

# Off The Beaten Path

**Observability** Focus: From Service, To Customer

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 Bing Engineering

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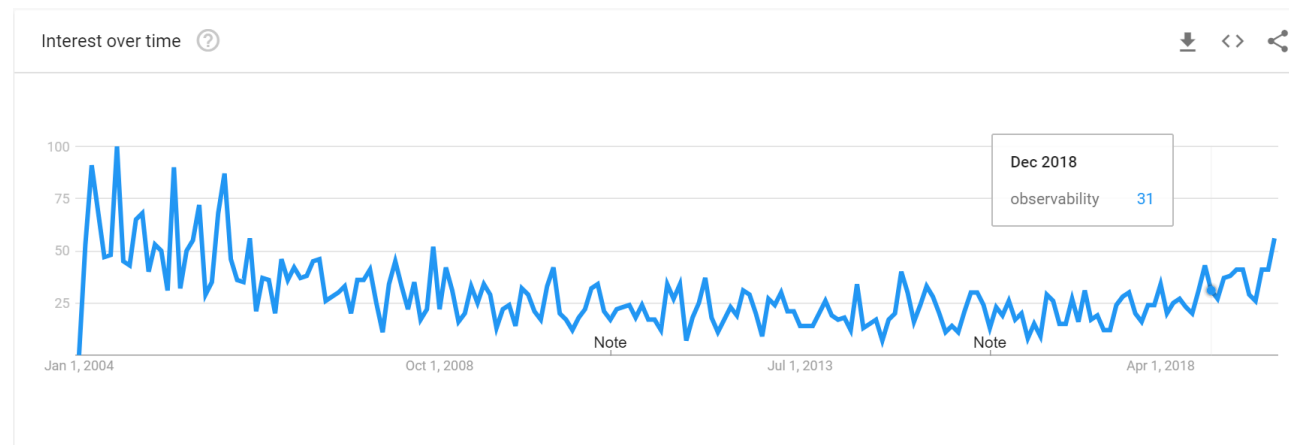
# You're Probably Not Alone

— *Why call it monitoring? That's not sexy enough anymore.*

— *Observability, because rebranding Ops as DevOps wasn't bad enough, now they're devopsifying monitoring too*

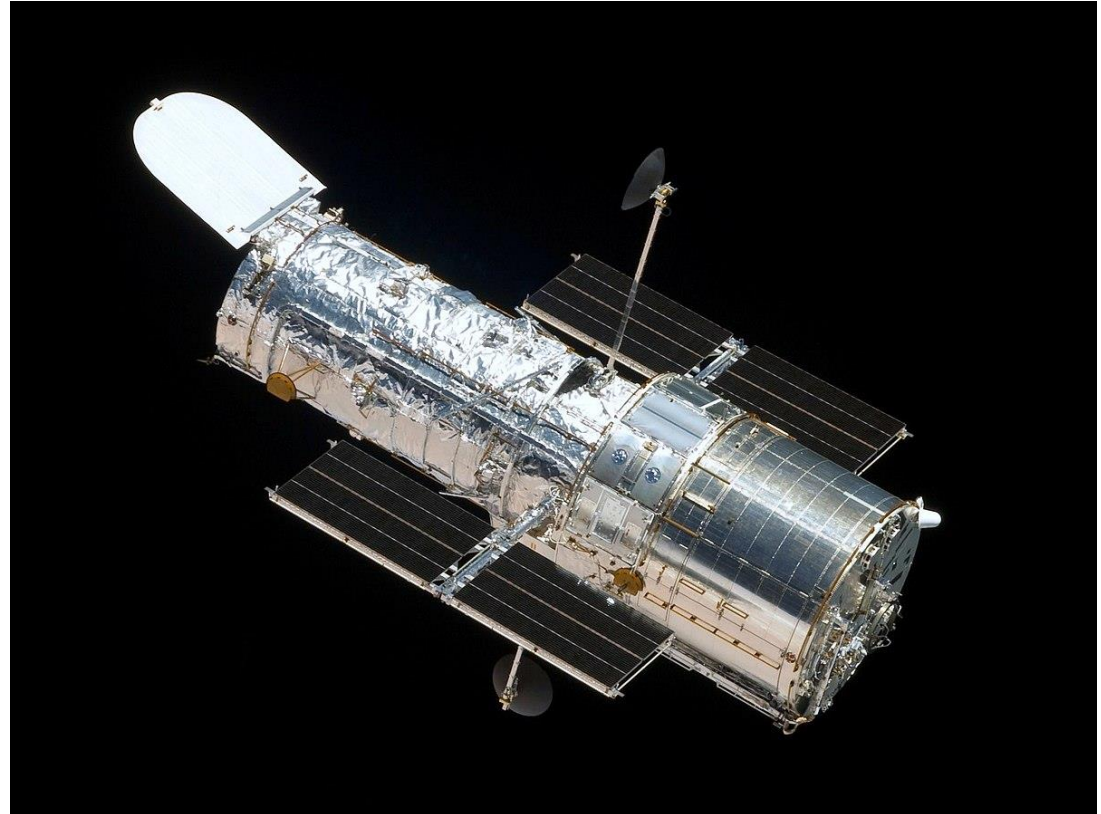
— *Is that supposed to be like the second coming of DevOps? Or was it the Second Way? I can't remember. It all felt so cultish anyway.*

<https://medium.com/@copyconstruct/monitoring-and-observability-8417d1952e1c> → Recommended Reading



# Observability, for the next 20-30 minutes

- Monitoring
  - Alerting
- Debugging
  - Distributed Tracing
  - Log Aggregation
- Testing
- Insights
- And more...



