**CS310/43/44 Third Year Project**

As of 2010/11 the third year project module CS310 is being tailored into three modules *CS310 Computer Science Project*, *CS343 Computer and Business Studies Project*, and *CS344 Discrete Mathematics Project.*There is no grand plan here for what each of these new modules should be, simply an opportunity for staff and students alike to reconsider the generic structure we already have and see if it could be a little better matched to their degree course. If you have any thoughts about any of our new project modules please feed them back to the organiser for this module[Steve Matthews](mailto:Steve.Matthews@warwick.ac.uk), to whom all queries concerning the organisation of third year projects should be addressed. For any matter to do with the content of a particular project, students should see their supervisor.

The third year project contains four components:

* [project specification](http://www2.warwick.ac.uk/fac/sci/dcs/teaching/material/cs310/components/specification/) - submitted in week 2 of term 1;
* [progress report](http://www2.warwick.ac.uk/fac/sci/dcs/teaching/material/cs310/components/progress/) - 5% of credit (together with the specification) submitted in week 9 of term 1;
* [presentation](http://www2.warwick.ac.uk/fac/sci/dcs/teaching/material/cs310/components/presentation/) - 15% of credit, a 25 minute seminar and demonstration of the student's work, in the last two weeks of term 2; and
* [final report](http://www2.warwick.ac.uk/fac/sci/dcs/teaching/material/cs310/components/final/) - 80% of credit, a 12,000-18,000 word technical document covering the work done during the year, submitted in week 1 of term 3.

# Project Specification

The project specification is a written document drawn up (by you) during the first two weeks of term 1, in conjunction with your supervisor. It is also marked by your supervisor, and counts (in conjunction with the progress report) for 5% of the total module credit.

It is a specification of certain key features of the project which are necessary to ensure that the project makes significant progress, and includes the objectives, methods, timetable and resources to be used.

In the first week of term 1 there will be a [briefing](http://www2.warwick.ac.uk/fac/sci/dcs/teaching/material/cs310/components/specification/briefing) for all third year students which you should attend.

The project specification is a working document and not something which is written once and then forgotten. Review and update the specification weekly to both record your progress and effectively plan your remaining time. Use the project specification to help you to keep the project properly focused on its objectives, to make the most effective use of your time, and to facilitate communication with your supervisor on the progress of your work.

Prepare the specification as a wordprocessed A4 document of about 1000 words (or of whatever suitable length is agreed with your supervisor). Your report should include any figures and tables as are appropriate.

## Submission procedure

Two copies of your specification should be placed in the submission cabinet for assessed work inside the terminal room CS006. Your submissionmust be accompanied by a cover sheet obtained online from [here](http://www2.warwick.ac.uk/fac/sci/dcs/intranet/ug/coversheet/).

## Deadline

Thursday week 2, term 1, 12:00 noon.

## Assessment criteria

The following criteria will be used by your supervisor in marking your progress report.

* The specification is consistent with the supervisor's understanding of the project s/he has agreed to supervise.
* The objectives given in the specification are worthy of a third year project.
* The supervisor accepts that the proposed methods and timetable are well planned and are feasible for you to implement.
* The supervisor accepts that the proposed resources are both available as stated and in accordance with the rules given in on the use of non departmental equipment.
* Where appropriate, legal, social, ethical and professional issues are identified.

The specification is used as a yardstick against which to mark the [progress report](http://www2.warwick.ac.uk/fac/sci/dcs/teaching/material/cs310/components/progress). Thus great care must be taken to work out a project which is both challenging and feasible.

# Discussion about the Project Specification

The main page describing the specification report gives the main information you need to know. This page discusses in more depth what might be included in the document.

## Contents

The precise size and structure of the project specification is to be decided by you in consultation with the supervisor. In order to nail the project down as much as possible you should give every detail which can reasonably be provided at this time. As a minimum requirement each of the following topics must be satisfactorily covered.

**Title**

The title may well evolve during the course of the project, reaching its most accurate form on the final report. Here we require the most appropriate title based upon the current understanding of the project.

