

2009 Extension Development Survey

Insights

Professor Amrit Tiwana

Iowa State University
College of Business
Ames, Iowa 50011-1350, USA

email: tiwana@iastate.edu

Web: <http://www.bus.iastate.edu/tiwana>



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Design by Ashley A. Bush

Summary of Key Findings

Extension Architecture Modularity

- **Finding 1:** Most (66%) extensions have an intermediate degree of modularity with the browser; only one in three have high modularity.
- **Finding 2:** Most extensions (57%) have an intermediate level of standardization of interfaces and protocols that are used to interact with the browser. A smaller subset (36%) have achieved high levels of extension-to-browser interface standardization.

Development Tools Usage

- **Finding 3:** There is huge variance in the usage of software development tools and formal technical guidelines.
 - Most used: Extension development tools such as DOM inspector and Error Console, addons.mozilla.com, and Chrome packaging guidelines.
 - Least used: Bugzilla and debuggers.

Sources of Extension Instability

- **Finding 4:** Major extension upgrades rarely trigger integration and browser stability problems.
- **Finding 5:** Changes in *other* extensions usually (69%) do not—but occasionally (26%) do cause minor—integration and stability problems.
- **Finding 6:** Most (93%) extensions' functionality relies very little on other extensions.

Who Calls the Shots?

- **Finding 7:** Extension developers enjoy tremendous technical autonomy.
- **Finding 8:** Mozilla controls the browser but also listens to developers to some extent.
- **Finding 9:** Developers have limited say in supported standards.
- **Finding 10:** Most (59%) developers do not fear that the next major release of the browser will subsume their extension's functionality.

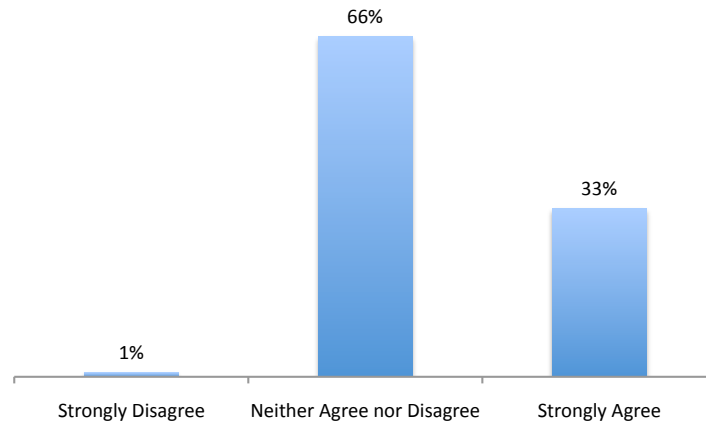
Firefox versus the Competitors

- **FINDING 11:** Extension developers' commitment to future development for Firefox is pretty high.
- **FINDING 12:** The majority (59%) are unlikely to port to competing commercial browsers.
- **FINDING 13:** Less than half will consider porting to competing open-source browsers.

Extension Architecture Modularity

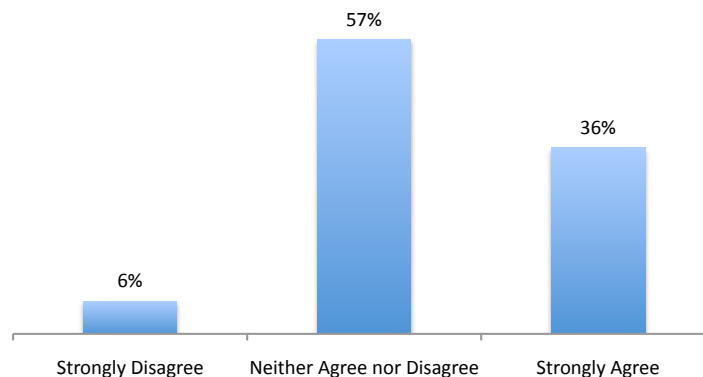
FINDING 1: Most (66%) extensions have an intermediate degree of modularity with the browser; only one in three have high modularity.

How it was assessed: The extent to which extension developers characterized the relationship between their extension and the Firefox browser as plug-and-play, loosely-coupled, high in interoperability, and designed with fewest possible interdependencies.



FINDING 2: Most extensions (57%) have an intermediate level of standardization of interfaces and protocols that are used to interact with the browser. A smaller subset (36%) have achieved high levels of extension-to-browser interface standardization.

