

Dynamic Web Applications

Authoring, Deploying And Consuming Mixed-Namespace XML

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Outline

- Characteristics of a *Web* application.
- Building on what we have.
- What's left to solve.

Web Apps As Compound Documents

Characteristics

Web Browser —A Means To An End.

- Deployed across the network.
- Aggregate network services.
- Client and server are *independent*.
- Delegate functionality to appropriate modules.
- Multiplicity of interaction paradigms.

Returning the WWW to its basics.

Prerequisites

- Factor (content, style, interaction).
- Separate memory model from UI logic.
- Achieve symmetry between Web Services and Web Applications.

Rediscovering the WWW

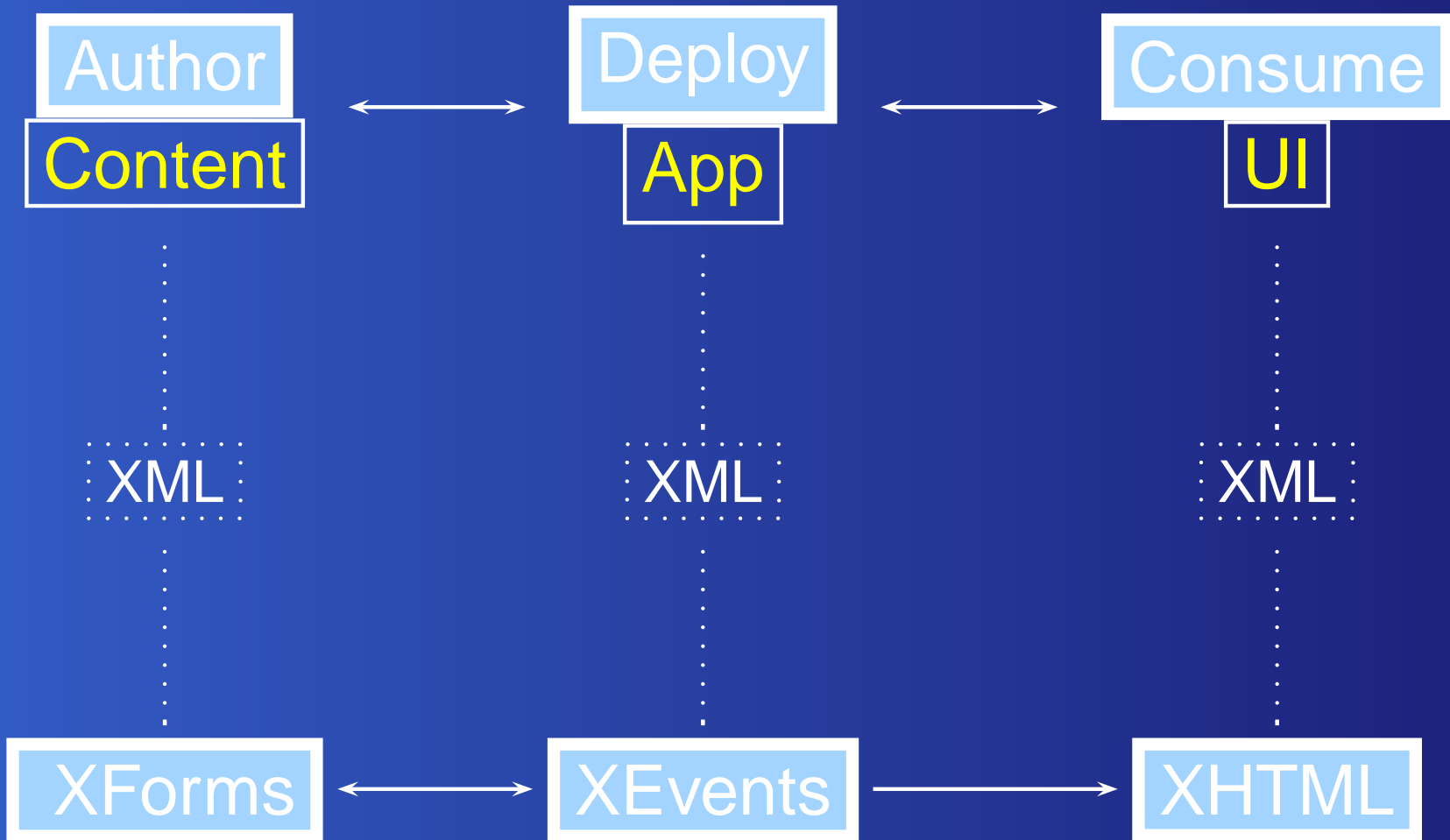
Web Services And Applications

Services	Applications
Publish model	Publish model
Machine UI	Human UI
Callable	Callable
Abstraction	Aggregation
Eventing	
Coarse-grained	Fine-grained

Two sides of the same coin.

Building On What We Have

W3C Architecture



Versatile Deployment

Consistent eventing model is essential.

