Putting DDI in the driver's seat

Using Metadata to control data capture

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2010: XForms and DDI

January: XForms transform demonstrated within ABS

June: XForms live-demo at IASSIST 2010

July: XForms research put on hold

October: Commercial Census web-form tool investigated

ABS DDI Data Collection Projects

- Internet Activity Survey
- Agricultural Census
- Questionnaire Design Tool (QDT)

Internet Activity Survey

Then:

- Survey used in DDI/XForms research

- eForms solution using ABS developed technology
- Custom tool creates XForms, rendered using Orbeon

Internet Activity Survey

Then:

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Now:

- Candidate for migration to custom IBM web-form solution

Agricultural Census

Now:

- Currently running on IBM web-form solution
- Forms displayed using AJAX which interprets proprietary hand-crafted XML

Agricultural Census

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- Currently running on IBM web-form solution
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Future:

- Research into DDI to XML transforms

Questionnaire Design Tool

Then:

- Online app for questionnaire metadata management

- Manages creation of Blaise and paper forms
- Uses ABS-built proprietary XML (QDT-ML)

Now:

- Investigations into replacing QDT-ML with DDI
- Research into using QDT to create web-forms


OPTIMUS PRIME


Alon Chou
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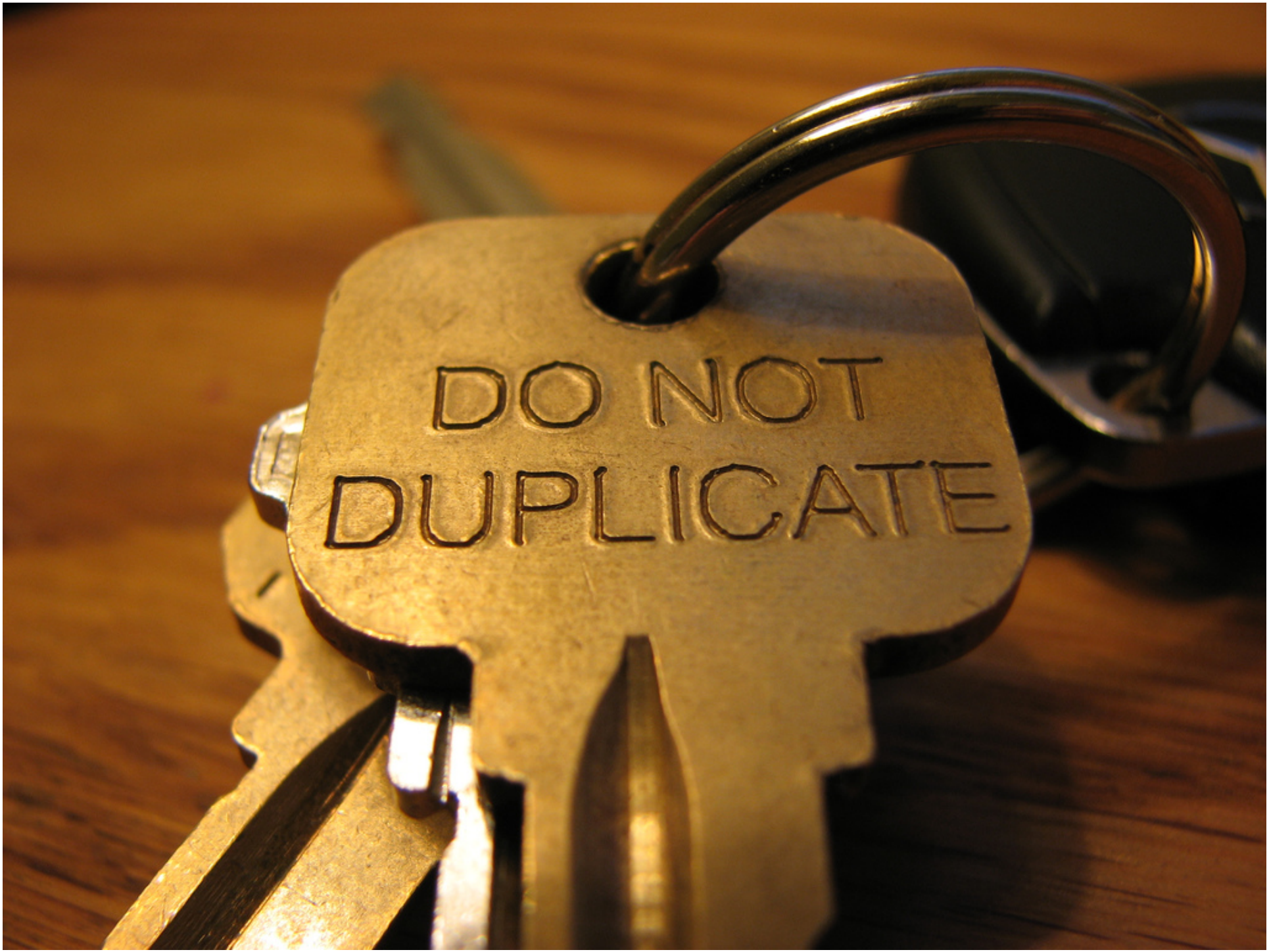
How can it made simpler?

