

# B.Sc. Professional Project (COM3001)

## Module Handbook for Students

Department of Computer Science

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# Chapter 1

## Introduction

This document is a point of reference for all details related to the Professional Project module for current students. Any questions related to this document should be emailed to Thanassis Giannetsos (a.giannetsos@surrey.ac.uk) and Muhammad Taimoor Khan (m.t.khan@surrey.ac.uk).

It is designed to help you initially choose a project. During the academic year, it also helps you keep track of deliverables; due dates and a complete description of each deliverable are provided. Finally, this document specifies how the project is assessed, including pointers to marking criteria, details on the examination, as well as the process for dealing with complaints.

### 1.1 What does a project involve?

The Professional (or Final Year) Project is a module that allows you to undertake a major piece of work that will involve developing and applying material encountered on the course under the guidance of a supervisor, who is normally a member of the teaching staff. The Project lasts for the whole academic year and involves practical work, writing a report on the work done, and preparing a video presentation. The assessment is based on the report and presentation of the work reported therein.

This module is different from all other modules in that the content is determined to a large extent by you, the student. The Project gives you a lot of freedom in choosing what to study, but on the other hand it requires a lot more independent thought and organisational skills than the majority of modules. Therefore, the project should not be considered an easy component as most students find it more demanding than the usual lecture courses. However, it is also more rewarding and a well-executed project can give confidence and pride in the results. It is also something that can be used to demonstrate ability to potential employers.

### 1.2 Aim and Purpose of Project

The aim of the Project is to demonstrate that you are able to undertake and complete a substantial piece of work at a professional level. It is also intended as an opportunity to put into practice various concepts and techniques studied on a Computing degree programme. The project will help the student to acquire a deeper insight into certain aspects of computing, a particular application domain, or both.

If you are undertaking the Project in collaboration with an external organisation, then you may also wish to arrange for a co-supervisor from outside the University. All such arrangements

must be formally approved by the Director of Undergraduate Studies in the Department of Computing.

### 1.3 Scope and Content of Project

The Project may focus on any of the themes within the degree programme. The student is generally expected to create new software or to apply existing tools and techniques in order to solve a well-defined problem. In keeping with the overall purpose, it is desirable that the output from the project should be ‘real’ in the sense that it meets a real need of some external organisation or class of end-users, or that it can be used to do a real job for someone other than the author. The development of a product for use by the student alone is not acceptable; nor is a project whose outcome embodies little or no individual contribution by the student (such as a literature survey or a descriptive evaluation of work that was carried out entirely by others).

It is essential that the Project be carried through to some appropriate conclusion, i.e. a clearly identifiable achievement, which can be shown to be of value to its potential customers. For a traditional software development project, this means that the whole of the initial life-cycle must be taken into consideration when establishing the project objectives and workplan:

- Analysis and specification.
- Design, implementation and testing.
- User validation and acceptance.

Your first concern must be to ensure that the project is feasible, so that its objectives can be achieved within a fixed timescale and that necessary resources are actually available. Thereafter, you should ensure that the work carried out at each successive stage has been completed to a suitable professional standard. This means that the project is carried out with due attention to both quality and fitness for purpose, and within the broader context of professional issues as conveyed in the BCS Code of Conduct such as information security and freedom-to-operate – in the latter case, requiring the demonstration of efforts in avoiding infringing the intellectual property rights of others.

It should be emphasised that a Project is not expected to result in new discoveries as would be the case for postgraduate degrees. However, you are expected to use originality in the compilation of your report, showing insight, technical creativity and imagination. The wholesale copying of material from books in undigested form is not appropriate.

### 1.4 Undertaking a Project

Lectures for the project module are scheduled as follows:

Lecture 1 – Introduction	Monday 1 October 2018, 16:00pm-17:00pm (LTF)
Research Methods – Group A	Thursday 25 October 2018, 16:00pm-18:00pm (28 AA 02, 29 AA 02)
Research Methods – Group B	Thursday 1 November 2018, 16:00pm-18:00pm (28 AA 02, 29 AA 02)
Lecture 2 – Interim Discussion	Wednesday 17 October 2018, 9:00am-10:00am (LTM)
Workshop on FYPs Design	Monday 22 October 2018, 16:00pm-18:00pm (LTE)
Lec. 4 – LSEP Issues, Q/A	Monday 12 November 2018, 16:00pm-18:00pm (AP2)
Lecture 5 – Q/A Session	Monday 3 December 2018, 16:00pm-17:00pm (AP2)
Technical Writing	Tuesday 11 December 2018, 16:00pm-18:00pm (LTL) (SPLASH)
Lecture 6 – Final Report	TBD, Semester 2
Presentation Skills	TBD, Semester 2
Lecture 7 – Final Presentation	TBD, Semester 2

You should make regular appointments with your supervisor on a weekly or fortnightly basis and turn up to discuss the progress of your project. It is important to get started on your project early in the first semester and not to waste time, even though the deadline for the completed report seems a long way off. You will also have relatively little coursework from other modules at this stage, so more time is available for the Project.

The Christmas holidays can also be a good opportunity to do some concentrated work on your Project, but you will need to balance this with your revision for the Semester 1 exams which will be in January / February. You should not leave anything major to be done over the Easter break, since if you do run into problems at that time it may be difficult to contact your supervisor and discuss it with them. Ideally, you should already be well into the details of writing your report before the Easter break.

The Professional Project is worth 45 credits, the equivalent of three 15-credit final-year modules. You are therefore expected to undertake approximately 450 hours study, including the preparation of the report. This translates to about 20 hours per week over a period of approximately 23 weeks which are available for your Project, excluding examination periods. The amount of time required should be taken seriously, and if you do not work hard enough in the first semester you can be sure to run into time pressures later.

It is a good idea to write up work that you do as you go along. Otherwise, when you get to the end of the project, you may have forgotten the details of some of your earlier work. It is also a useful way to organise the work that you have done and can show up gaps that need to be filled in before your move on.

