Web Application Architectures

Module 1: Introduction and Background
Lecture 3: Web 1.0, 2.0, 3.0 Application Architectures

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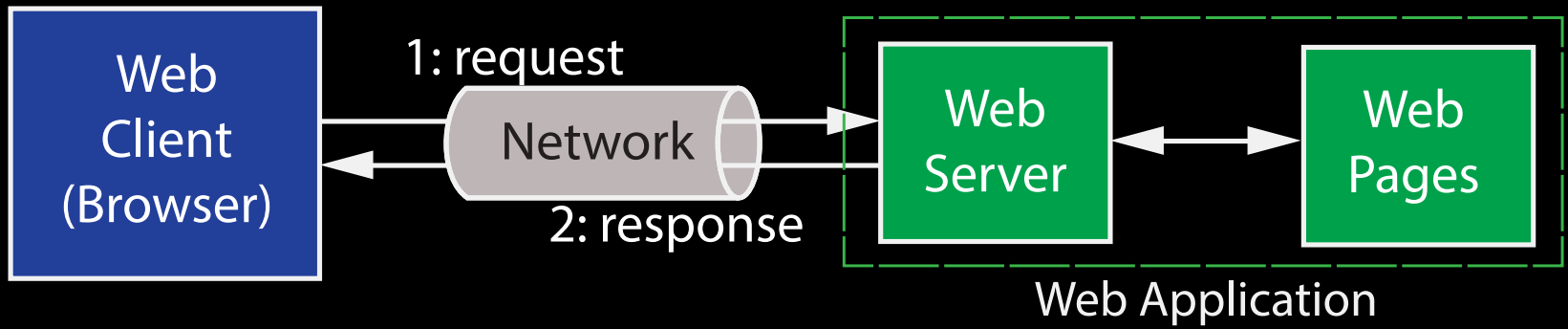
Web 1.0 Applications

A Web 1.0 application architecture is not much more complicated than the client-server model we previously showed:



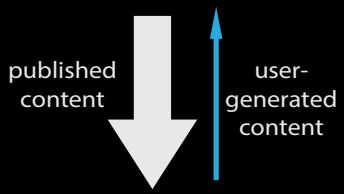
- The web server is primarily fetching static web pages – not much interactivity.
- No separation of data from its presentation.
- The browser is very simple – it only needs to render HTML.

Web 1.0 Context

Web 1.0

100,000 websites

(read-only Web)



