

# Igalia and Opensource Collaboration

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김규영  
Igalia



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- 01 Who we are?
- 02 How does Igalia operate the company?
- 03 How does Igalia help standards and business?





01

**Who we are?**

- A worked-owned cooperative of people in over 20 countries, over 100 people
- Headquartered in Spain, Igalia has become a global company based in Asia, Europe, Oceania and the Americas.



- Building and advocating for healthy ecosystems around Free and OpenSource Software (FLOSS)
- Browsers are main areas of work (Layout, Graphics, Multimedia, etc)
- JavaScript Engines, Graphics Drivers, Multimedia libraries are also active areas of work
- Active participants in several standard organizations (e.g. TC39, W3C)
- Active Contributors for Web Engines (Chromium, WebKit, Servo)

- 2001: Igalia is found
- 2003: Igalia releases Fistera, an opensource ERP solution build with GNOME technology
- 2008: First steps to consolidates as the leading WebKit consultancy
- 2010: Igalia becomes a member of the Linux Foundation and a patron of the Free Software Foundation
- 2014: Igalia becomes a leading contributor to Mesa3D and QEMU
- 2017: Igalia begins to co-chair the W3C's ARIA Working Group and ECMA Javascript TC39 group. Igalia's work on CSS Grid Layout is publicly released.
- 2019: Igalia are top contributors in all 3 browser engines for consecutive years, develops MathML-Core prototype in Chromium downstream
- 2020: Igalia joins MDN Product Advisory Board, begins Igalia Chats podcast
- 2021: Igalia develops first collectively funded Web Platform features



# 01 Who are our users?

- End Users
- Web Platform Devs (Webs, UIs for apps, etc)
- Port users (WPE or GTK engine integrators)
- Platform providers (that may use yocto, balena, RedHat, Google, etc.)

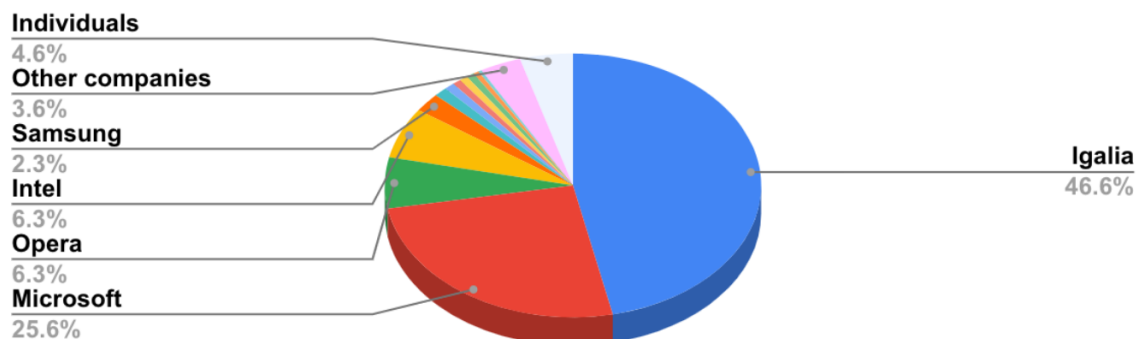
# 01

## Top Non-Google Contributor

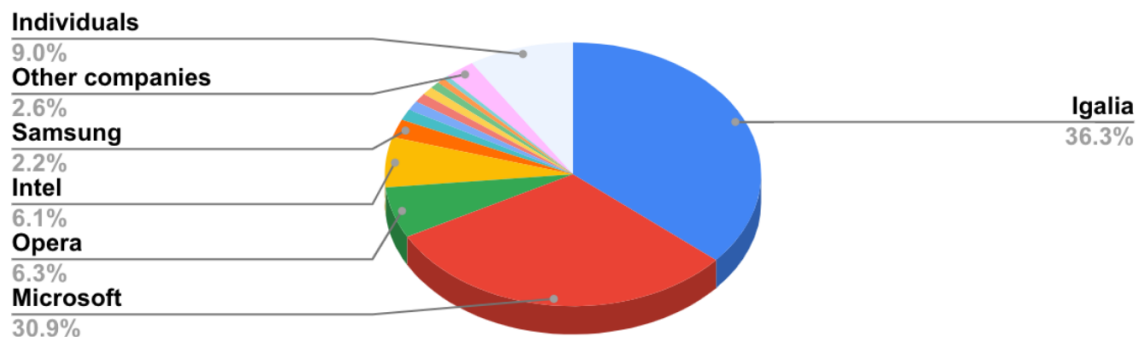
- Chromium

BlinkOn 14

### Non-google chromium commits (2019-2020)



### Non-google chromium commits (2020-2021)





# 01

## Top Non-Google Contributor (Cont.)

- Chromium

# Igalia

Since Nov 5, 2020:  
1081 CLs from 34 contributors  
(Chromium, ANGLE, WPT etc)



