

HTML5 Canvas Accessibility



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Browser Accessibility API Mapping – WAI-ARIA-Enabled Checkbox

Example 8 - Checkbox group using ARIA CSS selectors for visual state

Permanent link for [Checkbox group using ARIA CSS selectors for visual state](#)

Example Start

Sandwich Condiments

- All condiments
- Lettuce
- Tomato
- Mustard
- Sprouts

Example End

Find: Next Previous Highlight all Match case

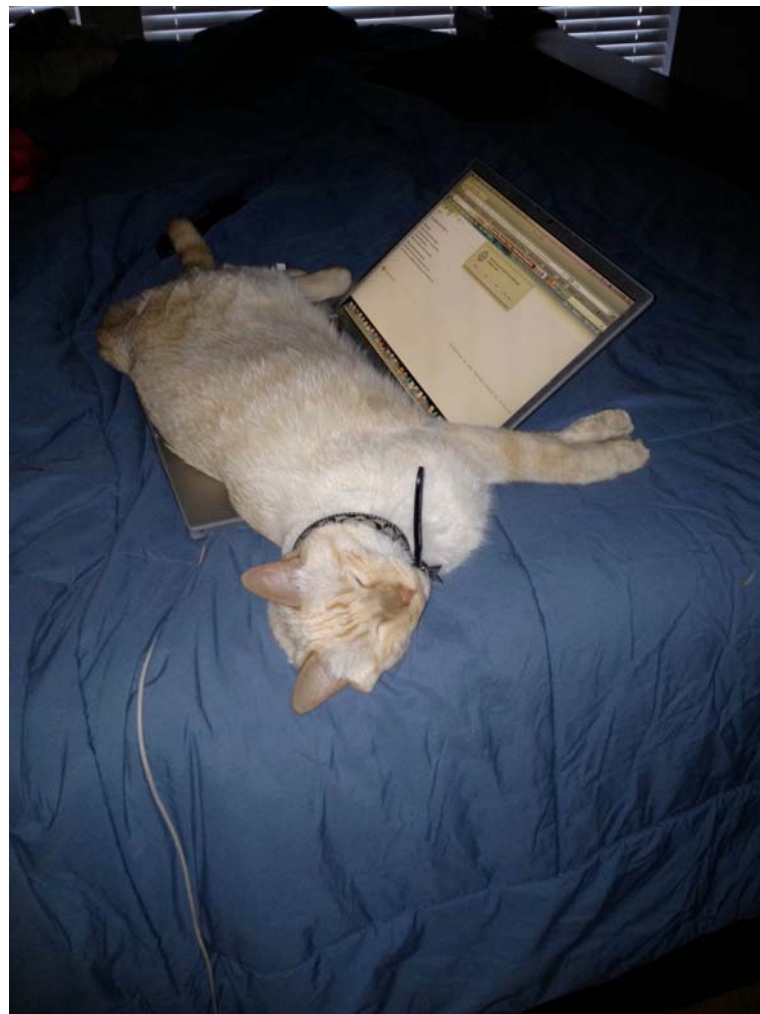
Accessibility Probe

Accessibility Properties

Name	Value
ia2	
IAccessibleAction	class IA2AccessibleAction
IAccessibleApplication	HRESULT = E_NOINTERFACE
IAccessibleComponent	class IA2AccessibleComponent
IAccessibleEditableText	class IA2AccessibleEditableText
IAccessibleHyperlink	class IA2AccessibleHyperlink
IAccessibleHypertext	class IA2AccessibleHypertext
IAccessibleImage	HRESULT = E_NOINTERFACE
IAccessibleTable2	HRESULT = E_NOINTERFACE
IAccessibleTableCell	HRESULT = E_NOINTERFACE
IAccessibleText	class IA2AccessibleText
IAccessibleValue	HRESULT = E_NOINTERFACE
attributes	checkable:true;display:list-item;id:cb1a;xml-roles:checkbox;tag:LI;text-ali...
role	checkBox
states	[selectable, opaque, horizontal]
msaa	
accName	Lettuce
accRole	checkBox
accState	[focusable, focused, checked]
accValue	0
howFound	At Point:java.awt.Point[x=344,y=640]; hwnd=0x000101C4

Checkbox to: MSAA/IAccessible2 in
Firefox and Chrome
Test Tool: AccProbe

Internet full of Pesky Cats: Canvas Accessibility – Meh!



