A Framework for Serving Inclusive Web Forms to Disabled and Elderly Individuals

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Outline

Introduction

Technology considerations

Server framework

Client framework

Example application

Results

Conclusions
Introduction

Inclusive web services
  DIADEM project

Disabled and elderly individuals
  Cognitive/intellectual deficits
  Underestimated user group

Trial system
  Test driven development
  Several development cycles, refinement of requirements specification

Client server structure
Technology considerations

HTML 2.0-4.01
  Served to client due to lack of satisfactory support of other technologies

Web Forms
  Superseeded by HTML 5

HTML 5
  Not ripe yet

Xforms
  Meets most requirements
Data formats
Server

System adaptation
  Per user, per session, per form

Personalized user profiles
  Preferences
  System parameters

Adaption process
  User behavior monitoring
  User statistics generation

Form transformation
  Rules
  Modification of DOM and style sheet
Basic web technologies
HTTP, HTML, CSS,

Other
XHR
Plugins

Screen
Dialog bar
Navigation bar
"Tabbed" forms
Blocking
Example application

Unanswered questions remain. Would you like the system to identify them now?

Completing form **Tell us you have moved** from **Sheffield City Council**. We know that Council Taxpayers have different circumstances, so the on-line form is designed to provide us with the information we need to amend your bill. Please read the questions carefully and only complete the sections you are asked to.

### Change of Address

#### Section A: Details about the address of your new property

- **House (or flat) Name**: Austin Drive
- **House (or flat) Number**: 3
- **Street**: 
- **Area (e.g. Broomhill)**: 
- **Postcode**: B 
  - Please provide a valid postcode
- **Is your new property located within Sheffield**
  - Yes
  - No

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Results

Scalable system
   Number of rules, number and size of forms, number of concurrent users

Time consuming development cycles and cumbersome deployment process
   Java and Java VM not perfect choice for design of user interfaces
     Put a much functionality as possible into client

Many system components
   High degree of freedom leads to difficult implementation decisions

Xform not the perfect choice for online services

Form producing implications
   Difficult form building

Higher likability of DIADEM forms as compared to other e-services, and high level of user satisfaction

Preliminary set of adaptation rules
Conclusions

System requirements met
   It works!

True web technologies recommended
   HTML & JavaScript more powerful combination in future
   Lower complexity

Preliminary system behavior
   Knowledge gained about best practices and recommended design principles

No conclusions about final rule set
   Ongoing user testing
Thank you for your attention!

Questions?