Where to Turn ▶

Beating COVID-19 with Accessible RealTime Information

COVID19.ca.gov Website -
Data Management, Analytics & Visualization

COVID19.ca.gov Website - Digital Services, Government to Citizen

Project dates: March 2020-Ongoing

Angelica Quirarte, angelica.quirarte@digital.ca.gov
Deputy Director, California Office of Digital Innovation

Amy Tong, amy.tong@state.ca.gov
Director and State CIO, California Department of Technolgy

IDEA

Provide Californians with a single source of truth to navigate the COVID-19 crisis.
Covid19.ca.gov is not just a website. While it began as a simple explainer for a single executive order to stay home, it evolved to include a data-driven map of COVID-19 statistics by county, a responsive display of restrictions based on local conditions, and data dashboards giving updates on cases, tests, hospitalizations, deaths, health equity, and vaccinations. As part of the reopening work, the website features "What's open" search, which tells the open/closed status by county of more than 100 kinds of businesses or activities. It also includes a single destination for all to see and review the Safe School Opening Plans for every California school including a map of all schools and the re-opening plan for each.

IMPLEMENTATION

The website is a product of extensive, unprecedented cross-department collaboration and partnerships.
The team spanned multiple departments, agencies, and the Governor's Office. They developed review and approval processes using GitHub, ensuring transparency and a clear record The team was able to leverage an agile and multidisciplinary approach to how to build the site, bringing expertise around analytics, content design, user research, and engineering to help inform what is the right information to communicate critical content in a time of crisis. This approach goes beyond project management and checking boxes with stakeholders. It is more comprehensive, intentional, and analytical in driving for impact.

The COVID-19 website was stood up in just four days. The covid19.ca.gov team revises and formats all content on the website to make it accessible, clear, trustworthy, and inclusive.

IMPACT

Covid19.ca.gov is an accessible website designed for performance and equity.
Covid19.ca.gov has become the go-to resource for vaccination statistics and re-opening information for businesses and school, and can be viewed in seven languages. The open/close tool is accessible without broadband and is written at an easy-to-read grade level rating so it's understandable to all. Website analytics demonstrate that people are aware and actively using the site, and it remains an effective and trusted messenger throughout the pandemic.

Since COVID-19 Website launch
(3/18/2021-5/10/2021)

Total user traffic	Total pageviews
55,514,273	**159,330,891**

Average Daily
across the 332-day span

Traffic
162,506

Pageviews
463,242

IDEA

Provide Californians with a single source of truth to keep them informed and help them navigate the COVID-19 crisis.

- Covid19.ca.gov is not just a website. While it began as a simple explainer for a single executive order to stay home, it subsequently evolved to include a data-driven map of COVID-19 statistics by county, a responsive display of restrictions based on local conditions, and data dashboards giving updates on cases, tests, hospitalizations, deaths, health equity, and vaccinations.

- The website has the responsibility to serve as a single source of truth from the state of California for state residents and businesses, for local government, for federal data partners, for the media, for citizen scientists, for epidemiologists, and for health officers.

- As part of the reopening work, the website features "What's open" search, which tells the open/closed status by county of more than 100 kinds of businesses or activities. It also serves as the single destination for the Safe School Opening Plans for every California school.

The team developed and applied a digital Crisis Standard to help maintain the quality of the coronavirus response website.

- Californians don't distinguish between the different tools and services we provide—they're all State services—and so the quality needs to extend to everything we provide, whether we see it as part of covid19.ca.gov or not.

- To meet the Standard, content needs to be simple, clear and actionable; the response needs to be accessible; the user experience needs to be seamless; user needs should be met and iterated on; and it should be scaled responsibly. These principles for designing in a crisis are also publicly available.

IMPLEMENTATION

The website is a product of extensive, unprecedented cross-department collaboration and partnerships.

- The team spanned multiple departments, agencies, and the Governor's Office. They developed review and approval processes using GitHub, ensuring transparency and a clear record

- The team was able to leverage an agile and multidisciplinary approach to how to build the site, bringing expertise around analytics, content design, user research, and engineering to help inform what is the right information to communicate critical content in a time of crisis

- This approach goes beyond project management and checking boxes with stakeholders, it is more comprehensive, intentional, and analytical in driving for impact.

In addition to the intensive inter- and intra-department collaboration, the team worked with multiple vendors on different aspects of the site, including:

- **Translation:** Avantpage is an ODI vendor which provides our site content in 7 languages, including English. Avantpage translates content 24 hours after submission, and can be done faster for urgent situations.

- **Data engineering and data design:** Slalom and Analytica are CDPH and CDT vendors that design, build, and maintain most COVID data dashboards and assets. Slalom and Analytica are our design and build partners for the equity page, vaccine dashboard, state dashboard page, Blueprint and Regional Stay Home Order dashboards, and COVID data tracker.

