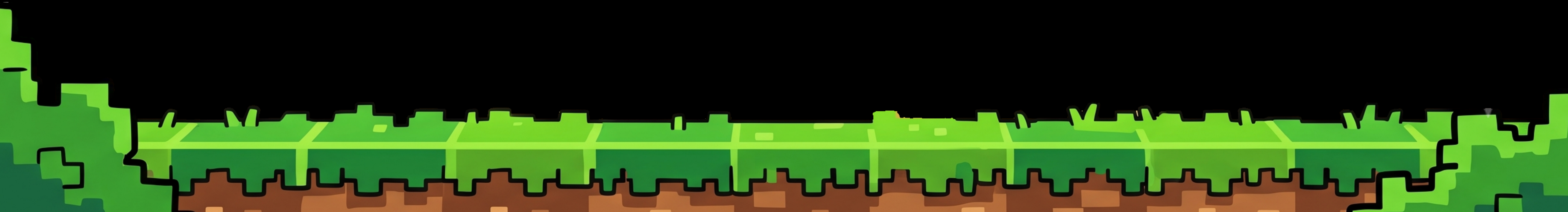


MAMMA
MIA

It's Instant! Mastering the Speculation Rules API



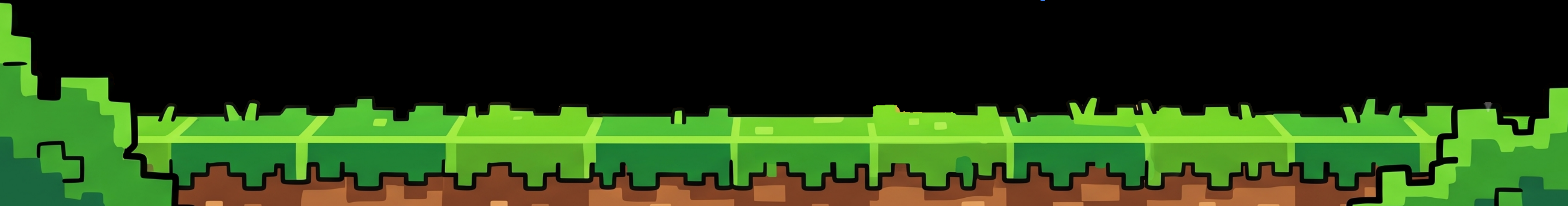


Core Web Vitals

Largest Contentful Paint

Interaction to Next Paint

Cumulative Layout Shift



Largest Contentful Paint

How fast does a website's main image or largest block of text actually appear on the screen?



Interaction to Next Paint

How long does it take for a website to visually react after you click, tap, or type something?



Cumulative Layout Shift

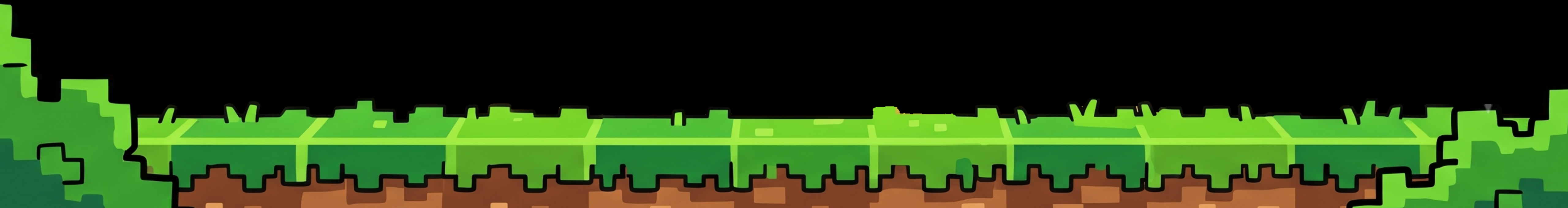
How much does the content of a website unexpectedly shift around while loading?





