Digital Web Services Network

Bringing together digital product managers, designers, and engineers.

DWSN Quarterly Forum

Thursday, January 22, 2026

Digital Web Services Network

- Welcome to the DWSN forum, we will begin shortly.
- For the best experience, please use your computer to join the meeting.
- Mute your audio.
- Turn off your video.
- Use the raise hand button or the meeting chat for comments and questions.

Opening Remarks

Greg Duncan, Web Services Manager

DWSN Forum Agenda

Opening Remarks……………..…………………………………………………...……....……….……… Greg Duncan (CDT) (5 minutes)

Using Copilot in GitHub...….. Selvarani Janarthanan, Donn Thomson, and Anureet Sandhu (CDT) (30 – 45 minutes)

Poppy (State Digital Assistant)……………...................…………… Steven Garrett and Shera Mui (CDT) (5 – 10 minutes)

GenAI Test in Snowflake……..……. Katie Regan (CDT) (10 – 15 minutes)

Updates: State Web Template + Google Analytics embed code …................... Carter Medlin (CDT) (5 minutes)

Closing Remarks……..………………. Greg Duncan (CDT) (5 minutes)

Using Copilot in GitHub

Selvarani Janarthanan (Selvi**),** Apps Engineering Manager
Anureet Sandhu, Software Engineer
Donn Thomson, Software Engineer

Copilot in GitHub

- Before GitHub Copilot
- Adoption Process
- Example 1: Inline Code Prediction
- Example 2: Copilot Chat
- Example 3: Troubleshooting & Debugging
- Lessons Learned
- Best Practices for Using Copilot
- GitHub Copilot Procurement Process

Before GitHub Copilot

- Manual coding was time-consuming and repetitive
- Learning new frameworks required constant research through documentation and online forums
- Writing automation tests and boilerplate code was slow and tedious
- Debugging often meant digging through obscure documentation or Stack Overflow threads

Adoption Process

Gradual team adoption, focusing on repetitive tasks and learning support

Integrated Copilot gradually into daily development workflow.

Encouraged experimentation and sharing feedback

Ensured all AI-generated code was reviewed by developers for accuracy

Inline Code Prediction

- **Feature**: Predicts code as you type, offering suggestions and bug fixes in real time
- **Impact**: Developers completed tasks 55% faster and achieved higher task completion rates.
- **Before**: Writing boilerplate code manually took hours
- **After**: Suggestions appear in seconds
- **Pros**: Significant time-savings; enhances speed and focus on logic
- **Cons**: Requires careful review- AI still makes mistakes, especially in complex contexts

Before: Time taken to complete a task

After: Time taken to complete a task

Copilot chat

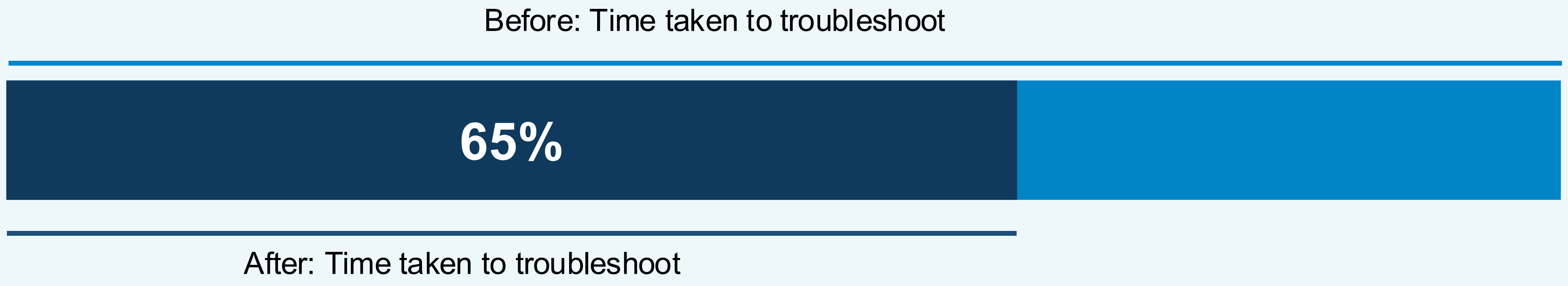
- **Feature**: Chat-based guidance using natural language – offers examples, best-practices and tailored help based on open files
- **Impact**: Developers rapidly onboard new tools/frameworks with reduced search time; surveys show 73% stay in the flow and 87% conserve mental effort
- **Before**: Searching online took days
- **After**: Instant code explanations and samples
- **Pros**: Improves learning, context-aware, supports problem-solving
- **Cons**: Outcome depends on prompt clarity human validation remains essential