**Problem**

The existence of the project must be justified by identifying the specific problem(s) to which the project has been set up to solve. The problem is not one requiring original research, but rather a significant design and development exercise in a topical area of computer science (resp. computer and business studies) which provides you with a worthy challenge.

**Objectives**

The objectives of a project are a set of technical challenges which, when accomplished, will constitute a solution to the problem described above. However, it is virtually impossible at this stage to know the extent to which each such objective will eventually be achieved. The more extensive the breakdown of the project into objectives the better.

**Methods**

Some of the objectives can be achieved in parallel while others are interdependent. Such dependencies need to be established, an order of work specified, and for each objective a method of work by which it can be achieved.

**Timetable**

The process of refinement now continues to produce a week by week breakdown of when each piece of work is to be done. It is well understood by all that this timetable will have to be regularly reviewed as each job may take either more or less time than expected. You should hold a weekly review of the timetable to adjust dates for future tasks. Discuss your timetable regularly with your supervisor in order to assess the progress of the project. Always remember your fallibility, when planning your timetable allow plenty of time for unforeseen delays. Also, plan your time well to accommodate course work in other modules.

**Resources**

In order that no unnecessary practical difficulties adversely affect the smooth running of the project a detailed listing of all resources (with access privileges) to be used for the project is required. For example, the list might include the hardware to be used, any non-standard software, licensing agreements, and access to manuals. A more hardware based project will require details of laboratories, terms under which companies will support the project, etc. The purpose of listing resources is to force you to be clear that you really do have the means for the project; it is all too easy to mistakenly assume that a resource will be available when and where you want it.

**Legal, social, ethical and professional issues**

You must identify these issues and how they are likely to affect your project. For example, if your project is security focused, you must demonstrate awareness of the current legal framework. If you are including experimental work with people (such as interviews or a questionnaire) you must check that you meet the University's ethical standards. This should be discussed with your supervisor.

# Use of Non-departmental Equipment

The main page describing the specification report gives the main information you need to know. This page clarifies Department policy regarding the use of non-departmental equipment.

It is the policy of the Department of Computer Science, the School of Engineering, and Warwick Business School, that students be offered the widest possible choice of project. For this reason it is felt that, without good cause, to restrict projects to those using only departmental equipment would unreasonably restrict your choice of project. And so you are allowed, with the approval of the supervisor, to use your own equipment for both the content of the project and the preparation of the final report. However, the possible failure of equipment not supported by the department responsible for the project does create potential problems. As the department cannot be responsible for supporting such equipment the following conditions as part of the project specification must be imposed in order to bring the support standards into line with the standards of departmental equipment.

Any non-departmental equipment used, whether it be for the content of the project or for the preparation of the report, must be supported in the following way. All such equipment, hardware and software, must have backup equipment listed in the project specification. For the project to be approved you must satisfy the supervisor that such backup equipment is both suitable and available for use, including for deployment in the project presentation if necessary. The backup equipment may be either privately owned or reside elsewhere in the University. To cover against thevery real possibilities of fire, theft, and vandalism the backup equipment may not reside in the same home or building as the equipment upon which the project is being conducted.

Students electing to use non departmental equipment are warned that in so doing they become entirely responsible for properly supporting their equipment through frequent dumps and frequent test runs on the backup equipment, and that failure to do so places their project in very severe jeopardy.

Progress Report

The progress report constitutes a formal assessment of your progress, and is a written document submitted at the end of the first term. It is marked by your supervisor, and counts (together with the project specification) for 5% of the total module credit.

Prepare the progress report as a wordprocessed A4 document of about 2000 words (or of whatever suitable length is agreed with your supervisor). Your report may include any figures and tables as are appropriate.

A hard copy of the project specification should be included as an appendix to the progress report.

Since the document is assessed, the progress report should not appear on your project web site until well after the deadline for its submission.

## Submission procedure

Two copies of your progress report should be placed in the submission cabinet for assessed work inside the terminal room CS006. Your submissionmust be accompanied by a [cover sheet](http://www2.warwick.ac.uk/fac/sci/dcs/intranet/ug/coversheet).

## Deadline

12:00 noon, Monday November 29th 2010 (week 9, Term 1).