- **Software vendors:** The COVID-19 team collaborates with CA state agency software vendors such as Deloitte which built and helps maintain the CDPH COVID website, ESRI which built the schools hub (CDPH/CDT), Maximus and Unleashing Leaders that run and manage the call center and hotlines (CDPH/CDT), and OSaaS which helped build the COVID-19 Employer Portal for the Department of Labor. Also used Accenture (CDT/CDPH), and Salesforce (CDT/CDPH) to host or amplify software solutions built by them, such as the vaccine eligibility and scheduling tool (https://myturn.ca.gov/) and workers rights tool (labor.ca.gov/coronavirus2019/employer-portal/).

- **Cloud hosting:** CDT vendors Azure and AWS provide the infrastructure for COVID19.

- **Marketing and communications:** The COVID-19 team works with GO and CDT marketing and data insights vendors such as RSE Digital Marketing and Syntasa to collaborate on broader print and digital COVID messaging campaigns, as well as Bynd and Duncan Channon for launching a vaccine print, TV, radio, and digital campaign with Community Based Organizations (CBOs).

- **Vaccine distribution and data and communications management:** The team also works with the vendors brought on board to support the overall vaccine roll out. These include:

- **Project management:** Blue Shield, Covered CA, and the Public Consulting Group

The team used tools in novel ways to speed reviews and approvals across departments that had never worked together before and were working under incredible time constraints and with traditional closed platform products like pdf.

- The team used Airtable to create an innovative content-life-cycle publishing process making it possible for multiple teams to track multi-version PDF assets.

- Additionally, the team uses a suite of tools to support agile product discovery and development

  - **Design and Discovery:** Figma for low fidelity to production designs and Miro and Mural for product brainstorming.
  - **Product Management and Discovery:** Github and Jira Cloud for sprint planning, ticket management, and open access to site code.
  - **User Testing:** Ethn.io and usertesting.com for getting user feedback against concepts or

live content, and [Hemingway](#) for testing readability.

- ○ **Web Analytics, Production Performance, and Accessibility Monitoring**: Google Analytics for web analytics and user statistics, [Calibre](#) and [Siteimprove](#) for production performance and accessibility monitoring.
- ○ **Publishing:** [Wordpress](#)
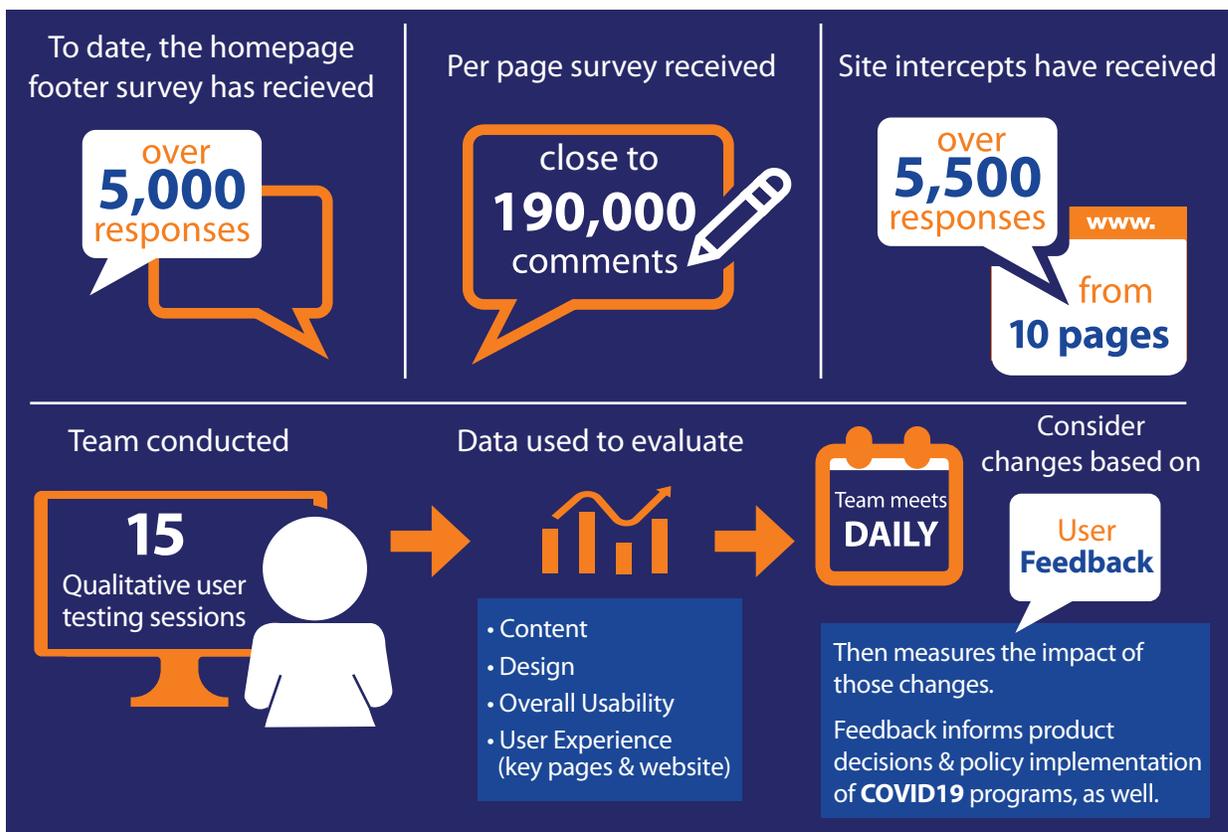- ○ **Productivity, Version Control and Team Communication:** Zoom, Slack, and Google Suite

The California Design System was designed and built using the design and development standards established by alpha.ca.gov (see below).