Before: Hours searching online and going through documentation

After : Instant and concise answers with Copilot Chat

Troubleshooting & Debugging

- **Feature**: Uses Copilot to assist in diagnosing bugs by analyzing logs, writing error-handling code or generating documentation
- **Impact**: Users completed troubleshooting tasks 35% faster and made 50% more solution progress; they spent less time writing code and searching online
- **Before**: Developers manually traces logs; which is time-consuming and error-prone
- **After**: Copilot surfaces suggestions and strategies instantly
- **Pros**: Speeds resolution, increases progress, reduces cognitive load
- **Cons**: Users may not fully understand Copilot’s rationale; needs review to avoid adopting unvetted or incorrect fixes



Lessons Learned

Pros

- Cuts coding/debugging time by 25-50%
- Helps learn new languages and frameworks faster
- Provides tailored solutions based on open files
- Useful for writing tests, comments and explanations

Cons

- AI code sometimes flawed or irrelevant
- Requires detailed prompts and human validation
- Not a replacement for developer expertise

Best Practices for Using Copilot

Hallucinations

Peer Review

Clear Prompts

GitHub Copilot Procurement Process

(GenAI Risk Assessment)

Prep

Complete SIMM-5305-F Part 1 and SIMM-5310-C PTA (do PIA if any PTA = YES). Notify CIO & CISO. Optional: Generative AI Process Clarification Consultation (GPCC) with CDT.

Internal sign-off

Email your managers for approval to submit to CDT ISO/CIO.

Adobe Sign

Submit 5310-C + 5305-F in one flow (ISO first, CIO second). If Part1 = Moderate/High → finish Part2 and get AIO/AISO signatures.

ServiceNow

Create New Technology Consultation & Assessment request — do NOT attach forms. Wait for CES secure upload link, then upload signed forms, diagram, docs.

CDT review

OIS produces Risk Assessment Report; OSPD/OSTP confirm IT project (PDL if needed). CES coordinates approval.

Post-approval

Request DevSecOps/OTech provisioning and initiate procurement if required. Build time for training, policy/procedure updates, and contract review.

Conclusion

Before: Time taken to complete a task

45%

After: Time taken to complete a task

Before: Hours searching online and going through documentation

After : Instant and concise answers with Copilot Chat

Before: Time taken to troubleshoot

65%

After: Time taken to troubleshoot

Demo on GitHub Copilot

Poppy Overview and API Usage

Steven Garrett, Platform Engineering
Shera Mui, Deputy Director of Platform Services

Poppy (CDA) Overview and API Usage

- Poppy is a vendor agnostic GenAI platform to help state staff with daily tasks
- Currently in the UAT/Pilot phase
- If you have access to the Poppy UAT pilot phase environment, use the "Poppy FAQ's" model for common questions
- API key can be generated per user in your settings options
- Using the API key and URL, interact with Poppy LLM's using a CLI or your preferred IDE (VScode, Cline, etc.)
- More information can be found at https://www.genai.ca.gov/poppy/

GenAI Test in Snowflake

Katie Regan, Interim Head of Emerging Technology Governance

OPEN DATA & GENAI

The Data Team has partnered with the Statewide Digital Assistant (SDA) Team for an expanded UAT that focused on research and development **to see what is possible with Poppy, Snowflake, and the State's Open Data Portal**.