Canvas Accessibility Problem: On its own is just a bitmap

➤ Problems

- Know nothing about drawn objects
- Drawn objects are not keyboard accessible
- Can't follow OS drawing ring focus conventions
- Can't track caret or text selection

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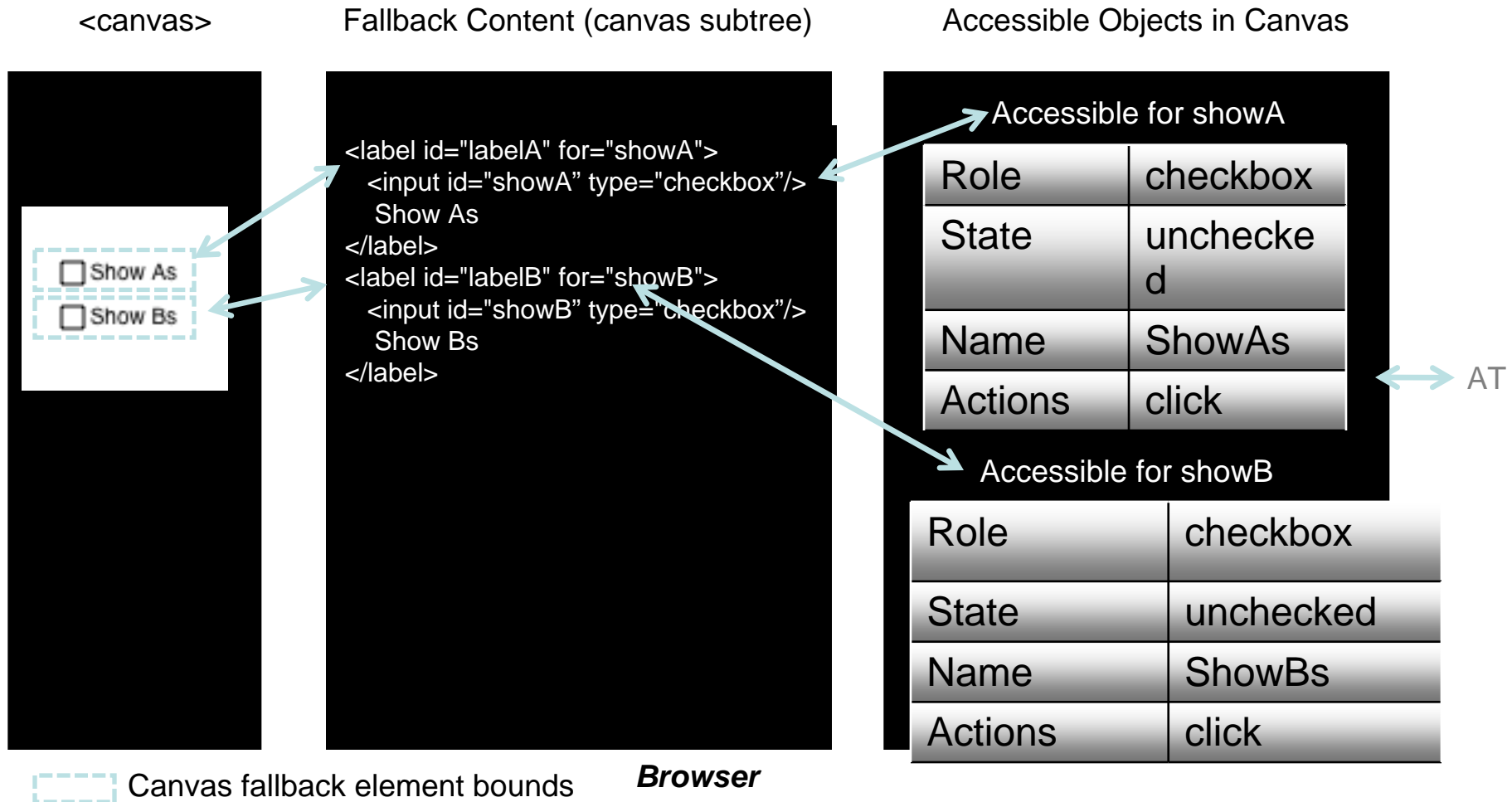
Example End

