Hasso Plattner Institut

IT Systems Engineering | Universität Potsdam

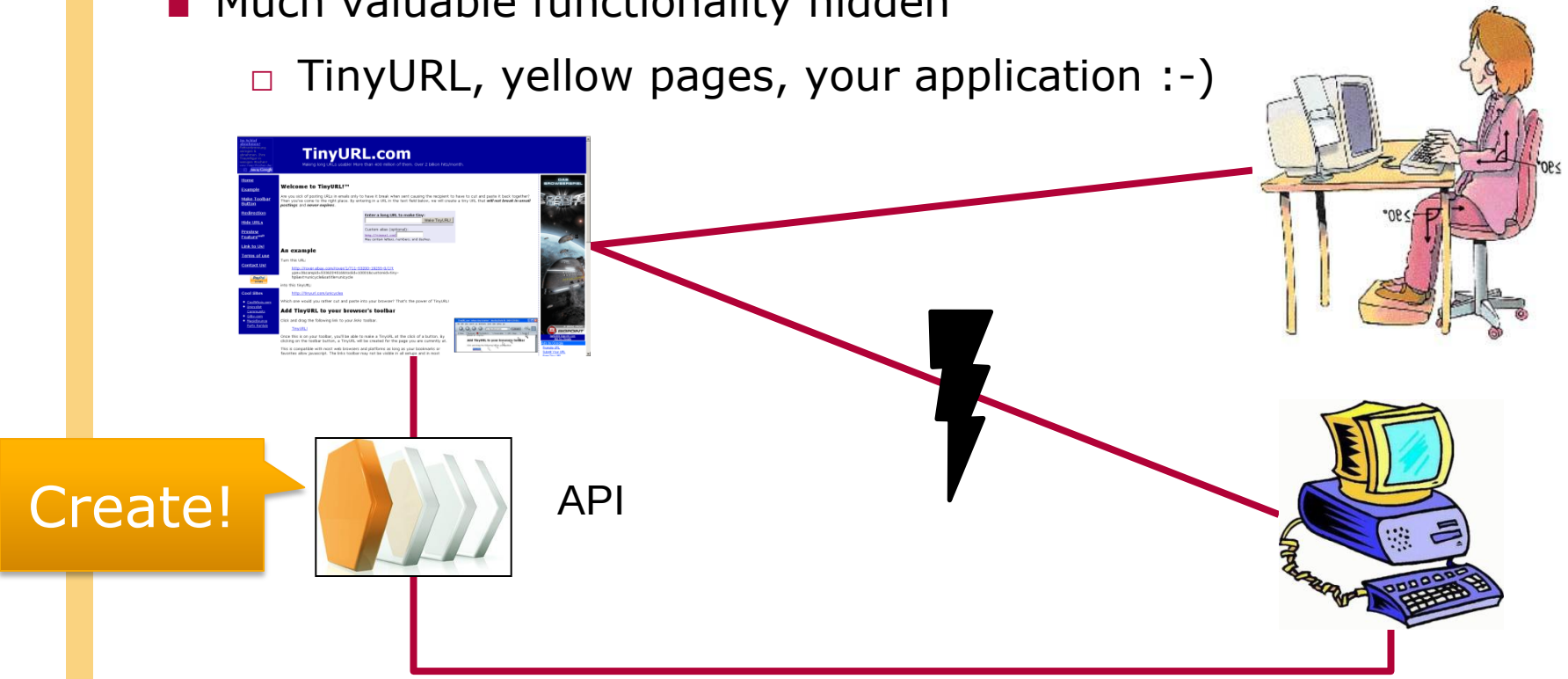
Converting Web Forms into PHP-based Web Services with `form2webservice generator`

The Tool formerly known as FaSTer

Tobias Vogel

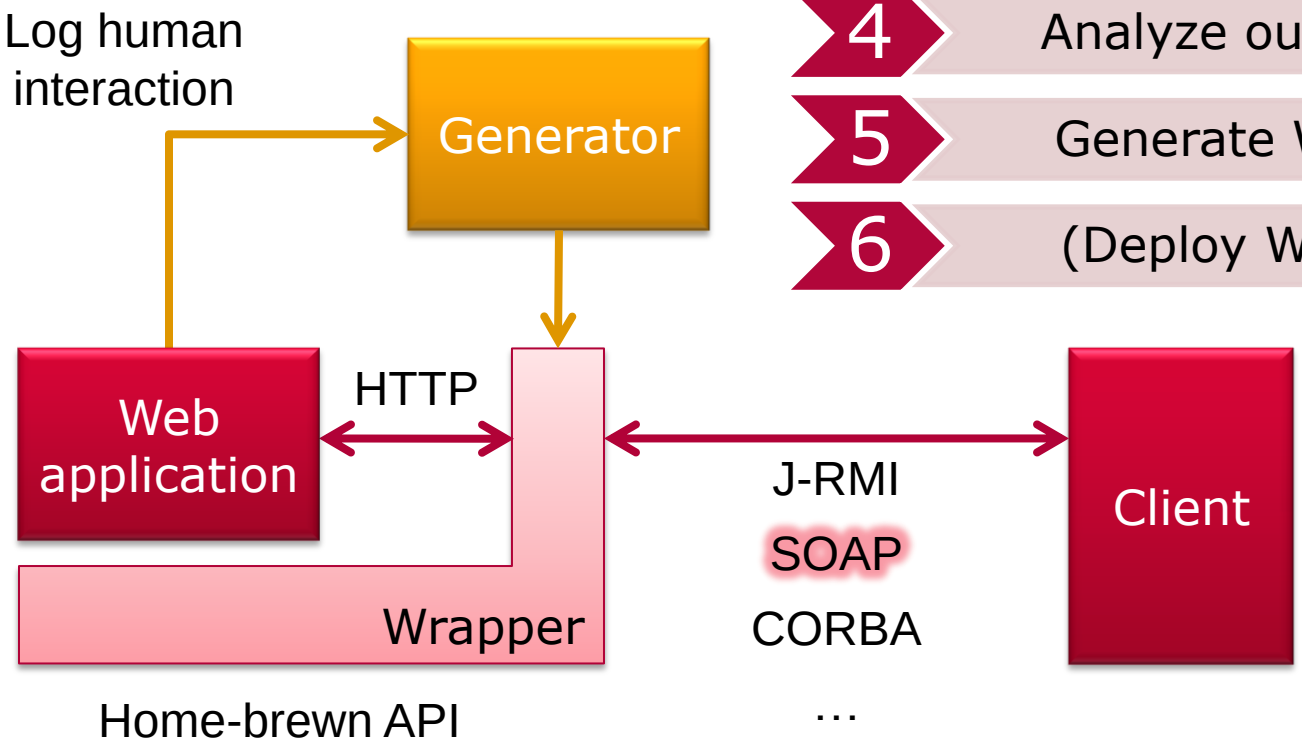
Good for Humans, bad for Computers

- Web pages are intended for human use
  - Human-oriented interfaces
- Computer programs cannot access them (unless they have APIs)
- Much valuable functionality hidden
  - TinyURL, yellow pages, your application :-)

