

**Birkbeck College**  
**Department of Computer Science and Information Systems**

**BSc Computing**  
**BSc Information Systems and Management**

**Final Year Project**

**24th of September 2015**

**1. Introduction**

All BSc students must undertake an individual project in their fourth year. The project is a 30 credit module at level 6. Projects are a very important part of the degree. In borderline cases the project mark can directly influence Examination Board discussions about the final classification of honours degrees.

Projects require that students undertake work in greater depth than is possible elsewhere in the BSc programmes. They provide a different form of assessment in these largely examinations-dominated programmes. They encourage students to demonstrate initiative, organizational ability and self motivation as well as the ability to combine theoretical and practical understanding.

**2. Project Types**

Due to the nature of the BSc programmes there are a number of different types of projects. These are described in the following paragraphs.

**Type 1: Management projects (BSc in ISM only)**

A Management project involves purely management (as opposed to computing) elements and is supervised by the Department of Management. Students undertaking a Type 1 project are required to take the module *Research Methods in Management* as an option in their 3<sup>rd</sup> year. Students who are considering a Type 1 project should contact the Department of Management Undergraduate Team Leader, Simon Dunderdale (s.dunderdale@bbk.ac.uk). **The remainder of this document does not apply to Type 1 projects.**

**Type 2: Information Systems Research projects (BSc in ISM only)**

An Information Systems Research project involves the investigation of information systems phenomena usually using interpretative research methods such as case studies or action research. Often the phenomena are newly emergent technologies and their social settings, development approaches or some aspect of the success or failure of an information system. Students who are considering a Type 2 project must take the module *Research Methods in Management* in their 3<sup>rd</sup> year. Supervision is carried out by the DCSIS.

### **Type 3: Information Systems Development projects**

An Information Systems Development project involves the requirements capture and design of an information system, and the possible implementation of all or part of the system. Supervision is carried out by the DCSIS. Any code implemented during the project must be demonstrated to the supervisor and supplied on a disk which is to be included in the hard copy version of the report.

### **Type 4: Computing projects**

A Computing project involves the use of one or more programming languages for implementing a system or for investigating particular algorithms and data processing methods or for investigating computer based models of natural or artificial phenomena. Supervision is carried out by the DCSIS. Any code implemented during the project must be demonstrated to the supervisor and supplied on a disk which is to be included in the hard copy version of the report.

## **3. Project Topics and Supervisors**

Students are encouraged to devise their own project. Projects may be related to a student's work or to other activities or interests of the student. If it is not possible to devise a suitable project then a project can be selected from a list of projects suggested by members of the academic staff. Once the student has a suitable project in mind it is necessary to find a supervisor. A list of potential supervisors can be found at

<http://www.dcs.bbk.ac.uk/r/doc/staff-interests.php>

Each supervisor has a fixed upper limit to the number of supervisees that can be accepted. Students should contact suitable staff members who have not reached their limit to discuss their ideas for a project, and to choose a supervisor. If no supervisor is found, then the project cannot proceed.

Students should begin thinking about their projects and possible topics as early as possible, preferably in the third year and certainly before the summer between the third year and the fourth year. They should draft a project proposal. A blank project proposal form can be found on the departmental intranet. It is necessary to produce a project proposal even if the project is one suggested by a member of the academic staff. The proposal will evolve over time and in discussion with the supervisor until it is in a state to be approved by the supervisor. No detailed work should begin on a project until the proposal has been approved.

The deadline for submission of an approved project proposal is given at the end of this document. The proposal is a contract between the student and the supervisor to carry out specific work and it is unreasonable to expect supervisors to enter into contracts which are vague or cobbled together at the last minute. Once the project proposal has been approved it is not possible to change supervisor.

#### **4. Carrying out the Project**

The project proposal forms the basis for the conduct of the project, although often elements of the project change as progress is made and information is gathered. Any substantial deviation from the proposal must be discussed and agreed with the supervisor. It is up to the student to carry out the work for the project and produce a coherent project report by the required date.

