



**Faculty of Computing Engineering and Technology**

**Part-time and Full-time  
BTEC Higher National Diplomas**

Business Information Technology

Computing Science

Software Engineering

Applied Information Technology

Applied Multimedia

Network Computing

Computer Games Programming

Forensic Computing

**PROJECT HANDBOOK  
2007/8**

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## **INTRODUCTION**

As part of the HND each student must complete an individual project. The essential characteristic of the project is that it will require the integration, application and development of the ideas, knowledge and technical skills acquired in the taught modules of the student's chosen award. The project consists of two modules; each module is worth 15 CREDITS. It spans two semesters. Students are expected to undertake 150 hours of work on each of the project modules.

### **1 Project Aims and Purpose**

The project offers each student the opportunity to demonstrate the ability to undertake and produce a substantial piece of work to a professional standard in a supervised and managed context. On completion of a successful project ability in the following areas will have been demonstrated:

- Application
- Analysis
- Problem solving
- Reflection
- Communication
- Enquiry
- Knowledge and Understanding

A project should be appropriate to the student's intended award.

### **2 Project Requirements and Assessment**

The project will be assessed at 4 key milestones.

Although the four milestones constitute the project content, the project should be conceived, designed and implemented as a whole. The project may address a variety of problem areas and take advantage of different technologies and methods.

Each project will produce an individual and distinct artefact with appropriate documentation.

The project is made up of many aspects and each may have different success criteria. For example any software developed as part of the project should be judged by the criteria suitable for evaluating a successful piece of software; whereas the analysis, design and development of the project should be judged as a learning process and an academic exercise. Documentation should be judged on style, content and presentation.

Undertaking a project is not a sequence of unrelated activities.

A good project is based on a systematic, well-managed or 'engineered' approach with a sound philosophical foundation. The fundamental principal of carrying out an effective project is to match the project plan to the resources that are available for its completion. Disruption to the project can be minimised by setting a realistic time scale for completing the activities and

for presenting the deliverables in a way that takes into account any other commitments. The basis of this assessment is as follows:

<b>Project (Planning, Research, Analysis and Design) CE00372-2</b>			
<b>Milestone</b>	<b>Name</b>	<b>Weighting</b>	<b>Hand in</b>
Project Identification	Title and brief outline (1 paragraph only)		Sem 1 Week 2
Milestone 1	Project Proposal (Approx 1000 words)	20%	Sem 1 Week 4
Milestone 2	Research, Analysis and Design (Approx 5000-7500 words)	80%	Sem 2 Week 1
<b>Project (Implementation and Testing) CE00368-2</b>			
<b>Milestone</b>	<b>Name</b>	<b>Weighting</b>	<b>Hand in</b>
Milestone 3	Implementation, Testing and Evaluation (Approx 5000-7500 words)	40%	Sem 2 week 12
Milestone 4	Demonstration and Presentation	60%	Within 2 weeks of Milestone 3

Details of assessment can be found in appendix 5 and 6. It is recommended that you read this and make sure that you have not omitted anything.

### **3 Project identification**

At the start of semester 1, the Project Co-ordinator will conduct a lecture to discuss the project in further detail. The procedures for choosing a project will be explained and a copy of the handbook and lecture slides will be distributed. The time and venue for this is arranged by your project co-ordinator who will notify you of the details.

You are requested to identify a title and brief outline for your project; a paragraph is normally sufficient. This needs to be submitted by email to the project co-ordinator. Once complete the project co-ordinator will allocate a project supervisor.

## **Milestone 1 Project Proposal**

It is important that you identify if there are likely to be any ethical issues involved when undertaking your project. You must submit an ethical approval form stating whether any ethical issues may be involved.

The project proposal will be handed in the 4<sup>th</sup> week of Semester 1 (dates and times for the hand in for Stafford students will be shown on the HND project website <http://www.fcet.staffs.ac.uk/rk3/hnd.htm>)

Inevitably many student projects will involve work in the same subject area: the project must be based upon the modules of a particular award. It is the responsibility of the student to ensure that each project is unique in some way. The project supervisor or co-ordinator will be happy to discuss the project but the student must undertake appropriate preparatory work before arranging any meeting because there are great pressures on staff time.

Areas to be included in the project proposal include:

### **Title**

Your title should be concise and convey the flavour of your project, without turning into a multi-sentence description.

### **Ethical Approval Form**

It is important that you identify if there are likely to be any ethical issues involved when undertaking your project. You must submit an ethical approval form stating whether any ethical issues may be involved.

### **Background**

A few paragraphs should be sufficient to cover the background to your project. Introduction to the project which describes the main reasons for carrying it out, and placing the project in context.

### **Project Definition**

This should explain what the project is to deliver. It should include:

Project aim(s).

When you are identifying your aim(s) try to think in one sentence 'what is the purpose of your research?'

Once you have defined your aims the next step is to establish precisely the things you will need to do deliver in order to meet your aims. This will help to clarify exactly what you are planning to do. It may be best to list your objectives as bulleted points.

The list of objectives that can be measured should collectively describe what the deliverables and achievements of your project will be, covering three areas:

Academic objectives, covering such things as your research objectives

Personal objectives including skills that you plan to acquire

System and business objectives, including system components that you will deliver, functionality/main requirements that will satisfy and key business benefits

Test each of the objectives by asking:

Are your objectives ambiguous or could they be misinterpreted?  
Are the objectives too big? Can you meet them in time?  
Are they too trivial?  
Are there too many?  
Are they too broad or too vague?  
Do you have the skills to meet them?  
Do you have the necessary people and resources?  
Can your success/failure in meeting the objectives be measured? If not you will not know if you have met them and neither will your supervisor.

### **Justification**

You should justify your choice of project by explaining how the project will meet the requirements of your course, why the topic interests you, and what you hope to gain from the project.