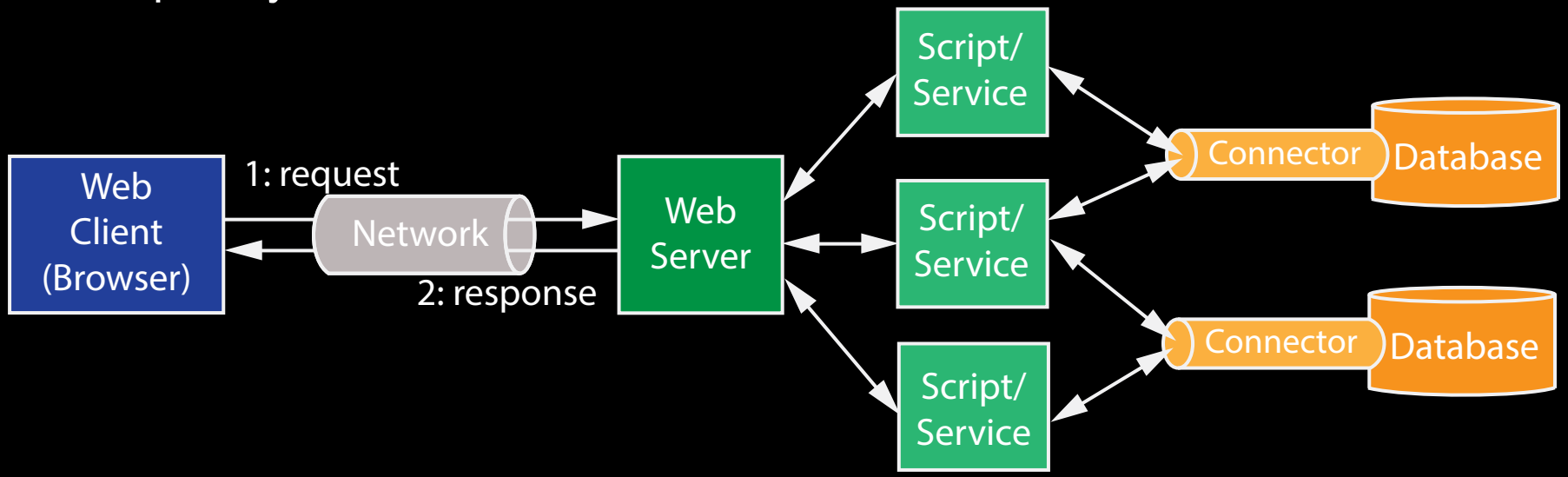
50,000,000 users

Web 1.0 Applications

- As applications became richer, server-side scripts became more complicated, and Web 1.0 applications became very difficult to maintain.
- The "Browser Wars" led to more functionality on the client side, along with compatibility issues.
- Developers began creating applications that were more interactive – requires saving state.
- Technologies that improved performance emerged – e.g., client-side scripts, faster web servers, web caching, CDNs, etc.