How it was assessed: The extent to which an extension developer believed that their extension interacted with Firefox using interfaces and protocols that were clearly specified, unambiguous, stable, well documented, and standardized.

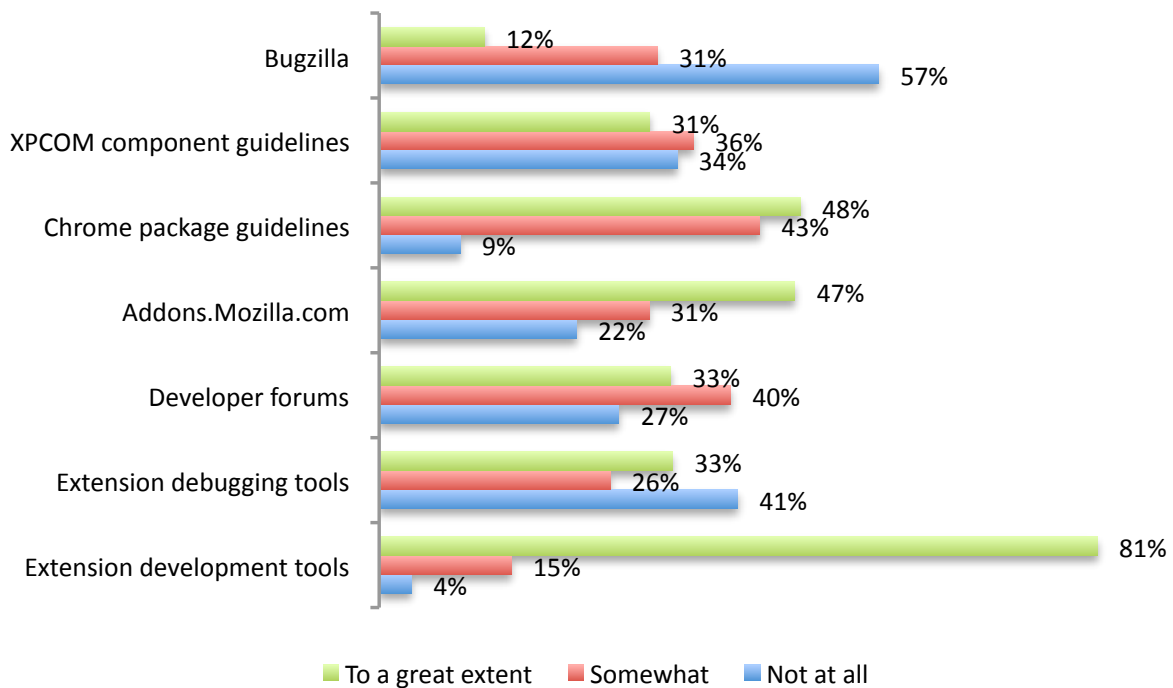


Development Tools Usage

FINDING 3: There is huge variance in the usage of software development tools and formal technical guidelines.

- The most used were extension development tools such as DOM inspector and Error Console, Mozilla hosting repositories, and Chrome packaging guidelines.
- The least used were bug tracking tools such as Bugzilla and debuggers such as Venkman and Chromebug.

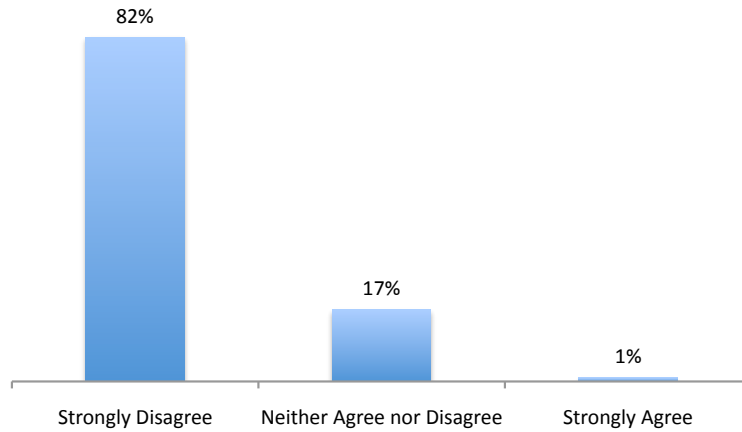
How it was assessed: The extent to which the extension developer, in his or her development work for that extension, used each of the following: Extension development tools (e.g., DOM inspector, Error Console), extension debugging tools (e.g., Venkman, Chromebug), Mozilla developer forums, Mozilla's extension hosting repository, Mozilla's guidelines for Chrome packages, Mozilla's guidelines for XPCOM components, and Bugzilla.



