Semantic Web Technologies
Organization

Heiko Paulheim
Hello

- Prof. Dr. Heiko Paulheim
- Assistant Professor
- Research Interests:
  - Semantic Web Knowledge Graphs
  - Data Quality and Data Cleaning on Knowledge Graphs
  - Machine Learning and Data Mining on Semantic Data
- Room: B6 – B1.16
- Consultation: Tuesdays, 9-10 (by appointment)
- Heiko will teach the lectures
Hello

• Sven Hertling
• Researcher
• Research Interests:
  – Semantic Technologies / Semantic Web
  – Linked Data
  – Knowledge Graphs
• Room: B6 – C1.03
• Consultation: by appointment
• Sven will teach the exercises (and some lectures)
Introduction and Course Outline

- Administration
- Introduction
  - Vision of the Semantic Web
  - Building blocks of the Semantic Web
  - Technical foundations
Course Organization

• Lecture
  – Semantic Web standards and languages
  – Programming for the semantic web
  – Creating semantic web data

• Exercise
  – Understand semantic web principles, play with real data

• Project Work
  – teams of 3-4 students build a Semantic Web application
  – teams may choose their own data sets and tasks
    (in addition, we will propose some pointers for ideas)
  – write summary about project, present project results
  – not graded, but mandatory

• Final exam
  – final grades are only based on written exam

Note: this is different from previous years!
Course Organization

• Registration
  – you have registered via Portal2
  – there is a waiting list
  – if you decide not to attend, please write to Ms. Czanderle
Course Contents and Schedule

- Today: Introduction
- 11.09.18: Knowledge Representation with RDF
- 18.09.18: Simple ontologies with RDF Schema
- 25.09.18: Linked Open Data, Programming the Semantic Web
- 02.10.18: SPARQL, Intro to student projects
- 09.10.18: *Work on project proposals*
- 16.10.18: Complex Ontologies with OWL
- 23.10.18: Reasoning with complex ontologies
- 30.10.18: Ontology engineering, top level ontologies
- 06.11.18: Ontology matching and link discovery
- 13.11.18: Rule languages and non-standard Semantic Web languages
- 20.11.17 – 27.11.17: *Project work, no lectures, no exercises*
- 04.12.17: *Final project presentation*
Deadlines

• Submission of project work proposal
  – Sunday, October 14th 23:59

• Submission of final project work report
  – Friday, November 30th, 23:59
Course Organization

• Lecture Webpage: Slides, Announcements, Web Links
  – hint: look at version tags of slides!

• Additional Material

• Time and Location
  – Lecture: Tuesday, 12.00 – 13.30, Room B6 A1.01
  – Exercise: Friday, 12.00 - 13.30, Room B6 A1.04
    (starting next week!)
Further Reading and Software

• Follow the links on the website
  – Most material is available online

• Programming environment
  – JENA framework (Java)
  – RDFlib (Python)

• Ontology engineering environment
  – Protégé
  – http://protege.stanford.edu/
Warning

• This lecture contains
  – cartoons
  – interactive teaching elements
  – Java and Python code
  – some weird philosophy

• ...have fun! :-)

09/04/18 Heiko Paulheim
Questions?