Speculation Rules API

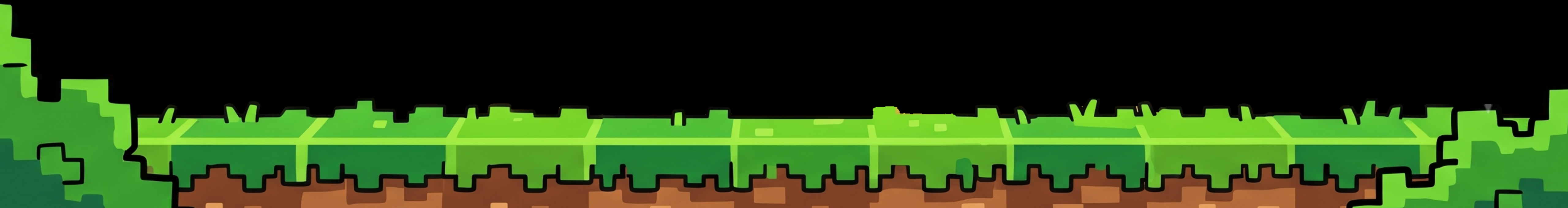
A cheat code to tell a browser to secretly prefetch or preload a page before a user clicks the link, making it appear instantly the moment they do.



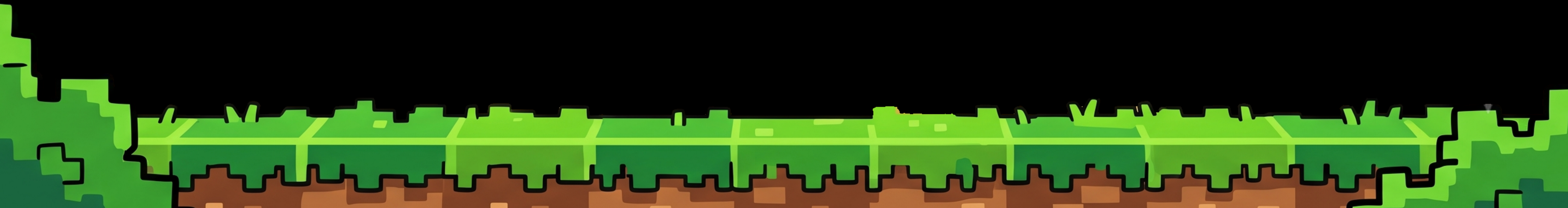


Prefetch

The browser proactively performs DNS lookups, establishes TCP connections, and downloads and caches specific web resources in memory to significantly reduce network latency for anticipated future requests.

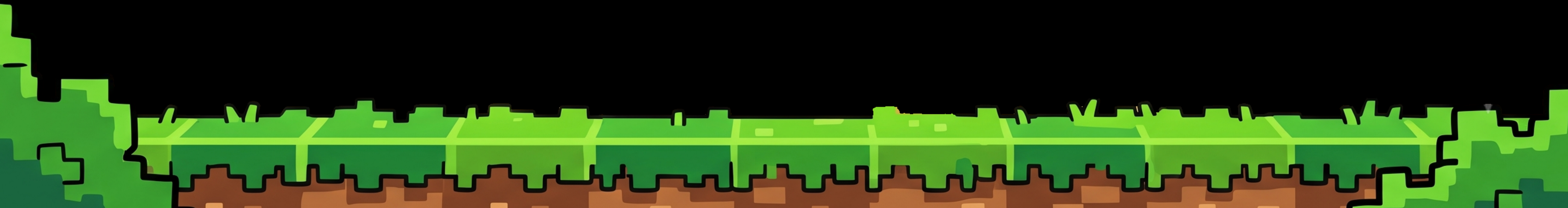



```
<link rel="prefetch" href="/mario.html" />  
<link rel="prefetch" href="/luigi.html" />
```






```
<script type="speculationrules">
{
  "prefetch": [
    {
      "urls": ["mario.html", "luigi.html"]
    }
  ]
}
</script>
```




```
<script type="speculationrules">
{
  "prefetch": [
    {
      "where": { "href_matches": "/*" }
    }
  ]
}
</script>
```



```
<script type="speculationrules">
{
  "prefetch": [{
    "where": {
      "and": [
        { "href_matches": "/*" },
        { "not": { "href_matches": "/logout" } },
        { "not": { "selector_matches": ".no-prefetch" } },
      ]
    }
  ]
}
</script>
```



```
<script type="speculationrules">
{
  "prefetch": [{
    "where": {
      "and": [
        { "href_matches": "/*" },
        { "not": { "href_matches": "/logout" } },
        { "not": { "selector_matches": ".no-prefetch" } },
      ]
    },
    "eagerness": "eager"
  }]
}
</script>
```