The XForms standard describes a structured format for capturing form questions, control structures and complex data structures needed for accurate information capture.

However, to be useful it needs to be transformed, as its not able to be displayed natively in current generation browsers.

The DDI 3.0 standard describes a structured format for capturing form questions, control structures and complex data structures needed for accurate information capture.

However, to be useful it needs to be transformed, as its not able to be displayed natively in current generation browsers.



Sam UL: http://www.flickr.com/photos/popilop/331357312/

<!DOCTYPE HTML>

Why HTML5?

- Buzzword compliant
- Vast Improvement
- Open Standard
- Growing support

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(Even Microsoft is aiming to support HTML5 with IE9!)

Why HTML5 Forms?

- Most of the goodness of XForms, but with better native support

```
<d:QuestionItem id="q1">
    <d:QuestionText>
        <d:LiteralText>
            <d:Text>
                What percentage of the time of this talk
            have you spent anticipating a Star Trek Joke?
            </d:Text>
        </d:LiteralText>
    </d:QuestionText>
    <d:NumericDomain     type="Integer"
                         startValue="0" endValue="100"
                         interval="5"  missingValue="50"/>
</d:QuestionItem>



<label for="q1"> What percentage of the time of this talk
            have you spent anticipating a Star Trek Joke?
</label>
< input id="q1"  type=number
                 min=0 max=100
                 step=5 value=50
>
```

```
<d:QuestionItem id="q2">
    <d:QuestionText>
        <d:LiteralText>
            <d:Text>
                What is the registration code of
                your favourite Federation starship?
            </d:Text>
        </d:LiteralText>
    </d:QuestionText>
    <d:TextDomain regExp="NCC-\d{4}.*">
    <r:Description>eg. NCC-1701-A</r:Description>
    </d:TextDomain>
</d:QuestionItem>


< label for="q2">      What is the registration code of
                       your favourite Federation starship?
</label>
< input id="q2"      type=text
                     placeholder="eg. NCC-1701-A"
                     pattern="NCC-\d{4}.*"
>
```

Legacy browsers can cope and render with HTML5 Forms *

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* Because all unknown input types default to text

Caveat Logica Artifex

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(Let the craftsman of logic beware)

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Programmer Beware!

HTML5 Forms Inputs

	MAC				WIN									
	OPERA	FIREFOX	SAFARI	CHROME	OPERA	FIREFOX		SAFARI	IE				CHROME	
	10.63	3.6	5	7	10.63	3.6	4.03	5	6	7	8	9	7	8
Form: Search	✗	✗	✓	✓	✗	✗	✓	✓	✗	✗	✗	✗	✓	✓
Form: Phone	✗	✗	✓	✓	✗	✗	✓	✓	✗	✗	✗	✗	✓	✓
Form: URL	✓	✗	✓	✓	✓	✗	✗	✓	✗	✗	✗	✗	✓	✓
Form: Email	✓	✗	✓	✓	✓	✗	✗	✓	✗	✗	✗	✗	✓	✓
Form: DateTime	✓	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗
Form: Date	✓	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗
Form: Month	✓	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗
Form: Week	✓	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗
Form: Time	✓	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗
Form: LocalTime	✓	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗
Form: Number	✓	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✓
Form: Range	✓	✗	✓	✓	✓	✗	✗	✓	✗	✗	✗	✗	✓	✓
Form: Colour	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗

Deep Blue Sky: http://www.findmebyip.com/litmus/

HTML5 Forms Attributes

	MAC				WIN									
	OPERA	FIREFOX	SAFARI	CHROME	OPERA	FIREFOX		SAFARI	IE				CHROME	
	10.63	3.6	5	7	10.63	3.6	4.03	5	6	7	8	9	7	8
Form: Autocomplete	✔	✘	✘	✘	✔	✘	✘	✘	✘	✘	✘	✘	✘	✘
Form: Autofocus	✔	✘	✔	✔	✔	✘	✔	✔	✘	✘	✘	✘	✔	✔
Form: List	✔	✘	✔	✘	✔	✘	✘	✔	✘	✘	✘	✘	✘	✘
Form: Placeholder	✘	✘	✔	✔	✘	✘	✔	✔	✘	✘	✘	✘	✔	✔
Form: Min	✔	✘	✔	✔	✔	✘	✘	✔	✘	✘	✘	✘	✔	✔
Form: Max	✔	✘	✔	✔	✔	✘	✘	✔	✘	✘	✘	✘	✔	✔
Form: Multiple	✘	✔	✔	✔	✘	✔	✔	✔	✘	✘	✘	✘	✔	✔
Form: Pattern	✔	✘	✔	✔	✔	✘	✘	✔	✘	✘	✘	✘	✔	✔
Form: Required	✔	✘	✔	✔	✔	✘	✘	✔	✘	✘	✘	✘	✔	✔
Form: Step	✔	✘	✔	✔	✔	✘	✘	✔	✘	✘	✘	✘	✔	✔

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Tools for making HTML5 usable in "legacy" browsers exist!

Tools for making HTML5 usable in "legacy" browsers exist!

But this sounds suspiciously like another transformer.

But...

- HTML5 is easier to manipulate than XForms
- Client-side Javascript transforms are quick
- Javascript development is quicker
- Eventually they won't be needed

HTML5 Forms Attributes

	MAC				WIN									
	OPERA	FIREFOX	SAFARI	CHROME	OPERA	FIREFOX		SAFARI	IE				CHROME	
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Form: Autofocus	✔	✘	✔	✔	✔	✘	✔	✔	✘	✘	✘	✘	✔	✔
Form: List	✔	✘	✔	✘	✔	✘	✘	✔	✘	✘	✘	✘	✘	✘
Form: Placeholder	✘	✘	✔	✔	✘	✘	✔	✔	✘	✘	✘	✘	✔	✔
Form: Min	✔	✘	✔	✔	✔	✘	✘	✔	✘	✘	✘	✘	✔	✔
Form: Max	✔	✘	✔	✔	✔	✘	✘	✔	✘	✘	✘	✘	✔	✔
Form: Multiple	✘	✔	✔	✔	✘	✔	✔	✔	✘	✘	✘	✘	✔	✔
Form: Pattern	✔	✘	✔	✔	✔	✘	✘	✔	✘	✘	✘	✘	✔	✔
Form: Required	✔	✘	✔	✔	✔	✘	✘	✔	✘	✘	✘	✘	✔	✔
Form: Step	✔	✘	✔	✔	✔	✘	✘	✔	✘	✘	✘	✘	✔	✔

