



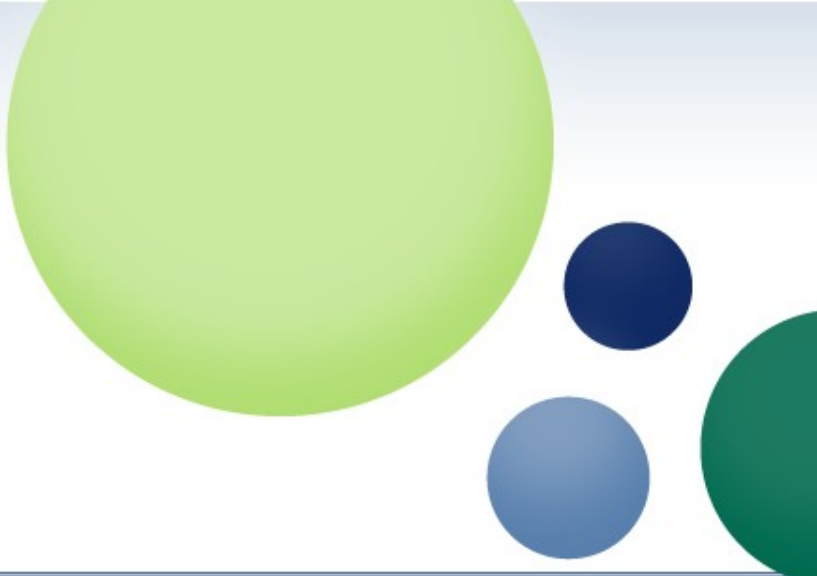
W3C Workshop on Declarative Models of Distributed Web Applications

Application Adaptation

Rhys Lewis
Chief Scientist, Volantis Systems



- Background
- Application Adaptation
- Trends in Application Style
- Conclusion

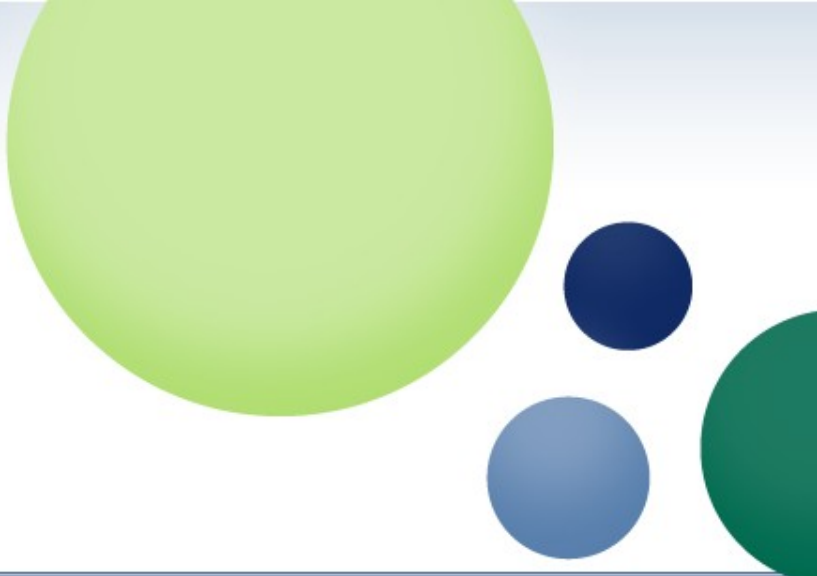


Topic: Background

- Volantis
 - Content adaptation
 - Server side offerings
 - Mobile operators
 - Large content providers
 - Web technologies
 - Heavily involved in Web standardisation activities
 - W3C UAWWG
 - W3C MWI DD
 - OMA BT
 - Involved in other initiatives
 - OpenAjax Alliance
- Interest in Web as an Application Platform
 - Our customers are driving us to build real applications
 - Shipping products that are starting to support this

- Where we are today in Mobile
- Help authors cope with diversity
 - Thousands of kinds of device
 - Different physical characteristics
 - Different coverage of relevant standards
 - etc.
- Write once, use anywhere
- Separate authored materials
 - Device independent: higher reusability
 - Device dependent: lower reusability
- Adapt authored materials to specific device characteristics
 - change concrete UI
 - split pages
 - emulate missing features ...
- Current focus is on user interface