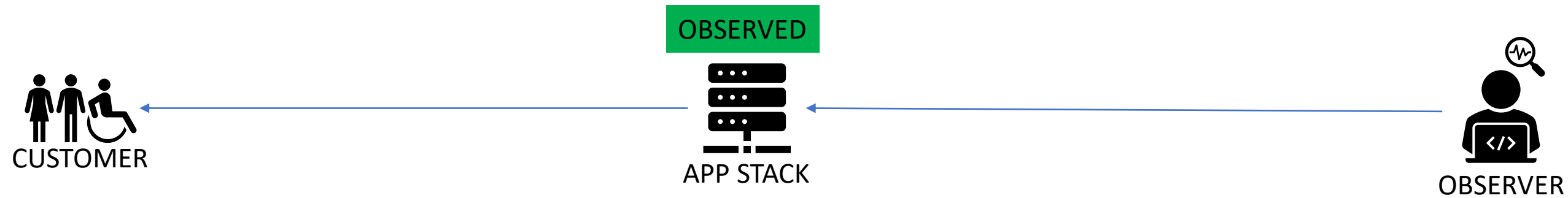
[https://en.wikipedia.org/wiki/Hubble\\_Space\\_Telescope](https://en.wikipedia.org/wiki/Hubble_Space_Telescope)

Observability  $\supseteq$  Monitoring

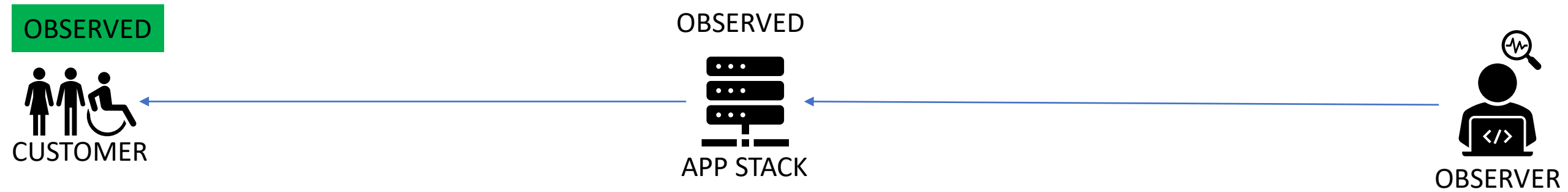
# Observability Focus



CC: <http://www.themindfulword.org/wp-content/uploads/2015/03/PREFERENCES-learning-to-live-in-the-moment.jpg>

