

Project #2: Term Project

This project is due on **Sunday, May 10**. It will count for 30% of your overall grade.

Working in teams of two to three people each, you will extend, create or apply one or more tools for the Semantic Web. You may choose your own teams. Your team will get to propose what kind of project they want to do, but keep in mind that since you have multiple people working for over a month, it is expected that the project will be something substantial. A rough guideline is that the project should result in between 1500 and 3500 lines of your own code, although quality is more important than quantity. You are encouraged to choose projects that dovetail with your own interests and abilities.

Four kinds of projects are acceptable. The first is to design a general-purpose tool that could be used to support a major capability or need of the Semantic Web. Good examples include a tool to extract information from the Web, a more user-friendly tool to annotate pages with Semantic Web information, a reasoner, an ontology library system, or an information integration tool. The second kind of project is to extend an existing tool with an important new functionality. For example, you could create new plugins for Protégé or extend Jena with new functionality. However, keep in mind that the new functionality must result in significant new code (1500 or more lines). The third kind of project is to take existing tools and use them to develop an interesting application. In such cases the software development could involve creating a means to convert large amounts of real-world data into Semantic Web format and/or customized query interfaces. There may also be some amount of code that ties various tools together in a novel way. The fourth kind of project is a research project, where your primary deliverable will be a paper instead of code. In this case, the paper must be 15 pages long and follow Springer's LNCS format (see <https://www.springer.com/gp/computer-science/lncs/conference-proceedings-guidelines> for templates). Research papers must motivate the problem, survey related work, identify contributions, and demonstrate claims via experiment and/or proof.

Important Dates:

Project proposal	Fri., March 27, 5pm
Progress report	Thr., April 23
Final project due	Sun., May 10, 5pm
Presentation and demo	Monday to Wednesday, May 11-13

Project Proposal:

Your project proposal will serve as your project description. Therefore, it should lay out what you intend to do in as much detail as possible. You should clearly explain the intended functionality of your system or describe your research idea. Furthermore you should provide a list of the major components/steps and give rough estimates of the level of effort required to develop them, the programming language(s) you will use, and any supporting software you will use (e.g., Protégé, Jena, etc.). Note, you are encouraged to program in Java, however you may use other languages as long as you provide compiled versions for either the MS Windows or the Linux machines in the Sun lab. You should also include a schedule that describes what you intend to accomplish each week leading up to the due date. Your proposal should be at least two pages in length, but no more than five pages (single-spaced). You will be graded on the clarity of your proposal and the quality of the idea you are proposing. After receiving your proposal, I will either e-mail or meet with your group to negotiate its scope. I will scale down projects that are too big, and scale up projects that are too small. Feel free to discuss potential ideas with me before the formal proposal.

Progress Report:

You are expected to work on the project every week from the time you turn in your proposal to the day it is due. As such, you are expected to have made significant progress by Thr., April 23. Your progress report will consist of a scheduled 30 minute online meeting between your team and myself. You should send a short written description of your progress (in particular, you should compare your progress to the original schedule from your proposal). You will be expected to give a demo that shows the current state of your system (of course, it is expected that this demo will only have limited functionality). We will also discuss any challenges that your team has run into and potential solutions. You will be graded on the extent of your progress, although unexpected issues may serve as mitigating factors.

Final Project:

By 5pm on Sunday, May 10, one member of your team should submit your project electronically to heflin@cse.lehigh.edu in either zip or tar.gz compressed format. The submission should include:

- source code
- compiled version of the code
- basic setup instructions (setup must take a novice less than 5 minutes)
- if developing a tool/system, basic user instructions
- if doing a research project, the PDF of your paper
- slides for your demo presentation

You should also turn in hardcopies of the source code and instructions. Note, the setup instructions should describe the required platform (e.g., Windows 10, SunLab Linux, etc.), programming language (e.g., Java J2SE 7.0), and any special configuration steps that are needed to run your software. If you used Java, you should provide an executable JAR. If you used another programming language, you must either provide a Windows executable or a Linux binary that is compatible with the configuration of Lehigh's SunLab. If external archive/library files are needed, they should be included. The user instructions need only describe how to start your software and use its major features. If your software is reasonably intuitive, then this can be very short, hopefully one page or less.

Development projects will be graded on the extent to which your project meets the expectations set by your proposal, the functionality of the resulting system, and its usability. The readability of your code will also play a factor in your grade. Research projects will be graded on the extent to which your project meets the expectations set by your proposal and the thoroughness and clarity of your paper.

Presentation and Demo:

You are also required to give an online presentation about your project to me, including a demonstration of its capabilities. You will choose a presentation time that works for everyone on your team, but it must be between Monday to Wednesday, May 11-13. The demo should be thirty minutes long, including time for questions. You will be graded on the clarity and organization of your presentation.

Grading:

Your grade on the project will be based on the following components:

Proposal	10%
Progress report	20%
Presentation/demo	20%
Final project	40%
Individual grade	10%

The individual grade will be based on team evaluation forms where you will be asked to evaluate the contribution of each member of your team, including yourself.