##### **The role of the supervisor**

In general the supervisor will provide encouragement and guidance to the student, comment on the project proposal, and read and comment on drafts of the report. Students vary in the frequency of their communications with their supervisor. Much will depend on the milestones set out in the project proposal but as a *minimum* it is envisaged that a student will communicate with his or her supervisor as follows:

- in connection with the approval of the project proposal,
- after a few weeks of work to firm up/amend the proposal,
- about midway through the project to consider progress made and discuss how best to proceed,
- and finally to discuss the first draft of the report in time for any recommended changes to be acted upon before submission.

It should be remembered that although the supervisor provides a mark for the project this is only one opinion as to its merits. There is a second marker and an External Examiner, and it is the Examination Board that awards the final mark. It is therefore conceivable, although hopefully rare, that a project fails despite the opinion and guidance of the supervisor.

##### **The role of the student**

It is the student's responsibility to contact his or her supervisor, not the other way round. Students who fail to contact their supervisors, or miss appointments will not be chased. Students should conduct themselves in a professional manner, which means that they should make appointments to see supervisors in advance, and not expect to 'drop in' at odd times. Some supervisors prefer to supervise by e-mail. Supervisors have many other commitments apart from project supervision and cannot be expected to drop everything to see a student, or read a draft report the moment they receive it.

#### **5. The Project Report**

The project report mainly determines the mark awarded for the project. It is possible to do a marvelous piece of research or write a brilliant program, but nevertheless obtain a low mark because the report does not match the rest of the work. So allow enough time to do a good job on the write-up and to respond to the comments of the supervisor. Experience indicates that a minimum of six weeks is required. Examiners are wont to trot out that well worn phrase "*at the end of the day it is the project as it sits on the library shelf that reflects on the institution*", meaning that it is difficult to award marks for good work performed but which has not been reflected in the report.

Some supervisors suggest that you write up as you go along. This minimises the workload at the end. Much of the report can be written up before the final work is

completed, e.g. the introduction and the literature review. You are advised to make detailed notes on the articles, books, web pages and other sources of information that you use as you go along. It may be necessary to purchase some specialist books or other materials rather than rely on the library or on inter-library loans.

Write the report, not for your supervisor, but as if you are addressing the External Examiner, i.e. someone you do not know and who knows nothing about your project. Set out the problem, the context, etc. Do not assume that the reader already knows about your project. Write in a detached style and avoid excessive use of personal pronouns such as I, you, me, my, etc. Write clearly, paying attention to sentence construction, grammar and spelling. Although English is not being tested, poor presentation will mar an otherwise good report. You are advised to get a friend or colleague to read the report and comment on it before submission. Typographical and other minor errors also detract from the work, as does the incorrect reference to, and numbering of, tables and diagrams, etc. It is surprising how often this happens.

### **Report Structure**

There is no such thing as a typical report structure. It will vary depending on the project. However, the following structure is provided as a general guide. If it does not seem relevant to your particular project then adapt the suggested chapter headings.

**Page 1: Title Page** – including the title of the project, the name of the author, the date, the word count and the statement specified below under report details.

**Page 2: Abstract** - One page that summarises the report and the main findings or results.

**Page 3: Table of Contents** - including page numbers of each chapter heading and each appendix.

**Chapter 1: Introduction** - the topic, the background, why the topic is relevant or of interest to you, what you hoped to achieve, the aims and objectives of the project.

**Chapter 2: Literature Review and Context** - the setting of the project in the context of other relevant work or theories or results. How this setting influenced the project.

**Chapter 3: Research/Development Method** - the overall approach and rationale. Why the project was tackled in the chosen way, and why other ways were ruled out.

**Chapter 4: Data/Findings/Designs** - the project outcome. This might be data collected and tabulated or the design of a program, or whatever outcome was obtained.

**Chapter 5: Analysis/Evaluation/Testing** – assessing or testing the project outcome. If the project is of type 2 are the results plausible? If the project is of type 3 or 4 then any computer code should be tested using a range of inputs.