### **Scope**

The scope of a project is a description of what activities you plan to carry out, and the functional or academic boundaries of your project. In order to do this it may be useful to list what you are not going to be doing. Functional boundaries will help to define which parts of a problem or business you will be addressing.

### **Deliverables**

The deliverables are what you are intending to produce. These will normally include such items as the project report, a prototype system, requirements specifications, time plans, test plans, supporting documentation etc.

### **Constraints**

You should identify the constraints that you will need to impose on your research activities. The main constraints are likely to be:

Time - that you have available

Existing skills – unlikely that you will have the time to develop new skills, particularly if your project involves a substantial system development

Resources – see below.

Data availability – can you realistically access and make full use of the data.

Will you be able to publish any company data that you acquire – refer to your ethical statement.

### **Resources**

Any special resources that you will need to complete your project. It will assure your supervisor that you have not overlooked the need for specific hardware or software.

The main resource you might need access to is people for such activities as interviews for requirements analysis or evaluation.

### **Risks**

These are the things that you are aware of that might happen and if they do will have an effect on your project. You should have a fall back position in case they do occur.

## **Milestone 2 Research Analysis and Design**

This section of the project should contain the following:

### **Background research**

This is research relating to your project area. Some examples:

If you are building a website to promote your local village this will look into the type of information you want to include in it. It is always useful to do a comparison of similar systems to the one which you intend to build so you can incorporate any desirable features.

If you are building a computer game you will need to do some research into the games industry and see which types of games are popular with your target audience.

If you are building an interactive maths learning package for a child you will need to carry out some research into the curriculum and interaction styles.

### **Implementation specific research**

This includes research into:

Methodologies (look at approximately 3 of these and choose the most appropriate for your project).

Other technologies possibly including operating systems, programming languages, development tools, database management systems, hardware requirements, security issues, HCI issues, web hosting etc.

### **Justification and use of chosen methodology and other technologies**

Having researched a few methodologies you need to justify why you have chosen one (or a combination) to follow and describe why the method you have chosen is appropriate for the particular problem situation.

This is where many projects fall down. The idea of researching into appropriate methodologies and selecting the most appropriate is to help you manage your project.

Once you have selected a methodology you should make sure that you are familiar with the stages of the methodology and that they are followed.

In addition to following the methodology you should document how you did this in your report for example:

Some methodologies may adopt a traditional waterfall model where each stage is completed and documented in a strict order. Other methodologies may involve prototyping and each prototype must be documented and evaluated. Whichever methodology is chosen you should plan your Gantt chart accordingly

Having carried out the research you should be in a position to make informed decisions as to which technology you are going to use. You need to give valid reasons for your choice and why the others you have considered are not appropriate.

### **Detailed list of project requirements**

The investigation phase of a project is critically important. The objectives of this stage are to gain a thorough understanding of the requirements of the new system. This stage will involve a fact finding exercise using various

techniques. It may also involve reviewing similar types of systems that are available.

The requirements should include both functional and non functional requirements. Many of your projects will not have a real customer but this is not a problem; you can still produce a 'wish list'

### **Development of Models and supporting text**

For the Analysis stage you are required to develop a number of models.

These can include if appropriate:

- Process models (DFD' and supporting descriptions)
- Data Models (Entity Relationship diagrams)
- Use Case diagrams
- Business models (for students on a Business Informatics Award)
- Any others which you feel are appropriate.

These may be included in the chapter or in an appendix.

### **Detailed design documentation**

The design stage of the project should map the logical models and produce a detailed design specification.

If applicable the following should be produced:

- Algorithms, STD's, file systems etc.
- Data Models should be converted into database tables and a data dictionary.
- Storyboards for Interface designs.
- Web site maps
- Query designs

### **Gantt chart**

A project Gantt chart should be included at this stage for the entire duration of the project. Project development steps are not meant to be performed sequentially. Many steps will run in parallel because they inform each other as you go along.

### **Completed logbook**

This is the evidence required to show how you have managed the project. It will show how regular your attendance has been and how pro-active you have been in meetings.

It is very important that you attend regularly in order to help to keep you on track and complete your project successfully.

**Please remember '80% of success is showing up" *Woody Allen.***

**Any references should use the Harvard system of referencing (see Appendix 3). Reports will be checked for academic dishonesty using plagiarism detection software.**

### **Milestone 3 Implementation Testing and Evaluation**

The implementation of the project should provide a clear description of how the solution to the problem is realised. As with the other parts of the project, the selection of the implementation method should be described and justified, and the nature of the solution will depend on the nature of the project and the award.

This section should include:

**A discussion of the technology used**

and how this was applied to the project.

**How the design was converted into a working system.**

Any differences from the design stage should be discussed.

**A discussion of what was successfully implemented and what was not**

Did any of the key features prove to be particularly challenging and involve more work than originally anticipated? How did you overcome these problems?

**System documentation**

You should include a user manual, administrator information and technical support information.

The manual could be online or annotated page shots.

If you have written code this should be commented appropriately.

#### **Testing Strategy**

The testing of the project should address the evaluation of the solution against its objectives and success criteria. You are required to give a description of the testing strategy and the choice of testing method for example functional testing such as black-box and white box testing; also usability testing.

#### **Test plan and discussion of the results**

Include the planning and application of the tests by producing a test plan.

The plan will depend upon the types of test being carried out.

Draw conclusions from the results of the tests and any modifications to the design and implementation that may be recommended.

Please note that testing should be an on-going process and realistically we would expect to see many examples where the test did not produce the required results. The idea of this is that modifications should be made to the system to make corrections to the system. It is useful to show all tests not only the final ones!

#### **The critical evaluation**

This section of the project is of crucial importance to the whole work. It deals with the success of the project in academic terms, compared to the success criteria for the solution.

Even the best analysis, design and implementation will be 'let down' by an inadequate critical evaluation. The examiners are expected to look at this most carefully in determining the success (or otherwise) of the project.