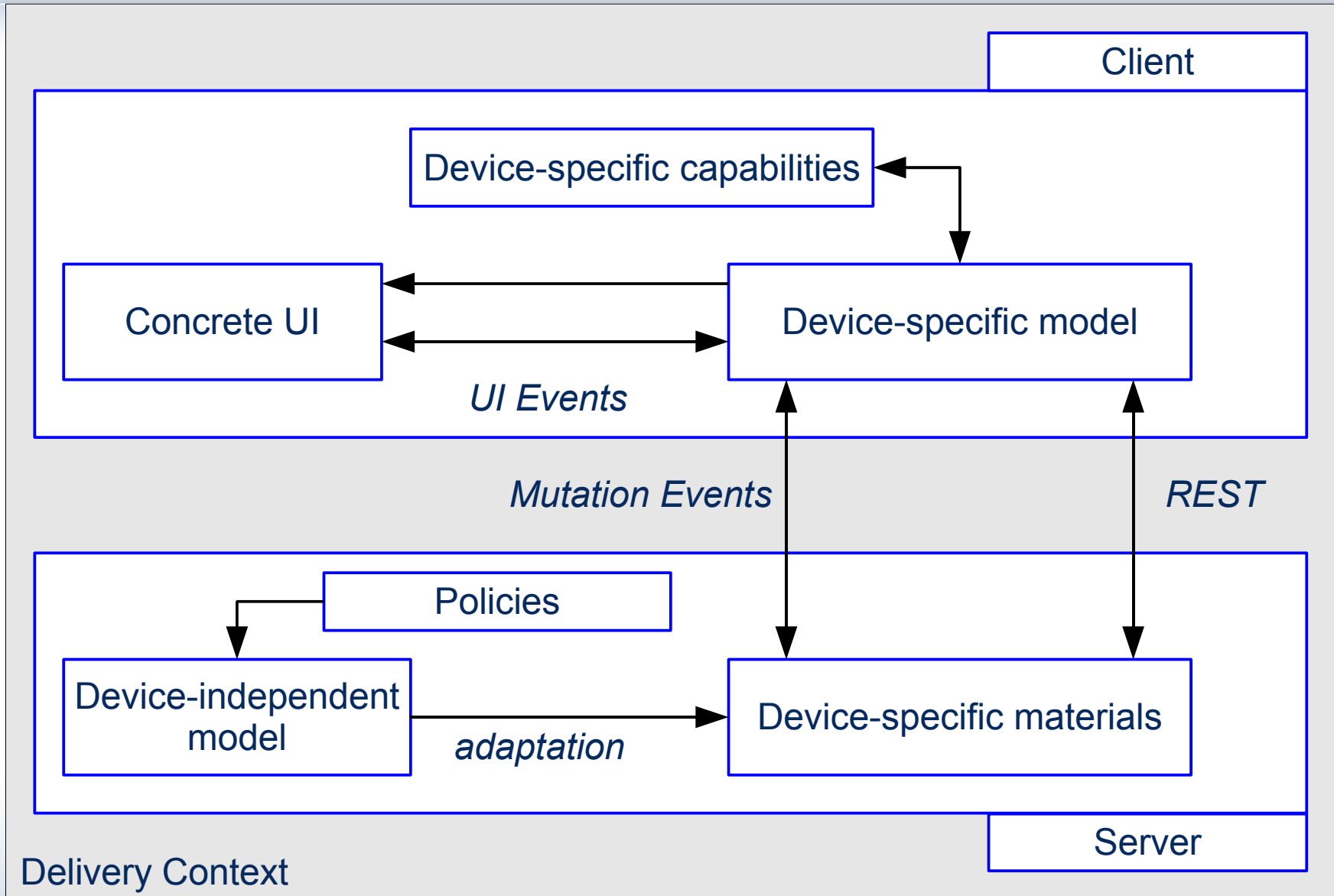
Topic: Application Adaptation



- Extend beyond look and feel to behaviour
- Declarative authoring
 - Capture author's **intent** not code
 - Adapt to particular application environments
 - Enable late binding
- Help authors cope with diversity of application platforms
 - J2ME in various flavours
 - Brew
 - Symbian
 - Windows Mobile ...
- Reduce the authoring effort
 - Reduce the number of technologies they need to understand
- **Without** additional burden on the browser