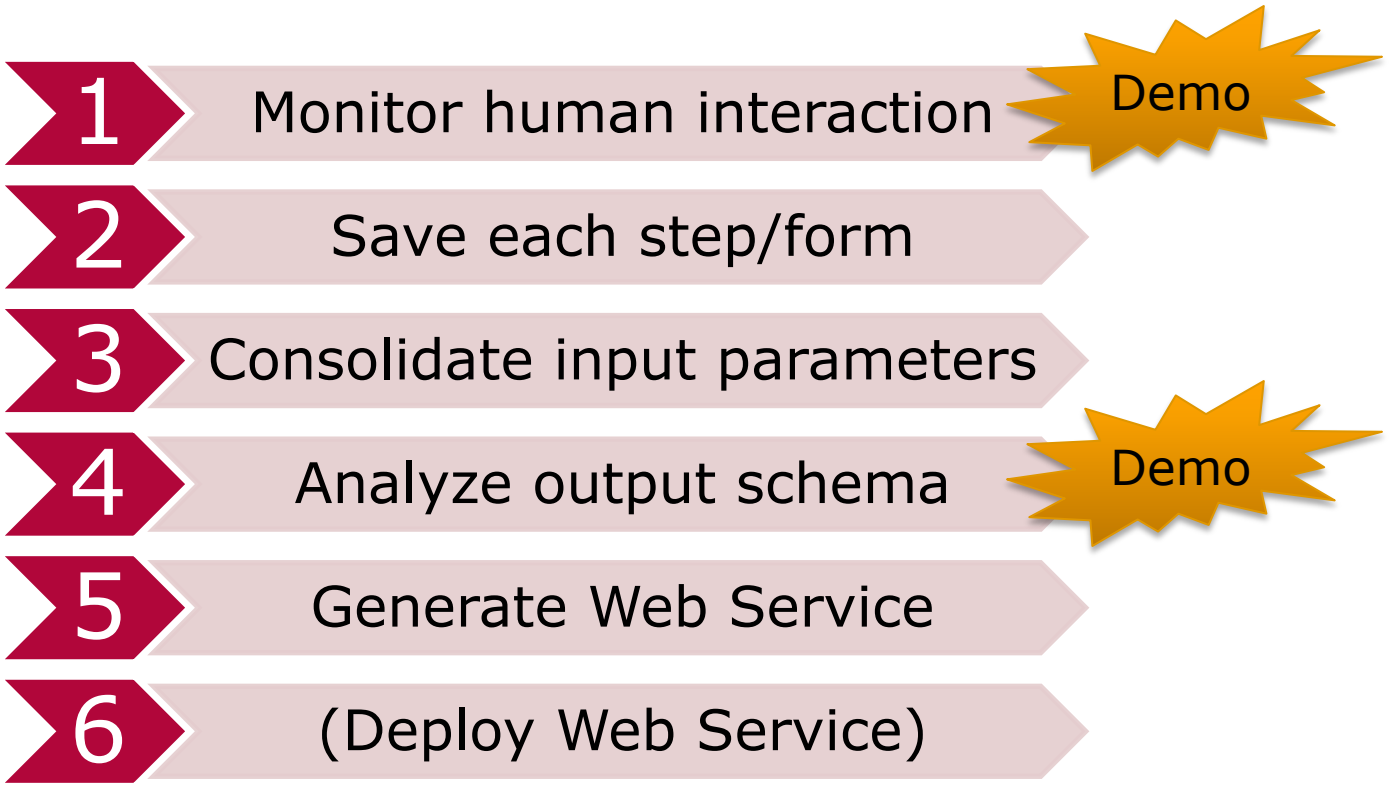


Encapsulation

1. Monitor human interaction
2. Save each step/form
3. Consolidate input parameters
4. Analyze output schema
5. Generate Web Service
6. (Deploy Web Service)



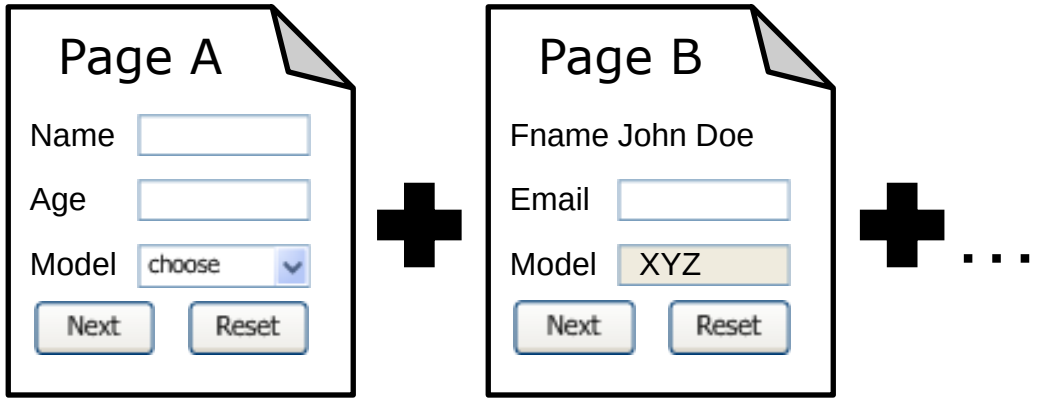
Analysis and Generation Workflow

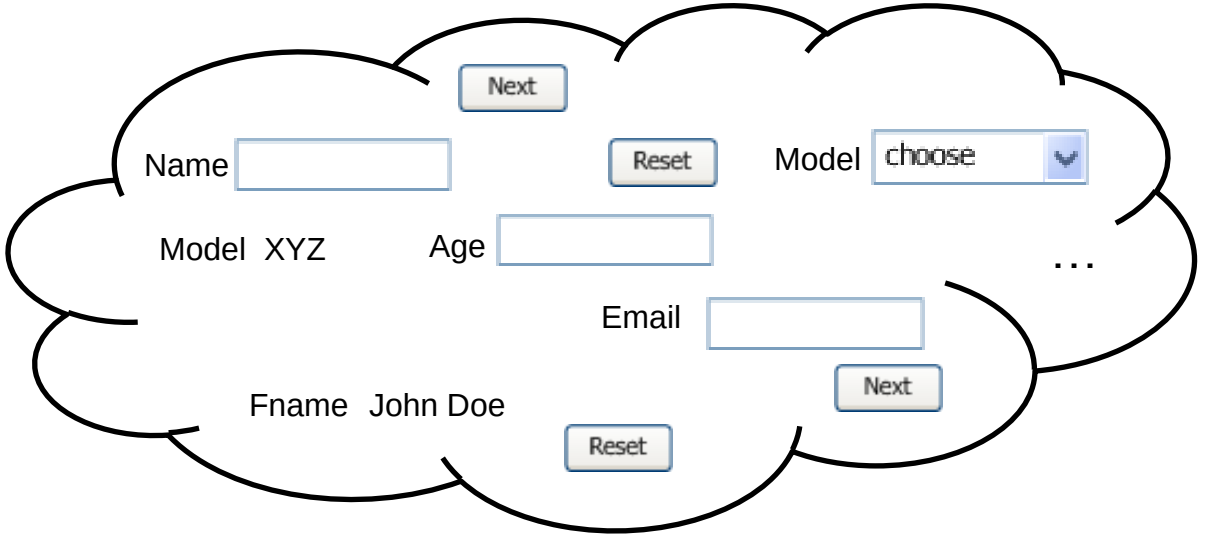


Demo

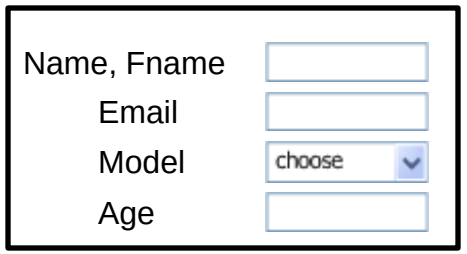
Web Applications Have HTML GUIs

- Web applications := applications with an HTML GUI
  - Internal variables
  - Partly visible as *Form Elements*
- Mapping required