Although the exact nature of the evaluation will vary between projects, it is possible to identify certain issues that should be addressed:

The student's evaluation of the degree of success in carrying out the project including:

- What the student has learned by doing the project
- Things the student would do differently if the project were to be repeated and any extra features which the student would recommend if the project could be extended
- The value of the learning process to the student and the extent to which the project has added to the student's professional and academic expertise.
- Gantt chart reflection – the actual time plan compared to the original time plan

### **Completed logbook**

This is the evidence required to show how you have managed the project. It will show how regular your attendance has been and how pro-active you have been in meetings.

It is very important that you attend regularly in order to help to keep you on track and complete your project successfully.

### **The project milestones and code listings should be handed in on a floppy disk or CD ROM in a readable format.**

Please note the code listings need not be printed out or added to the documentation. However, you must be prepared to discuss the code at the demonstration if required. Samples of code that illustrate the application of sophisticated techniques may be added to the documentation if necessary but these must be suitably annotated.

**Reports will be checked for academic dishonesty using plagiarism detection software.**

## **Milestone 4 Presentation and Demonstration**

You will be required to present and demonstrate your project to your supervisor (s) and possibly the project moderator. You will have 30 minutes for the presentation, demonstration and questions. Please try and keep within this timescale as marks could be penalised for project presentations and demonstrations which are either too long or too short. You should prepare a presentation (using Powerpoint or other suitable presentation software) and this should be a brief overview of your project report. The marking criteria consists of the following sections:

### **Communication and Presentation Skills**

How well have you structured your presentation?

Does it flow in a logical order?

Have you used bullet points or do your slides contain too much information and look cluttered?

It is preferable to just use the slides as a guideline and then you will be able to tell us all about the project rather than simply reading word for word from the slides.

Try and talk to the audience rather than the screen!

### **Content of Presentation**

This should tell us all about your project including the problem you intended to solve, why you chose it, what you produced. You should outline your initial objectives and look at each of these in turn to see if you met them to determine whether your project has been a complete or partial success. You could describe the methodology that you followed and if this helped you to achieve your goal. Was the technology that you used a wise choice?

### **Content of Demonstration**

Please make sure that you plan your demonstration well by preparing a suitable set of test data which will show all the main features of your system. You may wish to do the demonstration after the presentation or part way through it, the choice is left to you.

### **Ability to answer questions**

Please let your tutors know whether you would like to answer questions throughout the presentation or demonstration or leave them until the end. Again the choice is left to you.

### **Technical and functional quality of the artefact**

This section awards marks for the depth of challenge that the project sets. Some projects are much more straightforward than others and if a difficult project has been chosen extra marks can be awarded to take this into account.

If you have produced a well designed robust system that is fully functional and well tested you are likely to score highly in this section!

## 4 Managing your Project

The overall project management is the responsibility of the student but the project supervisor will oversee part of this. Any project deliverable must be the sole work of the student. The student must attend regular meetings with the supervisor. It is important that the student prepares for these meetings in advance, both as an exercise in personal organisation and to make the best use of the time for both parties. All students should maintain a project portfolio containing the following documents:

- A project log-book (see Appendix 1), containing brief preparatory notes for the supervisory meetings, a brief note of the main points of the discussion and an 'action list' of work to be done before the next meeting. The logbook will be handed in at the end of the project as a part of the assessment 'audit trail'.
- A project plan showing the planned activities and their estimated duration, milestones and deliverables against a time scale, probably in the form of a bar or Gantt chart, possibly using project management software. It is important to emphasise that this is at first a baseline plan, and will certainly change over time, providing such changes are justified. The revised project plan should be incorporated in each stage of the Project Report.
- The work file, which will build up the body of the working documents (e.g. rough notes, costing and program listings) and the bibliographic information (i.e. copies of articles and notes made from books and journal papers). The work file is an important resource, but is not a deliverable. It will not be handed in, but its contents will make an important contribution to the project.

### **A summary of the student's responsibilities for the project follows:**

- Choose or propose a project title within the award definition and submit this to the project co-ordinator along with a brief outline of what the project is about.
- If necessary discuss the initial project idea with the project co-ordinator or the project supervisor.
- Draw up a Project proposal. This will comprise of a specification of the project, a statement of deliverables and success criteria, and a detailed plan of work identifying how each milestone will be achieved. Make sure you have completed the ethical consideration form. Undertake the research, analysis and design.
- Implement, test and evaluate the prototype. It is also important to critically evaluate the approach that you have taken.
- Present the project and demonstrate any deliverables.
- Plan, manage and document the project work and maintain a record of such work. This is a key factor in demonstrating the ability to approach a project in a professional manner.

- Attend regular meetings on a weekly/fortnightly basis with the allocated supervisor.
- Be available for a viva voce examination after the Field Assessment Board, should this be necessary, in which case the student will be notified.

This handbook is intended to help the student to understand and fulfil these responsibilities. Any outstanding questions should be raised with the project supervisor or the project co-ordinator.

## **Plagiarism**

A project will undoubtedly build upon and contain reference to the work of others and proper referencing should be employed as shown in Appendix 2. Any attempt to represent such work as that of the student or any attempt to copy the work of others will be dealt with severely under the University's regulations regarding plagiarism.

**Note that the whole scale copying from the Internet or books as opposed to using and clearly referencing the source of any material will also be treated as plagiarism. Plagiarism will not be tolerated. Please refer to the student handbook if you are in any doubt as to what is considered to be plagiarism.**

## **Working with your supervisor**

Your supervisor is one of the most important support resources available. You will be allocated a supervisor who may or may not have some knowledge of your topic. However they will be able to point you towards sources of information.

Most supervisors are limited in the time that they have to support your project and will be supervising a number of other projects in addition to yours. You must be efficient and effective in the use of your supervisor. Being efficient means making sure you turn up promptly for meetings. Make sure the issues you want to discuss are the important ones and prepare in advance for your meetings.

Your supervisor is an advisor and critical reviewer of your work. You must not expect them to do your project for you or consult them on every minor issue as this gives the impression that you do not have the ability to work on your own.