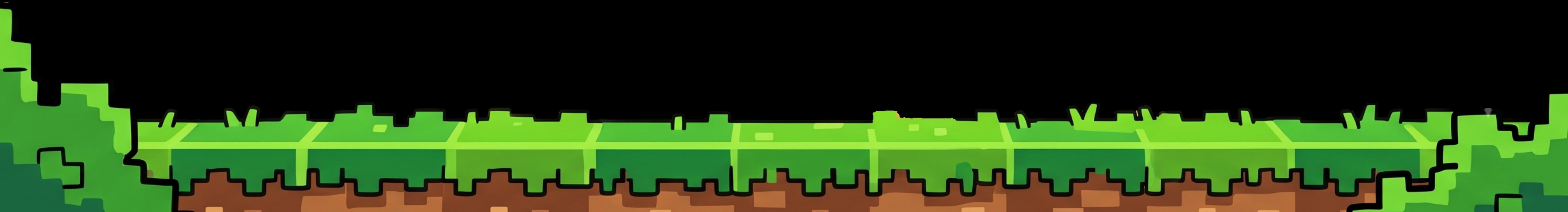

Eagerness

immediate - as soon as the page loads

eager - on hover for 10 ms

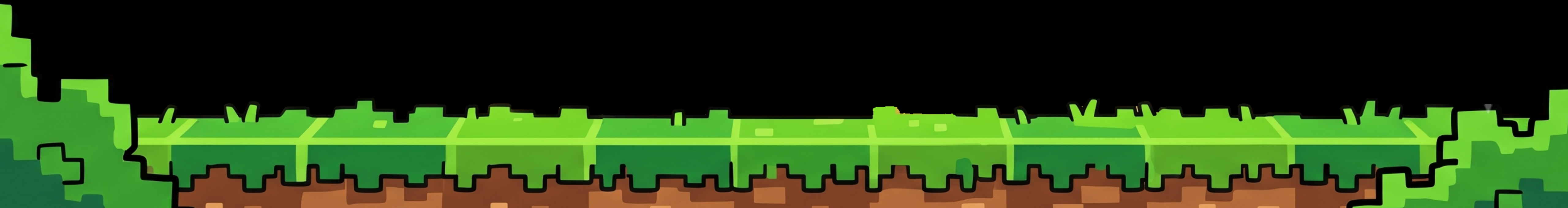
moderate - on hover for 200 ms

conservative - on mousedown



Prerender

The browser proactively fetches a designated URL and executes its entire critical rendering path, including DOM construction, layout, and JavaScript execution, in a hidden background context.

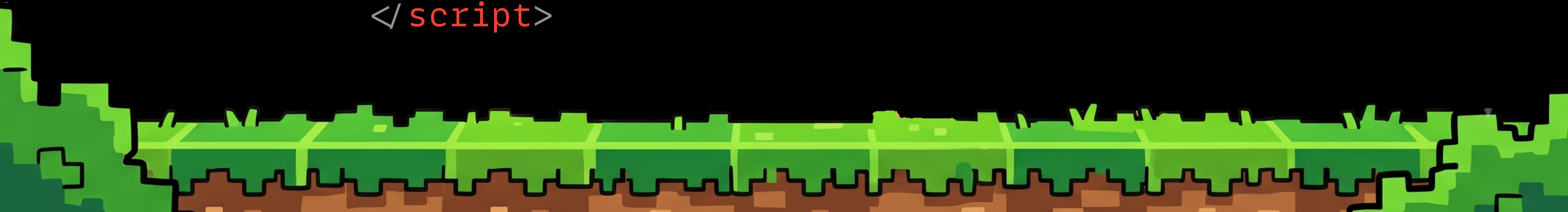



```
<script type="speculationrules">
{
  "prerender": [
    {
      "where": { "href_matches": "/*" },
      "eagerness": "moderate"
    }
  ]
}
</script>
```





```
<script type="speculationrules">
{
  "prefetch": [
    {
      "where": { "href_matches": "/*" },
      "eagerness": "eager"
    }
  ],
  "prerender": [
    {
      "where": { "href_matches": "/*" },
      "eagerness": "moderate"
    }
  ]
}
</script>
```





