other browsers and provide the information.
- Include screenshots, if they might help.
- If a bug can be reduced to a simplified test, then create a simplified test and attach it to the bug.
- Additional [Bug Reporting Guidelines for the Mac & Linux builds](#).
- Additional Guidelines for [Reporting Security Bugs](#).

Labels

Labels are used to help the engineering team categorize and prioritize the bug reports that are coming in. Each report can (and should) have multiple labels.

For details on labels used by the Chromium project, see [Chromium Bug Labels](#).

Status

Open bugs

Status value	Description
Unconfirmed	The default for public bugs. Waiting for someone to validate, reproduce, or otherwise confirm that this is a bug.
Untriaged	A confirmed bug that has not been reviewed for priority or assignment. This is the default for project members' new bugs.
Available	Confirmed and triaged, but not assigned. Feel free to take these bugs!
Assigned	In someone's work queue.
Started	Actively being worked on.

Closed bugs

Status value	Description
Fixed	Fixed.
Verified	The fix has been verified by test or by the original reporter.
Duplicate	<p>This issue has been reported in another bug, or shares the same root cause as another bug. When Duplicate is selected, a field will appear for the ID of the other bug --- be sure to fill this in.</p> <p>Mark the bug with less information/discussion in it as the Duplicate.</p>
WontFix	Covers all the reasons we chose to close the bug without taking action (can't repro, working as intended, obsolete).
ExternalDependency	Bugs that turn out to be in another project's code and that we've filed with that other project. Useful for tracking known issues that manifest themselves in our product, but that need to be fixed elsewhere (such as WebKit and V8 issues).
FixUnreleased	A special state for security hotfixes to mark bugs that are fixed, but not yet delivered to users. Bugs with this status will be visible only to project members and the original reporter.
Invalid	Illegible, spam, etc.

Bug life cycle

- When a bug is first logged, it is given **Unconfirmed** status.
- The status is changed from unconfirmed to **Untriaged** once it has been verified as either a Chromium or a WebKit bug.
 - A bug that appears in Chromium as well as Safari is a WebKit bug and should be reported to bugs.webkit.org.
 - A bug that appears only in Chromium is a Chromium bug.
- Once a bug has been picked up by a developer, it is marked as **Assigned**.
- A status of **Started** means a fix is being worked on.

Deciding where to submit your bug

Usually, Chromium-related bugs should be filed under one of the following projects:

- [chromium](#)
- [chromium-os](#)
- [webkit](#)

Filing bugs that you find in Chromium OS

If you can reproduce the bug in Chromium for Linux, file the bug under [chromium](#). If you can't reproduce it, file it under [chromium-os](#).

Filing Chromium bugs at bugs.webkit.org

If a Chromium bug turns out to actually be a bug in WebKit, then use the following steps in deciding whether to file the bug at bugs.webkit.org.

1. Make sure to test the behavior in the latest WebKit nightly, Firefox, Chromium, Internet Explorer and Opera browsers.
2. If the bug does not happen in a WebKit nightly, but does happen in Chromium, then **do not** file the bug to [webkit.org](http://bugs.webkit.org).
3. If any two of Firefox, Internet Explorer and/or Opera have the same behavior that is different from WebKit/Chromium, then **file the bug** at [webkit.org](http://bugs.webkit.org).
4. If the intended behavior works in only one of Firefox, Internet Explorer or Opera or if every browser does something different, then **apply the label "NeedsEngReview"** so that a Chromium engineer can review the bug before taking further steps.

Helping with bug triage

Read <http://www.chromium.org/getting-involved/bug-triage> if you're interested in helping with bug triage.



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[Getting Involved >](#)

Become a Committer

What is a committer?

Technically, a committer is someone who has write access to the Chromium SVN repository or the Chromium OS Git repository. A committer can submit his or her own patches or patches from others.

This privilege is granted with some expectation of responsibility: committers are people who care about the Chromium projects and want to help them meet their goals. A committer is not just someone who can make changes, but someone who has demonstrated his or her ability to collaborate with the team, get the most knowledgeable people to review code, contribute high-quality code, and follow through to fix issues (in code or tests).

A committer is a contributor to the Chromium projects' success and a citizen helping the projects succeed. See [Committer's responsibility](#).

How do I become a committer?

In a nutshell, contribute 10-20 non-trivial patches and get at least three different people to review them (you'll need three people to support you). Then ask someone to nominate you. You're basically demonstrating your

- commitment to the project (10+ good patches requires a lot of your valuable time),
- ability to collaborate with the team,
- understanding of how the team works (policies, processes for testing and code review, etc),
- understanding of the projects' code base and coding style, and
- ability to write good code (last but certainly not least)

A current committer nominates you by sending email to committers@chromium.org (for Chromium) or oscommitters@chromium.org (for Chromium OS) with an explanation of why you should be a committer and links to revisions containing your patches. Two other committers need to second your nomination. If no one objects in 5 working days (U.S.), you're a committer.

If anyone objects or wants more information, the committers discuss and usually come to a consensus (within the 5 working days). If issues can't be resolved, there's a vote among current committers.

Once you get approval from the existing committers, we'll send you instructions for write access to SVN or Git. You'll also get an @chromium.org account and be added to committers@chromium.org or oscommitters@chromium.org.

So, in the worst case, this can drag out for two weeks. Keep writing patches! Even in the rare cases where a nomination fails, the objection is usually something easy to address like "more patches" or "not enough people are familiar with this person's work."

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- 2 How do I become a committer?
 - 2.1 I just need to roll DEPS.
 - 2.2 Provisional committers

I just need to roll DEPS.

If you only need write access to Chromium to change DEPS, get someone to nominate you for 'provisional committer for rolling DEPS'.

Provisional committers

Sometimes people are brought into the Chromium projects with long-term goals of helping the projects: we want committers to be able to add these people and get them productively helping quickly.

An existing committer can sponsor someone (one at a time, please) who is expected to quickly become a committer and stick with the project for a long time. We'll give the provisional committer write access right away. The sponsor is responsible for cleaning up any messes, getting the new person properly trained, and generally getting to the point of formally nominating the new person in 4-6 weeks.

A provisional committer should have already contributed at least one patch so that it's clear the person is ready for write access and so that their provisional commit period isn't half-consumed with just learning about the code and processes.

If a provisional committer fails to get formal commit access in 6 weeks, we'll remove write access and ask them to keep submitting patches using the same process as other new contributors. There will, of course, be strong words for the sponsor.

Maintaining committer status

You don't really need to do much to maintain committer status: just keep being awesome and helping the Chromium projects!

A community of committers working together to move the Chromium projects forward is essential to creating successful projects that are rewarding to work on. If there are problems or disagreements within the community, they can usually be solved through open discussion and debate.

In the unhappy event that a committer continues to disregard good citizenship (or actively disrupts the project), we may need to revoke that person's status. The process is the same as for nominating a new committer: someone suggests the revocation with a good reason, two people second the motion, and a vote may be called if consensus cannot be reached. I hope that's simple enough, and that we never have to test it in practice.

Also see [Using your @chromium.org email address](#).

[Props: Much of this was inspired by/copied from the committer policies of [WebKit](#) and [Mozilla](#).]