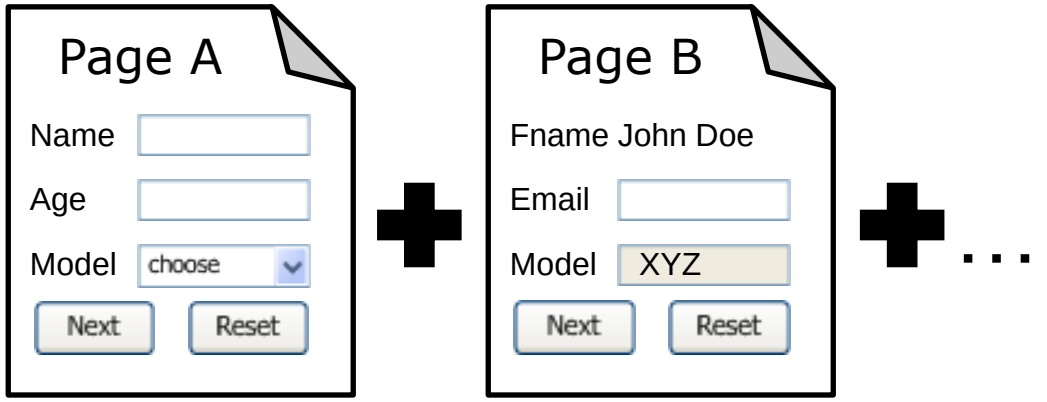


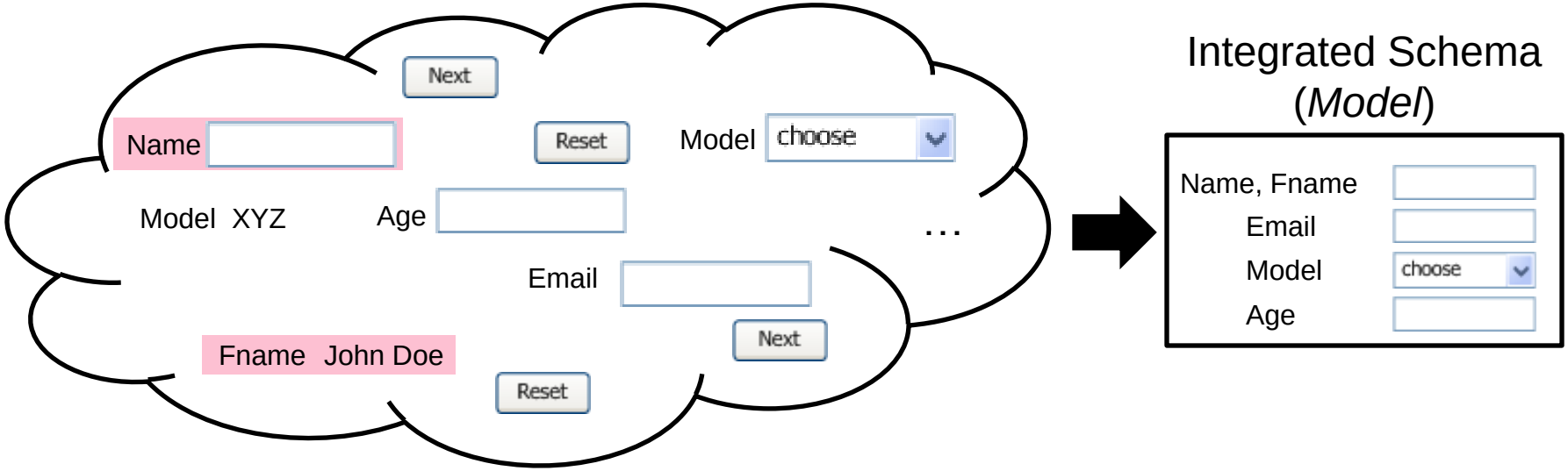
Integrated Schema (*Model*)



Web Applications Have HTML GUIs

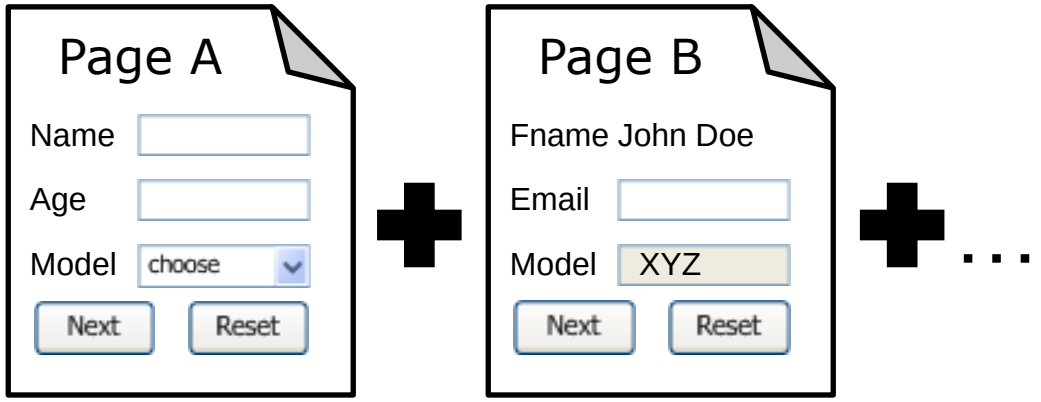
- Web applications := applications with an HTML GUI
  - Internal variables
  - Partly visible as *Form Elements*
- Mapping required

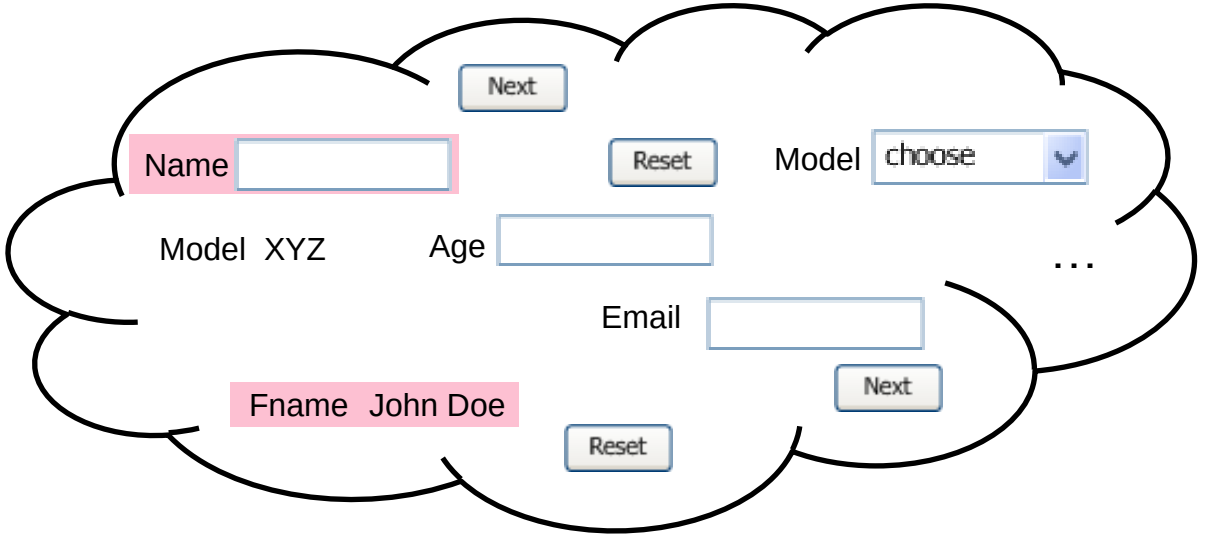




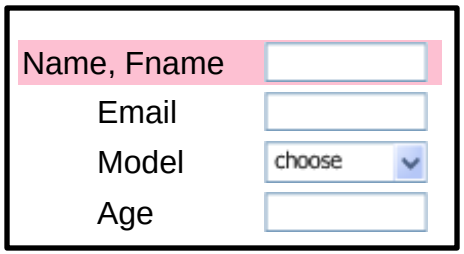
Web Applications Have HTML GUIs

- Web applications := applications with an HTML GUI
  - Internal variables
  - Partly visible as *Form Elements*
- Mapping required