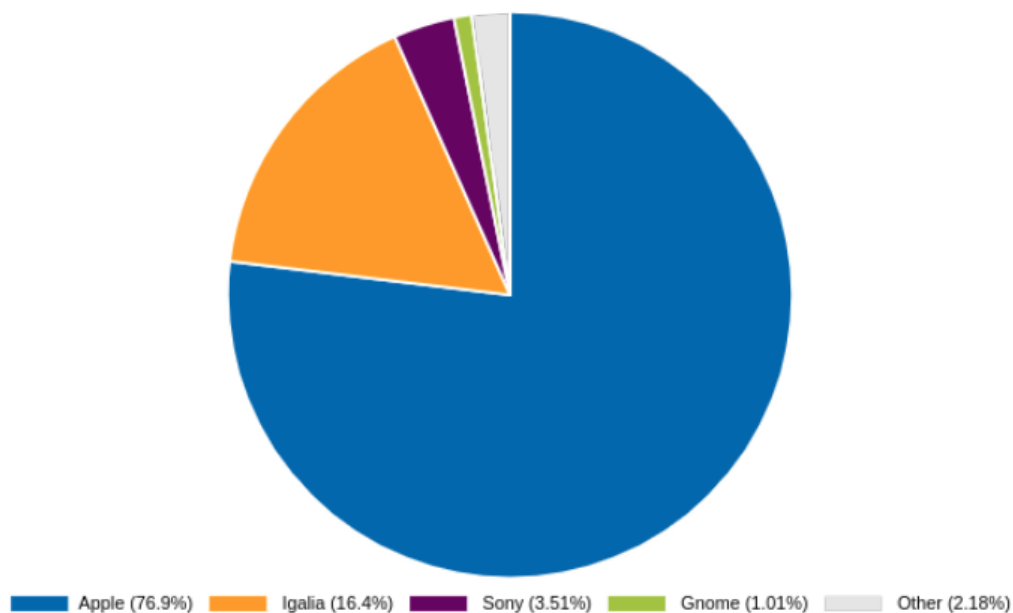
- CSS improvements
- JS Private methods / Class fields
- MathML
- Protocol Handlers improvements
- Onion Soup
- Accessibility
- Container Queries
- CSS: flow-relative, :focus-visible, spelling & grammar feat.
- Ozone/Wayland
- [Open Prioritization](#)

# 01

## Top Non-Apple Contributor

- WebKit

### WebKit contributions 2021



So far in 2021 we are the #2 committer with 16.4% of all commits!!!

[2]



02

**How does Igalia operate the company?**

# Great place to work

- Igalia is a worker-owned, employee-run company with more than 20 years of experience building open source software in a wide range of exciting fields.
  - Assembly meeting
  - 2 onsite summits per year
  - Remote friendly work environment
  - Diversity and inclusion





