

# Conclusion

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All of the organizations behind this first iteration of the Developer Needs Assessment could not be more grateful for the 28,474 people who completed the survey, plus those who partially completed the survey. And, last but not least, the fourteen pilot interview participants, without whom, the survey would not have been possible.

This study was an opportunity for participants to influence how organizations like Mozilla, Google, Microsoft, Samsung, and the W3C prioritize feature development and standards.

The first version of the Developer Needs Assessment ended with valuable information that organizations can use to create a better experience for developers and designers who work on the Web. Since this was the first time the study was conducted, the findings are new to the organizations behind the work. We're still evaluating how best to use the results to influence feature development and standards. That said, we're happy to share the initial actions organizations are taking to improve developer and designers' experience working on the Web.

### Google

*"The Google web platform team is now using Developer Satisfaction (DSAT) as one of our top-level success metrics. We are excited to be using the MDN DNA as one of the main sources of data to help us to understand and prioritize the key areas of developer frustration."*

**- Rick Byers, Director of Engineering for Blink, Web Platform Team**

*"Google has been working with other Chromium contributors, such as Intel, to bring access to hardware capabilities to the web, from cameras and sensors to gamepad, USB and Bluetooth APIs. We believe that any task users want to accomplish with their devices should be possible with the web, so are continuing to work on web standards to*

*expose additional sensors, Serial, HID, NFC, and more."*

**-Joshua Bell, Technical Lead/Manager, Web Platform Team**

### W3C

*"Early reports from the survey provided valuable input to several standardization and pre-standardization discussions at W3C's big annual meeting (TPAC). We anticipate the published report will continue to support standards progress."*

**-Wendy Seltzer, Strategy Lead**

### Mozilla

*"In the Firefox team we are always listening to our community's needs in order to make product decisions. The comprehensive overview of the developer community's needs provided by the MDN DNA report is therefore absolutely essential to us and we are already incorporating its findings into our plans."*

**- Panagiotis Astithas, Sr. Engineering Manager, Firefox Developer Experience**

Beyond individual organization's actions, and recognizing that interoperability is a major pain point for web developers, major browser vendors are working together on cross-browser test suites like web-platform-tests and Test262. The group working on web-platform-tests have taken, [as a 2020 priority](#), to identify and fix the most important test failures and improve the quality of the test suite.

# Methodology

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Considering the pilot interviews provided an outside-in perspective that shaped the first iteration DNA survey, we wanted to offer a thorough write-up of the methodology for how we conducted the interviews.

## Pilot Interviews

To ensure as broad an audience as possible, project stakeholders created recruiting criteria to help gather a diverse perspective from different countries and gender affiliations. We broadcasted a survey on MDN, and selected pilot interview participants from completed responses, ensuring we met the recruiting criteria.

Those who met the criteria were invited to participate in an hour-long (at most), remote interview. Narrative inquiry was chosen as the methodology as people make sense of their world by telling stories. Narrative analysis encourages participants to explain meaning and truth from their perspective.

A guided but flexible discussion was chosen to encourage participants to remain comfortable and conversational throughout the interview process. Language, tone, and topic were guided by the participant and used to inform areas of inquiry as well as contextual interpretation of the participant's words and actions.

In order to accurately map participants' perceptions of a topic related to web development and design, researchers provided an X/Y grid. The X-axis represented participants' perceived level of importance, while the Y-axis represented their perceived level of frustration of the topic of interest.

Participants were then given a set of cards that represent touchpoints of web development or design and were asked to place the

cards onto the grid according to their own opinion. The list of touchpoints were defined during the kickoff with stakeholders:

- Accessibility
- Authentication on Mobile
- Browser Compatibility
- Debugging
- Deployment
- Frameworks
- Layout
- Localization
- Mobile Payments
- Ops
- Pace of change
- Performance
- Privacy
- Security
- Testing
- Tools
- Trends

Researchers watched participants place the cards on the grid, and asked why cards were placed in a specific location or about the relationship between cards. They examined verbal cues in the context of the conversation, to guide the discussion toward experiences that participants found especially relevant, meaningful, or memorable.

If a participant didn't understand the meaning of a card, they were instructed to define what it meant to them, and if no material description followed, they were asked to leave it off the grid. At the end of the activity, participants could create cards representing a touchpoint not found on the list provided. They were instructed to place the newly defined touchpoint on the grid in the same way that the

pre-provided touchpoints were placed.

When permitted, interviews were recorded, and photos were taken of any artifacts created.

## **Analysis**

Following the interviews, Pinpoint began analysis, which started with detailed coding of the transcribed interviews. They read through each interview transcript to review the narrative — what did the participant choose to talk about? What was interesting? How do they frame things? What's unique about their language? How do they want to be perceived?

After coding, Pinpoint's process transformed from information sifting to creating a narrative that highlights evidence (what they saw and heard from the interviews) to identify insights (what the evidence means), which helps unearth critical themes (why the evidence matters).

## **Survey Creation**

Initial analysis of the pilot interview findings informed the survey questions, most importantly, the needs list. The original needs list included 59 need statements within eighteen categories. This list was pared down to the 28 needs tested in the survey. MDN Product Advisory Board (PAB) members, as well as others employees within the PAB organization helped weigh in on how to reduce the needs list. A shorter needs list was important; otherwise the time required to complete the survey would have been too great, and our participation rates would have been less.

Once a draft survey was ready, it was piloted through UserTesting as well as individual interviews with participants recruited from

MDN. These pilot efforts were an opportunity to gather early feedback from the perspective of our target audience to help ensure the questions were being interpreted as we intended.

Once the survey questions were finalized it was localized from English into eight languages:

- Arabic
- Chinese (simplified)
- French
- Japanese
- Korean
- Portuguese (Brazil)
- Russian
- Spanish

The survey launched mid-July of 2019 and closed in August of 2019.