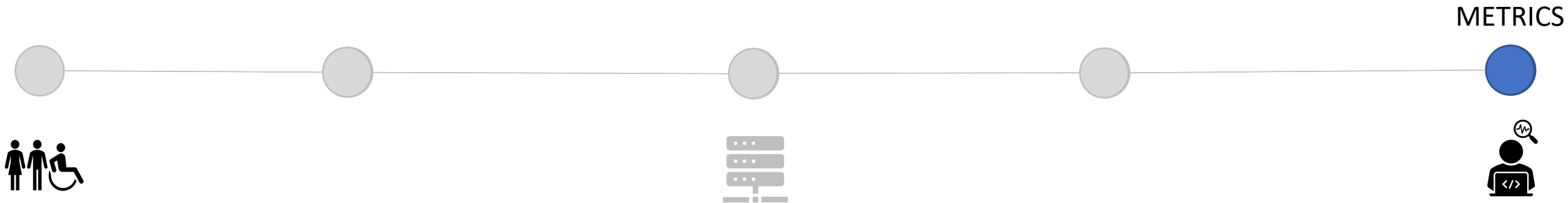


# Observability Focus – A Shift

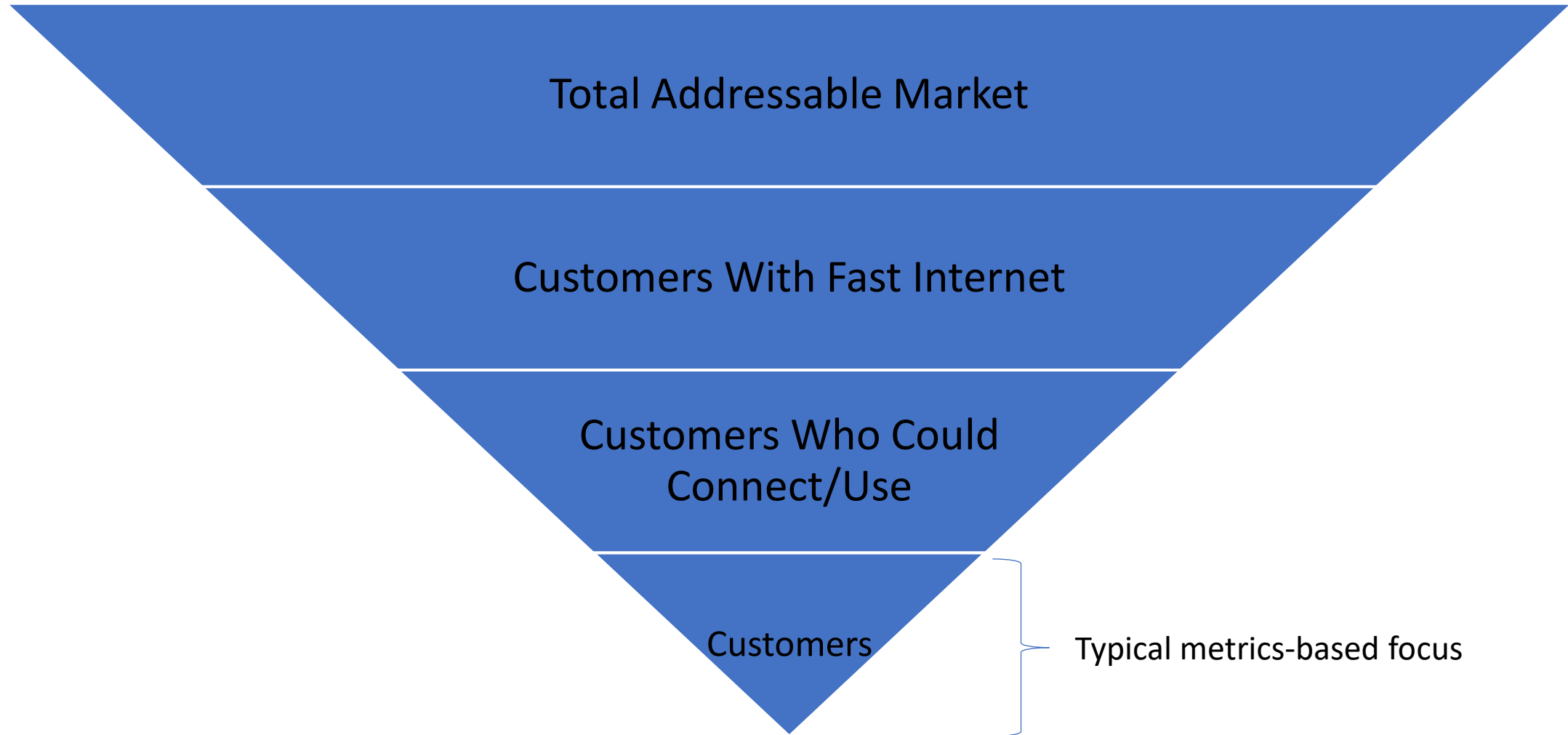


# App Metrics

Our Comfort Zone

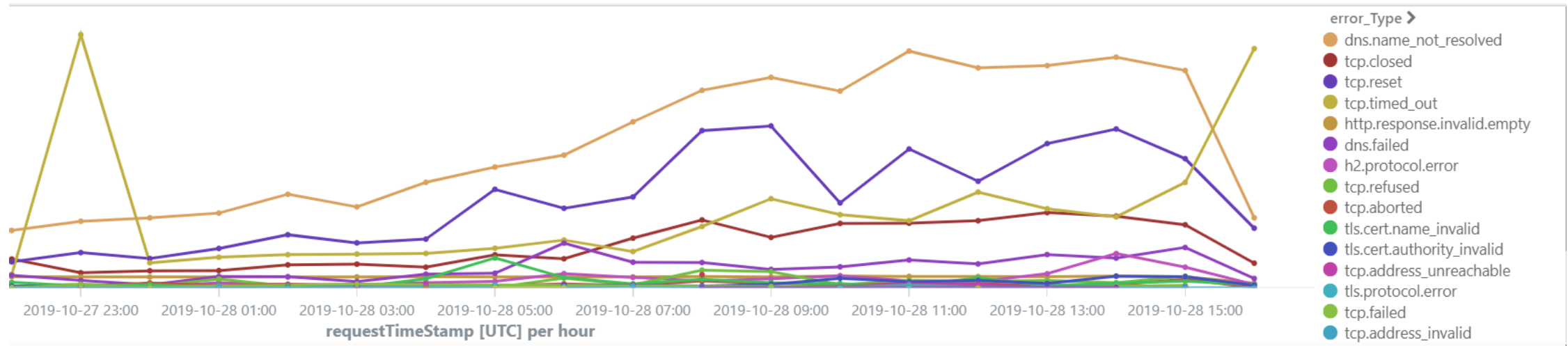


# Availability: Less Than What You Think It Is



Thinking Beyond 9's: <https://www.usenix.org/conference/srecon19asia/presentation/srinivasamurthy>