**Chapter 6: Conclusions/Recommendations** - as a result of the project. The project does not need to have a positive conclusion. For example, it might prove that some

system was not effective or successful. You should indicate to what extent your objectives have been achieved.

**Chapter 7: Review/Reflections** - this is often missed out by students but is very important. It is an opportunity to, firstly, review on a personal level what you have achieved, how you achieved it, what took the most time, the problems faced, the way in which they were overcome, etc. Secondly, it is an opportunity to reflect on the project with the benefit of hindsight. What might have been done differently? Was the research method adequate? How could the project have been more successful? Examiners like to see evidence of learning and mature reflection

**Chapter 8: References** - all references should be cited in the body of the report. A typical reference in the report might take the form, “Donar and Kebab (1996) suggest that high cholesterol levels do not lead to heart disease....” or “empirical eating studies show that... (Donar and Kebab, 1996)”. The full title of the article or book or web page in which Donar and Kebab make these assertions is then given in the list of references. Where possible, use an article or a book rather than a web page. The idea of references is not just to substantiate statements and arguments but also to make it possible for other people to find the references. Normally, for a book, you should list author(s), title, publisher, date of publication, relevant page number(s). It can be difficult to locate the relevant part of a book if the page numbers are omitted. For an article list author(s), title of article, name of journal, volume and issue number, date, and page numbers of the article. In the academic world references are regarded as very important and poor referencing will certainly detract from the project report. **Do not under any circumstances quote from a source without making it clear that you are quoting. Any quote must be accompanied by an appropriate reference.**

**Chapter 9: Bibliography** - list any relevant literature that has not been cited in the report. (It is not a very well-kept secret that examiners tend to think that anything in a bibliography has not in fact been read by the student. Of course this is a monstrous slur but nevertheless do not waste too much time on the bibliography. Concentrate on the references!)

**Chapter 10: Appendices** - these are not obligatory. Only put in relevant items not already in the body of the report. These might include a questionnaire used to gather information, a list of the people interviewed and their companies, transcripts of interviews, detailed data, program listings, test results, etc. Any appendix should be referred to in the main part of the report and not just stuck at the end of the report without explanation. It is very important that an examiner can find evidence for the claims you make in your report. The appendices are the place to put such evidence without cluttering up the main part of the report.

Sample projects, completed by previous students are available in the library, short-term loans section and on the departmental intranet.

### **Report Details**

Reports should be between about 7,000 and 10,000 words (excluding appendices), with an absolute maximum of 12,000 words. There is no stipulated minimum length. Reports must be word processed and printed on A4 paper. The pages (other than the title page) should be numbered. Italics may be used for emphasis. All quotations must

be in quotation marks and fully referenced. Figures and tables should be inserted close to the part of the text where they are discussed.

The first page should be a title page, the second an abstract of the project (maximum one page) and the third a contents page. The title page should contain the title of the project, the name of the author, the date and a count of the number of words (excluding the Appendices). At the bottom of the title page place either

*BSc Information Systems and Management Project Report, Birkbeck College,*

or

*BSc Computing Project Report, Birkbeck College,*

in either case followed by

*University of London, plus the year.*

*This report is the result of my own work except where explicitly stated in the text.*

*The report may be freely copied and distributed provided the source is explicitly acknowledged.*

In special circumstances, and by agreement with the Programme Director, the last sentence may be modified. The report should be bound using the plastic 'comb' method with a transparent upper cover and a heavy card backing cover. The College Print Unit (Basement of Main Building in Malet Street, Room B05) and the Print Shop in ULU provide this service (and also photocopying) at reasonable rates. Allow a couple of days if using the College Print Unit (ULU and commercial print shops will do it while you wait). Your name and the year in brackets should appear along the spine of the binder.

**Please submit *two* paper copies of the report and an electronic version of your report for the submission to the plagiarism test.** The electronic version (file name should start *last\_name-first\_name...*) should be uploaded to the Final Year Project page on Moodle. After the examiners' meeting, you can collect one paper copy from the Programme Administrator. It is very important that the details above are adhered to exactly. If your project delivers some kind of artifact e.g. a computer program or a set of web pages these must be appended on a disk. It is not sufficient to provide a URL to a system whether or not you currently have control over it.