If you have arranged a meeting and find that you cannot make it please let them know in advance. If you have regular problems with attendance it will give your supervisor the impression that you are failing to manage your project effectively and marks will not be awarded for this section.

A summary of the supervisor's responsibilities for the project follows:

- To meet with the student at regular intervals to advise and guide the progress of the project;

- Manage and oversee the administration of the project and help the student from time to time to identify the direction that the project should take;
- Give the student reasonable assistance in obtaining access to advice, material and resources with which to carry out the project and reasonable advice on documenting and presenting the project;
- Mark the project elements submitting the necessary assessment within the specified time and represent the project at the Assessment Board
- Establish whether the project meets the British Computer Society requirements for an artefact to be produced by a project on awards for which this is a requirement.
  - Establish whether the project requires moderation.

### **Role of the Project Co-ordinator**

The project co-ordinator will co-ordinate the selection and supervision of projects and will provide advice and guidance should any difficulties arise that cannot be resolved between the student and supervisor. Once project titles and outlines have been submitted to the project co-ordinator the co-ordinator will be responsible for allocating a project supervisor.

## 5 Project Documentation Style and Format

The project will be assessed at 4 key milestones as detailed above.

It is particularly important to pay attention to the structure of the assignments, as a poorly structured document is unlikely to do justice to the contents.

The Appendices (for each of the milestones) should contain information that would otherwise interrupt the reading of the report. It is not possible to prescribe the contents of the appendices, but a typical project with software deliverable will include diagrams, screen designs, a user manual, evidence of any test results and log books.

It is important to remember that the milestones are formal academic documents. They must conform to recognised academic standards and Staffordshire University format in terms of style, structure and content. These factors are explained below:

### Project report style

The assignments should be written in a formal style, preferably in the third person form, although use of the first person singular is acceptable. For instance, 'It was found that...' is preferred, although 'I found that...' is acceptable. Careful attention should be paid to the use of grammar and correct spelling, and students are encouraged to use such aids as are available for this purpose. Students are expected to use *italics* for words in languages other than English (e.g. *pro forma*) and CAPITALS to begin proper nouns (e.g. MS Windows).

If the student wishes to paraphrase or comment on another author's work, appropriate reference should be made according to the Harvard system (see Appendix 3). Students are reminded of the importance of originality and consequences of plagiarism – see section 5.

### Project report format

Each assignment will vary in length. Guidelines are presented in section 4. The student may choose the font (although Times New Roman is recommended) but the main text must be in 10 or 12 point type with a one-and-a-half line spacing and chapters, headings and pages should be numbered sequentially for reference. The report(s) must high quality printed on A4-size paper. Each assignment must have the following information:

- The full title of the project.
- The full name of the author in the form registered with the University.
- The award for which the student is registered.
- A statement that the qualification is awarded by Staffordshire University and that the report is submitted in partial fulfilment of that award.
- The full name of the supervisor.
- The month and year of submission.

**APPENDIX 1 FAST TRACK ETHICAL APPROVAL FORM**

<p><b>STAFFORDSHIRE UNIVERSITY</b>  <b>FAST-TRACK ETHICAL APPROVAL FORM (STUDENTS)</b></p>
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Tick box:

- HND project
- Full-Time Study  Part-Time Study

Title of project .....

Title of Award: .....

Name of student researcher .....

Student Number .....

Name of supervisor/module tutor.....

**Student Researchers- please note that certain professional organisations have ethical guidelines that you may need to consult when completing this form.**

**Supervisors/Module Tutors - please seek guidance from the Chair of your Faculty Ethics Committee if you are uncertain about any ethical issue arising from this application.**

		YES	NO	N/A
1	Will you describe the main procedures to participants in advance, so that they are informed about what to expect?			
2	Will you tell participants that their participation is voluntary?			
3	Will you obtain written consent for participation?			
4	If the research is observational, will you ask participants for their consent to being observed?			
5	Will you tell participants that they may withdraw from the research at any time and for any reason?			
6	With questionnaires and interviews will you give participants the option of omitting questions they do not want to answer?			
7	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?			
8	Will you give participants the opportunity to be debriefed i.e. to find out more about the study and its results?			

If you have ticked **No** to any of Q1-8 you should complete the full Ethics Approval Form.

		YES	NO	N/A
9	Will your project deliberately mislead participants in any way?			
10	Is there any realistic risk of any participants experiencing either physical or psychological distress or discomfort?			
11	Is the nature of the research such that contentious or sensitive issues might be involved?			

If you have ticked **Yes** to 9, 10 or 11 you should complete the full Ethics Approval Form. In relation to question 10 this should include details of what you will tell participants to do if they should experience any problems (e.g. who they can contact for help). You may also need to consider risk assessment issues.

		YES	NO	N/A	
12	Does your project involve work with animals?				
13	Do participants fall into any of the following special groups?  <b>Note that you may also need to obtain satisfactory CRB clearance (or equivalent for overseas students)</b>	Children (under 18 years of age)			
		People with communication or learning difficulties			
		Patients			
		People in custody			
		People who could be regarded as vulnerable			
	People engaged in illegal activities ( eg drug taking )				
14	Does the project involve external funding or external collaboration where the funding body or external collaborative partner requires the University to provide evidence that the project had been subject to ethical scrutiny?				

If you have ticked **Yes** to 12, 13 or 14 you should complete the full Ethics Approval Form. There is an obligation on student and supervisor to bring to the attention of the Faculty Ethics Committee any issues with ethical implications not clearly covered by the above checklist.

If you have ticked **Yes** to 13 and your participants are **patients** you must follow the Guidelines for Ethical Approval of NHS Projects.

**STUDENT RESEARCHER** Provide in the boxes below (plus any other appended details) information required in support of your application. THEN SIGN THE FORM.

