# Mash-ups Considered Harmful! Composition and Choreography of Web Components

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## Some current Web Compositional Models

# Multimodal X+V <Sync> elements XHTML GUI View VoiceXML View

Declarative widget to widget wiring:  $O(n^2)$  Tight coupling of data



Procedural widget to widget wiring:  $O(n^2)$  Tight coupling of components

## What is missing from the above models?

- Extensibility
- Scalability
- Ease of development

#### **XAC's: XML Application Components**

**XForms** 

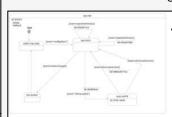
1. Application controller could be generated from state chart diagram. No Jscript experience needed.

2. SCXML Controller replaces Jscript to control the execution of an application by listening to events and data model changes. Loose coupling of control.

**SCXML** 

Controller

3. XForms Data Model is bound to views. Loose coupling between data and widgets.



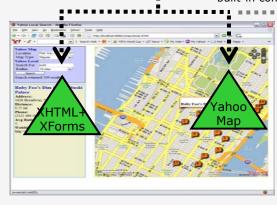
Widgets to model

wiring: O(n) Loose

coupling of

components

4. Yahoo Map view is wrapped by XBL and presented as a YMap XML namespace. The YMap View interacts with other components by firing the same events and data changes as built-in components.



5. Both control and data in this application are loosely coupled. So, additional views can easily be added to the application. (Example: A Speech view is added)

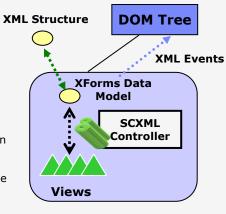
6. Developers can package their mash-ups as Web Components. Each component is composed as described here, and the XAC component interacts with its container in the same manner as an atomic component:

- Publishing a data model
- Firing XML events to the DOM tree

### **Summary**

XAC's empower Web application developers to easily and rapidly create rich end-user interaction.

XAC's leverage existing Web technologies, namely XHTML, SCXML, and XForms extending them to support component creation, composition, and late binding.



**XAC Web Component**