### **Project Deadline**

The deadline for the project is shown at Section 12. Students should leave themselves plenty of time to meet the deadline. In the event of serious medical or other problems a mitigating circumstances claim form should be obtained from the Departmental intranet and submitted to the Programme Administrator at [bscadmin@dcs.bbk.ac.uk](mailto:bscadmin@dcs.bbk.ac.uk).

### **Warnings**

The work of the project should be your own. There may be some situations where this will not always be the case, for example, where you have worked with others in a work related project (see Section 8). In such situations you should make it very clear which parts are your own work and which parts were done by others. If you worked in

collaboration, the various roles and contributions must be specified. The project report must be expressed in your own words.

Plagiarism, that is the presentation of another person's thoughts, words, ideas, designs or programs as though they were your own, is a serious examination offence, and treated very seriously by the College. Direct quotation from the work of others (published or unpublished) must always be clearly identified as such by being placed in quotation marks, with a full reference to the source provided. Where a summary of someone else's writing or ideas is made, i.e. expressed in different words to the original, reference to the source must still be provided. A series of short quotations from several different sources, if not clearly identified as such, constitutes plagiarism just as much as an unacknowledged long quotation from a single source.

## **6. Assessment**

The criteria for assessing projects are as follows:

- A.** Quality of proposal
- B.** Awareness and understanding of related work
- C.** Achievement
- D.** Structure and coherence of the report; ability to present complex or technical material; grammar and spelling
- E.** Other

The exact allocation of the total marks to each criterion can be chosen by the student provided the allocations are in the ranges indicated in Table 1. If no choice is made by the student then the markers of the project can make their own choices.

<b>Criterion</b>	<b>Min</b>	<b>Max</b>
A	10	15
B	10	20
C	40	60
D	15	25
E	0	15

Table 1. Mark ranges for the criteria for assessing projects

In order to obtain a mark between 70% and 100%, a student must attempt a challenging project. The project proposal must demonstrate that the student clearly understands the problems involved in the project and has a well thought out strategy for solving them. The topic analysis must be clear and complete. It must show a familiarity with the relevant literature, especially with reports of previous work on the problems involved in the project and with suggested solutions to them. The report must include a description of the requirements for the project and of the way in which the implementation or development of the project will meet these requirements. If the project work has involved the writing of computer programs, then there should be an explicit well designed series of tests to show that these programs are free from errors and meet the requirements of the project. The report must be clear, complete and well written. It must clearly demonstrate the student's understanding of the project, the implications of any results obtained during the project, and, where appropriate, the

context of the project for example with regard to previous work reported in the literature or with regard to an organization where the results of the project might be used.

A project which meets some but not all of the above criteria might receive a mark between 60% and 69%. This mark might be awarded for an ambitious but only partially successful project or for a less ambitious project carried out and written up to a high standard. The remaining pass marks for the project are 40% to 59%. If the mark is 39% or less then the project is failed. The reasons for failing a project include but are not limited to i) insufficient technical or scientific material in the report; ii) an unreadable or very badly written report; iii) insufficient work carried out on the project; iv) lack of any evidence that the student has understood the project or thought through the way in which the work on the project should be carried out; v) plagiarism.

## **7. Assessors**

Each project is marked by the supervisor and normally by one other 'the second marker' internal to the DCSIS. In the event of disagreement between the supervisor and the second marker a third marker and/or the External Examiner will also consider the project. All projects are potentially reviewed by the External Examiner, although in practice usually only a sample are seen.

Students undertaking a Type 4 project will normally be expected to demonstrate their projects to their supervisor. All students may be called upon to present their projects to, and respond to questions from, a sub-committee of the Examination Board.