- The alpha principles have laid the foundation for the covid19.ca.gov and ca.gov websites. These standards were designed to be reusable and scalable—the code is publicly available and can be used by any development team.

- The work the team did to build covid19.ca.gov will provide lessons learned to support the strategy for CA.gov and how California manages its digital assets.

IMPACT

The team uses multiple research methods to capture feedback from Californians.

- The team's user testing program brings together quantitative and qualitative data, using online tools including usertesting.com, Ethnio and Survey Monkey to directly engage with site visitors, soliciting and incorporating feedback.

To date, the homepage footer survey has recieved

over **5,000** responses

Per page survey received

close to **190,000** comments

Site intercepts have received

over **5,500** responses

www.

from **10 pages**

Team conducted

15 Qualitative user testing sessions

Data used to evaluate

- Content
- Design
- Overall Usability
- User Experience (key pages & website)

Team meets **DAILY**

Consider changes based on

User **Feedback**

Then measures the impact of those changes.

Feedback informs product decisions & policy implementation of **COVID19** programs, as well.

Most websites are built with performance considerations last, not realizing the accessibility and equity implications for users. We expanded on the traditional understanding of accessibility in state government by also prioritizing performance.

- The team minimized content, simplified design, and built with lightweight web components that educe dependency on heavyweight libraries, making the website fast and easy to use on any kind of hardware or with any level of bandwidth.

- The website's commitment to performance was further enhanced by constant measurement and monitoring with web development tool Lighthouse.

- The team measures page load speeds using Lighthouse audits. These are performed when the team develops new content and runs regular checks that report any score changes into our Slack channels.

- The team created static final deliverables using content pregeneration powered by 11ty which reduces resource requirements in our production environment and lets us smoothly scale to handle traffic spikes.

- A key commitment to the general public is to provide accessible and plain language content to meet the diverse range of tech nativeness, languages and abilities of users.

The team has made design and development choices that prioritize accessibility, performance, and equity.

- Covid19.ca.gov is at the cutting edge of a trend among governments to use lightweight javascript libraries for public data visualizations and this matters because we are showing that it's possible for government to prioritize accessibility, performance, deep translation integration and rethink data presentation.

- The website is translated in 7 languages including English using real people for the translation. The team also introduced tags that automatically send it for translation in production.

- The team has collaborated with CDPH and CDT to build multiple public dashboards showing the scope and impact of COVID-19 on residents, including an equity-focused dashboard and tool.

- The team is creating deep accessibility in these visualizations, making sure charts and graphs are legible to differently-abled users.

- The website is home to an interactive tool that shows people what businesses are open or closed in their county, allowing them to plan their lives accordingly.

- The Safe Schools For All Hub on the covid19.ca.gov website provides key resources and transparency to support the return to in-person instruction including school district maps that contain information on each district's safety plans, PPE/Supplies on hand, reopening status, funding levels and positive COVID-19 case numbers tied to a district's ability to receive reopening funding.

- The Hub also provides a channel for school administrators and Local Health Jurisdictions to request technical assistance for implementing their COVID-safety plans, as well as provides school staff and parents of students with the opportunity to provide direct feedback to the state and voice any issues or concerns they have in regard to safety.

Quantitative and qualitative proof that it's functional and effective at better serving residents.

Since COVID-19 Website launch
(3/18/2021-5/10/2021)

Total user traffic
55,514,273

Total pageviews
159,330,891

Average Daily
across the 332-day span

Traffic
162,506

Pageviews
463,242

Two most heavily trafficked days, the site hosted

Over 1 Million visitors
without incident

COVID19.ca.gov

March 19, 2020
site hosted

1,451,085
people

December 8, 2020
site hosted

1,632,398
visitors

Created industry guidance for **50⁺ different industries** making over **2,500 changes and updates** to the documents over the last year to reflect changing circumstances and policy.

The covid19.ca.gov website was worthy of initial investment because in a crisis, equitable access to reliable, consistent, real-time information is critical.

It was and remains essential that Californians have the information they need to understand the impact of COVID-19 and how to navigate its effects safely. As the pandemic evolves and recovery continues, the site will continue to adapt in real time to meet the need for COVID-19 information, reliably and consistently.