## Assessment criteria

The following criteria will be used by the assessors in marking your progress report.

* Technical content:
  + Student is well read in the project's subject area.
  + Effective analysis of problems and issues.
  + Quality of design work.
  + Good choice of methods and tools.
* Project Management:
  + Well conceived project
  + Unforeseen problems well detected and overcome.
  + Progress consistent with the project specification.
  + All necessary research, analysis and design work completed.
  + Work for next term is well planned out.
* Communication Skills:
  + Basic written language skills such as spelling and grammar.
  + Effective composition and exposition.
  + Report is of an appropriate length for your particular project.

By the end of the third week of Term 2 a feedback sheet on the progress report (completed by the supervisor) together with a final mark for this assessment stage of the project will be returned to you via your pigeon hole. You should then discuss this sheet with your supervisor in order to get additional feedback which may be of use in the subsequent course of the project.

# Discussion about the Progress Report

The main page describing the progress report gives the main information you need to know. This page discusses in more depth what might be included in the report.

To appreciate the purpose of the progress report it is necessary to remember that the project is a significant design and development exercise. If undertaken in an industrial, commercial, or a research environment then you would be constrained to work within a given budget and timescale.

Formally then, the progress report is a brief summary of the state of the project at the completion of the design phase, and is assessed as such.

## Content

Your supervisor may prefer a particular form for the progress report which would best serve the purpose of assessing the state of your work, so please consult with them before proceeding further. The progress report should begin by referring to the project specification, explaining how the work has developed from there, where it stands now, and how it will continue next term. The report is thus a critical review of whether the project is on track or not, and, in the latter case, action that will be taken next term to rectify the situation.

## Where are you now?

The project specification is the measure by which you judge your progress to date. And so, we need to know to what extent the plans laid out for Term 1 in the specification have been successfully realised.

## Project management

It is to be expected that work undertaken in Term 1 will reveal flaws and limitations in the specification which could not have reasonably been foreseen earlier in the project. This is the expected problem of project management. Your specification may need amendment during the course of your work, and the progress report is a welcome opportunity to amend and update the specification in the light of experience obtained in Term 1. This may be a matter of rescheduling your timetable, adding new objectives, deleting existing objectives, or applying new methods.

## Concluding the design phase

Your project should have stabilised by now to such an extent that all necessary changes to the specification have been correctly detected and appropriate corrective action taken. The progress report should conclude the design phase by demonstrating that the project design and schedule is now effectively debugged and so on track for a successful result.

## What the report is not

The progress report is not an interim version of the final report containing extensive technical but incomplete detail. Rather it is a brief written account of the management of your project to date.

**Marking Guidelines for the Progress Report**

The Progress Report is marked out of 10 (and contributes 5% towards the total mark). The document is marked by the supervisor only.

Marks should be allocated to conform to the following standards:

|  |  |
| --- | --- |
| 10 | Outstanding - close to perfect in all respects |
| 9 | Outstanding - close to perfect in many respects |
| 8 | Exceptionally Good - consistently of a high standard with few weaknesses |
| 7 | Very Good - consistently of a high standard with no serious weaknesses |
| 6 | Good - sound overall, possibly some weak aspects but offset by some very good aspects |
| 5 | Satisfactory - sound overall, possibly some very weak aspects and some very good aspects |
| 4 | Weak - barely adequate overall, serious weaknesses in some aspects |
| 3 | Very Weak - inadequate, serious weaknesses in some aspects |
| 2 | Very Weak - inadequate, serious weaknesses in many aspects |
| 1 | Very poor - seriously inadequate in some essential respects |
| 0 | No show |

The normal expectation is for a mark of at least 6 if the student is working effectively. A mark of 4 or less indicates that something has gone seriously wrong.

The comments will be shown to the students and it is important to be constructive and helpful. The main purpose of the progress report is to give the student experience of having to prepare such a document, and to formally to inform their supervisor about their progress. The feedback returned to the student is an opportunity for the supervisor to give clear formal guidance to the student on how to improve their work. The assessment is really part of this process (since the actual marks are only 5% of the total).