Sources of Extension Instability

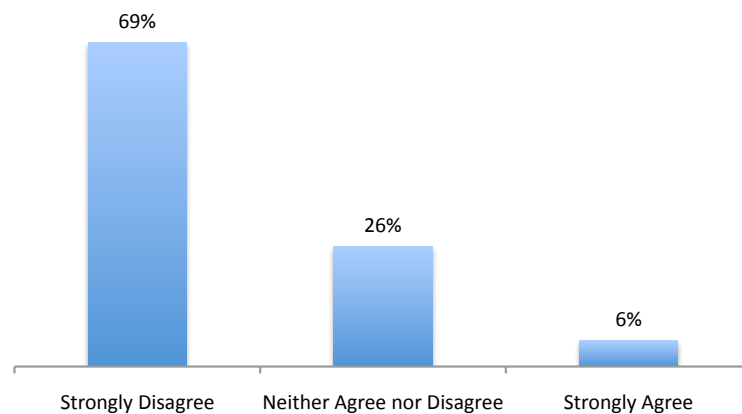
FINDING 4: Major extension upgrades rarely trigger integration and browser stability problems.

How it was assessed: Whether the last major upgrade of the developer's extension "broke" Firefox, caused unexpected interactions with Firefox, or caused integration problems with Firefox.



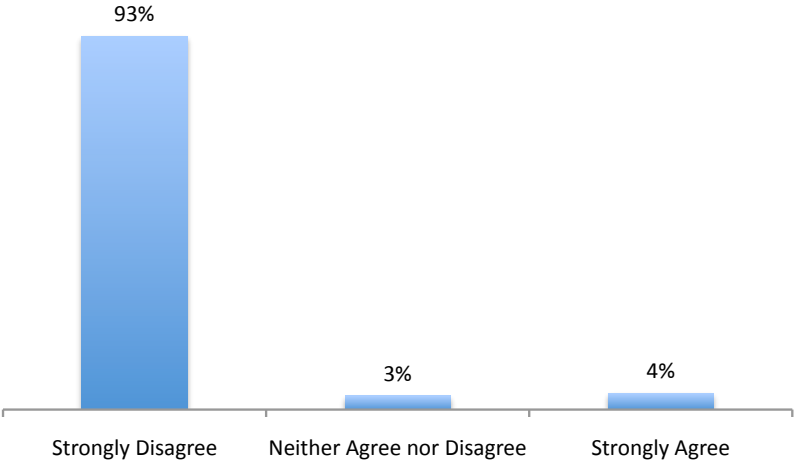
FINDING 5: Changes in *other* extensions usually (69%) do not—but occasionally (26%) do cause minor—integration and stability problems with the focal extension.

How it was assessed: Whether recent changes in *other extensions* "broke" the developer's extension, and caused unexpected interactions or integration problems with it.



FINDING 6: Most (93%) extensions' functionality relies very little on other extensions.

How it was assessed: The extension developer's assessment of whether their extension's functionality heavily depended on other extensions.

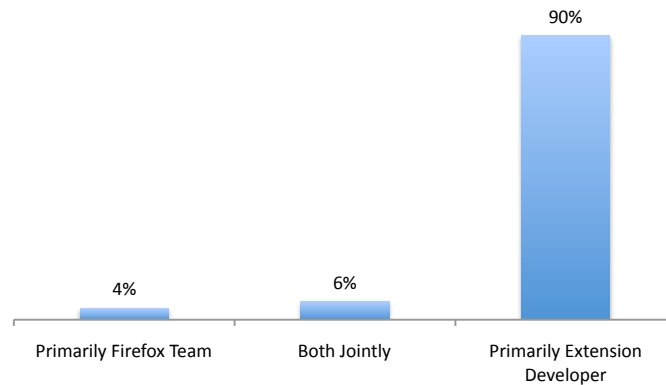


Who Calls the Shots?

FINDING 7: Extension developers enjoy tremendous technical autonomy.