## 1.5 Expectation Management

Departmental guidelines on what to expect from your supervisor are:

- You can expect a minimum of a 30-min meeting every two weeks with your supervisor.
- Meetings may be scheduled or unscheduled, depending on supervisor preference.
- You can expect supervisors to reply to emails within at most a week. If you do not receive a reply in this time-frame, please do send a gentle reminder.
- Whenever you feel the need for a supervision meeting, be clear and specific in your request (e.g. I would like to make an appointment for a 30-min meeting to discuss

progress on my final year project, some time in the coming week; please let me know when is suitable.). Otherwise it is easy to get into situations where you think you have requested a meeting, but your supervisor thinks otherwise.

- Your supervisor does not need to be pro-active in requesting meetings with you. Rather, it is your responsibility to be pro-active in requesting supervision meetings.

Similar guidelines are in the staff version of this document, and have been disseminated to staff separately.

## 1.6 Legal, Social, Ethical and Professional Issues

One aim of the project is to provide students knowledge about legal, social, ethical and professional (LSEP) issues involved in exploitation of computer technology. In the course of the project, students should have clear awareness of external factors which may affect the work of computer professionals, including computer security, plagiarism, software contracts, Intellectual Property (IP), and use of IPs to protect software, and design, implement and maintenance of trustworthy software.

### 1.6.1 IP Issues

On admission, undergraduate students are bound by the University Code of Practice in relation to Patenting and Exploitation of Inventions (IP Code). The IP Code requires undergraduate students not to disclose or use without authorisation any confidential information to which they may have access. It also states that each undergraduate student may be required to assign to the University or its nominee any intellectual property rights (whether patentable or otherwise) that he/she is considered to have acquired whilst studying at the University of Surrey in return for a fair proportion of any net receipts in accordance with the terms of the IP Code.

More information is available online at:

[http://www.surrey.ac.uk/about/corporate/policies/intellectual\\_property\\_code\\_including\\_patents.htm](http://www.surrey.ac.uk/about/corporate/policies/intellectual_property_code_including_patents.htm)

Any student concerned about intellectual property rights (IPR) issues should consult the Undergraduate Projects Coordinator, Dr. Muhammad Taimoor Khan. Similarly, the project supervisors will liaise with the Undergraduate Projects Coordinator as necessary in case of IPR issues arising.

### 1.6.2 Plagiarism

In completing the project, students are required to demonstrate literacy skills, including gathering relevant references and performing critical literature review, citing references properly, and understanding plagiarism and copyright.

The University takes plagiarism very seriously. Further details, including University policy on dealing with cases of alleged plagiarism, can be found in the Department of Computer Science Student Handbook.



### 1.6.3 Further Information About LSEP Issues

Student final year project reports to be submitted in Spring Term 2017 onwards will be required to contain a **Statement of Ethics** (SoE), relating to the work carried out in the project. Such a statement will need to address any questions about the ethics of the research conducted throughout the project. General information about ethics provided by the University can be found at: <http://www.surrey.ac.uk/research/our-approach/ethics> and information about FEPS Ethics Committee can be found at: [http://www.surrey.ac.uk/feps/staff\\_students/ethics/](http://www.surrey.ac.uk/feps/staff_students/ethics/). There is an ethics form that can help you determine whether your planned research needs to be reviewed based on UEC's ethical review criteria. When such criteria need to be addressed for your project, you should discuss them with your supervisor and the coordinator of the final year projects.

Furthermore, in the Statement of Ethics, students are expected to exercise their judgment on how their project meets the requirements of the BCS Code of Conduct that can be found at <http://www.bcs.org/category/6030>. The SoE should include the students' reflections on the *legal*, *ethical*, *social* and *professional* considerations of the research conducted within their project. The basic principles that should be applied should (at least) include:

- Do no harm
- Informed Consent
- Confidentiality of Data
- Social Responsibility (How will the results of your project could potentially be used?)

A detailed presentation of these principles and how they should be addressed within the SoE, will be included in the Lecture on LSEP issues that will take place on Monday, November 14th (Week 7) between 17:00pm-18:00pm.

**Do no harm:** When conducting research on sensitive subjects (e.g., human subjects or safety-critical pieces of software), try to minimize harms and risks and maximize benefits; respect legality, confidentiality and privacy and take special precautions. In cases where vulnerability analysis and/or penetration testing of sensitive systems is included, the ethical question that arises is whether good or harm will result from the research. Overall, you should demonstrate that you are abiding fully by appropriate laws unless there are strong ethical reasons not to - e.g., you should reflect on, and analyze, how your project aligns with the relevant legislation such as the Computer Misuse Act (CMA).

**Informed Consent:** In case your project involves the active participation of human subjects, you should consider whether the request for an informed consent is applicable. The participants must be told in advance the purpose of the test, what they will be expected to do and any likely consequences (including side-effects). Such a consent can be considered to balance between an ethical obligation and a legal compulsion depending on the nature of the project. All these issues should be documented in your Statement of Ethics.

**Confidentiality of Data:** Any information that you collect regarding individuals must be kept confidential and *not* include any identifying information. It is worth noting that there is a legal obligation to protect such data. The legality aspects of data protection balance the *legitimate* need to process personal data and the *protection* of individuals' privacy. In your Statement of Ethics, you should reflect on how your project is aligned with the eight principles of the Data Protection Act (DPA).

**Social Responsibility:** In general, this reflects the strive for using any research outcomes towards promoting social good and prevent or mitigate social harms. Of course, you don't have almost no control over this - but are there any ways in which the results of your research might be mis-used. For instance , in security-related projects that include vulnerability analysis and penetration testing of systems, could any identified exploits could be used not only by system administrators for enhancing the security profile of the systems but also from malevolent users trying to actually exploit the system? What are the repercussions in this case? All such issues should be addressed in your Statement of Ethics.

### 1.7 Complaints and Queries

The principle described in the Department of Computer Science Student Handbook applies to your final year project. The first step is to raise your query with the person that has the most knowledge of your progress in your final year project. In the case of the final year project, this will be your project supervisor.