**Please Tick Boxes**

I consider that this project has no significant ethical implications requiring a full ethics submission to the Faculty Ethics Committee.	
<b>Give a brief description of participants and procedure (methods, tests used etc) in up to 150 words.</b>	
I also confirm that: ii) All key documents e.g. consent form, information sheet, questionnaire/interview are appended to this application.	
Or ii) Any key documents e.g. consent form, information sheet, questionnaire/interview schedules which need to be finalised following initial investigations will be submitted for approval by the project supervisor/module leader before they are used in primary data collection.	

Signed..... Print Name..... Date.....  
(Student Researcher)

**Please note that any variation to that contained within this document that in any way affects ethical issues of the stated research requires the appending of new ethical details. New ethical consent may need to be sought.**

**The completed form (and any attachments) should be submitted for consideration by your Supervisor/Module Tutor**

**SUPERVISOR/MODULE TUTOR  
PLEASE CONFIRM THE FOLLOWING:**

**Please Tick Box**

I consider that this project has no significant ethical implications requiring a full ethics submission to the Faculty Ethics Committee	
i) I have checked and approved the key documents required for this proposal (e.g. consent form, information sheet, questionnaire, interview schedule)  Or	
ii) I have checked and approved draft documents required for this proposal which provide a basis for the preliminary investigations which will inform the main research study. I have informed the student researcher that finalised and additional documents (e.g. consent form, information sheet, questionnaire, interview schedule) must be submitted for approval by me before they are used for primary data collection.	

**SUPERVISOR AND SECOND ACADEMIC SIGNATORY**

**STATEMENT OF ETHICAL APPROVAL (please delete as appropriate)**

**1) THIS PROJECT HAS BEEN CONSIDERED USING AGREED UNIVERSITY PROCEDURES AND IS NOW APPROVED**

**2) THIS PROJECT HAS BEEN APPROVED IN PRINCIPLE AS INVOLVING NO SIGNIFICANT ETHICAL IMPLICATIONS, BUT FINAL APPROVAL FOR DATA COLLECTION IS SUBJECT TO THE SUBMISSION OF KEY DOCUMENTS FOR APPROVAL BY SUPERVISOR (see Appendix A)**

Signed..... Print Name..... Date.....  
*(Supervisor/Module Tutor)*

Signed..... Print Name..... Date.....  
*(Second Academic Signatory)*

**APPENDIX A  
AUTHORISATION FOR USE OF KEY DOCUMENTS**

**Completion of Appendix A is required when for good reasons key documents are not available when a fast track application is approved by the supervisor/module leader and second academic signatory.**

I have now checked and approved all the key documents associated with this proposal e.g. consent form, information sheet, questionnaire, interview schedule

Signed..... Print Name..... Date.....  
*(Supervisor/Module Tutor)*

## APPENDIX 2 PROJECT LOGBOOK SHEET

### Notes on use of the project logbook

1. The student and supervisor must meet regularly to review progress and make plans for the project. It is the purpose of the Project Logbook to document these meetings and therefore build up a record of the student's progress throughout the project.
2. The student should prepare for the meetings by deciding which questions he or she needs to ask the supervisor and what progress has been made since the last meeting (if applicable) and noting these in the relevant sections of the sheet, effectively forming an agenda for the meeting.
3. The business of the meeting should be noted briefly as items in the relevant section of the sheet. There will be one sheet for each supervisory meeting and the actions on the student (and perhaps the supervisor) which should be carried out before the next meeting should be noted briefly in the relevant section of the sheet.
4. The Project Logbook is one of the deliverables from the project and is an important record of the student's organisation and learning experience. The student should ensure that it is handed in as an appendix of the report, with sheets dated and numbered consecutively to show a consistent record of the supervisory meetings.

Student's <b>family</b> name:	Student's <b>other</b> names:	E-mail/user-name:
.....	.....	.....

Project <b>title</b> :

Circle **week number**

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

<b>Items for discussion</b> (noted by student before supervisory meeting):
1.
2.
3.
4.
5.

**Record of discussion** of supervisory meeting

1:

2.

3.

4.

5.

6.

**Action list** (to be attempted or completed by student by the next supervisory meeting):

1.

2.

3.

4.

5.

6.

**Further notes by supervisor or student** (if applicable):

### APPENDIX 3 HARVARD REFERENCING

When you refer to an article or book within the text of your report you should include just the surname(s) of the author(s) and the year of publication, for example:  
'Jones (2002) has suggested that'

If a work has more than one author you should either list all the authors' surnames or use '*et al*' if there are more than two, for example:  
'Jones, (2002)' and 'Smith *et al.* (2004)'

If you wish to refer to a specific page you should add the page number after the date:  
'Jones, (2002, 54)'

For each article or book referred to in your report, you must then include a full entry in the list of references in your bibliography at the back of your report. The Harvard system format for a full book reference is:  
Surname, forenames or initials of each author (year of publication) *Full Title* (edition), place of publication, publisher. For example:  
'Jones, (2002) *Your project* (3<sup>rd</sup> edition), London, FT Prentice Hall.

For a full journal article reference:  
Surname, forenames or initials of each author (year of publication) 'Article title', *Journal Title*, **Volume** (issue), page numbers. For example:  
'Jones, (2002) 'How to program', *Journal of your project*, **6** (2), 120-123.

#### Internet referencing

If you have obtained a journal article or electronic version of a book from an internet site, you should add the (URL) and access date to the end of the reference, for example:

Yin, J., Alvisi, G., Dahlin, M and Iyengar, A. (2002) 'Engineering web cache consistency' *ACM Transactions on Internet technology*, 2(3), 224-229. Available from <http://www.research.ibm.com/people/i/iyengar/toit02.pdf> (10 January 2003).

If the article has been published solely on the internet you should attempt to record as much information as you would collect for a printed article. In many cases volume and issue numbers will not exist, but you should attempt to record at least the following:

Full names of the authors (may be an organisation)

Year of publication

Full title of article

Full name of on-line journal

Publisher

Place of publication (if known)

Internet address

Date of access

For example:

DSDM Consortium (2002) 'The Underlying Principles' *DSDM Website*. Available from <http://www.dsdm.org/en/about/principle.asp> (accessed 7 January 2003).