# Network Error Logging

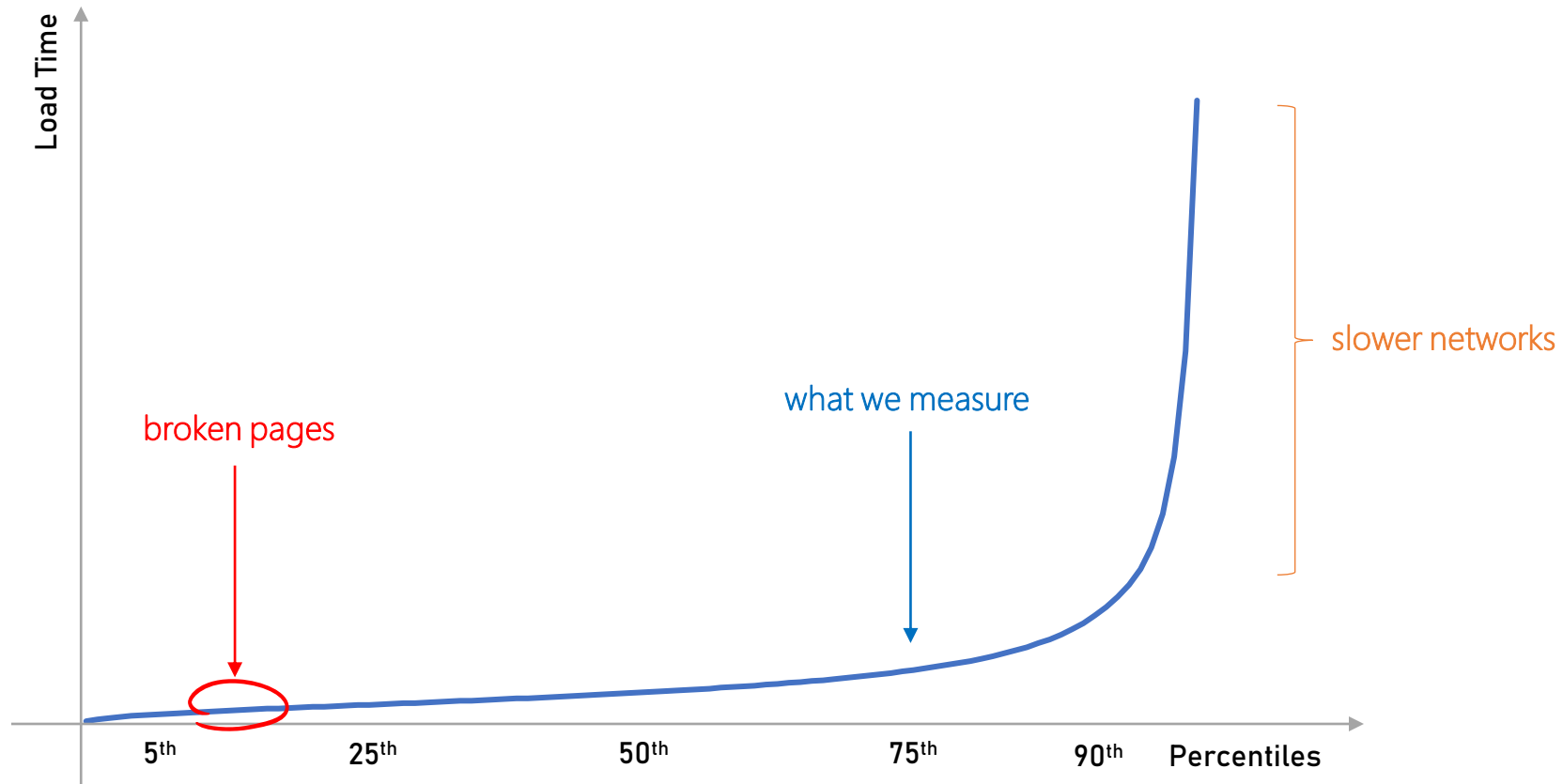


Today, application developers do not have real-time web application availability data from their end users. For example, if the user fails to load the page due to a network error, such as a failed DNS lookup, a connection timeout, a reset connection, or other reasons, **the site developer is unable to detect and address this issue**. Note that these kinds of network errors cannot be detected purely server-side, since by definition the client might not have been able to successfully establish a connection with the server.

<https://w3c.github.io/network-error-logging/>



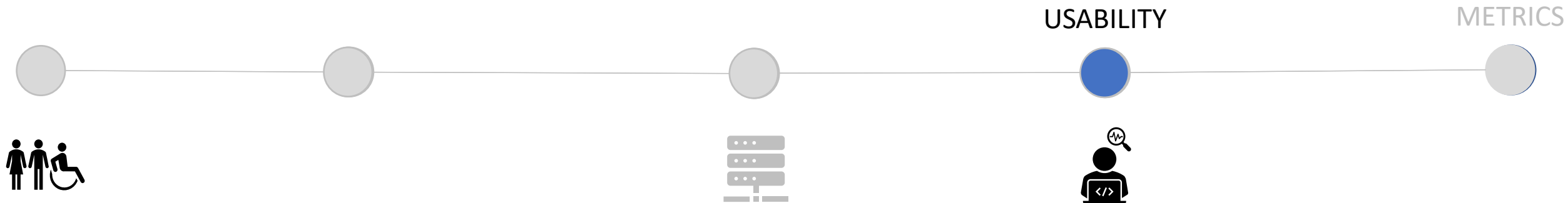
# Performance: More Than A Numbers Game



Focus on Overall Distribution, Not Just One Point

# Usability

Is There A Way To Measure Behavior & Be Inclusive?