If you consider it inappropriate to contact your project supervisor, or you have concerns about your supervision, then you can raise your concern with the Undergraduate Projects Coordinator. If your project supervisor is also the Undergraduate Projects Coordinator then you should contact, in turn, the Year 3 Coordinator or the Undergraduate Director of Studies. If you still have concerns after exhausting the above avenues, and have allowed some time to pass in order to see whether your concerns are alleviated, then you can contact the Head of Department.

# Chapter 2

## Deadlines

### 2.1 Important Dates

For current students, the important dates relevant to the Professional Project are as follows:

Monday 17 September 2018	List of keywords published
Friday 28 September 2018, 16:00	Submit List of Preferred Keywords
Wednesday 3 October 2018, 23:59	Project supervisor allocated
Monday 19 November – Friday 7 Dec 2018	Interim Discussion ( <b>Formative Assessment</b> )
Tuesday 19 March 2019, 16:00	Draft Report Submission ( <b>Formative Assessment</b> )
Tuesday 21 May 2019, 16:00	Final Submission ( <b>Summative Assessment</b> )

*We reserve the right to change the above dates with appropriate notice, which will be announced by email as they occur.* All electronic submissions are through SurreyLearn. Do not hand in deliverables to your supervisor, and do not email deliverables to the Undergraduate Projects Coordinator; all submissions need to be recorded centrally. In general, feedback for the two formative assessments may be expected within four weeks of the relevant submission, as per the Department of Computer Science Student Handbook.

### 2.2 Units of Assessment

There is only one Unit of Assessment in the Professional Project: the Final Submission. This carries a 100% weighting towards your overall mark for the Professional Project. Please note that the List of Preferred Keywords and the Draft Report are also deliverables of the Professional Project, albeit not contributing to the final grade.

### 2.3 What if I miss a deliverable deadline?

No marking penalty will apply to an assessed project deliverable submitted by a student within the limits of an agreed extension. If a student is not granted an extension, and hands in an assessed project deliverable late, a marking penalty will be applied in accordance with the University late penalty scheme (see the Department of Computer Science Student Handbook). Extensions can only be granted following an application for Extenuating Circumstances, as explained in detail in the Department of Computer Science Student Handbook.

## CHAPTER 2. DEADLINES

Note that the Final Submission consists of multiple deliverables. If any of these deliverables is late, the whole unit of assessment will be considered a late submission, even if any other part was submitted on time. Similarly, if any of these deliverables is missing, the whole unit of assessment will be considered a non-submission and treated as a failure with a zero grade.

If a student does not submit a Draft Report deliverable, their supervisor will not see the report before it is actually submitted as the Final Report and hence the student will miss the chance to receive comments and feedback on their work before it is submitted as the Final Report deliverable.

For the interim discussion, once a date and time are agreed with the examiner, this cannot be changed unless Extenuating Circumstances apply.

### 2.4 Extensions

Extensions for projects will only be given when Extenuating Circumstances apply (e.g. emergency medical needs). Extenuating circumstances applications should be sent to FEPS Extenuating Circumstances Administrator (email: [feps-ec@surrey.ac.uk](mailto:feps-ec@surrey.ac.uk)) with a carbon copy to the FYP Coordinator (Thanassis Giannetsos, email: [a.giannetsos@surrey.ac.uk](mailto:a.giannetsos@surrey.ac.uk)) and the Year 3 Coordinator (David Williams, email: [d.m.williams@surrey.ac.uk](mailto:d.m.williams@surrey.ac.uk)). Approval of extenuating circumstances can only be given by the Year 3 (FHEQ Level 6) Coordinator, with the agreement of the project supervisor. This will be recorded and normally communicated to you by email.

## Chapter 3

# Project Selection and Supervisor Allocation

Project selection and supervisor allocation take place at the start of Semester 1. This process involves the following steps:

1. Select keywords of interest from the list made available on SurreyLearn.
2. You are allocated a project supervisor.

The procedure is described in more detail in the following sections.

### 3.1 Choosing a list of preferred keywords

A list of keywords is published on Monday 17 September 2018 on SurreyLearn, based on the areas of research interests and expertise of academic members of staff that supervise Professional Projects. Each keyword is associated with a number of academics.

You are asked to look at this list and indicate your preferences electronically by Friday 28 September 2018, 16:00. You express a minimum of five preferred research topics according to the provided keywords in the order you prefer. If no preference is submitted, this is taken to mean that you express no preference. You may change your preferences as often as you want until the deadline; your final recorded preferences at the deadline are the only ones used in the allocation process. Since each supervisor can only be allocated a limited number of students, we cannot guarantee that you will be allocated your most preferred choice - although we try our best to allocate you a supervisor that can meet the requirements of your most preferred research topic choice.

### 3.2 Allocation of supervisors

When the selection deadline is passed and the list of preferred keywords from students is received, the FYP Coordinator will start the allocation process. Allocation of a project supervisor is based on the students' preferred keywords and the number of students each academic can supervise. The supervisor allocation list is published electronically; we plan to do this by Wednesday 3 October 2018, 23:59. Please note that until you receive official notification of your allocation, you are not guaranteed to be associated with a particular supervisor.

We will attempt the best match between students and supervisors based on the preferred keywords, but there is no guarantee that this will be possible. It is worth noting that there is a quota on the number of students each academic will supervise every year. Otherwise, there could be an imbalance in the number of students being supervised by individual academics and this would not allow some supervisors enough time to supervise their project students adequately.

### 3.3 Discussing your project topic with your supervisor

Once you have been allocated a supervisor, you are expected to discuss suitable project topics with your supervisor. This may include an idea of your own that you would like to pursue further and believe is appropriate for a Professional Project. To do this, it will be helpful to write a brief description of the project you are proposing and an outline of the work that you wish to undertake. Your supervisor will be able to guide you whether the proposed topic is of the appropriate nature for a Professional Project.