## **8. Work Related Projects**

Projects in collaboration with outside organisations are encouraged. Such organisations include where relevant the employer of the student. Work related projects can be very rich, provide real-world and relevant problems and issues, and provide access to information that would otherwise be very difficult to obtain.

In general a student should not carry out for the project a task that would have been done anyway as part of his or her employment. Projects can be closely related to work tasks but they should have an additional dimension, beyond a normal work task. This provides an opportunity for the student to perform an activity or a study that he or she might not otherwise be able to do. So think of something you would like to do and talk to your management about it.

Students should be aware that there can be dangers and risks in such work related projects. These include:

- confidentiality problems
- conflicts of interest
- incompatibility between company timescales and the project timescales
- companies changing their minds in reaction to business pressures
- companies thinking that the student is doing the project primarily for them
- separating your project activities from the activities of others in the company



Most of these problems can be reduced if not completely overcome if both parties fully understand the situation, and plan accordingly, in advance. The student is responsible for obtaining any necessary clearances for the material published in the project report. The company should be made aware that the project report is normally a public document and should therefore not contain confidential material. In exceptional circumstances the circulation of the project report may be restricted but it still has to be seen by the various examiners, including the External Examiner and the Examination Board.

Another problem that can arise concerns reports produced for a company. Such reports are very unlikely to be of the kind required by the College. Do not assume that just because a company was happy with their report, it can be given to the College with the same result. The College can take no responsibility for, nor have any commitment to, the company for any activity by a student in connection with a project. The student must make this clear to the company concerned.

### **9. Intellectual Property Rights**

If there is a possibility that your project work may have commercial value, then you should contact the Business Relations Department (<http://www.business.bbk.ac.uk/>) for advice.

### **10. Projects from Previous Years**

Some of these projects were conducted outside the DCSIS. These projects are marked with \*.

#### **Type 2 Projects**

- The value of IT to a global private bank
- Proof of concept of a campaign management system for a financial organisation
- Case study of a hybrid manager
- IT and empowerment of society
- IS in a retailing sector
- Electronic Ticketing in the Airline industry
- A study of the alignment of organisational and technology strategies\*
- A change management strategy for the introduction of new technology\*
- User perceptions and operational effectiveness of different styles of user interfaces\*

#### **Type 3 Projects**

- Analysis and development of a web page for the Alternative Investment Market
- CTI (Computer Telephony Integration) project estimation and costing system
- The Impact on IT/IS functions for a Newly Created Entity arising from a Merger
- Evaluation of requirements for an e-mail system
- Information System for budgetary control in an NHS Trust department
- Development of an in-house methodology specific to a particular organisation\*

- Identification of new organisational form and structure for an information systems department\*
- Evaluation of an information systems failure in a particular organisation\*
- A comparison and evaluation of various programming languages\*

### **Type 4 Projects**

- Design of software to assist in a data re-cabling project at the LSE
- Development of an examination timetabling system for SOAS
- Stock Control Database
- Children's educational software program
- Scalability issues of computer security
- Computerised theatre booking system
- Implementation of SAGE Accounting system in a fashion design company
- Archiving system for financial papers: storage and retrieval\*
- An expert system to select racehorses based on breeding\*

### **11. Projects Suggested by Academic Staff**

There is a list of DCS staff and their areas of interest for project supervision at

<http://www.dcs.bbk.ac.uk/r/doc/staff-interests.php>

### **12. Project Timetable**

**For finalists in 2015/2016**

The Project Proposal must be submitted by **Monday 2<sup>nd</sup> November 2015**.

The Project Report should be uploaded to the Final Year Project page on Moodle by **Tuesday 3<sup>rd</sup> May 2016**. This deadline may be extended if a successful application for mitigation is made. The mark for a project report submitted after **3<sup>rd</sup> May 2016** and before **17<sup>th</sup> May 2016**, the cutoff date, but without mitigation, will be capped at 40%.

### **13. Reference**

Further information and advice about student projects in general can be found in

C.W. Dawson (2009) *Projects in Computing and Information Systems: a student's guide*. 2<sup>nd</sup> edition. Addison Wesley.