# How do you debug usability issues?



↑  
3  
↓  
Seeing weird purple ads with Bing? (self.bing)  
submitted 2 months ago by [redacted]

Hi when I am searching using Bing, I receive really distracting, bold bright purple ads (like a purple rectangular background), yet on google I don't see any ads which is strange. I'm using Microsoft Edge. It only happens on one of my systems. Thanks.

Bing results: <https://gyazo.com/2f6789b6a71cbfbf0cf00372cb45c36c> Google results: <https://gyazo.com/f288129e6feeb7b6b6f1f3bc059667d8>

comment share save hide report

I using Bing, I receive really distracting, bold bright purple ads



# What if you could see what your user saw?

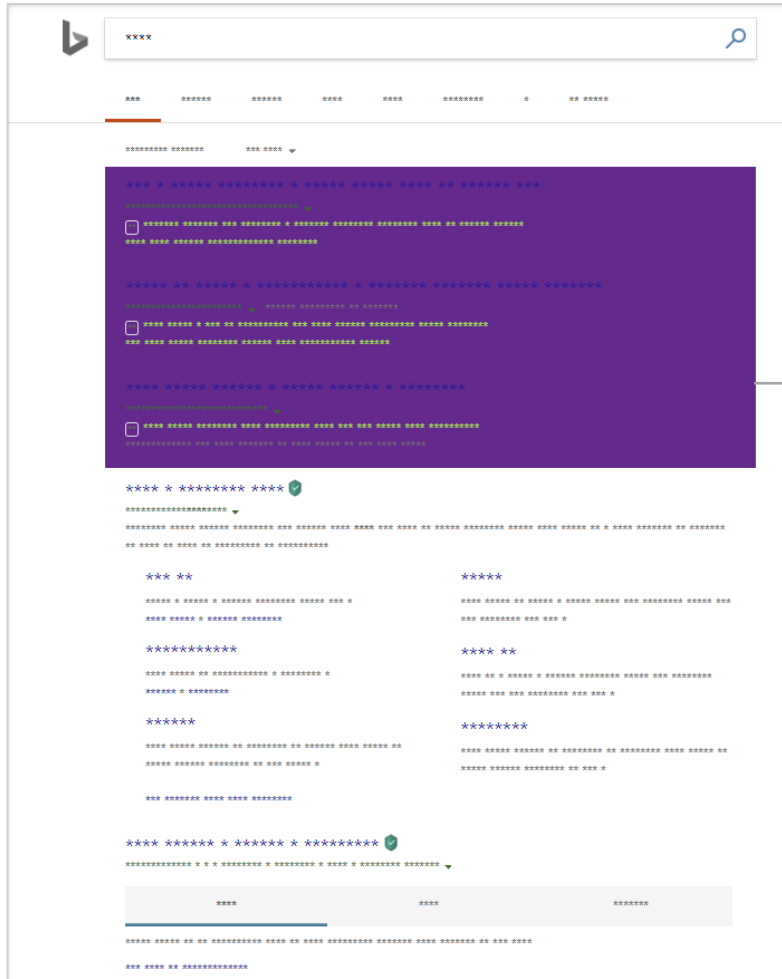
The image shows a screenshot of the Clarity replay tool interface. At the top, there is a navigation bar with the Clarity logo, a play button, a pause button, a search icon, and a volume slider. The time displayed is 00:00:01.490 / 00:00:07.260. Below the navigation bar, there are three tabs: REPLAY, BOX MODEL, and PAGE PERFORMANCE. The REPLAY tab is active, showing a user's session. The session is represented by a series of stars (\*\*\*\*) and a play button icon. Below this, there is a large purple rectangular area that appears to be a replay of the user's session, showing a grid of stars and some text. To the right of the purple area, there is a white rectangular area containing a share icon, a grey square, and three social media icons (Globe, W, and LinkedIn). Below these icons, there is a list of stars and some text.



# And, had the data to solve the usability issue

## Search criteria:

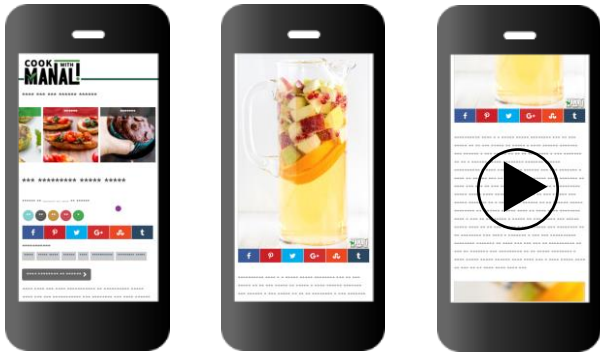
- Ads are present
- Ads background color not default



```
{
  "id": 100,
  "time": 764,
  "type": "Layout",
  "state": {
    "index": 99,
    "parent": 71,
    "source": 0,
    "action": 0,
    "tag": "LI",
    "attributes": {
      "class": "b_ad"
    },
    "layout": {
      "x": 0,
      "y": 0,
      "width": 0,
      "height": 0,
      "background": "#6e2091"
    }
  },
},
{
  "id": 1064,
  "time": 931,
  "type": "Layout",
  "state": {
    "index": 1059,
    "parent": 146,
    "source": 1,
    "action": 0,
    "tag": "IMG",
    "attributes": {
      "name": "kl_151070669753",
      "src": "https://gc.kis.v2.scr.kaspersky-labs.com/8BE9FF...",
      "style": "width: 12px; height: 12px;"
    },
    "layout": {
      "x": 360,
      "y": 312,
      "width": 12,
      "height": 12
    },
    "mutationSequence": 23
  }
}
```