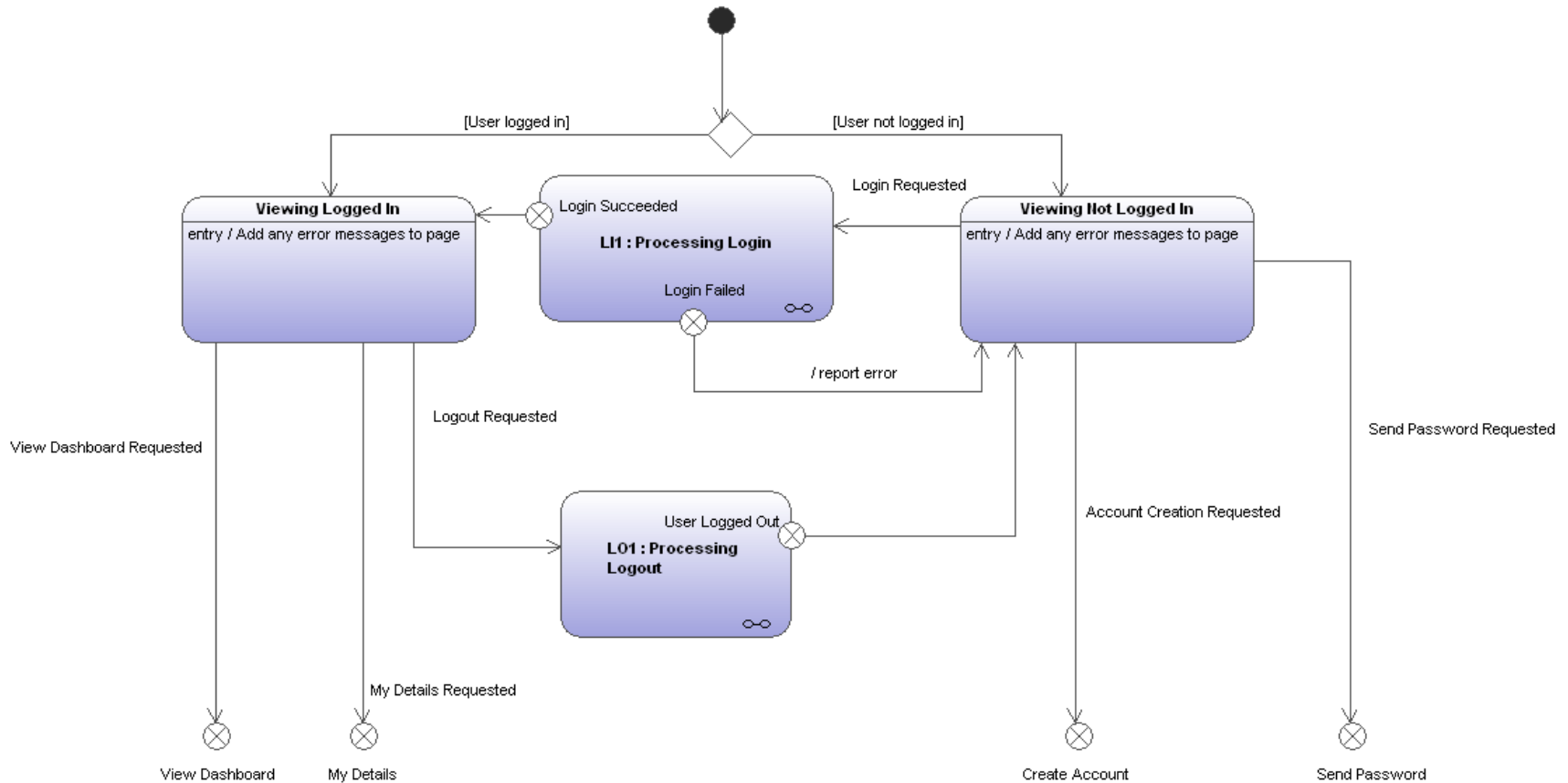


- Device-independent material
 - Core markup, for example
 - DIAL
 - XHTML 2, XForms, DISelect ...
 - Custom components
 - Abstractions of commonly used application components
 - Encapsulation of server-side function
 - Web services, Ajax end points, ...
 - Additional abstract UI components, ...
- Device-specific material
 - Policies
 - Tailor the markup and components
 - Styling and layout
 - Behaviour ...
- Generate markup, styling, script suitable for the device



- Statechart diagrams
- UML 2 and SCXML?