If you are stuck for ideas, you should start by discussing with your supervisor the general areas you are interested in. Your supervisor may be able to suggest topics based on this and on their research background. Note that in this case you are still responsible to take ownership of your project and develop it as required.

### 3.4 Undertaking a Collaborative Project

A Collaborative Project is a Professional Project which includes collaboration with an industrial partner, the so-called 'collaborating organisation'. Typically the collaborating organisation will have already identified the final year student for the project it proposes, and will have liaised with the Undergraduate Projects Coordinator in accordance with the guidelines in Chapter 5.

If a student has not been identified, the proposed collaborative project will be advertised to the academic staff. Supervisors will be able to suggest such a project as a topic for a student they are supervising if they feel it is suitable. In this case, the supervisor should liaise with the collaborating organisation involved and the Undergraduate Projects Coordinator in accordance with the guidelines in Chapter 5.

The Department is keen to promote and support professional projects which include collaboration with industrial partners. However, it is important to ensure that all those involved have a clear understanding of the constraints and limitations which apply to student projects, in order to avoid subsequent misunderstandings or unreasonable expectations. If a student chooses a collaborative project then the guidelines in Chapter 5 must be read.

## Chapter 4

# Project Deliverables

Please submit all deliverables of your Professional Project to the Undergraduate Office and/or via SurreyLearn as specified below. Do not hand in deliverables to your supervisor, and do not email deliverables to the Undergraduate Projects Coordinator; all submissions need to be recorded centrally.

### 4.1 List of Preferred Keywords

Due: Friday 28 September 2018, 16:00  
Where: SurreyLearn

Please see Chapter 3 for further details.

### 4.2 Interim Discussion

When: Monday 19 November – Friday 7 Dec 2018  
Where: As scheduled by examiner

The interim discussion is a 15–20 minute discussion with you and an examiner to discuss your project and progress to date. In brief, the discussion focuses on the project objectives, the outcomes, and your plan of action in order to achieve the objectives in the duration of the project. The specific date will be announced by the examiner. Once a date and time are agreed with the examiner, this cannot be changed unless Extenuating Circumstances apply. Refer to the relevant assessment form for details on how this is assessed.

### 4.3 Draft Report

Due: Tuesday 19 March 2019, 16:00  
Where: SurreyLearn

You should submit a copy of the current state of your written report and a copy of your planned table of contents, by no later than the prescribed deadline. This is a minimum requirement; your supervisor may agree to review your draft report earlier.

Note that this report does not have to be printed and will not contribute to the final grade of the module. Instead you should submit the report electronically via SurreyLearn. There is an expectation that you submit a draft report because it is important for you to receive feedback on your written report at this stage. You can expect to receive feedback from your supervisor within three weeks.

### 4.4 Final Submission

Due: Tuesday 21 May 2019, 16:00

Where: SurreyLearn

The final submission consists of the following deliverables:

1. An electronic copy of the report, submitted on SurreyLearn. This **must** be a single PDF file less than 20 MiB in size. Be particularly careful with the sizes of included images, which can easily cause the PDF to be too big.
2. A video presentation of no longer than 5 min, containing a demonstration of your software or a presentation of results, as appropriate, submitted on SurreyLearn. This **must** be a single video file less than 500 MiB in size. Uploading large files is best done on campus from a wired connection. The video file **must** be playable with the VLC media player<sup>1</sup>. It is recommended that the video is encoded to H.264/MPEG-4 AVC<sup>2</sup> at VGA resolution ( $640 \times 480$ ) and a bit rate of no more than 1.5 Mbps.
3. An archive containing any software developed as part of the project, submitted on SurreyLearn. This **must** be a single archive file less than 500 MiB in size. Uploading large files is best done on campus from a wired connection. If your project requires the submission of data files that exceed this limit, please discuss this with the Undergraduate Projects Coordinator<sup>3</sup>

If any of these submissions is late, the whole unit of assessment will be considered a late submission, even if any part was submitted on time. Refer to the relevant assessment form for details of the marking scheme.

The video presentation is assessed together with the report, and should include a presentation of the software that you have created or your research findings, explaining what you have achieved and what you have learnt from the experience. A demonstration of your software should also be included where appropriate. Refer to the relevant assessment form for details of the marking scheme.

The submitted archive is to be treated as an appendix, and would normally include:

- Source files for programs developed.
- Any Makefiles (or development environment setup)

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<sup>1</sup>This can be downloaded from: <http://www.videolan.org/index.html>

<sup>2</sup>For a free encoder, go to: <http://www.videolan.org/developers/x264.html>

<sup>3</sup>The usual solution is to submit the archive on DVD media to the UG office; however, this should only be done on the advice of the Undergraduate Projects Coordinator.



- Instructions for building any programs from the included source code or executable files. If your program was not built on a departmental computer system then you must say how it was built on whatever system you used. If you have used your own computer, for example a PC, then you must say how to install the files needed to run your code.
- Results files or data sets.
- Other files specific to your project.

You must make sure that the archive contains enough information so that your examiners have the information needed to run any programs which you have produced as part of your project.

## 4.5 Project Assessment

Final Year Projects will be assessed by two examiners excluding the supervisor.

## *CHAPTER 4. PROJECT DELIVERABLES*

## Chapter 5

# Collaborative Projects

### 5.1 Overview

The Department is keen to promote and support final year projects which include collaboration with external organisations. Collaboration provides additional purpose and drive to the students' work and offers the opportunity to further develop their professional skills. However, it is important to ensure that all those involved have a clear understanding of the constraints and limitations which apply to student projects, in order to avoid subsequent misunderstandings or unreasonable expectations. This document aims to provide that understanding, of the context in which a student project is carried out.

### 5.2 Objectives

The final year project is a major component of the final year programme, intended to give the individual student an opportunity to demonstrate that they can apply themselves professionally to a significant piece of work. For any degree accredited by the British Computer Society, the main product of the project must be of an engineering nature which, in its broadest sense, means that it must, potentially, be of use to somebody other than the author.

