

Semester Project

CSE 410/510 ETH: Interactive Programming Environments

Ethan Blanton

Department of Computer Science and Engineering
University at Buffalo



Expectations

You will implement projects in groups of 4-5.

Each project will represent **about 200 hours of work**.
(2.5h/credit times 4.5 people times 6 weeks)

You will **choose your project**, I will **approve it**.

You will submit two progress reports and one final report.

Your team will present at **demo day**.

Project Ideas

- A small game
- A software development tool
- A domain-specific language
- A scripting language
- A simulation

Different environments may favor different projects!

Project Environment

Your project may be in [Lisp](#), [Smalltalk](#), or [Forth](#).

You must collaborate using GitHub.

Progress [must be visible](#).

Each member [must make individual commits](#).

You will not be required to use any particular engineering practices.

Proposal

You will submit a **short proposal** by the end of the week.

You must include:

- Your group members
- A brief description of your project
- A justification for the ballpark development hours
- A loose development timeline
- Success criteria (how will we know you succeeded?)

I will provide feedback after Spring Break.

Progress Reports

You must submit **two progress reports**.

- March 31
- April 14

For each report, your group will submit **one document**.
(I will provide a template.)

You will each **individually** submit web forms:

- Self-reflection
- Peer reviews for your teammates

Presentations

Teams will present their progress in-class.

These presentations may be:

- Software demos
- Design overviews
- Hands-on focus-group style testing
- Code discussions
- Development practice discussions
- ...

Ideally we'll see some of each!

Project Report

Your team will submit a **final project report**.

This will be longer than the progress reports.

It will cover (at least):

- Final project status
- Lessons learned
- Deviations from the proposal
- Team member contribution summaries

I will give tighter criteria after first progress reports.

Demo Day

Successful projects will present a poster at [Demo Day](#).

This will be on [May 7](#), the last day of classes.

You will present a poster and [ideally a live demo](#).

Grading

Point breakdowns are in the syllabus.

Your proposal will be graded on effort and plausibility.

Your progress reports will be graded on:

- Completeness
- Observable accuracy
- Individual effort (my judgment plus peer reviews)

Grading (continued)

Your project presentation will be graded on:

- Team effort
- Polish and presentation quality
- Information content (interesting, novel, *etc.*)

Your final report will be graded on:

- Completeness
- Observable accuracy
- Individual effort (my judgment plus peer reviews)

Artifact Grading

Your final artifact **need not be fully as proposed**.

Any deviations from the proposal should:

- Show a paper trail through the progress reports
- Be documented in the project report
- Have mitigations where possible
- Include justifications

Stretch goals are welcome!

Significant targeting changes should be **discussed with me**.

Demo Day Presentations

Demo Day presentations allow an opportunity to:

- Make up for missing functionality
- Re-distribute individual effort
- Showcase your work!

Not every member need be present if schedules conflict.

Final Word

I will have the **final say** in grades as issued.

You **should not be surprised** by your grades, however.

If I give negative or concerning feedback, **ask questions**.

Lisp

You may use **almost any lisp**.

- Medley Interlisp
- Common Lisp
- Emacs Lisp
- Clojure
- Scheme
- Ask about another ...

Smalltalk

You probably want to use [Squeak](#).

...but you may use a different Smalltalk if you wish.

If you want to do something “multimedia,” probably use Smalltalk.

Forth

You may use [almost any Forth](#).

I encourage you to try [MUF](#) on [Fuzzball MUCK](#).
(I have set up a server.)

Other Forths:

- Gforth
- Zeptoforth (Pi Pico, other MCUs)
- Jonesforth
- A vintage Forth!

License

Copyright 2025 Ethan Blanton, All Rights Reserved.

Reproduction of this material without written consent of the author is prohibited.

To retrieve a copy of this material, or related materials, see <https://www.cse.buffalo.edu/~eblanton/>.