03

**How Igalia helps standards and business?**

## 03

# CSS Grid Layout

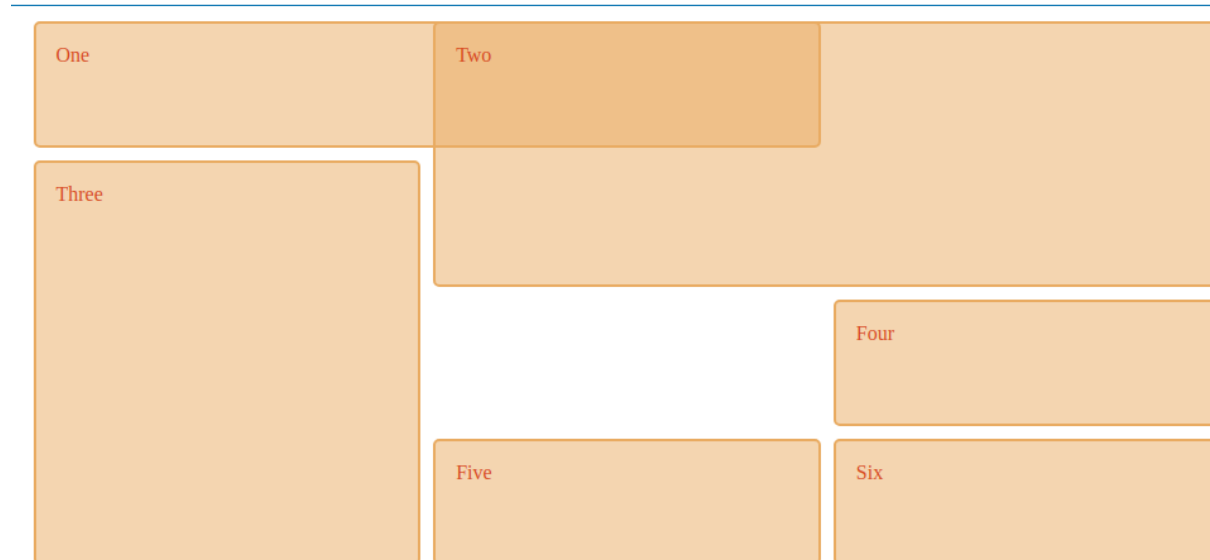
- Example

## HTML

```
<div class="wrapper">
  <div class="one">One</div>
  <div class="two">Two</div>
  <div class="three">Three</div>
  <div class="four">Four</div>
  <div class="five">Five</div>
  <div class="six">Six</div>
</div>
```

## CSS

```
.wrapper {
  display: grid;
  grid-template-columns: repeat(3, 1fr);
  grid-gap: 10px;
  grid-auto-rows: minmax(100px, auto);
}
.one {
  grid-column: 1 / 3;
  grid-row: 1;
}
.two {
  grid-column: 2 / 4;
  grid-row: 1 / 3;
}
.three {
  grid-column: 1;
  grid-row: 2 / 5;
}
.four {
  grid-column: 3;
  grid-row: 3;
}
.five {
  grid-column: 2;
  grid-row: 4;
}
.six {
  grid-column: 3;
  grid-row: 4;
}
```





## CSS Grid Layout (Cont.)

- Bloomberg funded
- Worked on the standard (W3C CSS Grid Layout Module)
- Implement all engines (WebKit, Chromium, and Mozilla)



## 03 WPE WebKit port

- Designed with performance, small footprint, accelerated content rendering, and simplicity of embedding in mind
- Widely used in embedded
- $\frac{3}{4}$  of our WebKit-related income comes from embedded industries
- There are billions of embedded devices and growing
- We are able to upstream many improvements to the wider WebKit community thanks to interest in this port from our business partners



## 03 MathML

- A W3C standard for mathematical and scientific content, already included in ISO/IEC, HTML5, ebook and office formats
- Implemented in the open source web engines used by Firefox (Gecko) and Safari (WebKit)
- One of the most requested web platform features in Google Chrome (using Chromium) and Microsoft Edge (switching to Chromium)
- Igalia brought our expertise in both standardization and implementation to lead the specification work and provide both the final implementation in Chromium

$$\Gamma(t) = \int_0^{+\infty} x^{t-1} e^{-x} dx = \frac{1}{t} \prod_{n=1}^{\infty} \frac{\left(1 + \frac{1}{n}\right)^t}{1 + \frac{t}{n}} \sim \sqrt{\frac{2\pi}{t}} \left(\frac{t}{e}\right)^t$$
$$\Gamma(t) = \int_0^{+\infty} x^{t-1} e^{-x} dx = \frac{1}{t} \prod_{n=1}^{\infty} \frac{\left(1 + \frac{1}{n}\right)^t}{1 + \frac{t}{n}} \sim \sqrt{\frac{2\pi}{t}} \left(\frac{t}{e}\right)^t$$
$$\Gamma(t) = \int_0^{+\infty} x^{t-1} e^{-x} dx = \frac{1}{t} \prod_{n=1}^{\infty} \frac{\left(1 + \frac{1}{n}\right)^t}{1 + \frac{t}{n}} \sim \sqrt{\frac{2\pi}{t}} \left(\frac{t}{e}\right)^t$$

