<https://moodle.city.ac.uk/mod/page/view.php?id=1687045>

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### Proposal Structure

A proposal must include sections containing the following information.

#### 1. Introduction

Define the purpose of the work with a title and overall objective(s). Explain the products of the work and those who will benefit from it. Be sure that you define the project scope specifically.

Markers will look for the extent to which: the problem is defined, relevant and appropriate; objectives are stated, suitable and SMART; outputs and beneficiaries are defined and credible; scope is fully defined, realistic and understood.

#### 2. Critical Context

A critical description of the context in which the work will take place. A review of no fewer than 5 relevant documents should help you define and contextualise the research question and inform the subsequent choice of methods to be used. Scientific and/or technical literature and/or documentation should be used and sources cited throughout the proposal to inform the work and justify the statements that are made as the arguments develop.

Markers will look for: the extent to which appropriate literature has been identified and consulted, this work is used to inform the project with coherent arguments developed to justify and inform the proposal; levels of engagement with the literature; a comprehensive and systematic approach to searching the literature; whether references are evaluated and whether high quality academic references are used\*; whether the literature is understood, synthesised and applied to the task hand; the sophistication of arguments used; originality in the arguments presented; the currency and relevance of sources used; important references or sources that are omitted.

\*Note that broader sources, such as technical documentation, descriptions of competing products, applicable law, relevant software, text books and research methods literature may also be relevant -- as discussed with your supervisor and depending on the kind of project you are doing.

#### 3. Approaches: Methods & Tools for Design, Analysis & Evaluation

A comprehensive description of the methods used to address the question. In some cases this may involve the collection of data, consideration of its nature and details describing how it would be analysed. Note that proposals must contain descriptions of planned analysis to enable the reader (including the researcher) to determine whether any data used are suitable for the task in hand. In others it may involve a description of an appropriate software design, development and evaluation methodology. In some cases both of these will be relevant. You must also be clear about how you will ensure that you are considering relevant legal and professional issues and accounting for the emotional, physical and intellectual well-being of anyone who is effected by your study -- ethical issues must be described and discussed here with any concerns identified and addressed.

Markers will look for the extent to which approaches are: comprehensively described -- they should be documented in detail\* and discussed; appropriate -- they must be aligned with the question in hand and likely to result in a successful project with robust answers; informed by existing research and practice; described in a manner that enables the reader to establish the likely quality of results; indicative of deep knowledge; specific; innovative -- where innovation in terms of approach is shown to be necessary; evaluated in terms of any limitations, assumptions or issues of scope. These criteria apply to analysis, design and research ethics.

\*Students often focus on data collection rather that analysis or where '*Design & Build*' is the focus on software build and technology rather than evaluation and acquisition of knowledge in their proposals. You must demonstrate that you know how you are going to establish answers to your research question(s) through your activity including any data collection or the development of (software, hardware, prototype) artefacts. These methods should be robust in terms of process and detailed in terms of their description.

#### 4. Work Plan

A work-plan showing the steps required to complete the work. This must be presented in graphical form.

Markers will look for the extent to which: tasks are identified comprehensively and in detail; timings are realistic; dependencies are considered and milestones set; the work-plan is comprehensive, coherent and aligned with the rest of the proposal; the work plan is legible\*, comprehensive, realistic, aligned with project objectives and suggests that the project is likely to succeed;

\*We receive a surprising number of work-plans that are highly pixelated screen dumps of tiny unreadable text. Marks will not be awarded for illegible plans.

#### 5. Risks

A risk register, documenting risks, their likelihood and impact, and procedures that will be put in place to mitigate against these risks and recover from them should they occur. A table is usually considered to be the best way to present this information concisely.

Markers will consider whether: a risk register has been completed along with impacts and mitigation strategies; the key risks are identified and compared in terms of likelihood and impact; listed risks are project specific, credible and show breadth of thinking in terms of risk source and type; it is clear how risks will be managed; mitigation strategies are appropriate and effective; innovation and pragmatism are evident. Remember, risks are not merely risks that may affect your project but also risks to your participants and/or users or stakeholders. These risks should be discussed taking in consideration your Ethics Review form.

### Presentation

The proposal must be presented professionally with legible text and graphics, coherent arguments and appropriate structure.

Markers will look for the extent to which: the proposal is coherent, complete and legible; writing is fluent, concise and precise with a clear and persuasive narrative; arguments are supported by evidence and presented with consistency and clarity; referencing, citation, summarising, paraphrasing and use of quotations demonstrate best practice; opaque, repetitive or irrelevant text are avoided; the proposal is free of grammatical errors, inconsistencies and spelling mistakes.