QUESTIONS TO ANSWER:

1

Can Snowflake act as a backend to Poppy?

2

Can Snowflake Cortex (GenAI tooling inside Snowflake) offer functionality like Poppy?

3

Can we create an environment where users can ask natural language questions of the open data portal?

FINDINGS SO FAR

1. Yes! Poppy can connect to Snowflake so that users can engage with structured data in a natural language environment.

2. Yes! Snowflake Cortex offers similar functionality to Poppy within the Snowflake environment, for example: the team has been able to ask questions of ODS PO's within Snowflake.

3. In progress... Poppy can answer questions about the Open Data Portal, but this requires data preparation within Snowflake, strict prompt engineering, and targeted model use.

WHAT'S NEXT?

- Continue **testing in 2026 of PO data** by connecting this database to test for possibility of access via Poppy interface
- Expand R&D focus in 2026 to **build and test and retrieval augmented generation (RAG) system** within Snowflake
- Pursue in 2026 **options analysis of natural language interface with the Open Data Portal** including a beta test of OpenGov's chatbot functionality, if available per their roadmap

Updates: State Web Template + Google Analytics embed code

Carter Medlin, Enterprise Architect

Targeting performance on ca.gov

Better PageSpeed scores

Improved Google Analytics

Reduce forced reflow

What is forced reflow?

Occurs when browser is forced to recalc layout immediately

Triggered by reading layout (**offsetWidth**)

Blocks JavaScript while page redraws

Forced Reflow, Explained

- Browser sketches layout in broad strokes
- JavaScript demands exact sizes too early
- Forces a premature, detailed redraw
- Breaks the browser’s flow and hurts performance

How to avoid forced reflow

Avoid inspecting the layout when the page is loading

Use requestAnimationFrame() or requestIdleCallback()

Where is forced reflow an issue?

Google Analytics

State Template <6.5.1

Identify forced reflow

https://pagespeed.web.dev/

Forced reflow

A forced reflow occurs when JavaScript queries geometric properties (such as offsetWidth) after styles have been invalidated by a change to the DOM state. This can result in poor performance. Learn more about forced reflows and possible mitigations. Unscored

Top function call	Total reflow time
/gtag/js?id=G-XFPJTRCEF6&cx=c&gtm=4e61e1:796:135 (www.googletagmanager.com)	45 ms

Source	Total reflow time
/gtag/js?id=G-XFPJTRCEF6&cx=c&gtm=4e61e1:793:14 (www.googletagmanager.com)	45 ms

How to fix Google Analytics

```
var loadGTM = function () {
  // load Google Analytics
};

if ("requestIdleCallback" in window) {
  requestIdleCallback(loadGTM);
} else {
  setTimeout(loadGTM, 200); // fallback for older browsers
}
```

How to fix Google Analytics

REMOVE Google Analytics "preconnects"

```
// Remove these!
<link rel="preconnect" href="https://www.googletagmanager.com" />
<link rel="preconnect" href="https://www.google-analytics.com" />
```

Get the latest State Template

- 6.5.5 release
- Improved performance
- https://template.webstandards.ca.gov/

HSTS preload is coming!

- HTTP Strict Transport Security
- Preload to world list in the next few weeks
- Improves every site with ".ca.gov" in the domain
- All ".ca.gov" domains will require valid HTTPS certificates, or they will be hidden from users
- Learn more at https://hstspreload.org/

A Historic Upgrade
HSTS Preload

This is one of the most impactful improvements we've delivered to every California government website in years — and yes, YOUR site benefits too.

Closing Remarks

Greg Duncan, Web Services Manager

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Thank you!

These slides will be published on the DWSN website (cdt.ca.gov/dwsn) in a few days.

Our next DWSN quarterly session will be held on April 16, 2026 (invite to be sent soon).

Questions? Contact DigitalWebServicesNetwork@state.ca.gov