Mario



Luigi

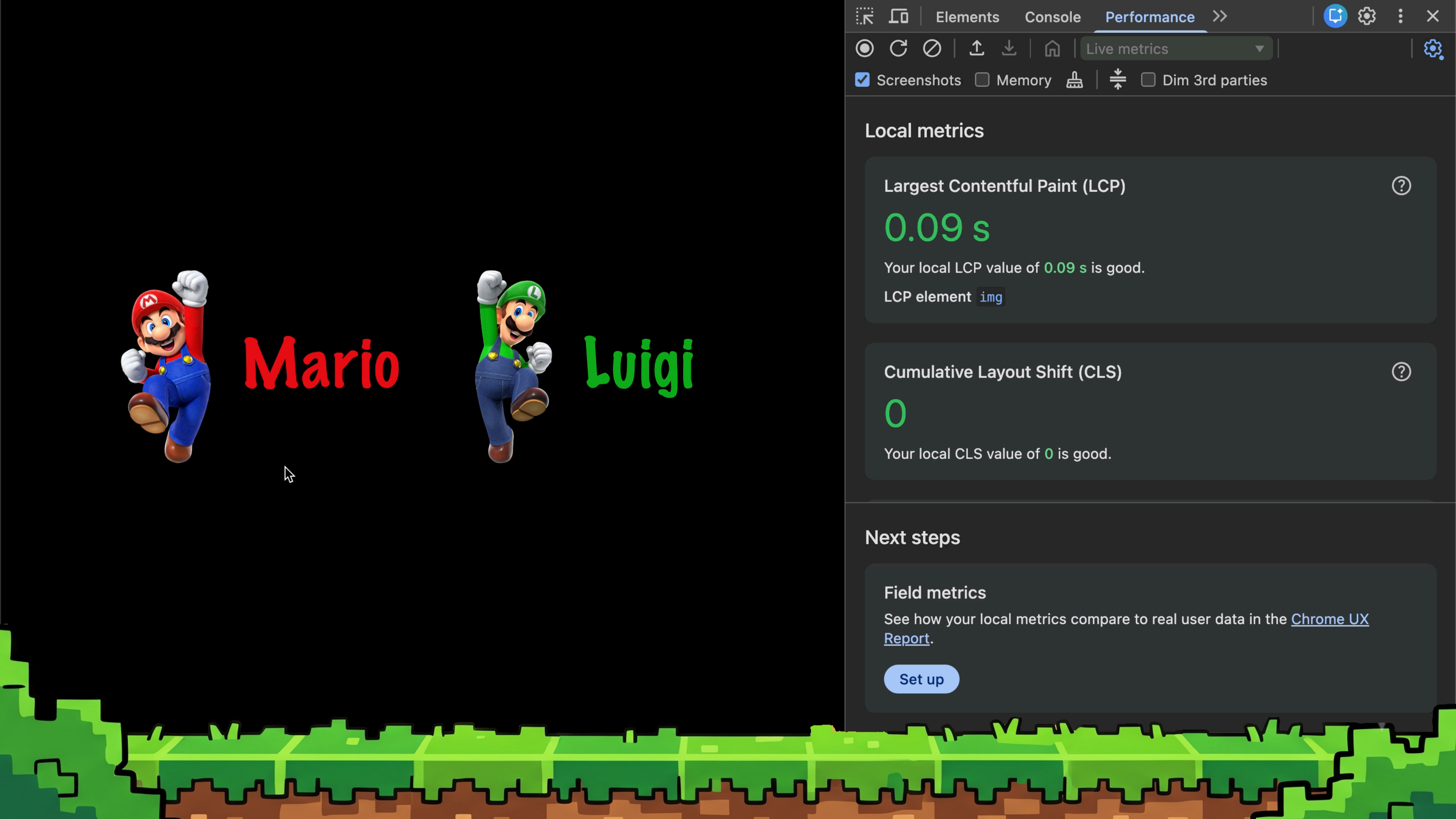
Elements

Console

Application >>

Main ▾

	Rule set	Status
Storage - Local storage - Session storage - Extension storage - IndexedDB - Cookies - Private state tokens - Shared storage - Cache storage - Storage buckets	index.html	<u>2 not triggered</u>
Background services - Back/forward cache - Background fetch - Background sync - Bounce tracking mi... - Notifications - Payment handler - Periodic backgroun... - Speculative loads Rules - Speculations - Push messaging - Reporting API - Device bound sessi...		
Frames		



Mario



Luigi

ElementsConsolePerformance >>

Live metrics

☒ Screenshots

☐ Memory

☐ Dim 3rd parties

Local metrics

Largest Contentful Paint (LCP)

0.09 s

Your local LCP value of 0.09 s is good.

LCP element `img`

Cumulative Layout Shift (CLS)

0