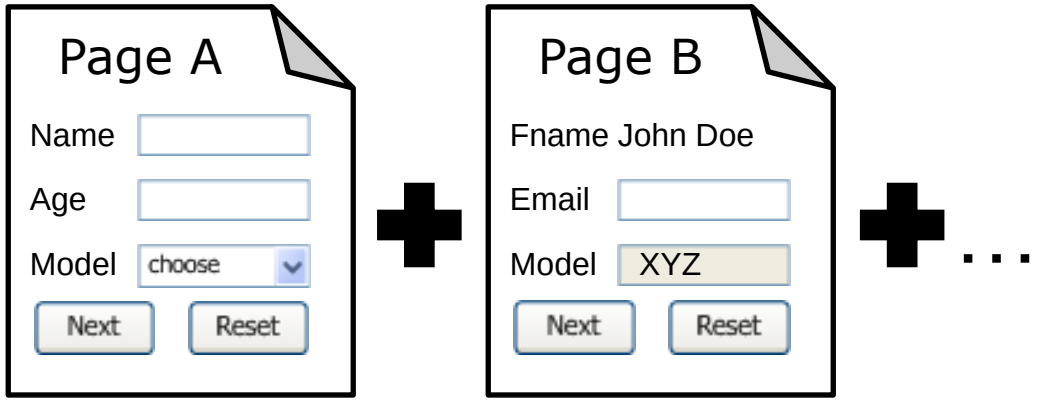


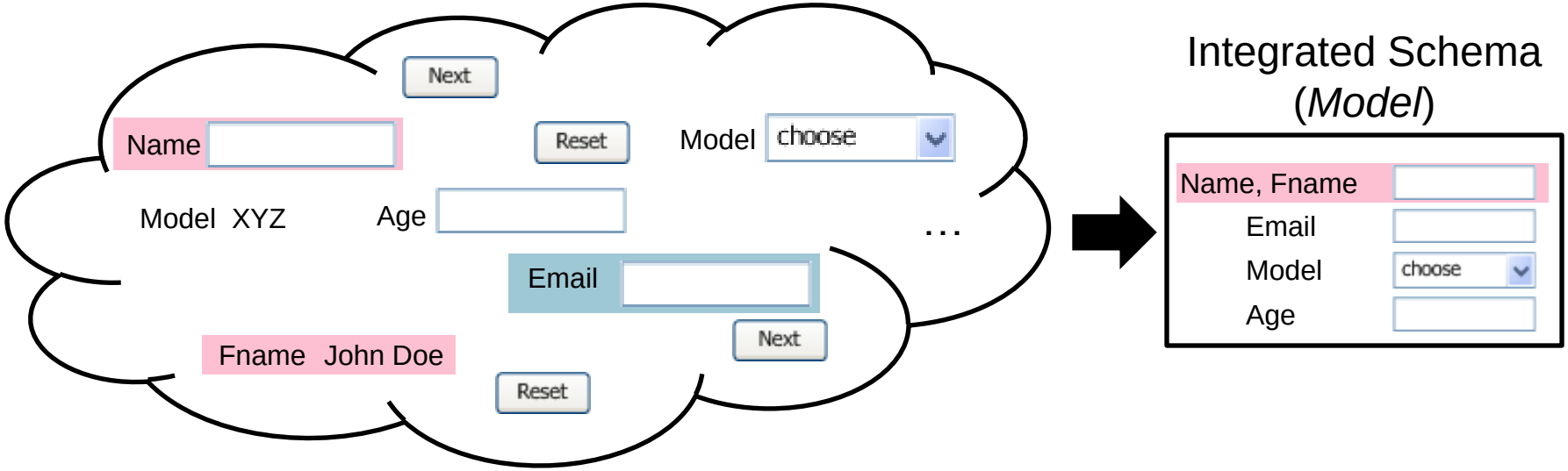
Integrated Schema (*Model*)



Web Applications Have HTML GUIs

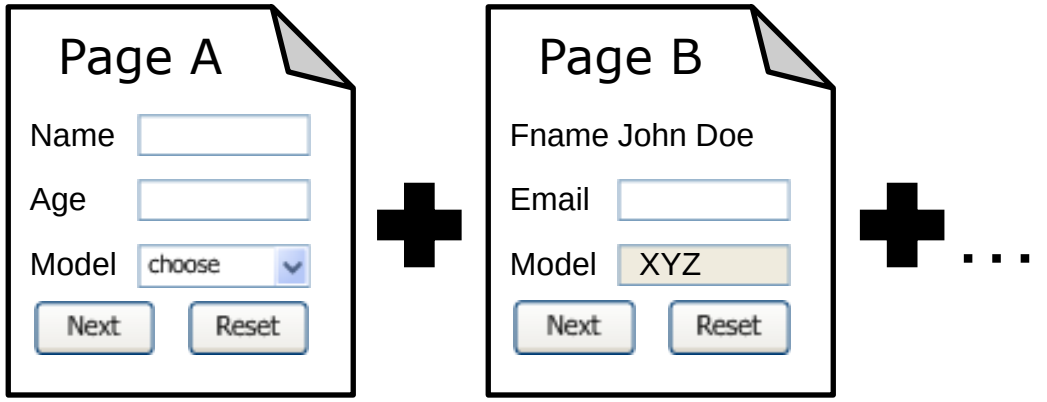
- Web applications := applications with an HTML GUI
  - Internal variables
  - Partly visible as *Form Elements*
- Mapping required

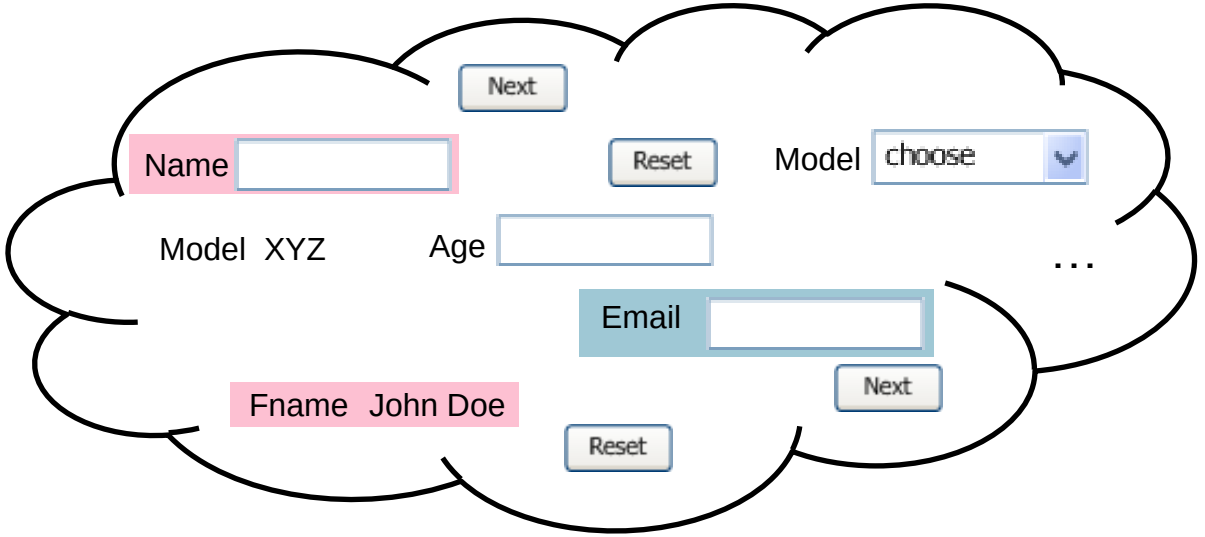




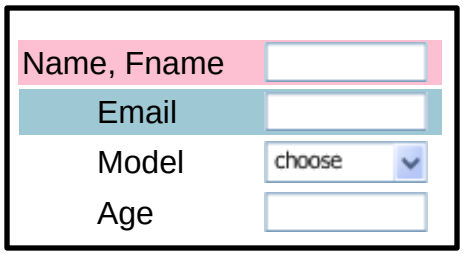
Web Applications Have HTML GUIs

- Web applications := applications with an HTML GUI
  - Internal variables
  - Partly visible as *Form Elements*
- Mapping required