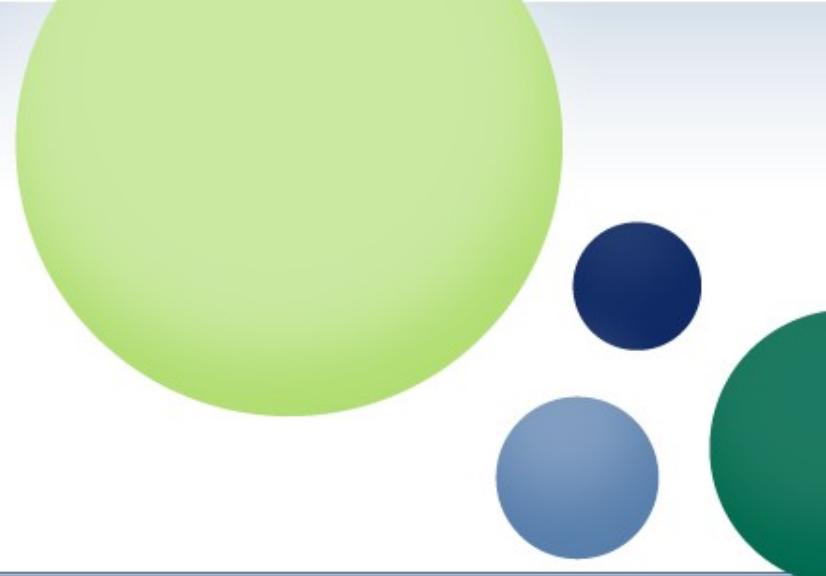
Look, no markup!



Generated by UModel

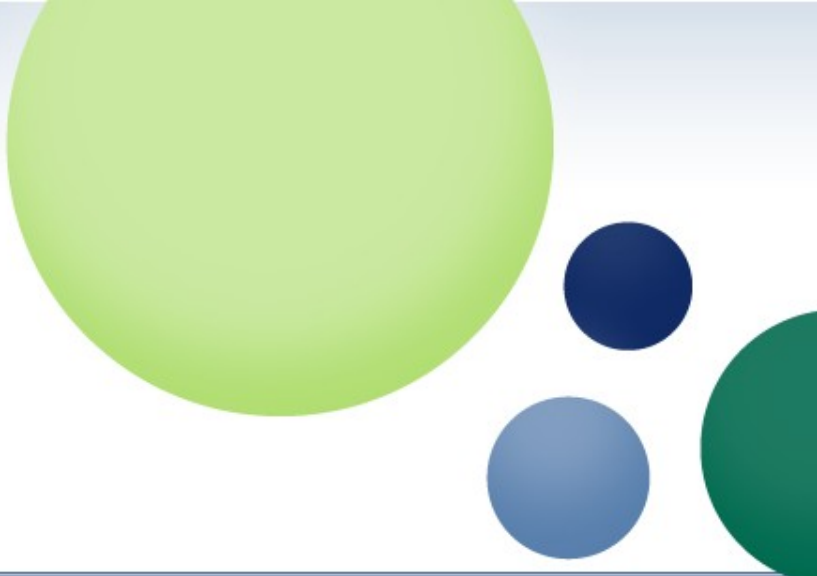
www.altova.com

- Utilize intrinsic device features from Web applications
 - Cameras, GPS, Voice recording ...
- Utilize device applications
 - Personal information manager
 - eBay example
- Access to device facilities via APIs is essential
 - Some standardisation is happening
 - e.g. W3C Delivery Context Client Interfaces
- Increased focus on distribution of function
 - Distributed event model - REX?
- Security is a major challenge



Topic: Trends in Application Style

- **Subscribe rather than browse**
 - Helps overcome some UI deficiencies in mobile devices
 - Information automatically transferred to device
 - Instantly available – no latency
- **Hot topic in OMA**
 - Standardisation is occurring
 - Looks to be above the level of the communications
 - Ajax is a possible implementation mechanism
- **Buzzcast is an example**
 - Demonstration
 - Very specific application
 - Amenable for early implementation
 - Doesn't necessarily need fully functional Ajax in every device
 - Early example of a more declarative application



Topic: Conclusion

- Volantis keenly interested in pursuing declarative models
- Retain as much semantic information as possible
 - Enable application adaptation
 - Keep more author intent
 - Bind late
- Adapt to a range of devices
 - Graceful degradation
- Capture semantics above the level of individual pages
 - State machines
 - SCXML?
 - UML 2.0