

Bachelor Project in Compiler Construction

“the pizza meeting”

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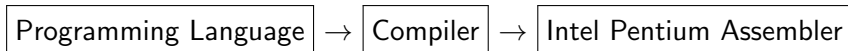
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Compiler Construction Formalities

- the default Computer Science Bachelor Project
- in the spring semester:
 - runs late January to late May
 - followed by exam, usually very late May or early June (so deadline is earlier than for other BS projects)
- concurrent with DM546 - Compiler Construction (prerequisite)
- ideally working in groups of three
- the project is organized in four parts with individual deadlines
- at the last deadline, the final bachelor report is turned in
- an oral exam as an individual defense of the group project
- compulsory core + individualization

Overall Project Structure



- define programming language
- write compiler (in C)
- lots of programming
- increasingly interesting topics to work on – for large enough group

Compiler Construction Language

- basic types: integer and boolean
- operators on basic types
- composite types: sequencing and grouping
- control structures: conditional, iteration
- structuring: functions and static nested scope
- references and heap
- extras:
 - register allocation
 - garbage collection
 - peep-hole optimization
 - class hierarchy & objects
 - and many many more...

Compiler Construction Organization

Typical Parts

- 1 symbol table
- 2 scanning & parsing
- 3 type checking
- 4 code generation & optimization (+ 1, 2, and 3)

Advertising Compiler Construction

Very useful!

- Programming languages, query languages, specification languages, ...
- Tools: html, XML, \LaTeX , postscript, ...
- Data/format conversions and interfacing
- Industry: Large companies typically maintain a collection of domain-specific production compilers

Compiler Construction Perks

Compiler of the Year Award T-Shirt



Rumors

The Good, the Bad and the Ugly

- Is this for the best students?
- Is this for the worst students?

Rumors

The Good, the Bad and the Ugly

- Is this for the best students?
- Is this for the worst students?

The answer is: **Yes!**

(and for everyone else)

Hall of Fame (selected winners)



The default bachelor project in Computer Science

– *discuss the experience with older students...*

If you want another project, then

- find your own topic
- find an advisor
- prepare for greater personal responsibility defining a project

Signing up

I want this! What do I do?

- Sign up via the normal course registration and send me an email (check my folder to see exactly how this should be done)
- read (and answer) e-mail regularly in January regarding start-up and group formations
- don't book a skiing vacation for after semester start!