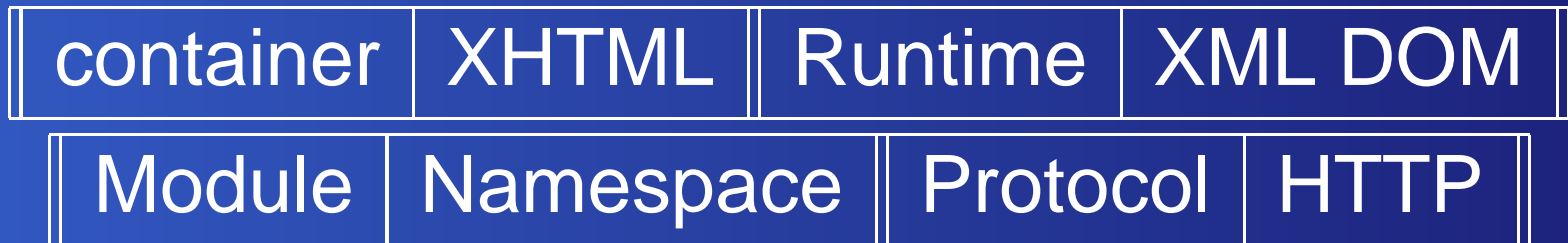
- Stand-alone thick-client.
- Distributed thin-client.
- Sporadically connected clients.

Lazy binding ↔ Flexible deployment

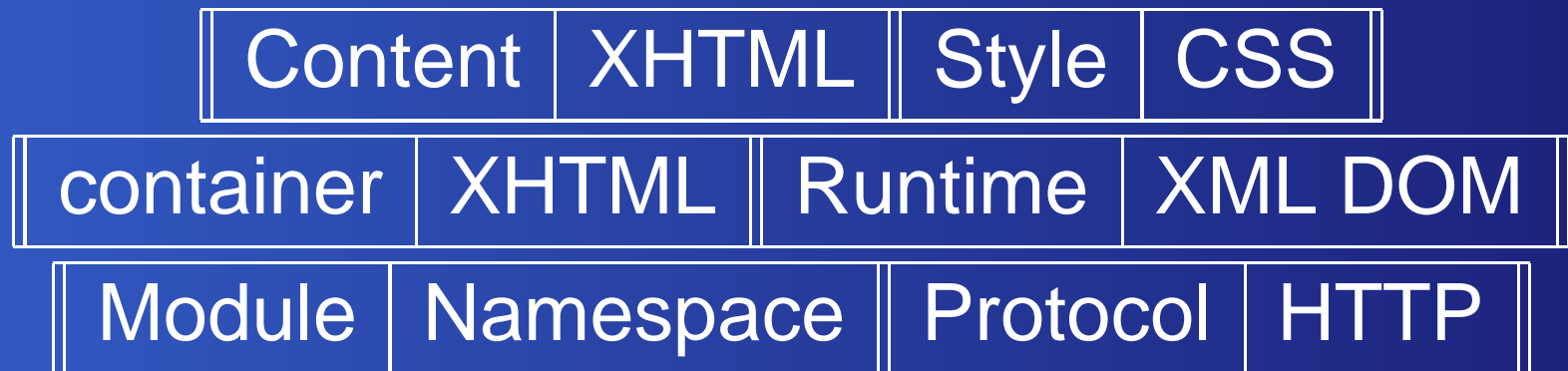
W3C Building Blocks



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W3C Building Blocks

Vectors	SVG	Voice	VoiceXML
Metadata	RDF triples	Timing	SMIL
Content	XHTML	Style	CSS
container	XHTML	Runtime	XML DOM
Module	Namespace	Protocol	HTTP

W3C Building Blocks

Transform	XSL	Find	XQuery
Types	XSchema	Access	XPath
Vectors	SVG	Voice	VoiceXML
Metadata	RDF triples	Timing	SMIL
Content	XHTML	Style	CSS
container	XHTML	Runtime	XML DOM
Module	Namespace	Protocol	HTTP

W3C Building Blocks

Model	XForms	Eventing	XML Events
Transform	XSL	Find	XQuery
Types	XSchema	Access	XPath
Vectors	SVG	Voice	VoiceXML
Metadata	RDF triples	Timing	SMIL
Content	XHTML	Style	CSS
container	XHTML	Runtime	XML DOM
Module	Namespace	Protocol	HTTP

Open Issues

Authoring Mixed-Namespace XML

- What is the *content-type*.
- What are the runtime semantics?
- How does eventing propagate across namespace boundaries?
- How does style propagate across namespace boundaries?

Loading Mixed Namespace Documents

- Identifying required components at authoring time.
- Locating required components at runtime.
- Initializing and configuring required components.

How do you bootstrap an XML browser?

Component Interfaces

Common interfaces for attaching to the framework.

- Component life-cycle.
- Resource allocation.
- Event dispatch across component boundaries.
- Styling across component boundaries.

User Interaction And Eventing

Mediate User Interaction Behavior Via Eventing

- Use DOM2 Events consistently.
- Enable components to communicate through the container.
- Have components bind to a common memory model.

Packaging And Security

Bringing it all together

- Packaging related resources.
- Linking across resources in a package.
- Security.
- Digital signatures and trust.

Web Ready To Take-Off (Again)

