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Implementing web map applications in different services

- experiences from election map applications

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Background

- First implementation for presidential elections 2006 by outside company
- Second version for Parliamentary elections 2007
- Modifying deemed too costly
- Decision was made to make modifications inhouse

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Application Features

- View data by party, candidate or voting activity
- Spatial features by counties, election and voting districts
- Histogram for statistical data
- Print version
- Links back to PX Web for table data

- 2006 2007

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Platform

- ESRI ArcIMS Web Service Application
- Provides PNG, JPEG images
- XML document based messaging
- Map images and features queried by XML
- Fast, good image quality
- Image size limited only by server capabilities
- Uses ESRI Shapefiles for map data

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Implementation

- Data structure and themes different between elections
- Some features were too complicated for repair
  - Histogram and print version were removed
- Structural changes meant changes at the application level
  - Features had different names and values
- Classifications were refined or changed

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Challenges encountered

- ArcIMS provides no support for classification (ranges of values) so queries must have them built in
- Implementation thus needlessly complex on the client
- XML format somewhat complex and verbose
- Documentation is extensive, but not complete nor comprehensive
- Client-side application was structured in a way that made changes difficult, specifically changes to structure and themes

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Future Directions

- ArcIMS is discontinued product, ESRI provides only bug and security fixes
- ArcGIS Server has the focus of development: it provides ArcIMS features and more
- FOSS solution also a possibility
  - Mapserver
  - PostGIS
  - PX Map 2 ?
- Needs further study: at this moment all options are open, even staying with the old application

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Dreams..

- Industry standard formats and protocols: WMF, WMS, KML
- SVG, Flash, high quality printing
- Different sources for data (spatial and statistical); mashup-like
- Map service as user interface to statistical data
  - Selecting table data by map view and vice versa
- Production system for inhouse publication producers
- Map service about all our statistics for general public's use