

# Web Applications In XML

## *XForms — Online Forms To Web Applications*

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# Outline

- Online forms to Web Applications
- Anatomy Of A Web Application
- Discovering, codifying Web patterns
- XForms and Web Applications
- Re-democratizing the Web
  - Empowering authors, not browser vendors

# Online Forms To Web Applications

# CGI And HTML Forms

*Enabled interactivity on the Web.*

- HTML forms collected data values,
- CGI scripts processed collected values,
- And served up the next step in the interaction.

*Server-side has stayed the same since 1993.*

# Client-side Of Web Applications

*Evolved to enable richer client-side interaction.*

- Scripting implements client-side behaviors.
- DOM enables manipulation of the HTML UI.
- Enables separation of data from presentation.

*Toward discovery of useful design patterns.*

# Anatomy Of A Web Application

# Anatomy Of Web Applications

- Interaction widgets that collect data,
- Event handlers that implement behavior,
- Memory model synchronized with server,
- Server logic to knit together the application.

*Deploy User Interaction To A Universal Client*

# Discovering Web Design Patterns



# Web Interaction Idioms

- Data Binding**
- Data in ECMAScript objects,
  - Data in XML,
  - Bound to HTML view via DOM.
- Data Sources**
- Data from multiple sources,
  - Submit to multiple destinations.

# Web Design Idioms

- Dynamic**
- Grow or shrink the interface.
  - Customize presentation *on the fly*.
  - Interactively validate user input.
  - Incremental user feedback.
- Live UI**
- Avoid page refresh where possible.
  - XML data binding.
  - XML-HTTP Request/Response.

# XForms And Web Applications

# XForms Model

*Decrease cost of Web applications.*

- Encapsulates data and constraints,
- Enables automatic server-side validation,
- Enables client-side code generation,
- Obviates frequent page refresh,
- Enables Web front-ends to Web Services.

# XForms User Interface

*Designed for cross-device, multimodal access.*

- UI markup captures underlying intent.
- *Accessible* by design.
- Factors interaction logic from presentation.
- Controls can be optimized for target device.

# XForms Submit

*Delivers well-formed XML to the server.*

- Submitting XML makes I18N easy.
- XML simplifies server-side processing.
- XML response transmits instance updates.

# Empowering Users Re-democratizing The Web

# Universal Access

*HTML made hypertext accessible to all.*

- Accessible to authors,
- Accessible to all users,
- Accessible to a variety of user agents.

*XForms —Achieve the same for Web Applications.*



# Democratizing The Web

- HTML Web enabled everyone to publish.
- This has been amplified by the blogosphere.
- But Web platform is limited to programmers.

*Goal: Enable end-user programming of Web front-ends.*

# Compound Documents

- XHTML2 —Universal markup Container.
- DOM2 —Universal runtime container.
- XML Events —Eventing for authors.
- CSS2 —Style for the masses.
- XForms —universal Interaction.
- SVG —Rich visual effects.
- VoiceXML —Gives the Web its voice.

*When the planets align . . . A platform is born.*

# Watch The W3C Web Take-Off!

