SPARQL Aggregates as subqueries

An alternative syntax proposal
Motivation

• Inspired rather by Aggregates in declarative Logic programming than aggregates in SQL

• Basic construct: Aggregate subquery

  \{ \textbf{AGG} \textit{Vars} \textit{WHERE Pattern} \} 

• E.g.

  \texttt{COUNT ?X WHERE ?P foaf:knows ?X}
Full example (using aggregate subqueries as scalar expression):

CONSTRUCT
{
  ?P ex:hasFriends
  {COUNT ?X WHERE {?P foaf:knows ?X} }
}
WHERE { ?P a foaf:Person }
Full example (using aggregate subqueries within FILTERs):

```sparql
SELECT ?P
WHERE {
?P a foaf:Person
FILTER( {COUNT ?X {WHERE ?P foaf:knows ?X}} >3 )
}
```
Summary

• Conjecture: Equally expressive as “normal” aggregates
• No GROUP BY needed
• Prototype implementation with slightly different syntax based on dlvhex-sparql (part of dlvhex-semweb tools), cf.
  http://dlvhex-semweb.sourceforge.net/