#### **APPENDIX 4 EXAMPLES OF PREVIOUS PROJECT TITLES**

HND SE	Teaching basics of a private pilots licence
HND SE	Online turn based strategy game
HND SE	2 Player Chess Game
HND SE	VB Poker
HND I'TECH	Website for a Dance school
HND I'TECH	Internet café for gaming
HND I'TECH	Healthy eating website for students
HND I'TECH	Photography website of Lichfield
HND I'TECH	Computer components website
HND I'TECH	Website for Stoke City FC
HND C'ING	Website teach people how to play Texas Hold em Poker
HND C'ING	Staffordshire University Hockey Club Data Storage and Website System
HND C'ING	Peugeot 106 Car Parts Online Order System
HND C'ING	Automated stock system
HND C'ING	A library stock management system
HND C'ING	Word distance vectoring
HND C'ING	Web based calendar
HND C'ING	Hotel Booking System
HND C'ING	A website and Database of Beaconside Sports Centre.
HND BIT	Website on the ultimate holiday guide
HND BIT	Management Database for a Newsagents
HND BIT	Motorcycle dealer & breakers System
HND BIT	George & Fox Web Site.
HND BIT	Youth club site

**Newsagents Management Delivery System**

**By**

**Abou Ben Adhem**

**Higher National Diploma (*insert award here*)**

**Staffordshire University**

**Milestone (*insert assignment number*)  
submitted in partial fulfilment for the project of the  
award of the  
Higher National Diploma in (*insert award here*)  
from Staffordshire University**

**Supervised by Dr. Leigh Hunt**

**May 2008**

**APPENDIX 6 PROJECT MARKING SCHEME**

<b>MILESTONE 1 PROPOSAL</b>			
<b>NAME</b>			
<b>SECTION</b>	<b>CRITERIA</b>	<b>MAX %</b>	<b>MARK</b>
Has the student completed and <b>signed</b> an ethical considerations form? Have they understood issues involved?	Understanding: shown fully/partially/barely/not included	5%	
The introduction and background to the proposal (e.g. project context, rationale, description of problem areas, challenges created by the proposal)	Introduction and background	5%	
	Project context	5%	
	Project rationale	5%	
	Problem areas	5%	
	Challenges	5%	
The aims and objectives	Aims and objectives	20%	
Justification	Justification	5%	
Scope	Scope	10%	
The deliverables, what are you intending to produce (e.g. plans, documentation, software, results)	Deliverables: complete/partial/missing	10%	
Constraints and Assumptions	Constraint(s) and assumptions identified: fully/partially/barely	5%	
Resources	Resources(s) identified: fully/partially/barely	10%	
Risks that may have an effect on your project including fallback position in case they do occur	Risks(s) and fallback solutions presented: fully/partially/barely	5%	
Presentation of report	Standard format: headings/content/appendices/bibliography/spelling/punctuation/grammar very good/acceptable/poor	5%	
		<b>TOTAL</b>	100%

<b>MILESTONE 2 RESEARCH ANALYSIS AND DESIGN</b>			
<b>SECTION</b>	<b>CRITERIA</b>	<b>MAX</b>	<b>MARK</b>
<b>Background research</b> relating to the project area	Evidence of research: extensive/acceptable/limited/missing	15%	
<b>Research into methodologies and other technologies</b> including: operating systems, development languages/tools, hardware and software etc.	Evidence of research into methods: extensive/acceptable/limited/missing	10%	
	Evidence of research into other technologies: extensive/acceptable/limited/missing	10%	
<b>Justification and use</b> of chosen methodology and other technologies	Methodology choice justification: critically reasoned/reasoned/weakly reasoned/missing	5%	
	Methodology applied appropriately/partially/not used	5%	
	Other technologies justification: critically reasoned/reasoned/weakly reasoned/missing	5%	
<b>Project Requirements</b>	Project requirements: detailed/adequate/limited/missing	5%	
<b>Development of models</b> and supporting text	System modelled: fully/partially/limited/ missing	10%	
Detailed design including (if appropriate) algorithms, database tables, data dictionary, query designs, interface designs, website designs etc.	Design specification: Detailed/acceptable/limited/missing	5%	
	Designs and models: Detailed/acceptable/limited/missing	5%	
<b>Time Planning</b> - Gantt chart	Judgement of time: Reasonable/acceptable/poor/plan is missing	5%	
<b>Presentation</b> of report and use of references	Headings/content/appendices/bibliography/spelling/punctuation/grammar Very good/acceptable/poor	5%	
<b>Management of the project</b>  Progress review meeting (Week 7)	Progress made? good/acceptable/poor Worked in an organised manner? good/acceptable/poor Attendance/Participation in meetings? good/acceptable/poor Followed project plan? good/acceptable/poor Updated the log book? good/acceptable/poor	15%	
<b>TOTAL</b>		100%	