Same problems we had with GUIs like Windows
in 1990-1991

Strategy for Canvas Accessibility

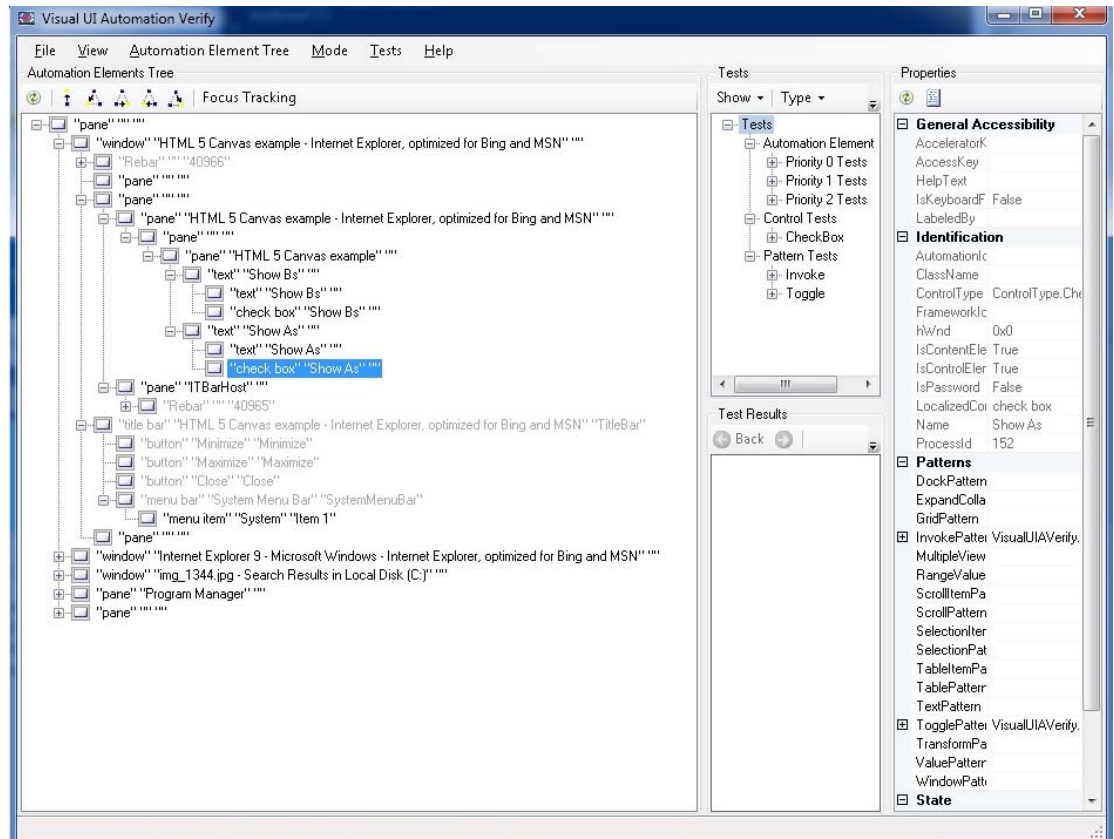
- **Use canvas fallback content (Canvas DOM sub-tree) to**
 - **Represent canvas UI elements**
 - **Use native HTML and WAI-ARIA to provide semantic representation**
 - **Populate platform accessibility API using fallback elements**
 - **Place fallback elements in the standard keyboard navigation order**
- **Expand Canvas 2D APIs to drive magnification**

Canvas Accessibility Conceptualization (use of fallback content)



Internet Explorer and UIA Automation Verify Test Tool

- Show As
- Show Bs



Canvas 2D API extensions to support screen magnification

- **drawSystemFocusRing and drawCustomFocusRing**
- **Caret/selection tracking proposal in lieu of LibreOffice and Mozilla PDF Reader work.**
 - **Controversial: canvas is not the best technology for rich text.**
- **Text Metrics text baseline extension**
- **Hit test proposals (setElementPath, addHitRegion)**
- **New scrollPathIntoView insufficient for magnifiers**

Workshop Problems

- Two Checkboxes
- Button
- Ratings Control
- Fan dial
- Button Zooming Example
- See Me WCAG

Browser Implementation Status

Accessibility Feature	IE 10	Firefox 13 trunk	Safari 5.1.2	Chrome
Fallback keyboard Navigation	yes	yes	no	no
Fallback to platform accessibility API	yes	yes	no	no
drawSystemFocus Ring				
drawCustomFocus Ring				
setElementPath				
TextMetrics text baseline property				