## **HLS** in Chrome

and why I hate the robustness principle

Ted Meyer

July 32, 2025

Google

## What is HLS

- HTTP Live Streaming
- Adaptive Playback
- You knew all this already!

## What is HLS

- HTTP Live Streaming
- Adaptive Playback
- You knew all this already!

### What is HLS

- HTTP Live Streaming
- Adaptive Playback
- You knew all this already!















A

- 2008: Chrome is first released on Windows
- 2009: Apple publishes HLS spec
- 2013: Chrome launches MSE (the basis for ShakaPlayer, HLS.js, & others)
- 2014: ShakaPlayer is created
- 2015: HLS.js is created
- 2016: Chrome on Android supports HLS
- 2021: HLS in Chrome work starts
- 2024: New HLS player on Chrome for Androic
- 2025: Chrome supports HLS on desktor



- 2008: Chrome is first released on Windows
- 2009: Apple publishes HLS spec
- 2013: Chrome launches MSE (the basis for ShakaPlayer, HLS.js, & others)
- 2014: ShakaPlayer is created
- 2015: HLS.js is created
- 2016: Chrome on Android supports HLS
- 2021: HLS in Chrome work starts
- 2024: New HLS player on Chrome for Android
- 2025: Chrome supports HLS on desktop



- 2008: Chrome is first released on Windows
- 2009: Apple publishes HLS spec
- 2013: Chrome launches MSE (the basis for ShakaPlayer, HLS.js, & others)
- 2014: ShakaPlayer is created
- 2015: HLS.js is created
- 2016: Chrome on Android supports HLS
- 2021: HLS in Chrome work starts
- 2024: New HLS player on Chrome for Androic
- 2025: Chrome supports HLS on desktop



- 2008: Chrome is first released on Windows
- 2009: Apple publishes HLS spec
- 2013: Chrome launches MSE (the basis for ShakaPlayer, HLS.js, & others)
- 2014: ShakaPlayer is created
- 2015: HLS.js is created
- 2016: Chrome on Android supports HLS
- 2021: HLS in Chrome work starts
- 2024: New HLS player on Chrome for Android
- 2025: Chrome supports HLS on desktop



- 2008: Chrome is first released on Windows
- 2009: Apple publishes HLS spec
- 2013: Chrome launches MSE (the basis for ShakaPlayer, HLS.js, & others)
- 2014: ShakaPlayer is created
- 2015: HLS.js is created
- 2016: Chrome on Android supports HLS
- 2021: HLS in Chrome work starts
- 2024: New HLS player on Chrome for Android
- 2025: Chrome supports HLS on desktor



- 2008: Chrome is first released on Windows
- 2009: Apple publishes HLS spec
- 2013: Chrome launches MSE (the basis for ShakaPlayer, HLS.js, & others)
- 2014: ShakaPlayer is created
- 2015: HLS.js is created
- 2016: Chrome on Android supports HLS
- 2021: HLS in Chrome work starts
- 2024: New HLS player on Chrome for Android
- 2025: Chrome supports HLS on desktor



- 2008: Chrome is first released on Windows
- 2009: Apple publishes HLS spec
- 2013: Chrome launches MSE (the basis for ShakaPlayer, HLS.js, & others)
- 2014: ShakaPlayer is created
- 2015: HLS.js is created
- 2016: Chrome on Android supports HLS
- 2021: HLS in Chrome work starts
- 2024: New HLS player on Chrome for Androic
- 2025: Chrome supports HLS on desktor



- 2008: Chrome is first released on Windows
- 2009: Apple publishes HLS spec
- 2013: Chrome launches MSE (the basis for ShakaPlayer, HLS.js, & others)
- 2014: ShakaPlayer is created
- 2015: HLS.js is created
- 2016: Chrome on Android supports HLS
- 2021: HLS in Chrome work starts
- 2024: New HLS player on Chrome for Android
- 2025: Chrome supports HLS on desktop







- 2008: Chrome is first released on Windows
- 2009: Apple publishes HLS spec
- 2013: Chrome launches MSE (the basis for ShakaPlayer, HLS.js, & others)
- 2014: ShakaPlayer is created
- 2015: HLS.js is created
- 2016: Chrome on Android supports HLS
- 2021: HLS in Chrome work starts
- 2024: New HLS player on Chrome for Androic
- 2025: Chrome supports HLS on desktop

# Why did you subtitle this talk with a mini rant about robustness anyway?

#### • The Robustness Principle

- "Be conservative in what you send, be liberal in what you accept"
- What good is a spec when nobody follows it?