<b>MILESTONE 3 IMPLEMENTATION TESTING AND EVALUATION</b>			
<b>SECTION</b>	<b>CRITERIA</b>	<b>MAX</b>	<b>MAR K</b>
<b>Implementation</b> A discussion of the technology used and how this was applied to the project	Discussion: comprehensive and applicable /adequate/weak/missing	10%	
How the design was converted into a working system and discussion of differences from the design stage.	Discussion: comprehensive and applicable /adequate/weak/missing	10%	
A discussion of what was successfully implemented and what was not and any key features of a challenging nature that involved more work than originally anticipated	Discussion: comprehensive and applicable /adequate/weak/missing	10%	
<b>System documentation</b> Including a user manual, administrator information and technical support information	Documentation: comprehensive & applicable /adequate/weak/missing	15%	
<b>Testing</b> Description of the testing strategy & the choice of testing methods Detailed test plan & discussion of test results	Strategy and choice of method: appropriate/inappropriate/missing Planning and application of tests: extensive/adequate/weak/missing	15%	
<b>Critical evaluation</b> Evaluation of the degree of success in carrying out the project and what the student has learned by doing the project. Things the student would do differently if the project were to be repeated. Future extensions of the project. Gantt chart reflection – the actual time plan compared to the original time plan	Degree of success: realistically acceptable/unrealistic/missing Value of project as learning experience and personal development achieved: clearly identified/referred to/missing If repeated & gantt chart reflection: clearly identified/referred to/missing Future extensions discussion: comprehensive & applicable /adequate/weak/missing	5% 5% 5% 5%	
<b>Presentation of report</b> and use of references	Standard format: headings/content/appendices/bibliography/referencing used throughout/occasionally/not referenced	5%	
<b>Management of the project</b> Progress review meeting 2 (Week )	Progress made? good/acceptable/poor Worked in an organised manner? good/acceptable/poor Attendance/Participation in meetings? good/acceptable/poor Followed project plan? good/acceptable/poor Updated the log book? good/acceptable/poor	15%	
<b>TOTAL</b>		100%	

### MILESTONE 4 PRESENTATION AND DEMONSTRATION

**Presentation and demonstration should be judged in relationship to the documentation of milestone 3.  
This milestone is used in some ways to confirm the level and quality of work demonstrated in the other milestones.**

**NAME**

SECTION	CRITERIA	MAX	MARK
Communication and presentation skills	Structure of presentation: logical/rational/rambling/digressive	10%	
	Quality and use of slides and/or props	5%	
	Rapport with audience and use of voice and mannerisms	5%	
Content of presentation	Description of the project- justification, content and level of success: comprehensive at an appropriate technical level/ adequate/lacking	5%	
	Explanation of methods and technology employed and quality of points made: comprehensive/adequate/lacking	5%	
	Logical approach to project: apparent/inferred/ignored	5%	
Content of demonstration	Demonstration: demonstrates all\features of the project in a professional way/ adequately demonstrates main features/ some features not demonstrated/ inadequate	10%	
Ability to answer questions	Response to questions: well interpreted with clear answers/ hesitant/vague	5%	
Technical and functional quality of the artefact	Functionality: excellent fully functional/good most functions working/ limited functionality/poor	20%	
Depth of challenge the project sets	Depth of challenge: difficult project/ straightforward/trivial	30%	
<b>TOTAL</b>		100%	

**APPENDIX 7**

**PROJECT ASSESSMENT MARKING GUIDELINES**

<b>Mark Range</b>	<b>Standard</b>	<b>Proposal</b>	<b>Research and Investigation</b>	<b>Analysis and Design</b>	<b>Implementation and Testing</b>
<b>70-100</b>	<b>Distinction</b>	Outstanding proposal. Significantly exceeding all requirements. Well-structured, concise, in a professional format. High level of presentation.	Excellent judgement of time required reaching each milestone. Evidence of significant background reading. Demonstration of extensive and critical appreciation of relevant knowledge. Ability to synthesise relevant theoretical concepts in a critical and concise manner.	Ability to synthesise relevant and practical approaches. Ability to analyse material from a variety of appropriate relevant perspectives.	Excellent implementation with appropriate testing strategies. All utilised analysis and design features incorporated into implementation. Results are deemed excellent relative to project objectives. Excellent critical discussion. Clear and relevant conclusions. Very useful recommendations.
<b>53-69</b>	<b>Merit</b>	Good proposal. Clear understanding of project content and phases. Good understanding of project context. Clear focus on the implementation of the project.	Good judgement of time required reaching each milestone. Evidence of significant background reading. Demonstration of knowledge and sound understanding of relevant literature. Knowledge and understanding of relevant theoretical concepts.	Identification of practical approaches to the topic. Analysis of material and drawing of valid conclusions from relevant evidence.	Good implementation with evidence of testing. Adequately utilised analysis and design features incorporated into implementation. Results are considered good relative to project objectives. Fully acceptable critical discussion, conclusions and recommendations.
<b>40-52</b>	<b>Pass</b>	Acceptable proposal. Lacking understanding of project content. Reasonable understanding of project context. Some focus on the implementation for the project.	Acceptable judgement of time required reaching each milestone. Some evidence of background reading. Some attempt at demonstration of knowledge/ understanding. Some attempt at utilising theoretical concepts in supporting analysis.	Reference mainly to practical applications with minimal reference to theoretical concepts. Minimal analysis of material displayed with links between evidence and conclusions not fully explained.	Relatively poor level of implementation with lack of clarity of testing approaches. Results have significant omissions relative to project objectives. Discussions, conclusions and / or recommendations not very clear or convincing.
<b>0-39</b>	<b>Fail</b>	Poor proposal. Little evidence of interest in / or understanding of project content.. No evidence of a focus on the implementation for the project.	Poor judgement of time required reaching milestones. No evidence of background reading. Inadequate appreciation of relevant literature. Inadequate understanding of relevant theoretical concepts.	Inadequate appreciation of practical approaches to the topic. Inadequate ability across and within various facets.	Little evidence of any appropriate level of implementation or appropriate work having been carried out. Little evidence of relevant discussion, conclusions and/or recommendations.
<b>Learning outcomes</b>		<ul style="list-style-type: none"> <li>▪ Knowledge and Understanding</li> <li>▪ Analysis</li> <li>▪ Enquiry</li> <li>▪ Communication</li> </ul>		<ul style="list-style-type: none"> <li>▪ Communication</li> <li>▪ Application</li> <li>▪ Problem Solving</li> <li>▪ Reflection</li> </ul>	



## Module Descriptor

**Code:** CE00372-2**Version:** 2**Approval Status:** Valid Current**Title:** PROJECT (PLANNING, RESEARCH, ANALYSIS AND DESIGN)**Section:** Computing, Engineering & Technology**Field:** IABS**Level:** 2