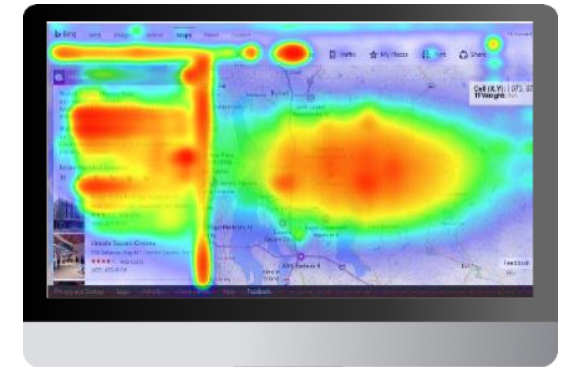
# Clarity-JS: Measure Usability @ Scale



Session Replay

```
"tag": "DIV",  
"attributes": {  
  "class": "fb_ftscoll1"  
},  
"layout": {  
  "x": 133,  
  "y": 1489,  
  "width": 184
```

Structured Data



Behavioral Analytics

<https://github.com/microsoft/clarity-js>

# From Usability to Accessibility

Disability  
≠  
Personal  
health  
condition

Disability  
=  
Mismatched  
human  
interactions

**Workers With Disabilities  
Disproportionately Impacted  
By Covid-19 Pandemic**

According to the US Labor Bureau of Statistics, in 2019, the unemployment rate for people with disabilities was at 80%. People with disabilities represented only 20% of the labor market. Since the pandemic began in March, 1 in 5 workers with disabilities lost their employment, compared with 1 in 7 for their able-bodied peers. In all, nearly one million jobs have been lost in the disabled community.

<https://www.forbes.com/sites/allisonnorlian/2020/06/22/workers-with-disabilities-disproportionately-impacted-by-covid-19-pandemic/>

A11y: Ally for Accessibility



# A11y Standards



Perceivable



Operable



Understandable



Robust

As Developers/SREs, ask:

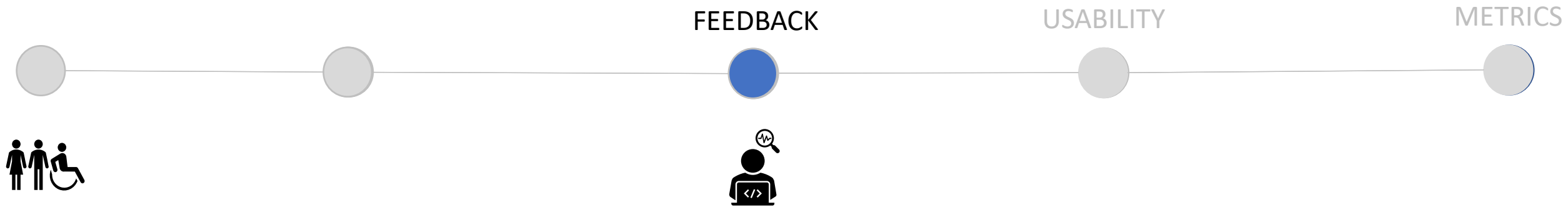
- Do you keep accessibility in mind while writing the spec?
- Does your build workflow have A11y Compliance and Testing?
- Do accessibility bugs see light of day, ever?
- Are there forums available where you can discuss these topics?

<https://www.w3.org/WAI/WCAG21/quickref/>



# Customer Feedback

Read 'The Feels'



# The Ugly

If you were satisfied with your experience I would appreciate if you could complete feedback.

If you could give **ME** a **10** it would really help me out. This is my scorecard and determines how I get paid.

# The Bad



How Do You Feel On a Scale of 1 to 5?



# The Better

The screenshot shows a Bing search for "good boi". The search bar contains "good boi" and has icons for voice search and image search. Below the search bar are tabs for "All", "Images", "Videos", "Maps", "News", "Shopping", and "My saves". The "All" tab is selected. Below the tabs, there are suggestions: "Also try: good boi meme · good boys wiki · very good boi". The search results show "495,000,000 Results" and "Any time" filter. The first result is "Urban Dictionary: Good boi" with a URL and a definition: "A good doggo or catto who just wants sum food." Below this is a "Videos of good boi" section with three video thumbnails: "how to clean a good boi" (1:05), "How to pet a good boi" (0:56), and "Good Boi (official music video)" (0:32). A feedback menu is open over the first video, listing various issues like "Adult or offensive", "Bad relevance", "Lack of freshness", "Dead or broken link", "Duplicate", "Garbled or bad text", "Rendering issue", "Incorrect data", "Malicious or unsafe", and "Illegal or policy violation". A red arrow points to the "Incorrect data" option. The "Related searches" section is partially visible on the right.

Structured, Context-Aware



# The Best

“Email address appears to be incorrect. Looks like the name of the business has changed as well. You might want to change this.”