- Technical decisions about an extension's features, functionality, design, implementation, and user interface are most often (in 90% of the cases) made almost exclusively by the extension developer and with almost no input from Mozilla's core Firefox team.

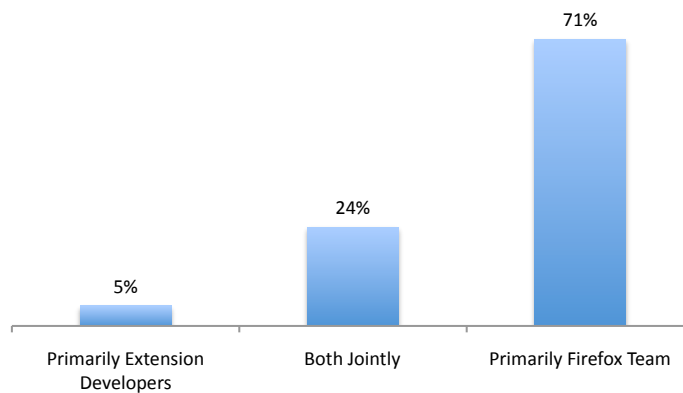
How it was assessed: We asked extension developers whether decisions about their extension's features, functionality, design, implementation, and user interface were made primarily by them, Mozilla's Firefox team, or jointly.



FINDING 8: Mozilla controls the browser but also listens to developers to some extent.

- Decisions about browser features, functionality, design, implementation, and user interface are largely made by Mozilla with a non-trivial amount of input from extension developers.

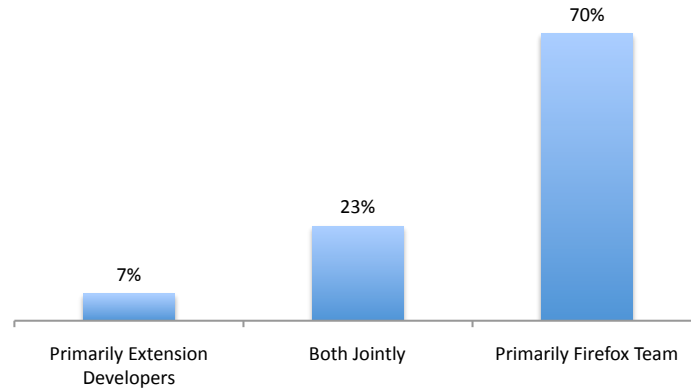
How it was assessed: We asked extension developers whether decisions about their the browser's features, functionality, design, implementation, and user interface were made primarily by Mozilla's core Firefox team, extension developers, or jointly.



FINDING 9: Developers have limited say in supported standards.

- Choices about what standards the browser will comply with are largely made by Mozilla's Firefox team (70% of the respondents), but extension developers are also involved to some degree in helping jointly make these choices (23% of the respondents).

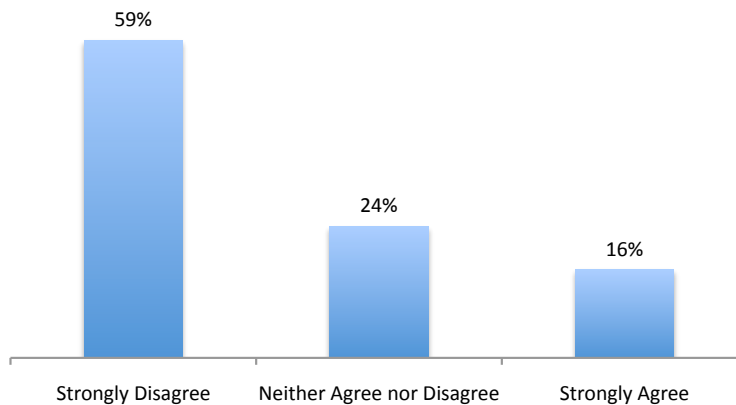
How it was assessed: We asked extension developers whether decisions about which standards that browser is designed to be compliant with—e.g., Javascript, CSS, DOM, XML, XUL, and XHTML—were made primarily by Mozilla's core Firefox team, extension developers, or jointly.



FINDING 10: Most (59%) developers do not fear that the next major release of the browser will subsume their extension's functionality.

- A smaller proportion of extension developers (40%) have some fears that it might.

How it was assessed: Developers expressed their agreement or disagreement with the statement that Firefox 4.0 will very likely natively provide the functionality currently provided by their extension.