Your local CLS value of 0 is good.

Next steps

Field metrics

See how your local metrics compare to real user data in the [Chrome UX Report](#).

Set up



Mario



Luigi

ElementsConsoleSourcesApplication>>|🔄⚙️⋮✕

Storage

- Local storage
- Session storage
- Extension storage
- IndexedDB
- Cookies
- Private state tokens
- Shared storage
- Cache storage
- Storage buckets

Background services

- Back/forward cache
- Background fetch
- Background sync
- Bounce tracking mi...
- Notifications
- Payment handler
- Periodic backgroun...
- Speculative loads
 - Rules
 - Speculations
- Push messaging
- Reporting API
- Device bound sessi...

Frames

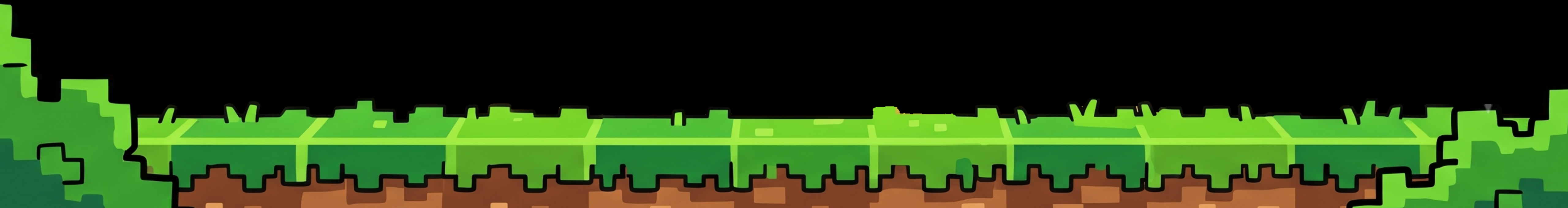
All speculative ... ▾🔍 Filter|🗕

URL	Action	Rule set	Status
/luigi.html	Prefetch	index....	Not triggered
/luigi.html	Prerender	index....	Not triggered