## Ethical, Legal & Professional Issues

All proposals must include a completed [**Research Ethics Review Form**](https://moodle.city.ac.uk/pluginfile.php/2094911/mod_page/content/148/CS%20Ethics%20Review%20Form%20.doc) (part A) and make reference to the University [Research Ethics and Research Integrity Framework](https://www.city.ac.uk/research/support/integrity-and-ethics/integrity) and the Department of [Computer Science Research Ethics Committee (CSREC) Framework](https://www.city.ac.uk/about/schools/mathematics-computer-science-engineering/computer-science/research-ethics)and clearly describe any ethical issues that might occur in line with this advice.

**All project proposals must include a completed copy of the Research Ethics Form (found under Session 9, Ethics)**

**The form has two parts:**

***PART A: Ethics Checklist*.*All*students must complete this part.  The checklist identifies whether the project requires ethical approval and, if so, where to apply for approval.**

***PART B: Ethics Proportionate Review Form.* Only students who have answered “no” to questions 1 – 18 and “yes” to question 19 in the ethics checklist must complete this part. The project supervisor has delegated authority to provide approval in such cases that are considered to involve MINIMAL risk.**

**The approval may be provisional: the student may need to seek additional approval from the supervisor as the project progresses and details are established. If not, students will need to apply to CSREC through Research Ethics Online.  We should be able to conduct good research with minimal risk.**

**Approval takes place after the Proposal has been marked.**

Discussion of the issues that are raised and ways in which they will be addressed should be included within the main body of the proposal under '*Approaches*' to demonstrate capabilities in dealing with ethical issues in the RMPI assessment.

## References

We strongly recommend using some of the excellent texts that have been written to support students when thinking about project topics, objectives, methods and deliverables.

You should use these in particular to identify and document appropriate research methods.

We particularly recommend:

Oates, B. J. (2006). Researching Information Systems and Computing. London: Sage Publications Ltd, 341pp.  
Chapters 1-3 are particularly good at contextualising research, selecting research topics and determining outcomes. The chapters that follow give guidance on particular research methods and references to additional reading that can inform your work. If you are planning a 'Design & Build' project in which you develop software then please read page 9 of this book and use Chapter 8 'Design and Creation' to inform your approach.

Dawson, C. W. (2009). Projects in Computing and Information Systems: A Student's Guide (2nd ed.). London: Addison Wesley, 304pp.  
An updated third edition will soon be available. In the second edition, Chapter 3 provides good guidance on project selection and proposal writing, Chapter 4 is good on Risk Management, whilst Chapter 6 details approaches that should be considered for software development projects.The new edition of the book is also available in digital form and recommended.

Those considering using online methods should consult the Exploring Online Research Methods resources:

University of Leicester (2010). Exploring Online Research Methods. <http://www.restore.ac.uk/orm/>This excellent website provides plenty of resources to learn about using online methods effectively - the Self-Study area is very useful.

You will find useful guidance on citation and use of literature in the RMPI Effective Use of Literature reference list. (See Week 02) Search for the Pears and Shields (2010) book on citation and information about reference management software that we recommend as a means of managing references and producing reference lists.

All references must be reported in a comprehensive bibliography and cited using Harvard of a similar structured referencing system.

(3.4.3183.8) Συστήματα και Τεχνολογίες Γνώσης Κατ’ επιλογήν υποχρεωτικό, 3-0 Συμβολική επίλυση προβλημάτων με αναπαράσταση γνώσης και αυτόματη συλλογιστική. Αναπαράσταση και διαχείριση δεδομένων στον Παγκόσμιο Ιστό. Αναπαράσταση ορολογιών, λεξικών, θησαυρών όρων, οντολογιών. Γράφοι γνώσης. Περιγραφικές Λογικές (σύνταξη, σημασιολογία, ερμηνεία, ικανοποιησιμότητα, μοντέλα γνώσης).Αλγόριθμοι αυτόματης συλλογιστικής γιαΠεριγραφικέςΛογικές(δομικής υπαγωγής,tableaux). Σύγχρονα προβλήματα συλλογιστικής σε δεδομένα. Ολοκλήρωση δεδομένων (αντιστοίχιση, ενοποίηση, καθαρισμός, έλεγχος ακεραιότητας, εμπλουτισμός). Σημασιολογική πρόσβαση σε δεδομένα Παγκοσμίου Ιστού. Ανάλυση δεδομένων με χρήση γνώσης. Τεχνολογίες και πρότυπα αναπαράστασης, δομικής περιγραφής και ανάλυσης δεδομένων και γνώσης στον Παγκόσμιο Ιστό(XML, XSLT, RDF(S), OWL, SPARQL κλπ). Μηχανική Γνώσης. Προσαρμογή Συστημάτων Γνώσης και Μηχανική Μάθηση. Εφαρμογές συστημάτων γνώσης. Διδάσκοντες:Γ. Στάμου

<https://www.ece.ntua.gr/gr/undergraduate/courses/3183>

<https://nemertes.lis.upatras.gr/jspui/bitstream/10889/14686/1/thesis_papadopoulos_final.pdf>