Honours Project Assessment for Computer Science

Introduction

Honours projects support a number of outcomes for the Department of Computer Science. Honours is the final year of a four year professional qualification in Information Technology. This project allows students to tackle an interesting large-scale problem as a member of a small group.

In keeping with our student-centred approach we allow students to choose their own groups and a wide choice of which project to tackle – they may also propose their own. One of the difficulties in the wide scope of the kinds of projects chosen is how to assess the final outcome for each individual student. After several iterations that included consultation with other South African Universities, survey of available literature and input from our external examiners we have produced a detailed set of guidelines and a way of assessing the project report in a way that can be tailored to particular kinds of projects.

Projects operate in different contexts and apply a range of approaches. Projects can vary from theoretical (mathematically orientated) projects, through quantitative and qualitative research projects to engineering design projects that have a customer in mind. All projects characteristically share the need to build a computational artefact. In some cases this is artefact seems almost peripheral (the final verification that a largely theoretical investigation has applicable results), in other cases it is instrumental (a testbed for investigating some computational phenomenon), while in yet other projects the whole purpose of the work is to engineer an effective computational system.

While the computational artefact is the "product" in some projects we have chosen to focus the evaluation largely on the summative report produced at the end by the students.

Assessment Process

Our department has to assess about fifteen projects produced by two to three person teams. We require each person to produce an individual report on the project. These are typically about 60 pages long.

The reports are assessed by the supervisor and an independent marker. If there is a large disparity in marks we ask a third person to evaluate the reports. At a plenary meeting of the academic staff the students present their work and this is followed by a moderation of the marks.

Outcomes Based Assessment

The assessment is based on nine categories and different weightings for the categories can be applied to account for different types of project. In each category there is a short description of what is covered and expected. The bulk of the entry for a category is a characterization unsuccessful, successful and outstanding outcomes (usually broken down into about eight classes of outcome).

The categories are:

1. Requirement Analysis and Design
2. Theoretical Analysis
3. Experiment Design and Execution
4. System Development and Implementation
5. Results, Findings and Conclusion
6. Aim Formulation and Background Work
7. Quality of Report Writing and Presentation
8. Adherence to Project Proposal and Quality of Deliverables
9. Overall General Project Evaluation

Different types of projects have typical weightings of the categories, for example, an experimental project will put less weight on Category 1 while a product development project will have less emphasis on category 3.