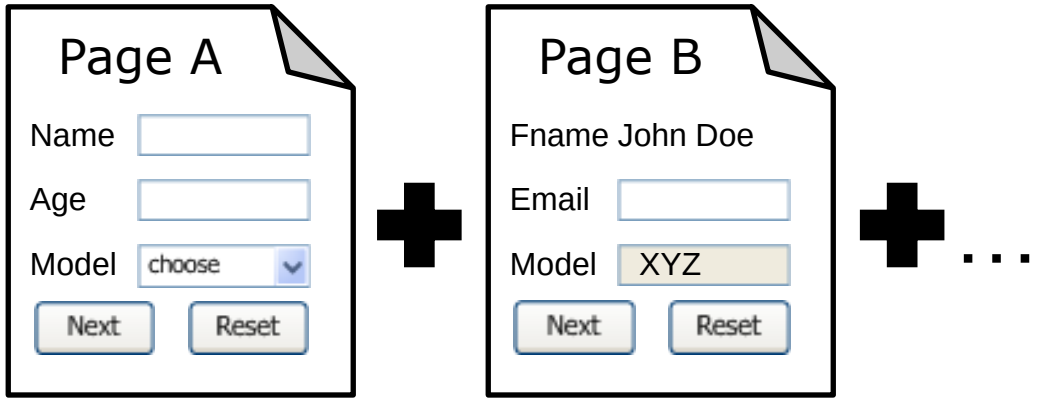


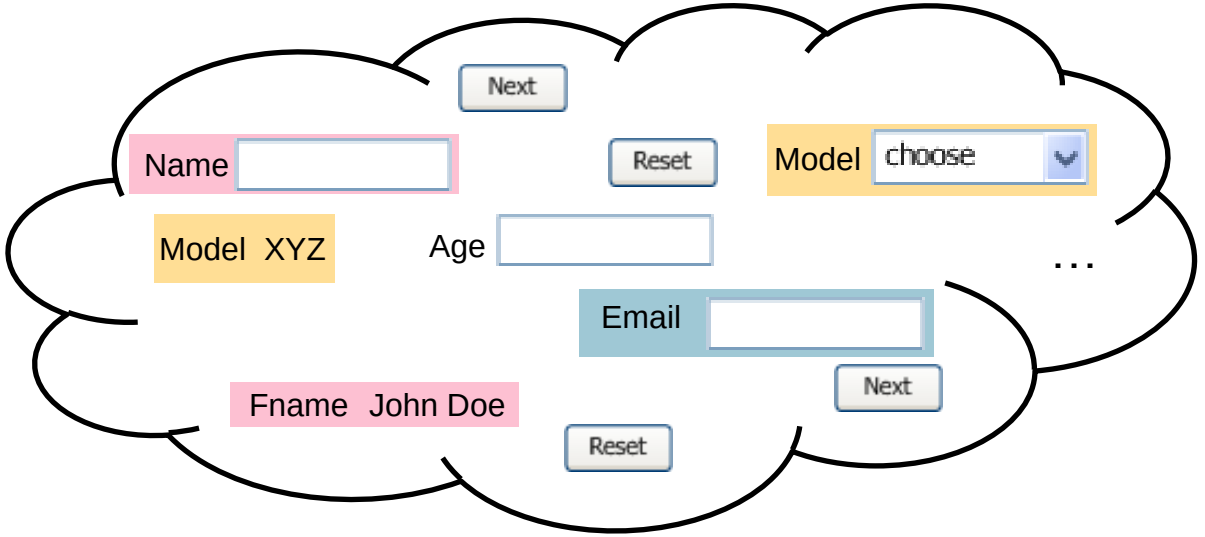
Integrated Schema (*Model*)



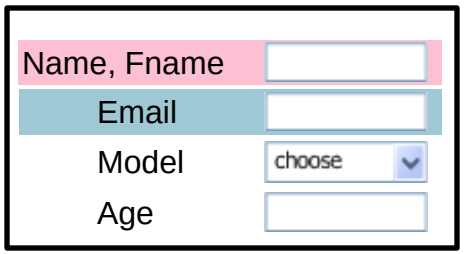
Web Applications Have HTML GUIs

- Web applications := applications with an HTML GUI
  - Internal variables
  - Partly visible as *Form Elements*
- Mapping required



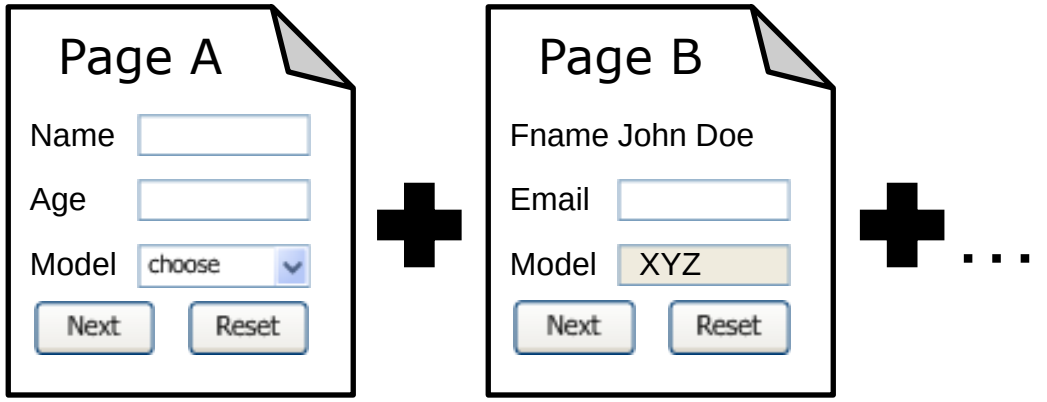


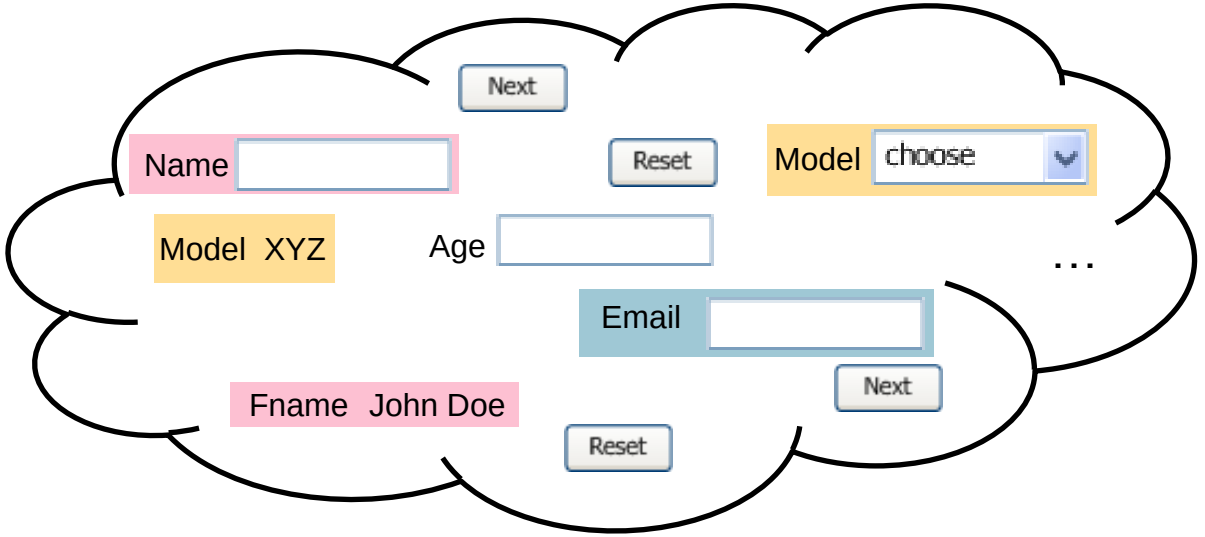
Integrated Schema (*Model*)



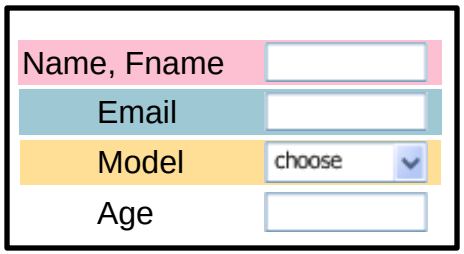
Web Applications Have HTML GUIs

- Web applications := applications with an HTML GUI
  - Internal variables
  - Partly visible as *Form Elements*
- Mapping required



