Preliminary Project Briefing
for
2014/15 CST IB Students
(2015/16 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.
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 or two 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 **MCS** facility

• Use of other and/or non-standard equipment or libraries
  – needs written permission from resource owner.

• Certainly use git/SVN or other version control system.

• Relying **only** on your own PC is very risky:
  – have a backup plan identifying a second PC or MCS equipment.
  – Keep backups on MCS filespace or cloud server.
The CST Project Timetable

Start of Mich Term ⇒ Fortnight Later ⇒ Mid May Noon

Formal Briefing
Proposal Deadline
Dissertation Deadline

Also:

Early 2016: 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.
• Review this talk via the web

• The **URL** for projects is:
  
  [http://www.cl.cam.ac.uk/teaching/projects/](http://www.cl.cam.ac.uk/teaching/projects/)

• That’s it .................. see you next year!