

T-110.5140 Network Application Frameworks

8/2011 Examination

The use of a calculator is ok. All other material is forbidden.

Choose 3 of the 4 topics below and write essays on them. Each topic has additional questions as hints on what kind of material you should include. Discuss other relevant issues as well. Remember to consider what is important and what is not when writing your essay.

Remember to include the following information in your paper: the course name, date, student ID, name, and signature.

1. XML vs. JSON

Compare XML and JSON. What are the essential differences? What are the commonalities? What kind of issues should you consider when deciding which language to use in a development project? How do you estimate the future of these two technologies? Remember to justify your views.

2. Mobile web clients

What kind of difficulties arise when mobile phones are used to browse web pages and run web applications? How does this influence the web site or web application development? What kind of solutions can be used to deal with the difficulties? What kind of new opportunities arise?

3. Mobile applications

Discuss what kind of issues should be considered when you are selecting a mobile development platform for

- a) creation of a research prototype that deduces if the user is sleeping
- b) development of a cloud-based commercial consumer solution that finds candidates for ride sharing by matching the route histories of users of the service.

Don't go too deeply into the operation of these hypothetical applications. Instead, think what kind of technical and business needs arise and how the different mobile platforms match these needs. Discuss both a) and b) cases and pay attention to the aspects that are different, and similar, in the two cases.

You may use the data in the attached **Table 1** in your discussion. Remember to consider also if there are other aspects, which are not listed in the table.

Table 1. Food for thought. (exe 3)

	Android	iOS	WP7	Symbian
Units sold in 2010	67 million	47 million	12 million	111 million
Device Variants	Many	Some	None	Many
Easy if you know...	Java	Objective C	C# or Silverlight	Qt and C++, or Java
Dev platform	Linux, Mac, Windows	Mac	Windows	Linux, Mac, Windows
Cost to Develop	Free	Free	Free	Free
Cost to distribute	Free	\$99 / year	\$99 / year	1 €
Competition in app space	Fierce	Fierce and controlled	Not much	Not much

Units sold data: Gartner, Feb 2011

4. RDF – Resource Description Framework

Describe what is RDF. You may use the attached **Figure 1** in your explanation. What new possibilities can be achieved with the use of RDF? How would RDF be useful in smart spaces applications?

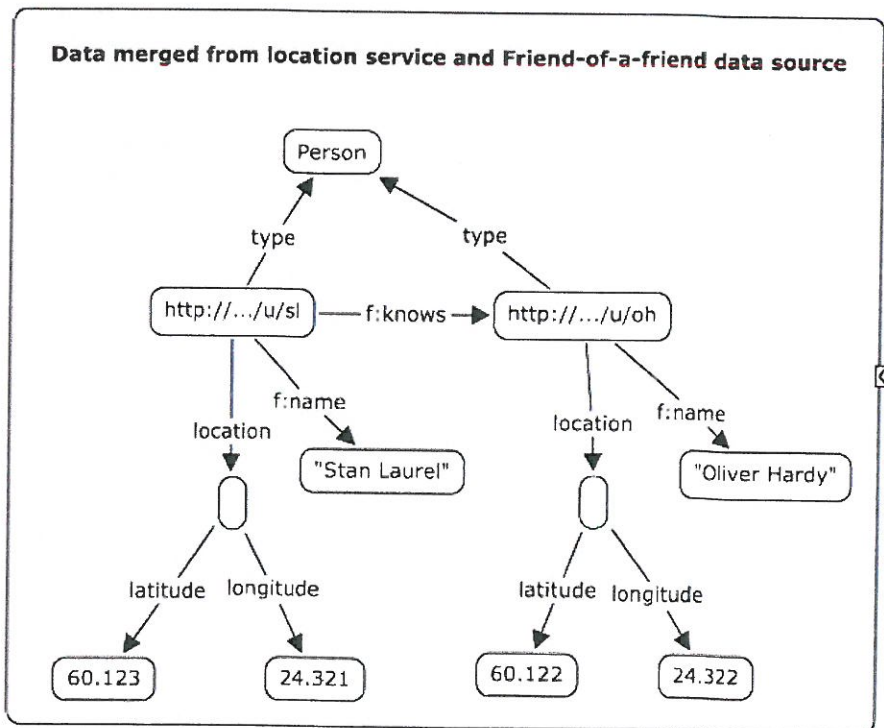


Figure 1. Data merged from location service and Friend-of-a-friend data source. (exe 4)