**Research Methods Assignment #2**

**Submit Proposal Draft**

**Date of Submission: 22nd December 2014**

This assignment is an individual assignment and counts for 70% of your overall mark; you are required to submit a document (in Microsoft Word format or PDF) that has a first-draft version of your proposal. To help you out, on the following pages I have included a sample of what is needed; just answer the questions in each of the sections specific to your project.

**Submission of Assignment:**

You are required to electronically submit your assignment on or before the due date, and also print out a copy for me, and hand to me in January. Please do not drop it into my office, give it to the porters, and put it in my office postbox.

**To submit electronically:** e-mail to Damian.Gordon@dit.ie , subject heading: "MSc Research Methods Assignment #2", the name of the file must be Proposal-DXXXXXXXX.docx, where DXXXXXXXX is your student number.



# MSc in Computing (Information Technology)

**Dissertation Proposal Form**

The form, fully completed, must be returned to:

Luca Longa

School of Computing

Dublin Institute of Technology

Kevin Street

Dublin 8.

Or by e-mail to:

For Office Use Only

**Recommendation: Project Number:**

**Supervisor: Second Reader:**

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| **TITLE OF PROJECT** |  |
| **STUDENT NAME:** | XXXXXXXXXXXXXXXXXXXXXXXX |
| **STUDENT NUMBER:** | XXXXXXXXXXXXXXXXXXXXXXXX |
| **NAME OF SCHOOL/DEPT:** | School of Computing |
| **PROGRAMME****Delete where appropriate** | DT228X: MSc in Computing (XXXXXXXXXXXXX) |
| **CONTACT TELEPHONE NO:** | XXXXXXXXXXXXXXXXXXXXXXXX |
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| **SUMMARY OF PROJECT*** What is the area of study?
* What is the problem being tackled?
* What does the literature say?
* How will you tackle the problem?
* How will you implement the solution?
* What results will you get?

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| **OTHER INSTITUTIONS / DEPARTMENTS / PERSONNEL ASSOCIATED WITH THE PROJECT:** |
| * Who else is required to complete this project?
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| **FULL DESCRIPTION OF PROJECT:** **Background Literature**At least three pages long.This is NOT to explain how you came up with the idea of the project, but rather to discuss some of the literature associated with your project area, without mentioning the specific research project that you are undertaking.So it’s about setting the scene for the project and explaining background to this researchHow does it fit into the overall context of your discipline (e.g. Knowledge management / Engineering)Provide a couple of definitions of AT/IT/DA/KM that support this researchProvide several references in this section (between 10-15 at least).Don’t talk about your specific research in this section.Include a few mentions of what people have done in the pastAnd add in diagrams from their work. |
| Setting the scene (some potential questions):* How does the project relate to your discipline?
* Is this an emerging trend and what is some current research?
* What are the general organisational issues being explored? Is there research worth mentioning?
* What are the general technical issues being explored? Is there research worth mentioning?
* Are there any EU connections worth mentioning? Is there research worth mentioning?
* Are there any e-Government connections worth mentioning? Is there research worth mentioning?
* What are the international considerations? Is there research worth mentioning?
* Who are the top five researchers in this area?
* What are their views on this field?
* What are the seminal papers worth mentioning?
* Are there papers in the boarder computer science field worth mentioning?
* What are the key theories that might apply, with references?
* What are the key models that might apply, with references?
* What are the key practices that might apply, with references?
* What are the key software tools that might apply, with references?

Disagreements (some potential questions):* Who are the researchers who disagree?
* What do they disagree about?
* Is it fundamental issues, methodological issues, or interpretative issues?
* Does you research assume one side or another is correct?

Approaches (some potential questions):* Are there existing approaches that people have taken to do this?
* What approaches have people taken to do this?
* What types of results do they typically achieve?
* How do they visualise their results?
* How do they evaluate their results?
* Is there research comparing existing approaches?
* What criteria are used for comparison?
* What lessons can you learn from others?
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| Metrics (some potential questions):* What metrics have been used in the past?
* Are they qualitative and/or quantitative measures that need to be considered?
* How suitable are they for this research questions?
* Are there standards and guidelines worth exploring?