“I didn’t expect you could get scores this fast!”

```
"sentimentDetection": {  
  "label": "Negative",  
  "score": 0.3231718112516975,  
  "api": "BingSentimentDetection"
```

```
"sentimentDetection": {  
  "label": "Positive",  
  "score": 0.6272385030775985,  
  "api": "BingSentimentDetection"  
}
```



# A Good Feedback System Is ...

- Context-Aware
- Accessible
- Proactive
- Capable of Sentiment Extraction
- Actionable

# Insider Programs

Extend, Embrace ... Engage

INSIDERS

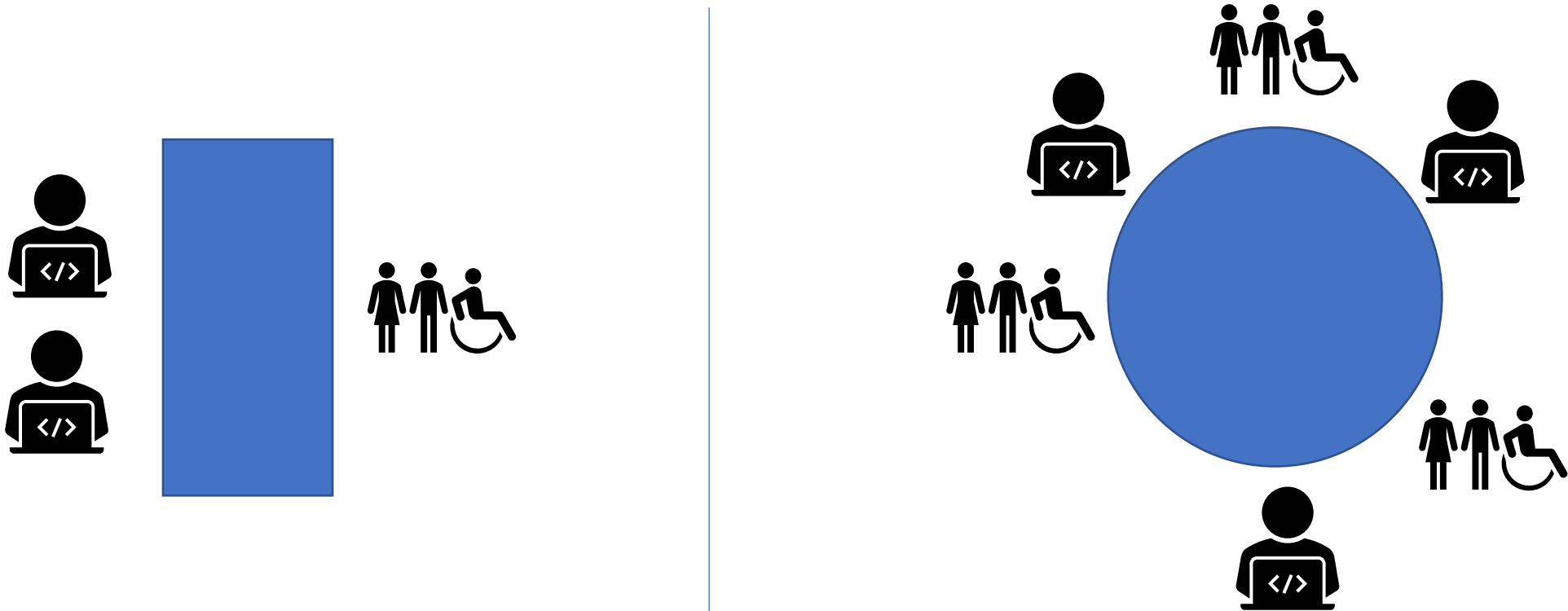
FEEDBACK

USABILITY

METRICS



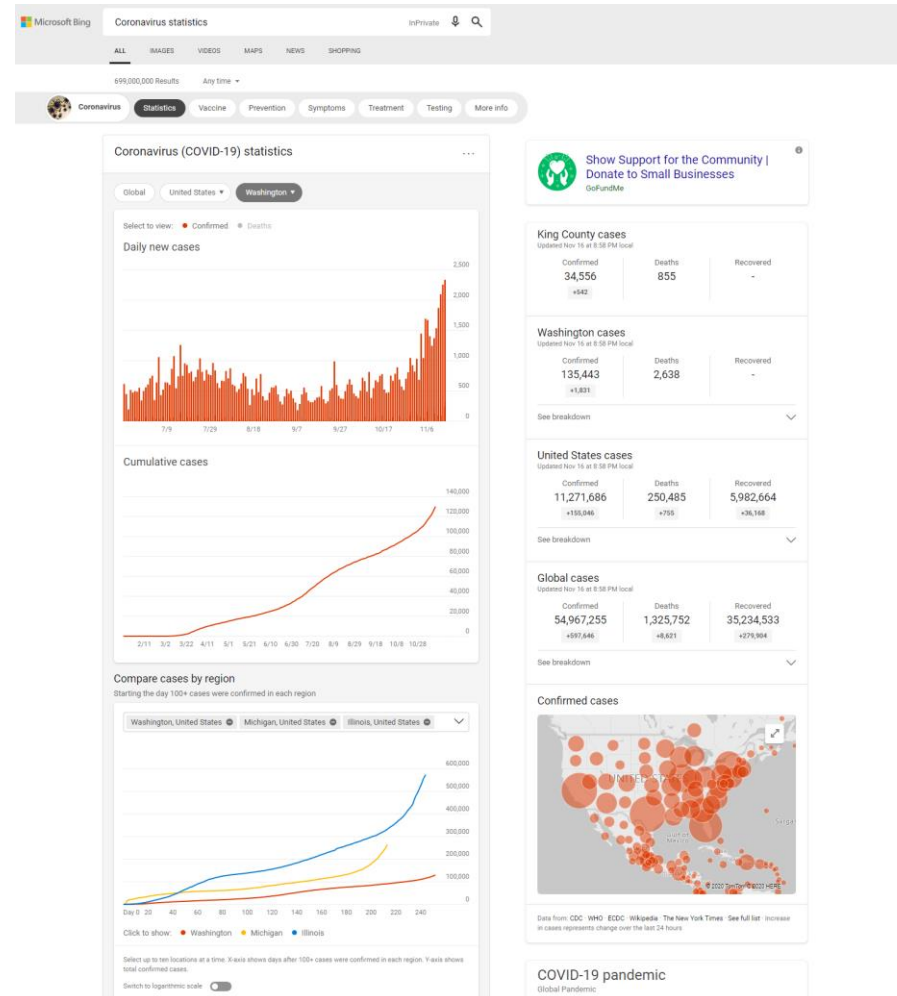
# People Want To Be Cool Too



Work **\*With\*** Customers, Not Just **\*For\*** Customers



# Going Beyond Experimentation



<https://www.bing.com/search?q=covid19>

Engaged Customers Can Tell You What Your Numbers Can't



# Isn't That Dogfood?

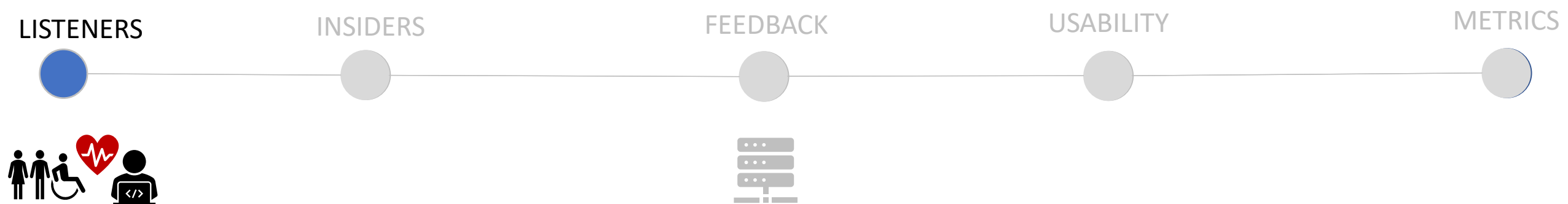
- Dogfooding doesn't mean you're an Insider
- You might use your own product, but you're not a customer

