

RDF123: Spreadsheets to RDF

- In 2007 we developed the RDF123 Java app to translate spreadsheets into RDF graphs
- Translation is driven by a map that permits
 - a rich schema to apply to each row, rather than just creating a single instance of a RDF/OWL class.
 - Conditionals allow different rows to use different schemata
- See <http://rdf123.umbc.edu/> for more info
- See [CSV on the Web: A Primer](#) for the W3C's work on developing a standard

RDF123 Java Application

The screenshot displays the RDF123 Java application interface, which includes a main window and several sub-windows.

Prefix Definition: A list of prefixes is shown on the left side of the main window:

- rdf
- foo
- ob
- emp
- ethan
- foaf
- dc

example1 - Spreadsheet: A spreadsheet window showing data for employees:

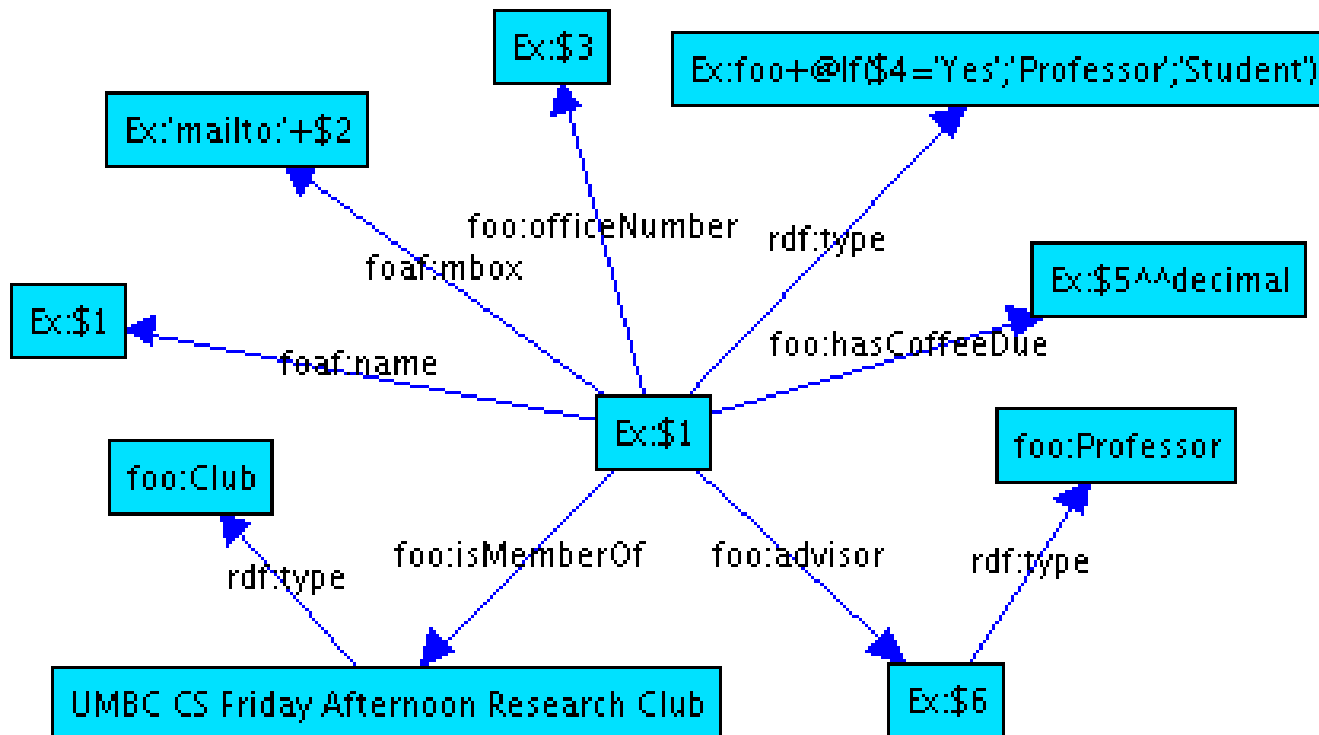
	A	B	C	D
1	employee	email	phone	supervisor
2	Mary Smith	msmith@foo.com	410-455-1000	Bill Gates
3	Bob Jones	bjones@foo.com	410-455-1001	Bill Gates
4	Bill Gates	dtrump@foo.com	410-455-1002	Donald Trump

Map in RDF Graph: A graph visualization window showing the mapping of data from the spreadsheet to an RDF graph. The graph consists of several nodes and edges:

- foaf:Person** (left) is connected to **rdf123:C1^^string** via **foaf:name**, to **rdf123:C2^^string** via **foaf:mbox**, and to **rdf123:C3** via **foaf:phoneNumber**.
- emp:supervisor** (left) is connected to **foaf:Person** (right) via **emp:supervisor**.
- foaf:Person** (right) is connected to **rdf123:C4^^string** via **foaf:name**.
- map123:Map** (left) is connected to **employee map file** (right) via **dc:title** and **dc:creator**.
- map123:Map** (left) is connected to **Lushan Han** (right) via **dc:creator**.

RDF123 Example

Name	Email	Office	Faculty	Coffee Due	Advisor
Tim Finin	finin@umbc.edu	ITE329	Yes	\$10	
Lushan Han	lushan@umbc.edu	ITE377	No		Tim Finin
Wenjia Li	wenjia@umbc.edu	ITE377	No		Anupam Joshi



RDF123 graph serialized as RDF/XML

```
<rdf:RDF
  xmlns:foaf="http://xmlns.com/foaf/0.1/"
  xmlns:foo="http://www.foo.org/"
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  <foo:Club rdf:about="#UMBC CS Friday Afternoon Research Club"/>
  <rdf:Description rdf:about="Ex:$1">
    <rdf:type rdf:resource="Ex:foo+@If($4='Yes';'Professor';'Student')"/>
    <foaf:mbox>Ex:'mailto:'+$2</foaf:mbox>
    <foaf:name>Ex:$1</foaf:name>
    <foo:officeNumber>Ex:$3</foo:officeNumber>
    <foo:hasCoffeeDue>Ex:$5^^decimal</foo:hasCoffeeDue>
    <foo:advisor>
      <foo:Professor rdf:about="Ex:$6"/>
    </foo:advisor>
    <foo:isMemberOf rdf:resource="#UMBC CS Friday Afternoon Research Club"/>
  </rdf:Description>
</rdf:RDF>
```