In contrast, the project is assessed on the basis of a report which is, essentially, a critique of the student's own approach to and execution of the project. This report, whilst it is normally available to the collaborating organisation in the case of collaborative projects, may not be of direct relevance, since it will show how the student has developed his/her understanding and insight, rather than what should be done to develop the product further.

### 5.3 Timescale

The final year project will run from October until May for the current academic year.

The student effort available for a final year project is approximately **450 hours**. The effort is distributed throughout the academic year alongside the other modules which the students must study. It must be recognised that the generation of the required interim deliverables, which are themselves intended to support the development of the project, is included in these figures. The interim deliverables include a discussion and draft report. Given the academic objectives above, it may be that priority will have to be given to the production of these reports rather than to completion of the product.

## 5.4 Resources

The Department has only limited hardware/software resources to support projects, and it is often the case that collaborating organisations use specific products not available within the University environment. It is unlikely that the Department will be in a position to acquire the necessary items, and it normally falls, therefore, to the collaborating organisation to make such hardware/software available, often on a loan basis, for the duration of the project.

## 5.5 Supervision

A collaborative project is normally supervised jointly by a member of the department's staff and a member of the collaborating organisation. The degree of commitment of the latter is flexible; the only request is that a brief statement of the value of the students' work is made available to the examiners.

## 5.6 Intellectual Property Rights

For major collaborations, the University has a code of practice for the assignment of intellectual property rights and other benefits where the result of the collaboration is likely to lead to an exploitable product. The nature of final year projects, however, is often such that it is to the mutual benefit of all parties concerned if a less formal approach is taken, provided that the interests of all are safeguarded.

## 5.7 Liability

It is essential that the environment for the project is recognised. The student is pursuing the project for academic reasons, and the primary interest is academic. Neither the student nor the department can be held liable if, for any reason, the project is not completed within the timescale available. There will be no obligation on the student to complete the product following submission of the final report, or to expend additional effort to the detriment of other studies.

Similarly, whilst every effort is made to ensure that students approach their projects in a professional manner, no subsequent liability can be accepted for defects in the product, which is normally made available to the collaborating organisation entirely at the collaborating organisation's risk.

## 5.8 Setting up a Collaborative Project

Projects can be set up in cases when a student has already been identified, or can be set up in advance of identifying a student. This section covers each of these cases.

### 5.8.1 Student has already been identified

When a student has already been earmarked for the project then the next step for the collaborating partner is to provide the following information:

1. Describe the aims of the project in a brief paragraph.
2. Name of student who is going to be working on the project.
3. Comment on whether the project is a follow on from the work carried out by the student as part of his/her placement at the collaborating company.
4. Name and job role of the industrial supervisor.
5. Identify relationship of industrial supervisor with student.
6. How often would the industrial supervisor be able to provide supervision?
7. What computing resources would be required to carry out the project? For example, specialised software/hardware.
8. If the resources identified above were not readily available within the Department of Computing would the collaborating organisation be prepared to provide these facilities as necessary throughout the project period? It would be necessary to ensure that the student is not disadvantaged if the resources are recalled at a vital time (maybe including the time that the project report is being written)?

The information should be emailed to Thanassis Giannetsos (a.giannetsos@surrey.ac.uk). The coordinator will then review the information and discuss the project with the student. The coordinator will also help identify an appropriate academic member of staff to supervise the project within the Department and then the academic supervisor will take the lead in the collaboration from then onwards for the lifetime of the project.

### 5.8.2 Student has not already been identified

In this case the next step is for the collaborating partner to provide the following information:

1. Describe the aims of the project in a brief paragraph.
2. Name and job role of the industrial supervisor.
3. How often would the industrial supervisor be able to provide supervision?
4. What computing resources would be required to carry out the project? For example, specialised software/hardware.
5. If the resources identified above were not readily available within the Department of Computing would the collaborating organisation be prepared to provide these facilities, as necessary throughout the project period? It would be necessary to ensure that the student is not disadvantaged if the resources are recalled at a vital time (maybe including the time that the project report is being written)?
6. Identify any security clearance requirements for the student working on the project.

The information should be emailed to Thanassis Giannetsos (a.giannetsos@surrey.ac.uk). The coordinator will then review the information and help identify an appropriate academic member of staff to supervise the project within the Department. The academic supervisor will take the lead in the collaboration from then onwards for the lifetime of the project.

## CHAPTER 5. COLLABORATIVE PROJECTS

## Chapter 6

# Exceptional Cases

### 6.1 Resitting a project

If you have failed your final year project in the previous academic year or have withdrawn from the project, and no Extenuating Circumstances have been agreed, the rules related to module resits apply. Please refer to the Department of Computer Science Student Handbook for further details.

### 6.2 Extenuating Circumstances

Students may apply for an extended submission deadline due to extenuating circumstances. Applications should be sent to FEPS Extenuating Circumstances Administrator (email: [feps-ec@surrey.ac.uk](mailto:feps-ec@surrey.ac.uk)) with a carbon copy to the FYP Coordinator (Thanassis Giannetsos, email: [a.giannetsos@surrey.ac.uk](mailto:a.giannetsos@surrey.ac.uk)). The new submission deadline for your project will be set on an individual basis.

## CHAPTER 6. EXCEPTIONAL CASES



## Chapter 7

# Recommended Format For Report

### 7.1 What should the report contain?

It should cover the objectives, methods and achievements of the project. It should conclude with a critical appraisal of your own work, and reflections of what you have learned in the process. See the Marking Criteria for details of the assessment criteria for the report. In summary, marks will be awarded to reflect the technical presentation of your work, including English structure, grammar, layout and so on, as well as achievements and argumentation presented in the report. You do need to discuss in the report how you met your objectives and critically evaluate your achievements with respect to the aims and objectives of your project.