Dogfooder  $\neq$  Insider



# Listening Tours

*6 feet*  
~~Zero~~ Distance To Customers



# Customer, Meet Engineer



CC: [http://gadgetsin.com/uploads/2011/03/limited\\_edition\\_bad\\_robot\\_collectible\\_figure\\_1.jpg](http://gadgetsin.com/uploads/2011/03/limited_edition_bad_robot_collectible_figure_1.jpg)

CC: <https://upload.wikimedia.org/wikipedia/commons/thumb/d/dd/CashRegister.svg/670px-CashRegister.svg.png>

**Engineers Are People Too**

# How Does It Help Engineering?

- You realize its not all 'bots'.
- Talk To Product Fans
- Understand Diversity of Location/People



# Finishing Notes

Why This Audience?



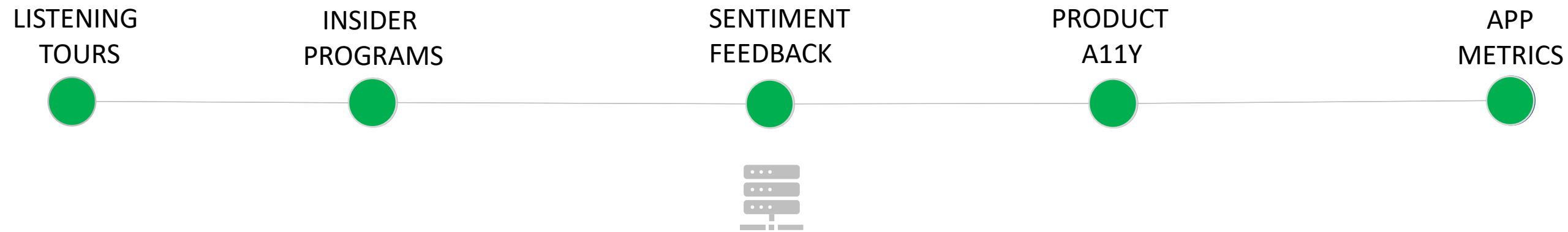
# The Feature You Work On Is 'The Site'

- You Run Telemetry Platforms
- You Are The First Line of 'Help!'
- You Know Ground Reality of Systems \*and\* the 30K feet view

**You Are The Most Appropriate Customer Advocate**



# Observability: The Collective Path







# Thank You!

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