

**Preliminary Project Briefing
for
2011/12 CST IB Students
(2012/13 CST II Students)**

CST Part II Project

Next year you submit a dissertation:

- worth one paper
- a quarter of total marks!

Aims of Project

- To display **Computer Science** skills
- To demonstrate ability to **plan** and **execute** a large project
 - usually software, could be hardware, assembly of a knowledge base, or a mechanically-assisted proof
- To demonstrate ability to select appropriate **languages**, **techniques**, **algorithms**, **tools**, **data structures** etc
- Demonstrate **understanding** of the project's area
 - avoid re-inventing the wheel
 - use of appropriate standard algorithms or libraries
 - relationship to Computer Science
 - awareness of standard results & literature.

... continued

- To show ability to prepare a **well-structured** and **readable** document
 - Demonstrate technical writing skills.
 - Prepare a report which convinces its readers that stated objectives are achieved
- You submit your code but only the dissertation is typically looked at.
- Your supervisor and/or DoS writes a one-sentence report.
- Some people will be called for viva.

Overseers

- Briefing Officer assigns two per student.
- Oversee selection and approval of a suitable project and its plan,
- Check requirements are satisfiable:
 - Computing equipment to be used,
 - Other special equipment or resources,
 - IPR, human experiments and other legal obligations.
- Monitor progress and liaise with your DoS,
- Briefing Officer will help if you have problems with your overseers

Sources of Projects

Main sources:

- Your own (moderated) ideas,
- Supervisors and Directors of Studies,
- Suggestions on the projects webpage,
- Previous years' projects,
- Industry.

Requirements:

- You have a **named project supervisor,**
- Both your overseers are happy,
- **Written permission** for special resources and experiments.

Content, Narrative and Evaluation

- Choose something with significant technical content.
- Ideally implement some complex algorithm.
- Do not do something big yet simple.
- Choose something interesting.
- Phrase a question or two at the outset.
- Answer the questions in the conclusion.
- Choose a project amenable to structured evaluation.
- *'It worked according to plan'* is not sufficient.
- Components ideally separately testable.
- Composition ideally evaluable using several metrics.

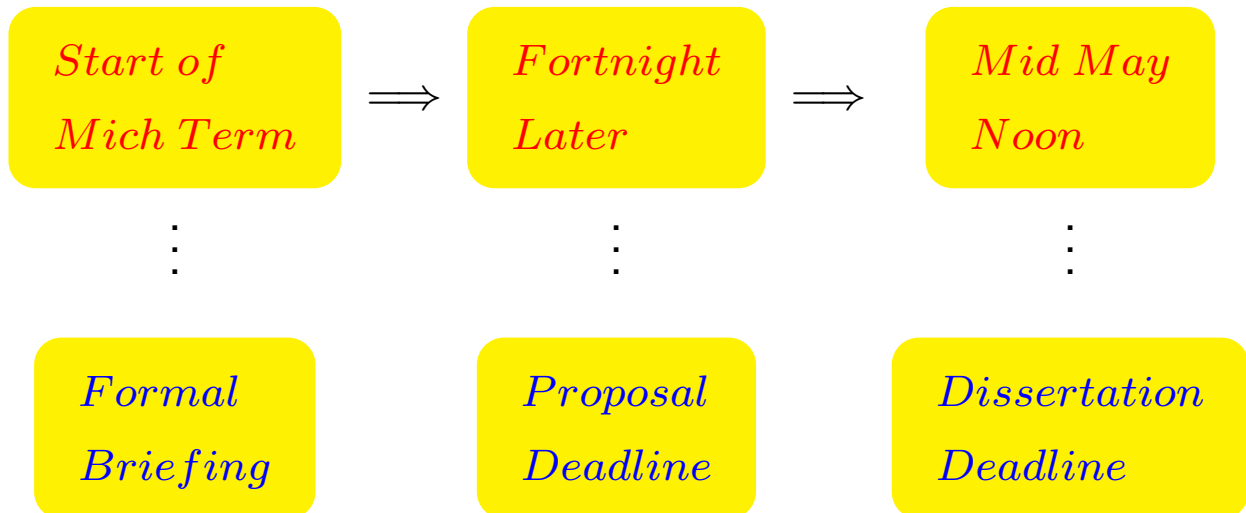
Use Appropriate Tools

- Think about tools carefully, e.g.:
 - need a parser, use a parser generator
 - need a GUI, use a tool or library
- Rarely appropriate to work in machine code
 - insufficient time for a big enough program
- Use the long vac to explore tools.

Equipment

- Standard resource is the **DS/PWF** facility
- Use of other and/or non-standard equipment or libraries:
 - needs written permission from resource owner.
- Certainly use CVS/SVN or other version control system.
- Relying only on your own PC is **very risky**
 - have a backup plan using a second PC or provided equipment.
 - Keep backups on PWF filespace or cloud server.
 - Perhaps automate backups: see <http://www.cam.ac.uk/cs/pwf/remote/>

The CST Project Timetable



Also:

Early 2013: Written progress report to overseers,

Lent Term : presentation to peers,

And send regular updates to your DoS.

So, after Ib exams this year...

- Look at old projects,
- Read up background material,
- Think about tools:
 - read documentation
 - play with toy examples.
- Start a project log book
 - a hard-back notebook is ideal
- Don't start implementing your project
 - your overseers might not approve it!

Project WWW Page

- Review this talk via the web
- The **URL** for projects is:
<http://www.cl.cam.ac.uk/teaching/projects/>
- That's it **see you next year!**