You should include code in your report in order to add clarity to the discussion in the text, or you need to show how different versions were produced. This will be different for everyone. For example, it would be sensible to show how a difficult algorithm was coded up but maybe not all the GUI code needs to go in it. You are *not* required to print out your code and include it all in an appendix. You *must*, however, include all your code in the submitted archive.

### 7.2 What is an appropriate format for the report?

The report, excluding appendices should normally be between 12 000 and 25 000 words, or 50–80 A4 pages. There is no strict rule, it all depends on the type of project. The report can be single or double sided.

Prepare the text of the report with a word processor, using a font size and line spacing which will make it easily readable. For example, 11pt and single spacing is fine, also 11pt and 1.5 spacing is acceptable. Nowadays with word processors there is little need to make the text size 12pt – this is a bit big.

You need to leave a margin of at least 2cm on the left hand edge of the paper, to allow for binding. There is no restriction on the software you use to produce your reports and presentations, e.g. whether you should use LaTeX or Word or OpenOffice. You are encouraged to use a word processing software package that makes the report look professionally prepared. The same applies to your presentation slides.

### 7.3 Using mathematical word processing software

There is a lot of software currently available that supports your project write up. You may find it helpful to save each chapter as a separate file, as files can become unmanageably large.

Make sure you learn how to cross-reference material as well as use Greek symbols, subscripts and equations. You should pick a reference style after discussing it with you supervisor; the standard styles used in the department are Harvard and IEEE. Further information on referencing, including the use of Harvard and IEEE styles, can be found on the Library & Learning Support website.

### 7.4 Report Checklist

You need to attend to the details in the report.

1. Make sure you have broken the material down into chapters, sections.
2. Make sure you have a caption below each diagram, graph or figure and table to say what they are.
3. Number sections, figures, tables and important equations so that you can cross-reference them.
4. Make sure that the material in each section fits together coherently and that the section titles etc are an accurate description of the content.
5. Make sure the spelling is correct.
6. Make sure that you proof read the report.
7. Make sure references are accurate, dates are correct, and so on.
8. Give your report to friends and colleagues for comment and constructive criticism.

### 7.5 Report Examples

A selection of past Professional Project reports is available on SurreyLearn. These can be used to judge the normal length and standard of reports.

## Appendix A

## Forms

## APPENDIX A. FORMS

### B.SC. PROFESSIONAL PROJECT (COM3001) INTERIM DISCUSSION – ASSESSMENT FORM

Student Name:

URN:

*Description*

*Grade*

**Background knowledge: [25%]**

**Evidence of technical investigation: [25%]**

**Planning: [20%]**

**Discussion / Answering questions: [20%]**

**Presentation style: [10%]**

**Indicative Grade:**

Give formative feedback, including suggestions for further progress on this project.

Examiner:

Date:

#### Instructions for Examiners

*Use only genuine Adobe Acrobat Reader software to edit this document.*

A single copy of this form is to be filled in by the allocated examiner. Please make sure to fill in the student name and URN exactly as on the official University record; these can be obtained from the supervision allocation table on SurreyLearn. The completed form is to be returned electronically, . *This needs to be completed by TBD.* A copy will be returned to the student and supervisor by the Undergraduate Projects Coordinator.

Academic Year 2016–2017

Form v.5205

## Instructions for Students

This form will be returned to you by email. Any grade given on this form is as an indication of your current progress with the project, and has no bearing on the final grade obtained for the project.

## Marking Criteria

<i>Grade</i>	<i>Description</i>
<b>Background knowledge: [25%]</b>	
<b>0%–39%:</b>	Literature search / review of technologies has little relevance to the topic. Insufficient in terms of breadth and/or depth.
<b>40%–49%:</b>	Literature search / review of technologies contains a generalized overview of the topic, and unclear relevance.
<b>50%–59%:</b>	Literature search / review of technologies contains a good overview of relevant theory and techniques, but no justification of relevance.
<b>60%–69%:</b>	Literature search / review of technologies is a good review of relevant reference material and techniques.
<b>70%–79%:</b>	Literature search / review of technologies is a good review of relevant material, including some research papers or other advanced material.
<b>80%–100%:</b>	Literature search / review of technologies is a good review of relevant material, including a range of research papers or other advanced material.
<b>Evidence of technical investigation: [25%]</b>	
<b>0%–39%:</b>	Little technical work has been completed so far. No evidence of initial development work (for development) or preliminary experiments/results (for research).
<b>40%–49%:</b>	Little evidence of initial development work (for development) or preliminary experiments/results (for research).
<b>50%–59%:</b>	Evidence of some initial development work (for development) or preliminary experiments/results (for research).
<b>60%–69%:</b>	Good evidence of initial development work (for development) or preliminary experiments/results (for research).
<b>70%–79%:</b>	Extensive evidence of initial development work (for development) or preliminary experiments/results (for research).
<b>80%–100%:</b>	Extensive evidence of initial development work (for development) or preliminary experiments/results (for research). Demonstrated innovation in approach.
<b>Planning: [20%]</b>	
<b>0%–39%:</b>	Inadequate project plan included. No evaluation of project objectives.
<b>40%–49%:</b>	Poor planning. No evaluation of project objectives.
<b>50%–59%:</b>	Project plan included, but success depends on last few activities. Time allowed for write-up. Minimal evaluation of project objectives.
<b>60%–69%:</b>	Clear project plan with achievable chunks of work and identified dependencies. Time allowed for write-up. Good evaluation of project objectives.
<b>70%–79%:</b>	Clear project plan with achievable chunks of work. Schedule ensures early concrete results and iterative improvement. Time allowed for write-up and for supervisor to read drafts. Good evaluation of project objectives.
<b>80%–100%:</b>	Clear project plan with achievable chunks of work. Schedule ensures early concrete results and iterative improvement. Time allowed for write-up and for supervisor to read drafts. Clear progress monitoring during project. Good evaluation of project objectives.
<b>Discussion / Answering questions: [20%]</b>	
<b>0%–39%:</b>	Found it difficult to answer questions on fundamental technical concepts. Tended to generalize answers.
<b>40%–49%:</b>	Limited discussion on technical issues, with a tendency to generalize. Limited reference to what was actually attempted.
<b>50%–59%:</b>	Limited discussion on technical issues. Demonstrated appreciation of where technical issues and difficulties arose.