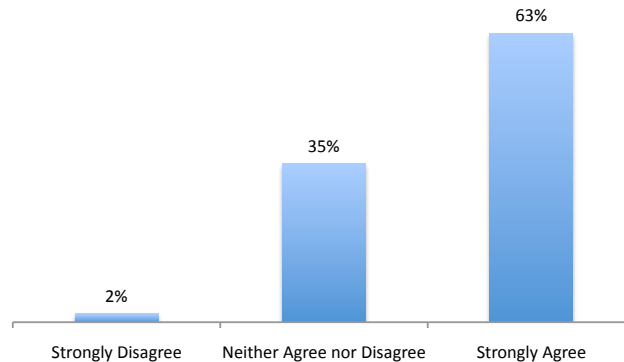


Firefox versus the Competitors

FINDING 11: Extension developers' commitment to future development for Firefox is pretty high.

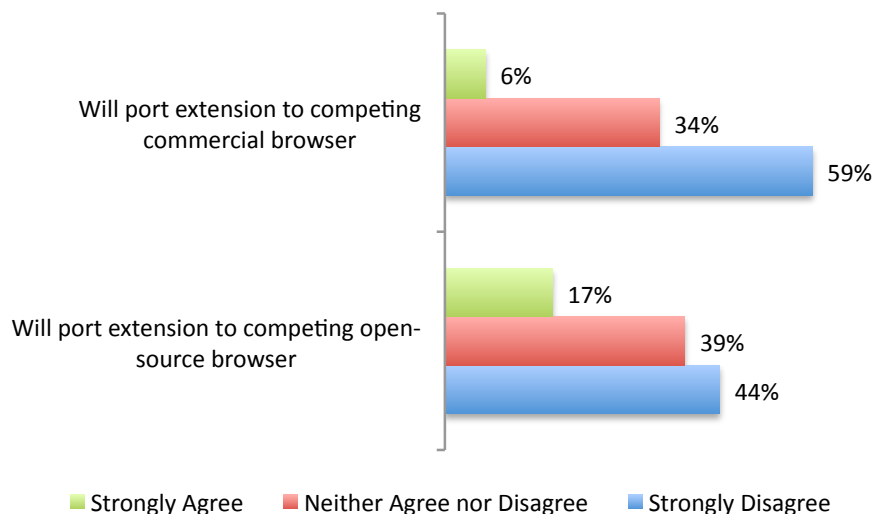
- About two in three developers planning to continue supporting it and one in three is ambivalent.
- Almost no developers (2%) expect to quit supporting it.

How it was assessed: Extension developers assessed whether they planned to continue developing a specific extension, and remain committed to and continue supporting Firefox.



FINDING 12: The majority are unlikely to port to competing commercial browsers.

- The majority (59%) of developers are unlikely to port their extensions to other commercial browsers such as Opera or Safari in the near future.
- One in three (34%) might consider the possibility down the road, and only a small minority (6%) are likely to do so.



FINDING 13: Less than half will consider porting to competing open-source browsers.

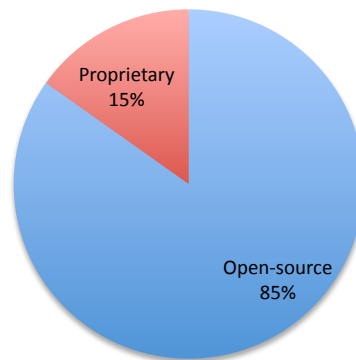
- A slightly larger percentage (about one in six) are likely to port it to other open-source browsers such as Chrome in the near future.
- Less than half (44%) would be completely opposed to the possibility.

Appendix

Notes on the research methodology

331 Firefox extension developers from 31 countries—all with an established track record of extension development—participated in the survey study conducted in June 2009. Trichotomized 7-point Likert scales (http://en.wikipedia.org/wiki/Likert_scale) were used to measure the responses of each developer summarized in this report. Each idea was measured using multiple survey questions for greater measurement reliability.

The majority of extensions (85%) in the study were open source (e.g., GNU GPL, LGPL) and the rest were proprietary.



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Comments or questions?

Dr. Tiwana, tiwana@iastate.edu or PragmaticTheory.com

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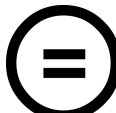
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