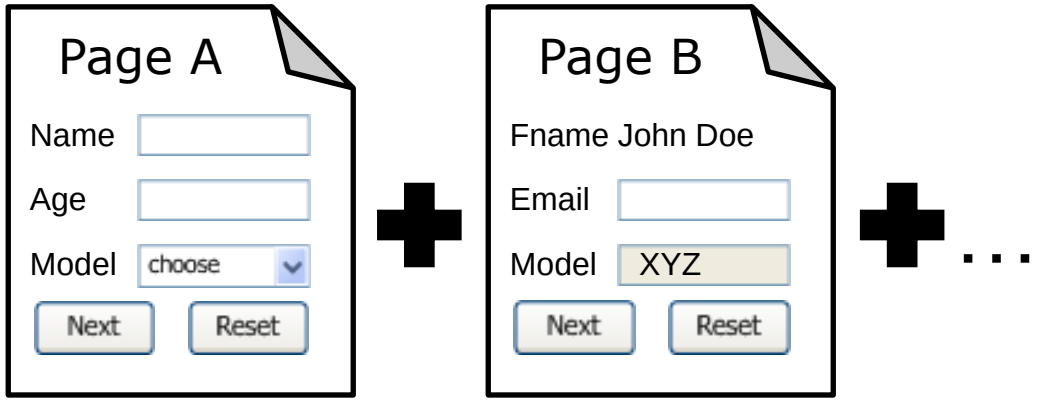


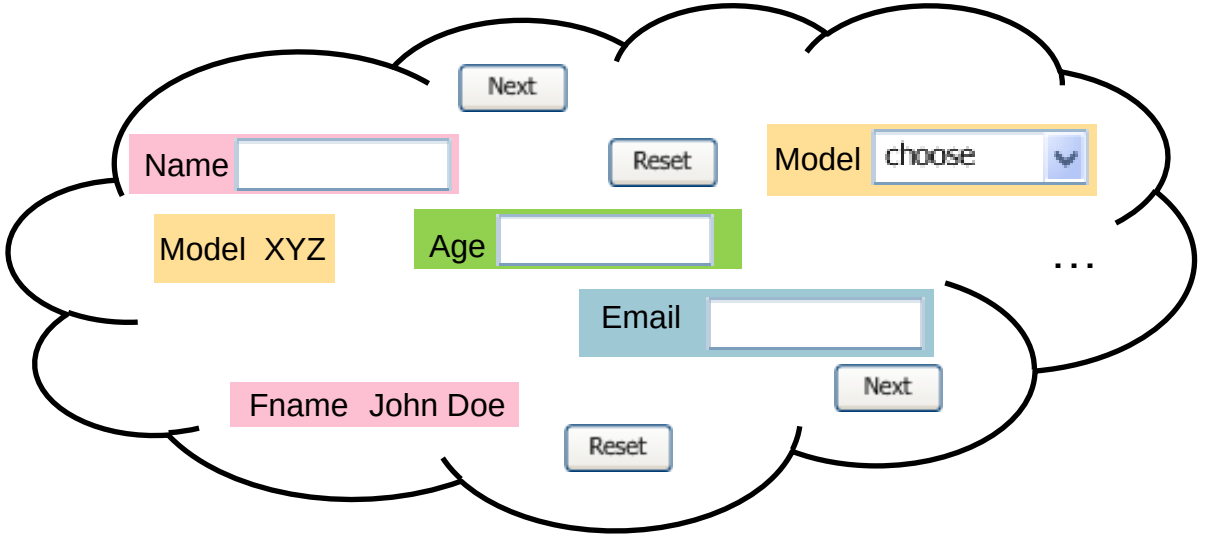
Integrated Schema (*Model*)



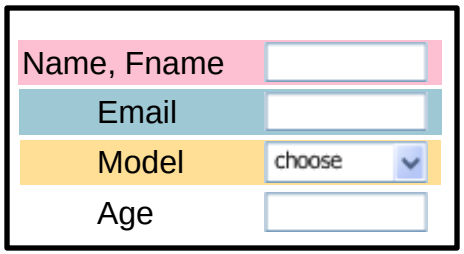
Web Applications Have HTML GUIs

- Web applications := applications with an HTML GUI
  - Internal variables
  - Partly visible as *Form Elements*
- Mapping required



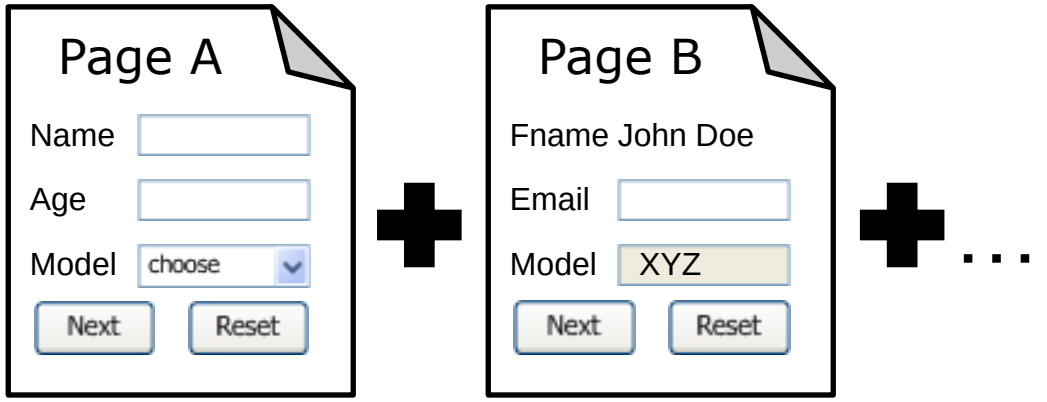


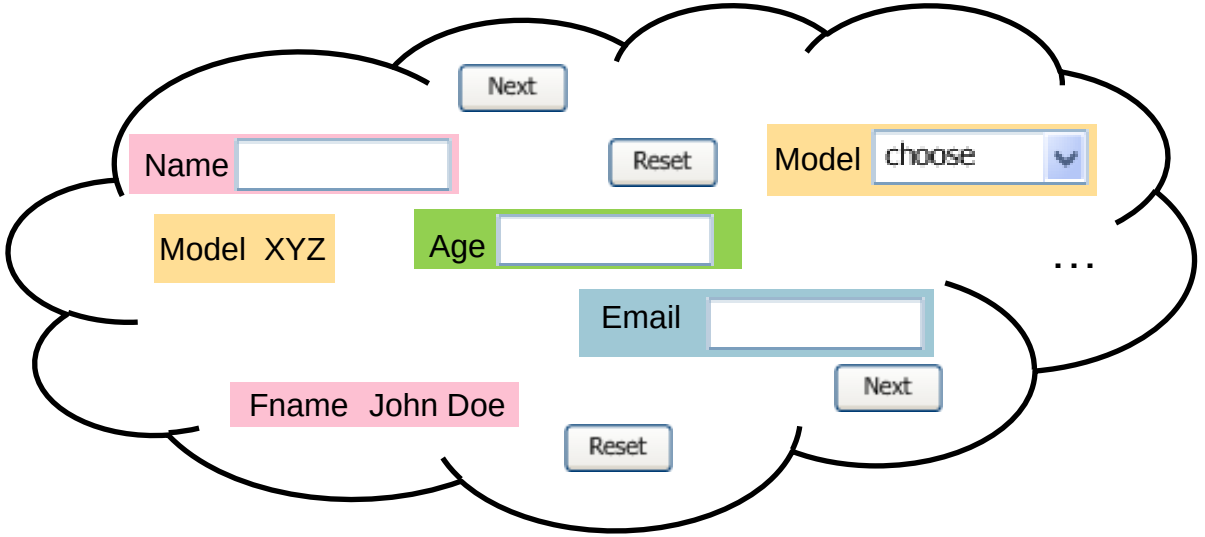
Integrated Schema (*Model*)