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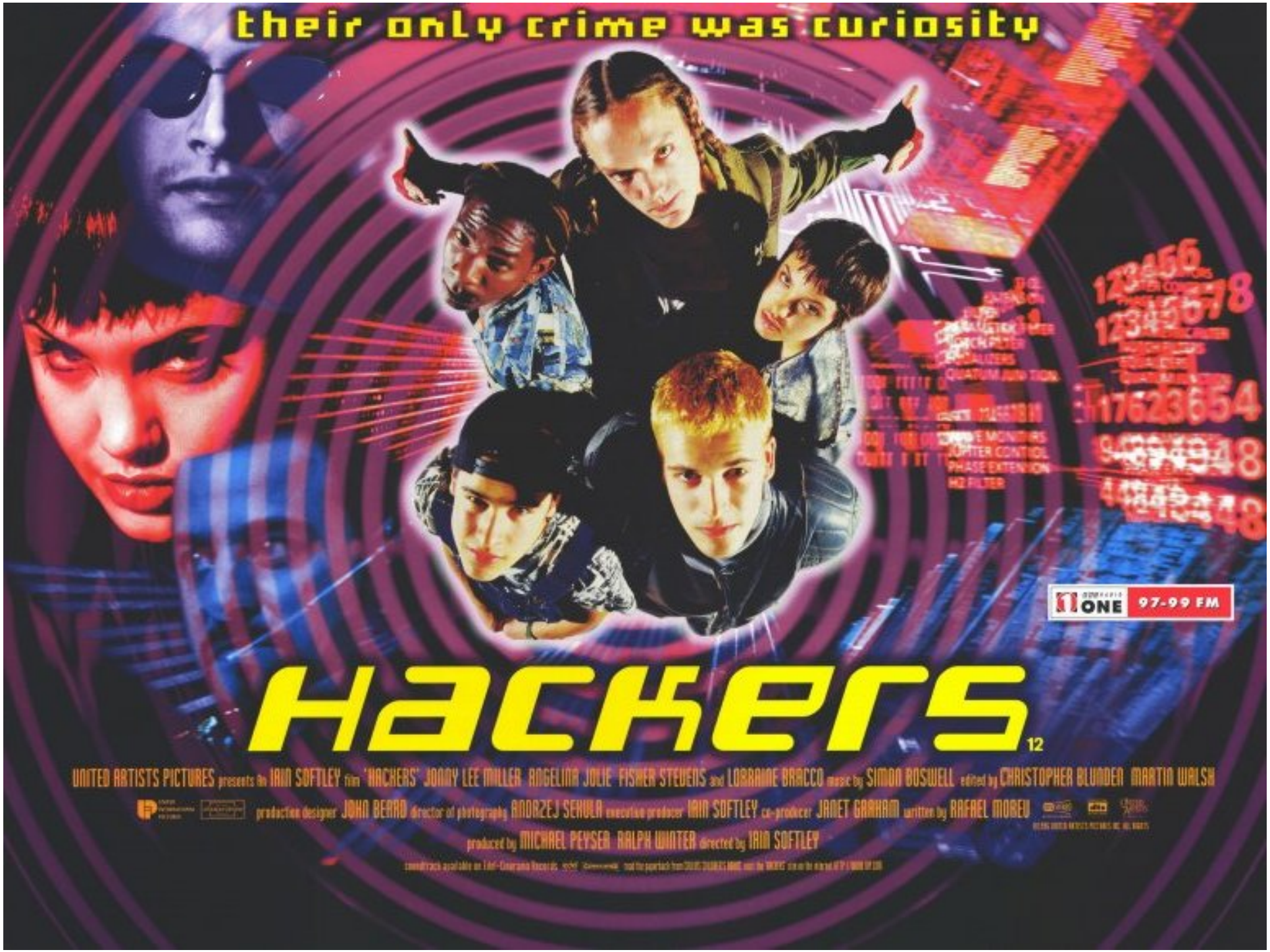
Client-side "validation" doesn't guarantee valid data


their only crime was curiosity
ONE 97-99 FM
HACKERS
12
UNITED ARTISTS PICTURES presents an IAIN SOFTLEY film "HACKERS" JONNY LEE MILLER ANGELINA JOLIE FISHER STEVENS and LORRAINE BRACCO music by SIMON BOSWELL edited by CHRISTOPHER BLUNDEN MARTIN WALSH
production designer JOHN BEARD director of photography ANDRZEJ SEKUŁA executive producer IAIN SOFTLEY co-producer JANET GRAHAM written by RAFAEL MOREU
produced by MICHAEL PEYSER RALPH WINTER directed by IAIN SOFTLEY

Server-side validation & control

One solution: DDI ⇒ Python

- Convert DDI to Python Classes
- Python frameworks allow easy generation of web-apps
- Python can be compiled into numerous languages
  eg. C, Java, .Net

But the same issues arise...

- No standard
- XForms
- Each language and implementation is different

DDI to Forms (D2F)

- Standard way to produce web-forms and services from DDI
- Platform and technology agnostic
- Increases reproducibility
- Encourages web-form use
- DDI in / DDI out

D2F-Compliance

- D2F-compliant form creator would include specific elements and metadata
- D2F-compliant web-app would expect the same
- Thus any D2F-compliant transform could be used with any D2F-compliant server
- D2F-servers capture data however required, but must expose data using DDI

Next time...

- Smarter web-forms with local storage and web-sockets
- µDDI - Embedding rich, structured metadata from DDI inside HTML5 using Microformats

Questions?

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Play:
twitter: @legostormtroopr
web: http://www.kidstrythisathome.com

Also:
DDI Developers/Users/TIC Mailing Lists, Linked In, Facebook (reluctantly), Team Fortress 2, Xbox Live, carrier pigeon, etc...
If can can't find me, just google "Samuel Spencer DDI"