No element selected
Select an element for more details

Prerender JavaScript

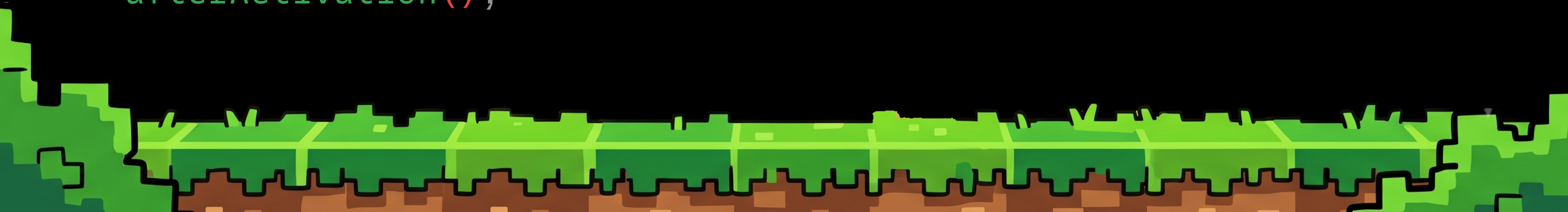
This can completely mess up your analytics by counting fake visits instead of real people, making it impossible to know how many actual humans are visiting your site, where they are from, or what they are really clicking on.



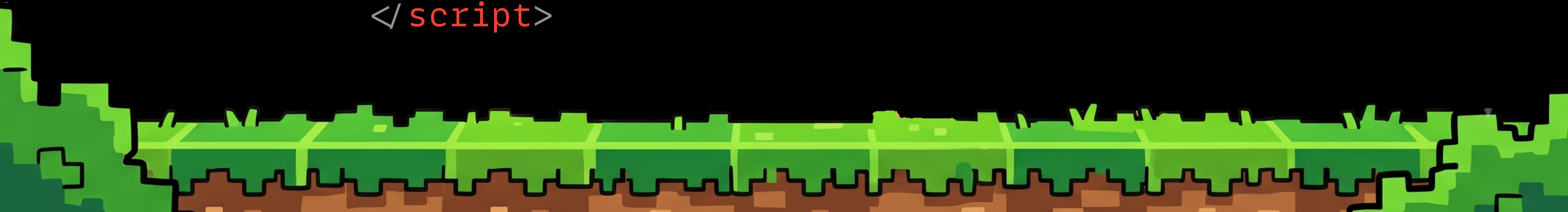

```
const isActivated = new Promise((resolve) => {  
  if (document.prerendering) {  
    document.addEventListener("prerenderingchange",  
                                resolve, { once: true });  
  } else {  
    resolve();  
  }  
});
```

```
async function afterActivation() {  
  await isActivated;  
  // initialise your analytics, ad services, etc.  
}
```

```
afterActivation();
```




```
<script type="speculationrules">
{
  "prefetch": [
    {
      "where": { "href_matches": "/*" },
      "eagerness": "eager"
    }
  ],
  "prerender_until_script": [
    {
      "where": { "href_matches": "/*" },
      "eagerness": "moderate"
    }
  ]
}
</script>
```



No Speculation

Save-Data

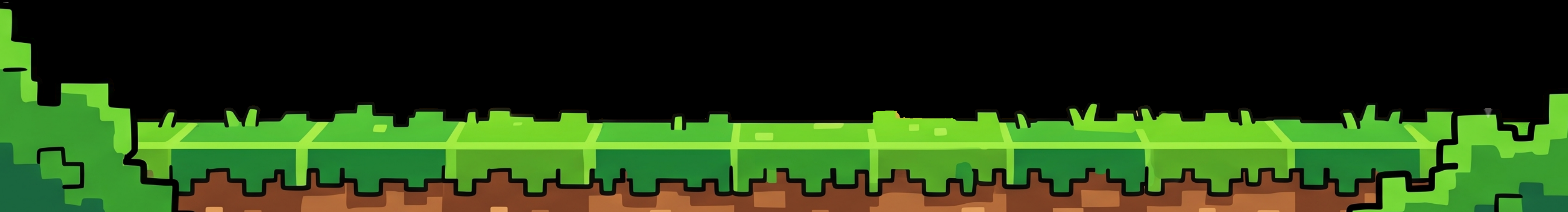
Background tabs

Energy saver

Cross-origin frames

Low memory

uBlock Origin setting





Progressive enhancement

100th TALK CELEBRATION

CONFERENCE & MEETUP TALKS





25 countries

98.059 kilometers

68 hours and 17 minutes



rowdy.codes/ff