

Jon Husted

Ohio Secretary of State



Electronic Poll Books:

Data Standards, and Interoperability

Electronic Poll Books: Data Standards, and Interoperability

- John Dziurlaj
 - IT Analyst, Ohio Secretary of State
 - Vice-Chair
 - VSSC/1622.7 - Electronic Poll Books
 - Member
 - VSSC/1622.2 -Election Results Reporting
 - VSSC/1622.4 -Election Data Modeling

A Pollbook for the 21st century

– The Promise

- Easier and Faster
- More Accurate
- Integrates well with VRDBs
- Handles data updates well

– Vote Centers

E-Poll books are becoming more popular

- Used in jurisdictions in thirty states
- Various requirements
 - No federal certification
 - 5 states require certification: Connecticut, Indiana, Ohio, Pennsylvania, Virginia
 - Ten states have statutes that explicitly authorize the use of e-poll books: Arizona, Arkansas, Florida, Iowa, Minnesota, Missouri, North Carolina, South Dakota, Tennessee, Texas

Design Principles

- Interoperability
- Auditability
- Symmetry

Data Standard

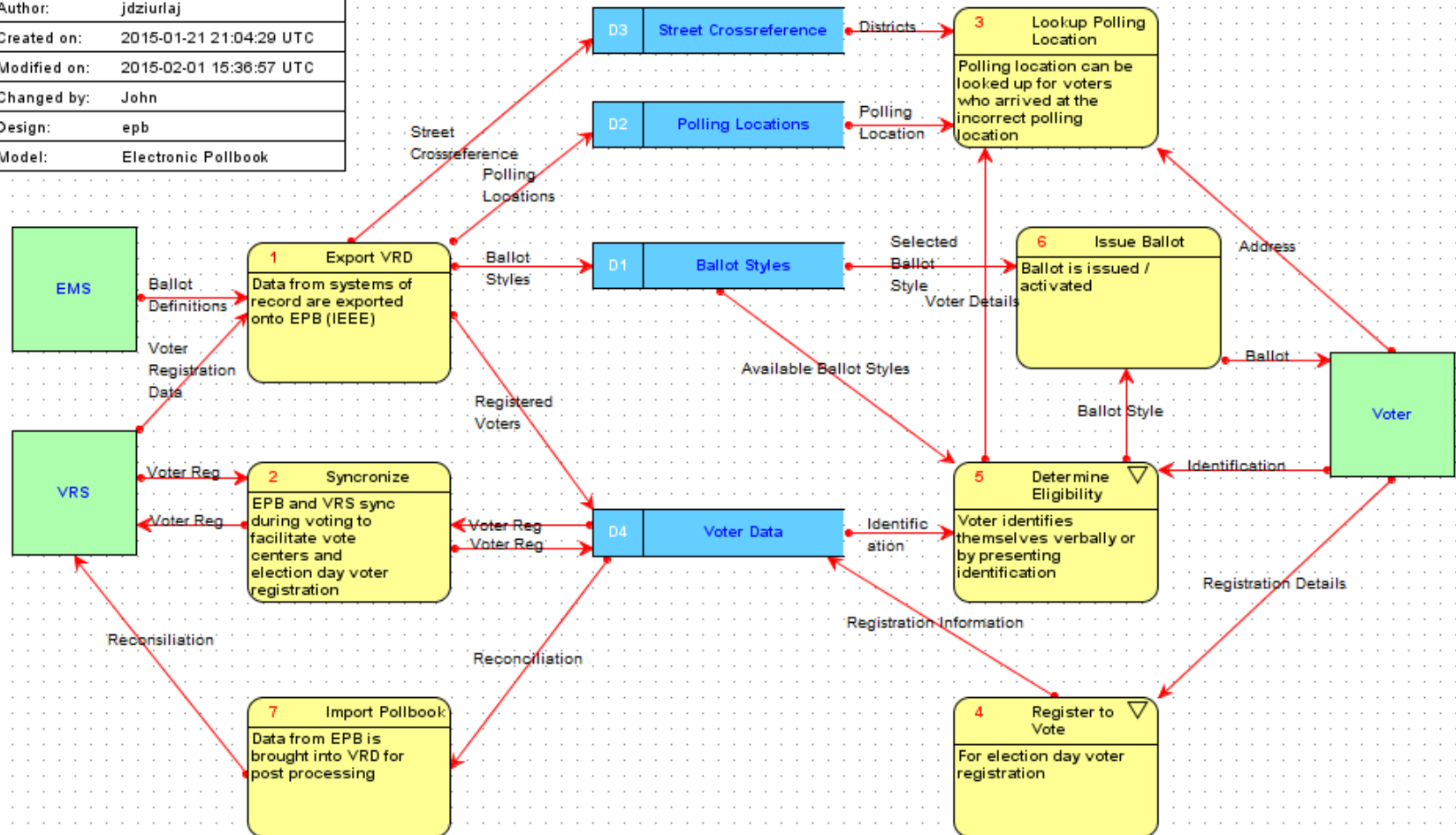
- More than just a replacement for pen and paper
- Interfaces with many different systems
 - VRDBs
 - EMSs

High Level Modeling

- Identify the external entities (scope)
- Identify supported processes (use-cases)
- Identify data flows
- Elaborate subprocesses as required (top-down)

High Level Modeling (Example)