(Continued on next page)

## APPENDIX A. FORMS

(Continued from previous page)

<i>Grade</i>	<i>Description</i>
<b>60%–69%:</b>	Satisfactory answering of technical questions. Demonstrated understanding of fundamental technical concepts.
<b>70%–79%:</b>	Good responses to technical questions. Demonstrated understanding of fundamental technical concepts. Student did not steer discussion.
<b>80%–100%:</b>	Student fully engaged in a mature and insightful discussion of technical issues. Demonstrated ability to lead the discussion.

**Presentation style: [10%]**

<b>0%–39%:</b>	Poor presentation and structure.
<b>40%–49%:</b>	Poor presentation and structure.
<b>50%–59%:</b>	Orderly presentation and structure.
<b>60%–69%:</b>	Clear presentation, logically structured, with few shortcomings.
<b>70%–79%:</b>	Good presentation, logically structured.
<b>80%–100%:</b>	Excellent presentation, logically structured, and well explained.

## B.SC. PROFESSIONAL PROJECT (COM3001) FINAL SUBMISSION – ASSESSMENT FORM

Student Name:

URN:

*Description**Grade*

Literature/technology review: [10%]

Problem Analysis &amp; Design Choices: [20%]

Design documentation: [20%]

Evaluation of outputs / testing: [20%]

Critical review of project outcomes: [5%]

Critical evaluation of LSEP issues: [10%]

Presentation of results / Demonstration: [10%]

Presentation style: [5%]

**Overall Grade:**

Briefly justify the overall grade, and give additional feedback.

Examiner:

Date:

Tick here to indicate that the Turnitin report has been checked:

Academic Year 2016–2017

Form v.5205

## Instructions for Examiners

*Use only genuine Adobe Acrobat Reader software to edit this document.*

This form is to be filled in independently by each allocated examiner, without any prior input from the supervisor or any other examiner. Please make sure to fill in the student name and URN exactly as on the official University record; these can be obtained from the supervision allocation table on SurreyLearn. The completed form is to be returned electronically, . *This needs to be completed by Mon 5 Jun 2017, 16:00.*

You are also asked to check the Turnitin report on SurreyLearn. If you suspect academic misconduct, compile the necessary evidence and forward the case to the Academic Integrity Officer by not later than Mon 5 Jun 2017, 16:00. The AIO will then decide if there is a *prima facie* case and if so proceed from there. *Note that in this case you are still required to submit this assessment as above, assuming no academic misconduct has taken place.*

## Instructions for Students

This form will not be returned to you; it is kept by the University to document internal processing. All grades are to be considered provisional until Board of Examiners approval.

## Marking Criteria

<i>Grade</i>	<i>Description</i>
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### Literature/technology review: [10%]

- 0%–39%:** Literature search / review of technologies has little relevance to the topic. Insufficient in terms of breadth and/or depth. References often have missing details.
- 40%–49%:** Literature search / review of technologies contains a generalized overview of the topic, and unclear relevance. References may have missing details.
- 50%–59%:** Literature search / review of technologies contains a good overview of relevant theory and techniques, but no justification of relevance. References are generally complete and correct.
- 60%–69%:** Literature search / review of technologies is a good review of relevant reference material and techniques. References are complete and correct.
- 70%–79%:** Literature search / review of technologies is a good review of relevant material, including some research papers or other advanced material. References are complete and correct.
- 80%–100%:** Literature search / review of technologies is a good review of relevant material, including a range of research papers or other advanced material. References are complete and correct.

### Problem Analysis & Design Choices: [20%]

- 0%–39%:** Little to no evidence of technical work. No discussion of design issues & justification of choices made (for development) or existing results & justification of choice of experiments (for research).
- 40%–49%:** Little evidence of problem analysis. Hardly any discussion of design issues & justification of choices made (for development) or existing results & justification of choice of experiments (for research).
- 50%–59%:** Evidence of some problem analysis. Demonstrated basic technical awareness in discussion of design issues & justification of choices made (for development) or existing results & justification of choice of experiments (for research).
- 60%–69%:** Good evidence of problem analysis. Satisfactory discussion of design issues & justification of choices made (for development) or existing results & justification of choice of experiments (for research).
- 70%–79%:** Extensive evidence of problem analysis. Excellent discussion of design issues & justification of choices made (for development) or existing results & justification of choice of experiments (for research).
- 80%–100%:** Extensive evidence of problem analysis. Excellent discussion of design issues & justification of choices made (for development) or existing results & justification of choice of experiments (for research). Demonstrated innovation in approach.

### Design documentation: [20%]

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<i>Grade</i>	<i>Description</i>
<b>0%–39%:</b>	Little to no documentation of chosen design (for development), or theoretical / experimental work (for research).
<b>40%–49%:</b>	Minimal attempt to document the chosen design (for development), or theoretical / experimental work (for research).
<b>50%–59%:</b>	Basic documentation of the chosen design (for development), or theoretical / experimental work (for research). Generally lacking in thoroughness.
<b>60%–69%:</b>	Good documentation of the chosen design (for development), or theoretical / experimental work (for research). Some incoherence of argumentation or narrow scope.
<b>70%–79%:</b>	Excellent documentation of the chosen design (for development), or theoretical / experimental work (for research). Thorough discussion of challenging aspects.
<b>80%–100%:</b>	Excellent documentation of the chosen design (for development), or theoretical / experimental work (for research). Thorough discussion of challenging aspects. Shows originality, is highly professional, or deep understanding of implications.

