XSPARQL

An XML-RDF transformation and query language combining XQuery and SPARQL

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Lightning Talk presented by Alexandre Passant (DERI)
Motivation

Can we do better? YES!

← SPARQL + XSLT, XQuery

both not an ideal fit...

XSLT, Xquery →

Can we do better? YES!
Mapping RDF to RDF

Generate fullname from first and last name:

```rq
construct { _:b foaf:name {fn:concat("","",$N," ",F,"")} } 
from <vcard.rdf>
where {
   $P vc:Given $N .
   $P vc:Family $F .
}
```

_:b1 foaf:name "Waseem Akhtar"
_:b2 foaf:name "Jacek Kopecky"
_:b3 foaf:name "Axel Polleres"

.
.
.

Mapping RDF to XML

<relations>
for $Person $Name
from <relations.rdf>
where { $Person foaf:name $Name }
order by $Name
return <person name="{$Name}">{
  for $FName
  from <relations.rdf>
  where {
    $Person foaf:knows $Friend .
    $Person foaf:name $Name .
    $Friend foaf:name $FName
  }
  return <knows>{$FName}</knows>
}
</person>
</relations>
XSPARQL Semantics + Implementation

- Formal semantics of XSPARQL: extension of the XQuery semantics by plugging in SPARQL semantics in a modular way.

- Rewriting algorithm is defined for embedding XSPARQL into native XQuery plus interleaved calls to a SPARQL endpoint.

- Benefits: rely on off-the-shelf components.

http://xsparql.deri.org/