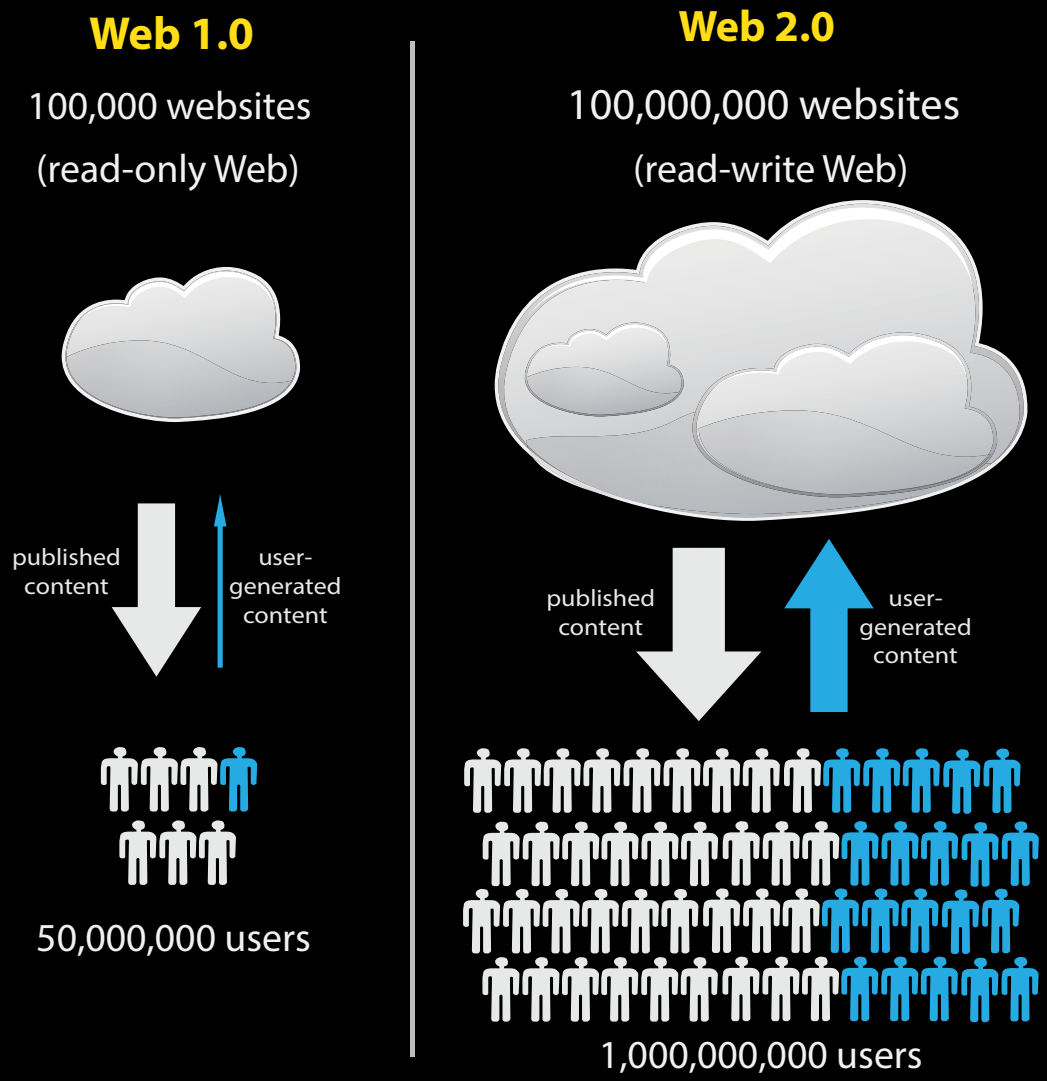
Web Applications

Web 2.0 and 3.0 application architectures are better organized to deal with this complexity:



- Server-side functionality is partitioned more intelligently – we'll spend quite a bit of time studying this.
- The browser is more capable, with better standards support.

Web 2.0 Context



Web 3.0 Context

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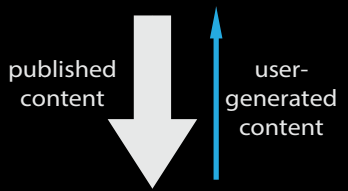
Web 1.0

100,000 websites

(read-only Web)

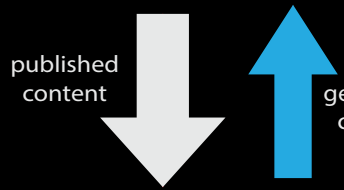


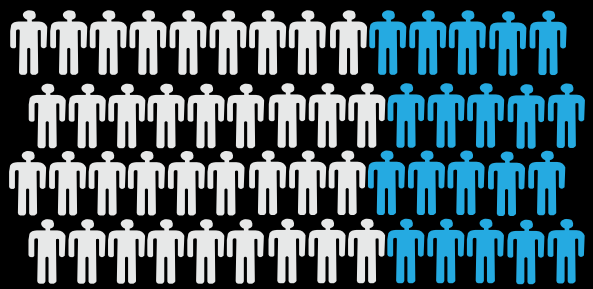
50,000,000 users

Web 2.0

100,000,000 websites

(read-write Web)



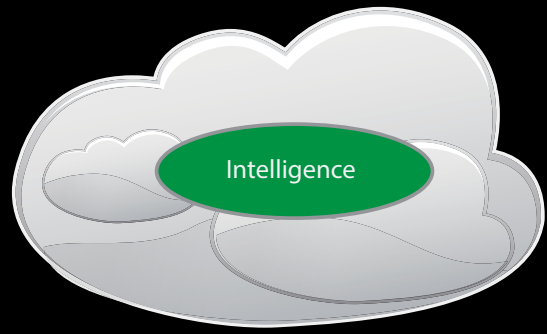


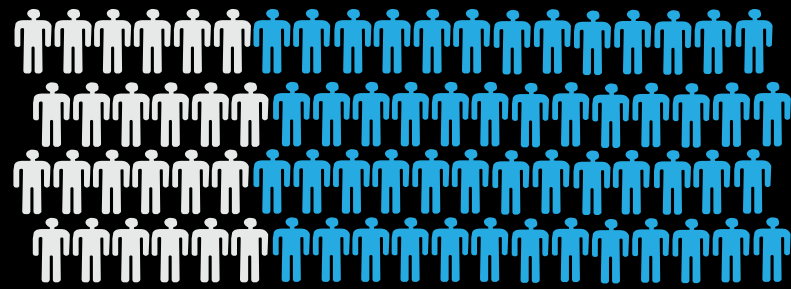
1,000,000,000 users

Web 3.0

1,000,000,000 websites

(read-write Web)





2,500,000,000 users