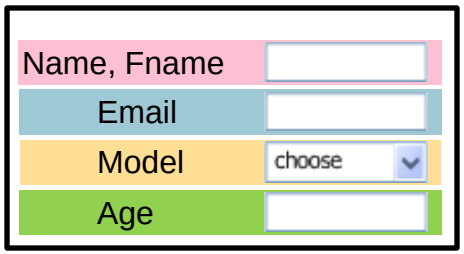
Web Applications Have HTML GUIs

- Web applications := applications with an HTML GUI
  - Internal variables
  - Partly visible as *Form Elements*
- Mapping required

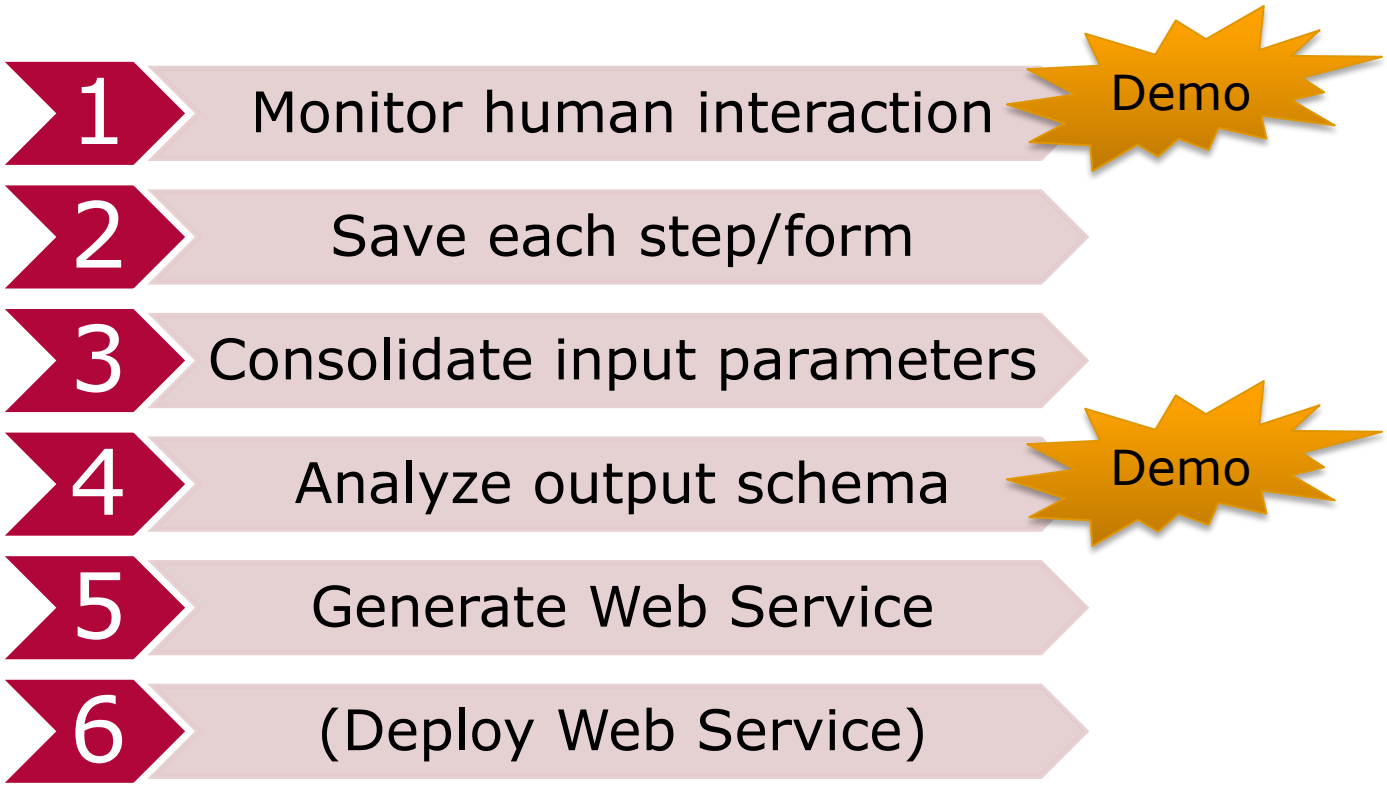




Integrated Schema (*Model*)



Analysis and Generation Workflow



Demo

Output

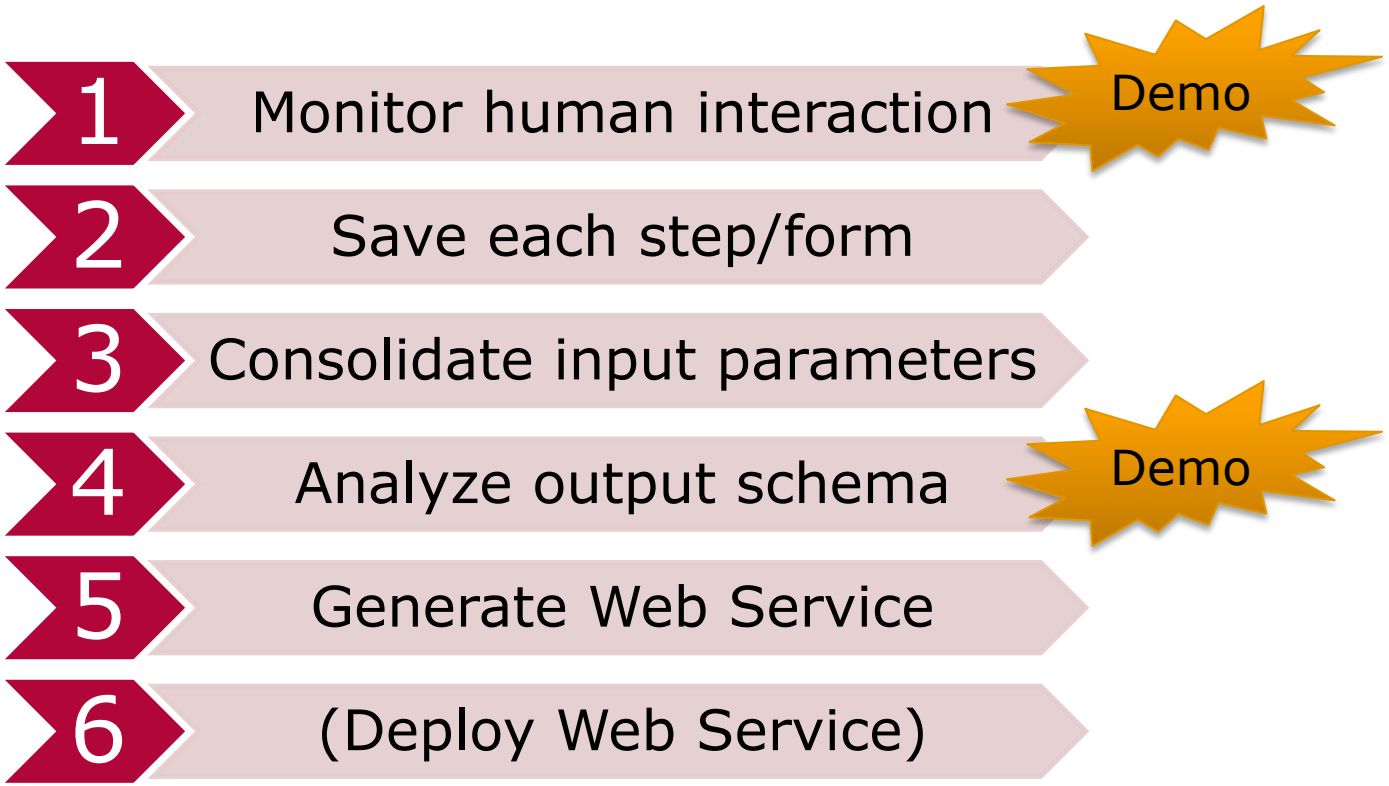
- XPath to specify parts
- Response types
  - simple: return direct XPath result
  - list: <ol>, <ul>
  - table: create row objects using column descriptions