From top to bottom: MathML formula rendered by  
Chromium (Igalia's build), Safari and Firefox



# MathML (Cont.)

- Seeking sponsors


## Sponsorship

MathML in Chromium

[EMAIL](#) [TWITTER](#)

### Primary sponsor

Igalia has become the primary sponsor for the implementation of MathML in Chromium, to continue improvement of test coverage, and interoperability, as well as work around MathML standard at W3C. The project was started in 2019 with primary sponsorship from NISO/Sloan Foundation as well as support from Pearson Publishing, APS, and other community donors. We have become the primary sponsor because we understand the current worldwide challenges and wish to continue the project moving forward. We greatly appreciate financial sponsorship both past and present, and would happily engage with interested parties. If you are interested in becoming a sponsor please contact us.

**igalia**

Other sponsors

Platinum sponsor



Bronze sponsor



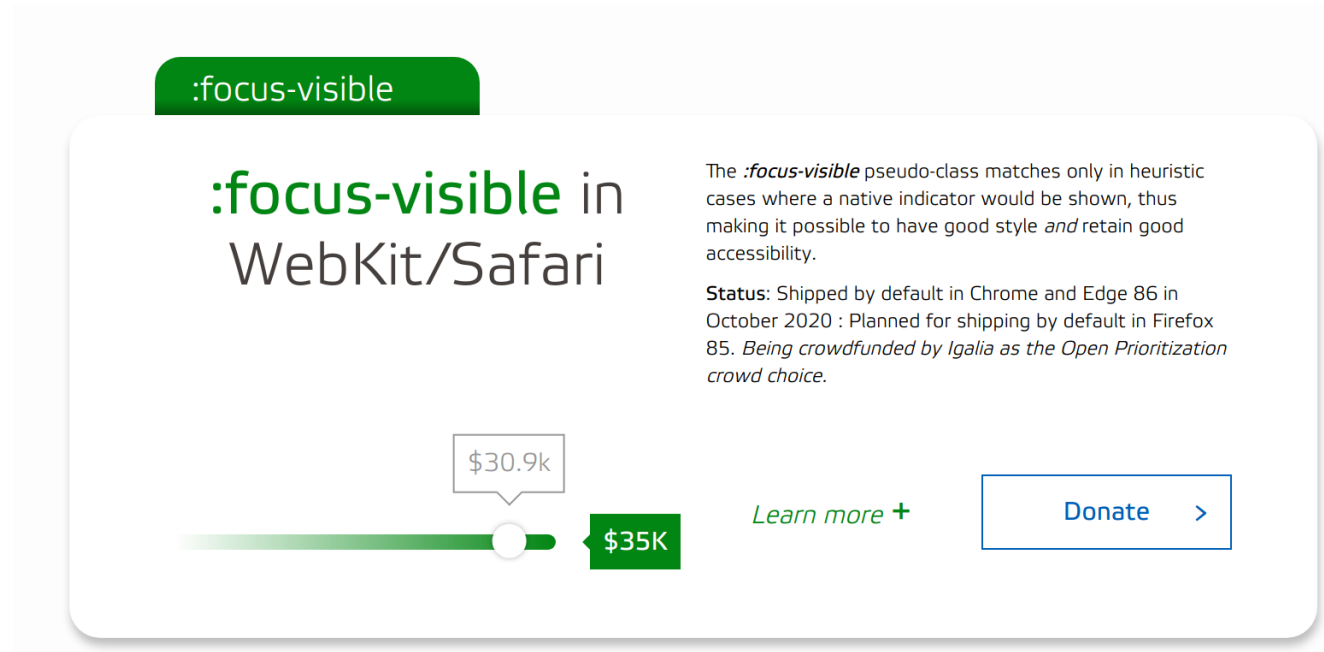
Developer



# 03

## Open Prioritization

- An experiment in crowd-funding prioritization of new feature implementations for web browsers.
- Homepage: <https://www.igalia.com/open-prioritization/>
- Video: <https://youtu.be/xCRxNVbUqhk>



# Thank you!





## References

- [1] [BlinkOn 14 KeyNote](#)
- [2] [Igalia 2021/2022 Updates and Plans](#)
- [3] [MDN CSS Grid Layout](#)
- [4] [Igalia Open Prioritization](#)

# 감사합니다

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