Contact	E-mail Address	VLE
ROSE KING	<a href="mailto:R.KING@STAFFS.AC.UK">R.KING@STAFFS.AC.UK</a>	Blackboard

**Pattern Of Delivery**

Credits	Contact Hours	Independent Study Hours	Total Learning Hours	Description of Pattern of Delivery
15	4	146	150	Pattern 1, study 100% in period 1 Pattern 2, Study 100% in period 2

Site
STOKE-ON-TRENT COLLEGE
LICHFIELD
STAFFORD
BURTON
LEEK
SHREWSBURY

Registration Conditions	Module Version Condition Text
None	

**Module Details**

Assessment Details	<p>A REPORT weighted at 100%.</p> <p>A project proposal, and report covering research analysis and design worth 100% to be normally 7,500 words approximately.</p> <p>Milestone 1 - Proposal of the task which will assess Learning Outcome 3</p> <p>Milestone 2 -Research, analysis and design which will assess Learning Outcomes 1, 2 and 3</p> <p>Assessed by marking of the written report.</p>
Indicative Content	<p>Structured proposal of a problem:</p> <ul style="list-style-type: none"> <li>- of a significant level of difficulty</li> <li>- pertinent to the award</li> <li>- requiring a non-mechanistic solution</li> </ul> <p>The documented selection and use of structured research, analysis and design methodologies</p> <p>The project title and proposal should reflect the route of study</p>

	and/or the student's chosen award.
Learning Strategies	20 min session with tutor (1:1) Supervisory meetings with tutor Self directed study
Prospectus Information	The project provides the opportunity for a student to apply in a practical way, knowledge gained in other modules. Each student must identify a suitable problem of their choice and then analyse, design and implement a software solution to the problem.
Resources	The Project Handbook The Library ITS and School of Computing labs
Special Admissions Requirements	Students must have studied Level 1 modules relating to their award or have an equivalent background.
Texts	The Project Handbook  Projects in Computing and Information Systems, A Student's Guide, Christian Dawson, 2005, Addison Wesley, ISBN: 0321263553  Success in Your Project, Philip Weaver, 2004, Prentice Hall, ISBN: 0273678094  Similar texts are appropriate.

**Learning Outcome**

1) DEMONSTRATE THE ACQUISITION OF KNOWLEDGE OBTAINED THROUGH INDEPENDENT RESEARCH AND THE ABILITY TO PUT INTO PRACTICE PROBLEM SOLVING.	Enquiry
	Knowledge & Understanding
2) SELECT, JUSTIFY AND USE AN APPROPRIATE ANALYSIS AND DESIGN METHOD(S) TO PROVIDE A SOLUTION TO A PROBLEM	Analysis
3) DEVELOP THE TECHNIQUES OF PRODUCING A PROGRAM OF WORK AND STRUCTURED WRITTEN REPORTS AND PRESENTATION OF IDEAS.	Communication



## Module Descriptor

Code: CE00368-2

Version: 2

Approval Status: Valid Current

Title: PROJECT (IMPLEMENTATION AND TESTING)

Section: Computing, Engineering &amp; Technology

Field: IABS

Level: 2

Contact	E-mail Address	VLE
ROSE KING	<a href="mailto:R.KING@STAFFS.AC.UK">R.KING@STAFFS.AC.UK</a>	Blackboard

## Pattern Of Delivery

Credits	Contact Hours	Independent Study Hours	Total Learning Hours	Description of Pattern of Delivery
15	4	146	150	Pattern 1, study 100% in period 2 Pattern 2, study 100% in period 1

Site
STOKE-ON-TRENT COLLEGE
LICHFIELD
STAFFORD
BURTON
SHREWSBURY
LEEK

Registration Conditions	Module Version Condition Text
None	

Module Details	
Assessment Details	<p>A REPORT weighted at 100%.</p> <p>A report covering implementation and testing worth 100% to normally be of approximately 7,500 words in length.</p> <p>Milestone 1 -Implementation, testing and evaluation, learning outcomes 1, 2 and 3.</p> <p>Milestone 2 -Demonstration/Presentation of implementation, learning outcome 3.</p>
Indicative Content	<p>Implementation of the proposed solution:</p> <ul style="list-style-type: none"> <li>- of a significant level of difficulty</li> <li>- pertinent to the award</li> <li>- Evidence of input from final year topics of study in particular the route options</li> </ul> <p>The documented selection and use of implementation media, testing methods.</p> <p>A Critical evaluation</p>

	Presentation skills
Learning Strategies	20 min session with tutor (1:1) Supervisory meetings with tutor Self directed study
Prospectus Information	The project provides the opportunity for a student to apply in a practical way, knowledge gained in other modules. Each student must identify a suitable problem of their choice and then analyse, design and implement a software solution to the problem.
Resources	The Project Handbook The Library ITS and Octagon laboratories
Special Admissions Requirements	Students must have attended Level 1 modules or have an equivalent background, and studied Project (Research, Analysis and Design).
Texts	The Project Handbook  Projects in Computing and Information Systems, A Student's Guide, Christian Dawson, 2005, Addison Wesley, ISBN: 0321263553  Success in Your Project, Philip Weaver, 2004, Prentice Hall, ISBN: 0273678094  Similar texts are appropriate.
<b>Learning Outcome</b>	
1) PROVIDE A SOLUTION TO A PRACTICAL PROBLEM BY PRODUCING AN ARTEFACT USING APPROPRIATE TECHNOLOGY AND APPLY A VARIETY OF TESTING METHODS.	Application
	Problem Solving
2) DEMONSTRATE THE ABILITY TO ANALYSE AND EVALUATE THE WORK UNDERTAKEN	Reflection
3) DEVELOP THE TECHNIQUES OF PRODUCING A STRUCTURED WRITTEN REPORT AND AN ORAL PRESENTATION OF IDEAS.	Communication