Diagram:	Electronic Pollbook
Author:	jdziurlaj
Created on:	2015-01-21 21:04:29 UTC
Modified on:	2015-02-01 15:36:57 UTC
Changed by:	John
Design:	epb
Model:	Electronic Pollbook



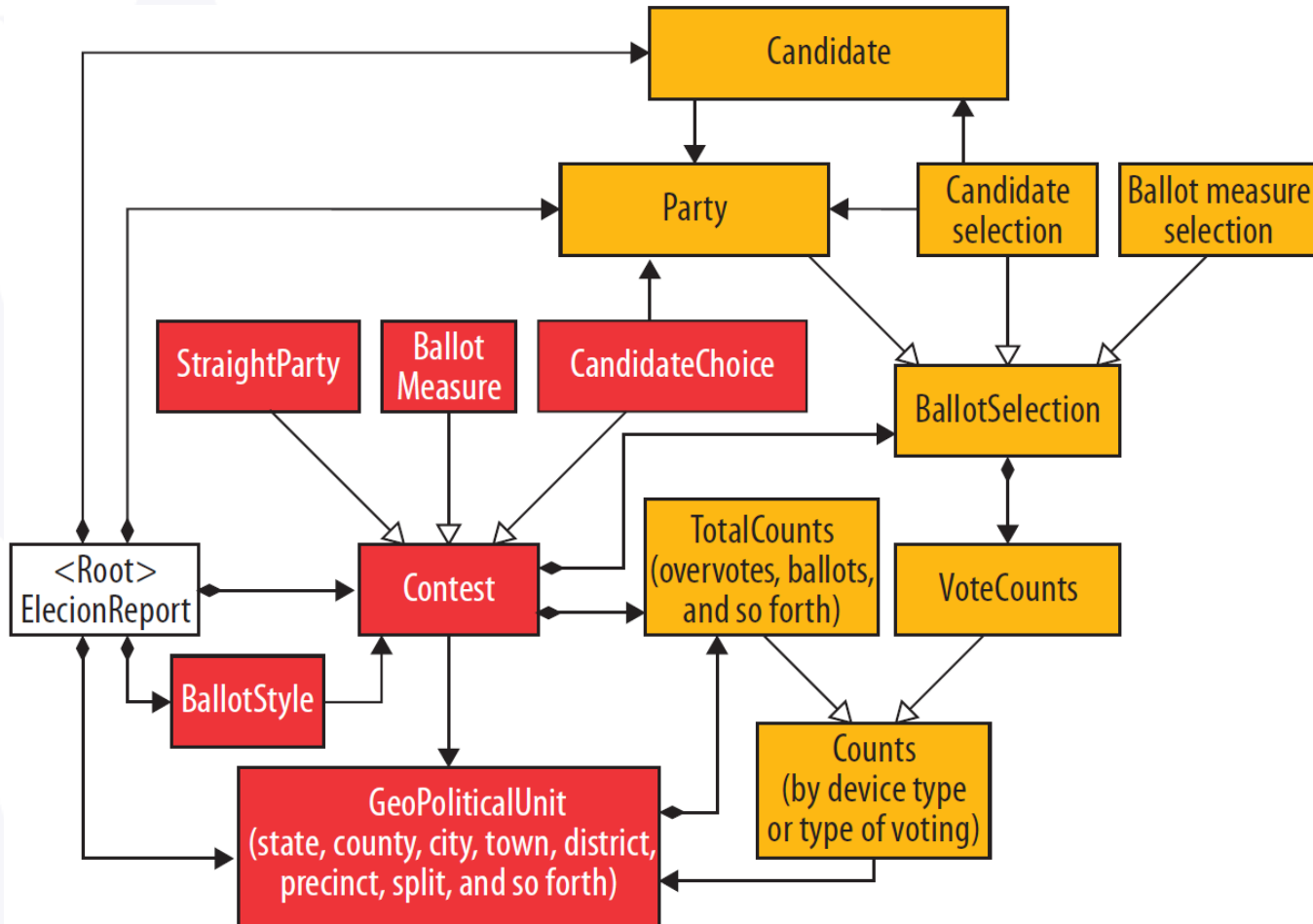
End Product

- A data model (UML)
- Data Interchange Format
 - XML
 - JSON
 - SQL / DDL

Data Standards and Interoperability

- We want vendors to provide data in a standardized format
- Data standards are (too) flexible
- Need a language to say what we mean

1622.2 Election Night Reporting



Requirement...

“The Election Management System must provide an export of election data in the VSSC/1622.2 format.”

Is this what you meant?

<Root>
ElecionReport

Is this what you meant?

```
1 <?xml version="1.0"?>
2 <ElectionReport
3   Issuer="Ohio Secretary of State Jon Husted"
4   IssuerAbbreviation="OH"
5   GeneratedDate="2015-05-06T03:48:49Z"
6   Status="Certified"
7   Format="SummaryContest"
8   Sequence="0"
9   SequenceEnd="0"
10  VendorApplicationId="Ohio-ENR 1.0.01">
11 </ElectionReport>
```

✔ File C:\temp\P1622_2.xml is valid.

What went wrong?

- XML Schema not enough
- Validation Frameworks
 - XML Schema Assertions
 - Schematron
 - CAMV
 - etc.
- Example Files

Questions?

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Thank You!