Job	Command	Runtime
backup disk	backup.bat	30 s
find temp files	find /tmp | wc -l	90 s
turn off	shutdown -s	45 s

```
result1 {
  job: "backup disk",
  command: "backup.bat",
  runtime: "30 s"
},

result2 {
  job: "find temp files",
…
```

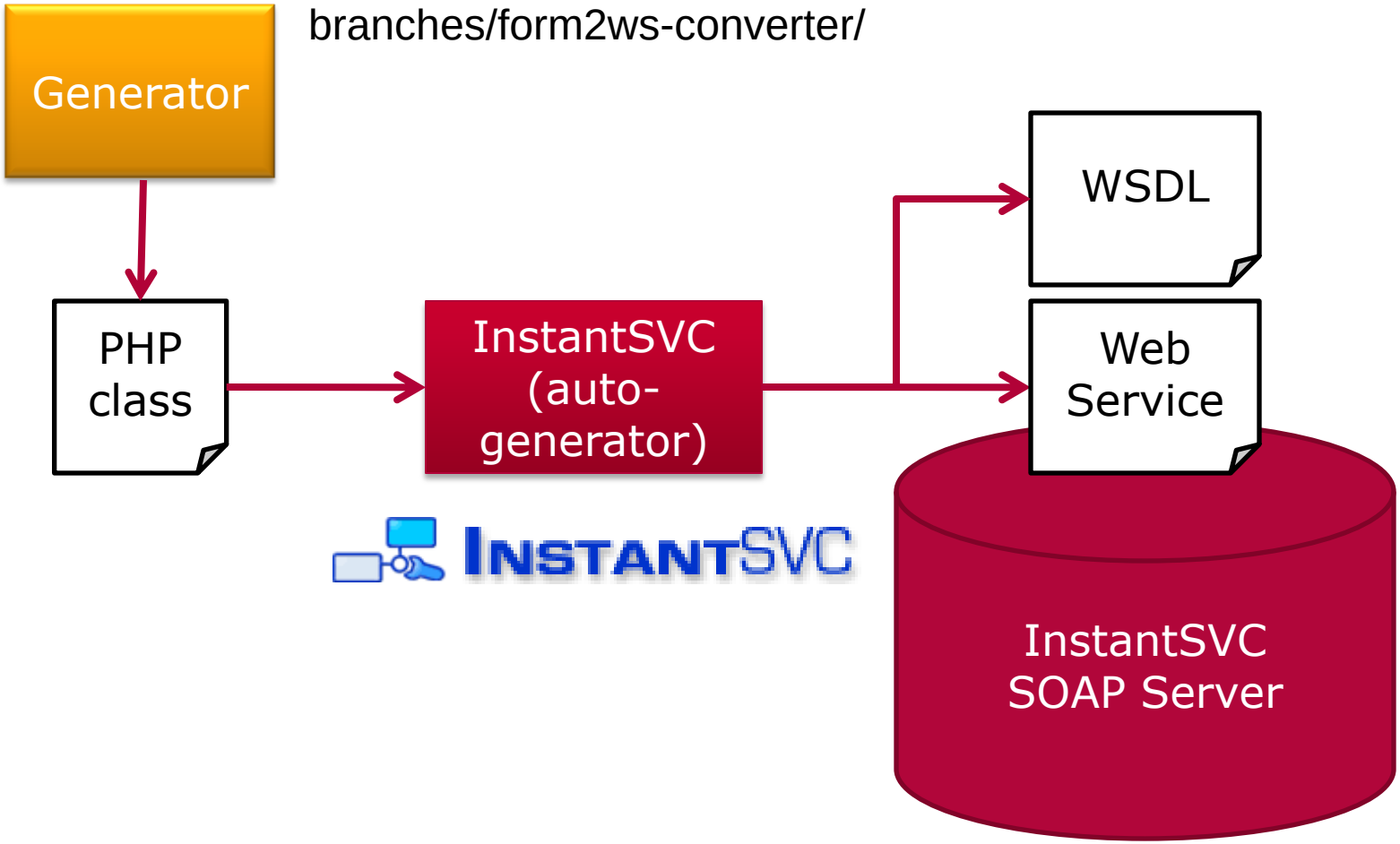
Analysis and Generation Workflow



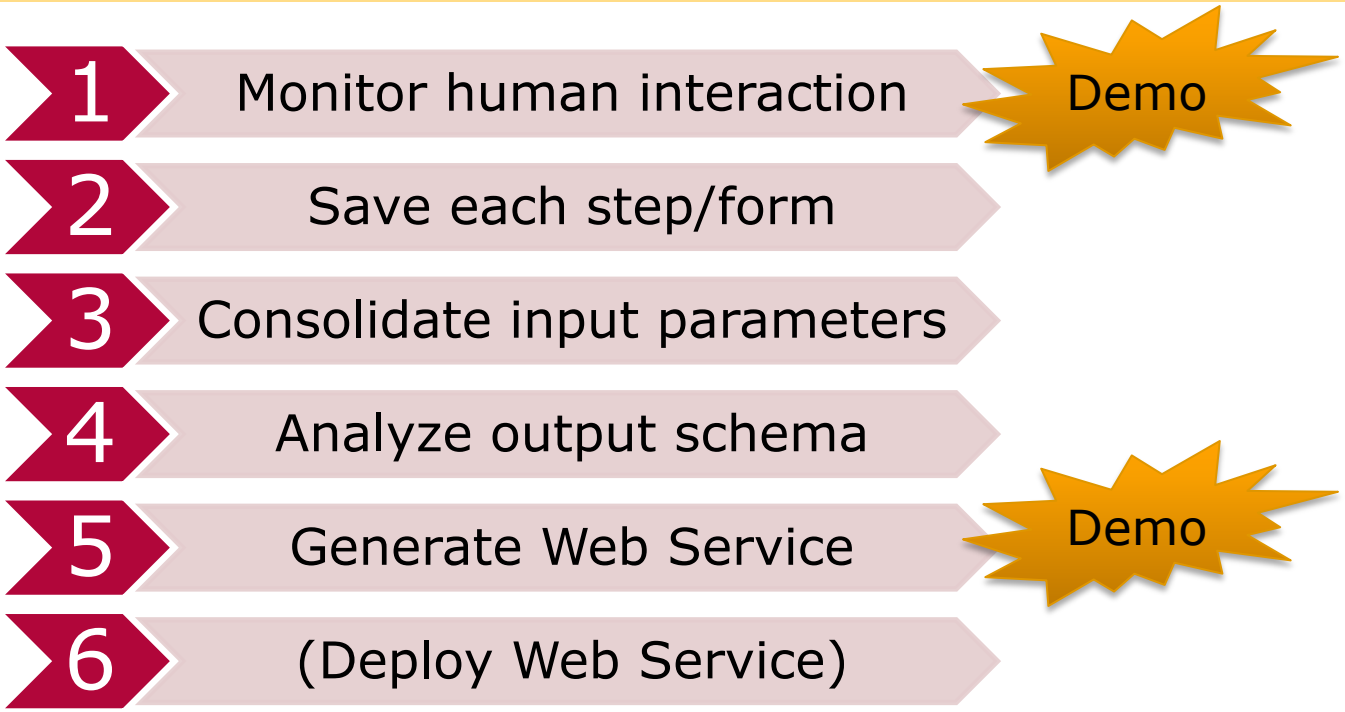
Demo

PHP Classes to Web Services

http://instantsvc.svn.sourceforge.net/viewvc/instantsvc/branches/form2ws-converter/



Summary



Posr: A Comprehensive System for Aggregating and Using Web Services
Mohammed AbuJarour, Mircea Craculeac, Falko Menge, Tobias Vogel, and Jan-Felix Schwarz. *IEEE Services Cup at SERVICES 2009*, Los Angeles, USA.

Encapsulating Multi-Stepped Web Forms
Tobias Vogel, Frank Kaufer, and Felix Naumann, *WESOA09* at *ICSOC 2009*, Stockholm

The End