# Why did you subtitle this talk with a mini rant about robustness anyway?

- The Robustness Principle
  - "Be conservative in what you send, be liberal in what you accept"
- What good is a spec when nobody follows it?

# Why did you subtitle this talk with a mini rant about robustness anyway?

- The Robustness Principle
  - "Be conservative in what you send, be liberal in what you accept"
- What good is a spec when nobody follows it?

- A "Clean Room" lexer & parser
  - Some of us like doing this you know..
  - Entirely C++
- A greatly-delayed launch
  - Telemetry :'(
  - An extra 6 months
- Parser Quirks (media/formats/hls/quirks.h)
  - https://cs.chromium.org
- A plea to the community
  - HLS content generators: Please stick to spec!
  - = HLS players: Reject malformatted manifests!

- A "Clean Room" lexer & parser
  - Some of us like doing this you know...
  - Entirely C++
- A greatly-delayed launch
  - Telemetry :'(
  - An extra 6 months
- Parser Quirks (media/formats/hls/quirks.h)
  - https://cs.chromium.org
- A plea to the community
  - HLS content generators: Please stick to spec!
  - HLS players: Reject malformatted manifests!

- A "Clean Room" lexer & parser
  - Some of us like doing this you know...
  - Entirely C++
- A greatly-delayed launch
  - Telemetry: '(
  - An extra 6 months
- Parser Quirks (media/formats/hls/quirks.h)
  - https://cs.chromium.org
- A plea to the community
  - HLS content generators: Please stick to spec!
  - HLS players: Reject malformatted manifests!

- A "Clean Room" lexer & parser
  - Some of us like doing this you know.
  - Entirely C++
- A greatly-delayed launch
  - Telemetry :'(
  - An extra 6 months
- Parser Quirks (media/formats/hls/quirks.h)
  - https://cs.chromium.org
- A plea to the community
  - HLS content generators: Please stick to spec!
  - HLS players: Reject malformatted manifests!

- A "Clean Room" lexer & parser
  - Some of us like doing this you know...
  - Entirely C++
- A greatly-delayed launch
  - Telemetry :'(
  - An extra 6 months
- Parser Quirks (media/formats/hls/quirks.h)
  - https://cs.chromium.org
- A plea to the community
  - HLS content generators: Please stick to spec!
  - HLS players: Reject malformatted manifests

- A "Clean Room" lexer & parser
  - Some of us like doing this you know.
  - Entirely C++
- A greatly-delayed launch
  - Telemetry :'(
  - An extra 6 months
- Parser Quirks (media/formats/hls/quirks.h)
  - https://cs.chromium.org
- A plea to the community
  - HLS content generators: Please stick to spec!
  - HLS players: Reject malformatted manifests!

- A "Clean Room" lexer & parser
  - Some of us like doing this you know.
  - Entirely C++
- A greatly-delayed launch
  - Telemetry : '(
  - An extra 6 months
- Parser Quirks (media/formats/hls/quirks.h)
  - https://cs.chromium.org
- A plea to the community
  - HLS content generators: Please stick to spec!
  - HLS players: Reject malformatted manifests!

- A "Clean Room" lexer & parser
  - Some of us like doing this you know.
  - Entirely C++
- A greatly-delayed launch
  - Telemetry :'(
  - An extra 6 months
- Parser Quirks (media/formats/hls/quirks.h)
  - https://cs.chromium.org
- A plea to the community
  - HLS content generators: Please stick to spec!
  - HLS players: Reject malformatted manifests!

- A "Clean Room" lexer & parser
  - Some of us like doing this you know.
  - Entirely C++
- A greatly-delayed launch
  - Telemetry :'(
  - An extra 6 months
- Parser Quirks (media/formats/hls/quirks.h)
  - https://cs.chromium.org
- A plea to the community
  - HLS content generators: Please stick to spec!
  - HLS players: Reject malformatted manifests!