**Evaluation of outputs / testing: [20%]**

<b>0%–39%:</b>	Poor or missing evaluation of what has been achieved, in terms of program testing (for development) or theoretical / experimental results (for research).
<b>40%–49%:</b>	Partial evaluation of what has been achieved, in terms of program testing (for development) or theoretical / experimental results (for research).
<b>50%–59%:</b>	Basic evaluation of what has been achieved, in terms of program testing (for development) or theoretical / experimental results (for research).
<b>60%–69%:</b>	Good evaluation of what has been achieved, in terms of program testing (for development) or theoretical / experimental results (for research).
<b>70%–79%:</b>	Excellent evaluation of what has been achieved, in terms of program testing (for development) or theoretical / experimental results (for research).
<b>80%–100%:</b>	Excellent evaluation of what has been achieved, in terms of program testing (for development) or theoretical / experimental results (for research). Demonstrates thoroughness and greater insight and understanding.

**Critical review of project outcomes: [5%]**

<b>0%–39%:</b>	Poor or missing evaluation of what has been achieved, in terms of meeting the project objectives.
<b>40%–49%:</b>	Partial evaluation of what has been achieved, in terms of meeting the project objectives.
<b>50%–59%:</b>	Basic evaluation of what has been achieved, in terms of meeting the project objectives.
<b>60%–69%:</b>	Good evaluation of what has been achieved, in terms of meeting the project objectives.
<b>70%–79%:</b>	Excellent evaluation of what has been achieved, in terms of meeting the project objectives. Clear link between documented results and objectives.
<b>80%–100%:</b>	Excellent evaluation of what has been achieved, in terms of meeting the project objectives. Clear link between documented results and objectives. Demonstrates thoroughness in evaluation.

**Critical evaluation of LSEP issues: [10%]**

<b>0%–39%:</b>	Little to no awareness of relevant LSEP issues in the project.
<b>40%–49%:</b>	Minimal understanding and treatment of relevant LSEP issues in the project.
<b>50%–59%:</b>	Basic knowledge and treatment of relevant LSEP issues in the project, e.g., IPs and software contracts.
<b>60%–69%:</b>	Good knowledge and clear awareness and treatment of relevant LSEP issues in the project such as IPs and software contracts.
<b>70%–79%:</b>	Very good knowledge and very clear awareness and treatment of relevant LSEP issues in the project such as IP issues and software contracts.
<b>80%–100%:</b>	Excellent understanding and strong awareness and treatment of LSEP issues in the project such as IPs and software contracts.

**Presentation of results / Demonstration: [10%]**

<b>0%–39%:</b>	Development: No adequate working system was presented. Attempts on smaller pieces of code inadequate. Research: Little or no results presented.
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## APPENDIX A. FORMS

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<i>Grade</i>	<i>Description</i>
<b>40%–49%:</b>	Development: Working system was demonstrated, but not in a structured way, or parts of system that were completed were demonstrated but unclear. Research: Results obtained were presented, but in an unclear or unstructured way.
<b>50%–59%:</b>	Development: Working system was demonstrated in a structured way, or parts of system that were completed were demonstrated systematically. Research: Results obtained were presented in a clear and structured way.
<b>60%–69%:</b>	Working system (for development) or results obtained (for research) presented in a structured way, with main parts highlighted.
<b>70%–79%:</b>	Working system (for development) or results obtained (for research) presented in a structured way, with main parts highlighted, and a good technical explanation of the algorithms / application structure (for development) or the experiments carried out (for research).
<b>80%–100%:</b>	Working system (for development) or results obtained (for research) presented in a structured way, with main parts highlighted, and a good technical explanation of the algorithms / application structure (for development) or the experiments carried out (for research). Showed understanding of impact of technologies used.

**Presentation style: [5%]**

- 0%–39%:** Poor presentation and structure.
- 40%–49%:** Poor presentation and structure.
- 50%–59%:** Orderly presentation and structure.
- 60%–69%:** Clear presentation, logically structured, with few shortcomings.
- 70%–79%:** Good presentation, logically structured.
- 80%–100%:** Excellent presentation, logically structured, and well explained.

## B.SC. PROFESSIONAL PROJECT (COM3001) FINAL SUBMISSION – AGREEMENT FORM

Student Name:

URN:

### Agreed Grade

Examiner 1:

Examiner 2:

Agreed Grade:

Lateness:

Final Grade:

Briefly justify how the final grade was reached, and give additional feedback.

Moderator:

Date:

### Instructions for Examiners

*Use only genuine Adobe Acrobat Reader software to edit this document.*

A single copy of this form is to be filled by the moderator. After the allocated examiners complete their individual assessments for the report, a final grade is determined by the moderator. The moderator is usually the Undergraduate Projects Coordinator (or another member of the assessment panel if the Undergraduate Projects Coordinator is also one of the original examiners). This form is used to document this process:

- Where the discrepancy between the two grades is  $< 10\%$ , an average is taken. *A brief comment should still be entered to state this.*
- Where the discrepancy is  $\geq 10\%$ , the moderator is required to assess the final submission. The moderator then determines a final grade taking into account the other two assessments.
- Where the agreed grade is  $< 40\%$  or  $\geq 80\%$ , the moderator audits the two assessments with reference to the submitted work, to ensure the agreed grade is consistent with a grade in that range.

Please make sure to fill in the student name and URN exactly as on the official University record; these can be obtained from the supervision allocation table on SurreyLearn. The completed form is to be returned electronically, . *This needs to be completed as soon as possible after Mon 5 Jun 2017, 16:00.*

### Instructions for Students

This form will not be returned to you; it is kept by the University to document internal processing. All grades are to be considered provisional until Board of Examiners approval.

Academic Year 2016–2017

Form v.5205

## *APPENDIX A. FORMS*

## Appendix B

# Module Management

### B.1 Important dates

#### B.1.1 Students

Friday 28 September 2018, 16:00 Submit list of preferred keywords

Wednesday 3 October 2018, 23:59 Get allocated supervisor

Monday 19 November – Friday 7 Dec 2018 Interim Discussion is held

Tuesday 19 March 2019, 16:00 Submit Draft Report online

Tuesday 21 May 2019, 16:00 Final Submission of report, video, and software archive