Final Thoughts (some potential questions):* Provide definitions in your discipline that support your research approach
* Make sure you include a few diagrams or tables or equations from other papers
* Define terminology you will be using in your description and other sections.
* Finish your Background with a clear statement of how you are going to address some of the issues mentioned
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| **Project Description**At least a page and a half to two pagesThe description needs to tell us two things, this is WHAT I’m going to do, and this is WHY I’m doing it.Include a few diagrams to show the architecture of:* The experiment
* The artefact
* The models
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| Let’s do one* Given me a sentence setting the scene for your project, in the broadest terms, what’s the issue?
* Given me a detailed sentence covering what this project is about.
* Tell me in one or two sentences what the literature says about this area.
* If there is an organisation involved in your research, can you give me one sentence on that organisation?
* If there is a particular person or group of people involved in your research, can you give me one sentence on them?
* Tell me how you are going to find out about the current situation (before you do your experiment/intervention), what are you going to do to find out as much as you can, measuring, reading, interviews, surveys, etc. This should be two or three sentences. Explain why your approach to the investigation makes sense. OR What tools and techniques are you going explore in your research?
* Describe what kind of measures you have undertaken, are they Quantitative or Qualitative, and what how they tied into your research question. OR How will you compare the benefits and shortcomings of these tools and techniques?
* Tell me how these outcomes be used, will they be just to measure change after the experiment/intervention, or will this process help shape the experiment in a deeper way? OR How will the benefits and shortcomings of the tools and techniques inform your exploration of the data?
* Tell me what will the experiment/intervention will be in one sentence.
* Tell me what the technologies, techniques, people, and processes will be.
* Tell me how you will measure the use of the technologies, techniques, people, and processes.
* Give me a diagram of the experiment
	+ A Flowchart
	+ A Use Case
	+ A Schematic
	+ A Technical Architecture
* Tell me what this will show, and how this ties back to your research question
* Tell me how you are going to evaluate the outcome of the results.
* Tell me some of your references.
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| **The Dataset (if you are doing data analytics and have a large dataset)*** How suitable is the data?
* What is the type of the data?
* Where will you get it from?
* What size is the dataset?
* What format is it in?
* How much cleaning is required?
* What is the quality of the data?
* How do you deal with missing data?
* How will you evaluate your analysis?
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| **Project Aim** This is the “thesis” of the project, what is the goal of the project. Consider using Bloom’s Taxonomy Verbs in stating your aim, e.g. appraise, argue, assess, attach, choose, compare, defend, estimate, judge, predict, rate, score, select, support, value.A lower level set of verbs, but still acceptable are: arrange, assemble, collect, compose, construct, create, design, develop, formulate, manage, organize, plan, prepareComplete the following sentences:* “The aim of this project is to ...”
* “This will be done by ...”
* “It will be evaluated by ...”
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| **Project Objectives**Typically between 5 and 9 objectives.The objectives are the milestones in reaching your project aim. Suggested generic objectives are:* Review appropriate research
* Identify interesting approaches
* Identify a range of opinions
* Design the experiment
* Execute the experiment
* Analyze the results

Create more detailed and project-specific objectives. |
| **Evaluation Criteria**It should be about half a page for this sectionYou need to consider the following:* How you intend to implement and evaluate your research?
* What methods are you going to use, both quantitative and qualitative?
* How have other researchers who have done similar projects in the past evaluated their projects?
* Is there a standard model, framework, or instrument to be used?
* Can you find a formal framework for assessing the outcome of a previous project has already used?
* Use standards?
	+ IEEE 829 Standard for Software Test Documentation.
	+ ISO 9126 and ISO 14598 (which are standards on software evaluation)

Suggested criteria* The suitability of the design
* The suitability of the experiment
* The suitability of the evaluation

How do you evaluate the project?* How effective were the methods?
* Did the combination of quantitative and qualitative techniques match the research?

How effective were the tools you used?* Did the tools prove to be suitable?

How effective were they at measuring your research question?* Did the tools accurately model the research question?

Are you able to compare your outcomes to previous dissertations? Is it possible to **test predictions using the real-world**? |
| **Deliverables**These are generic deliverables, create ones that are specific to your project* Literature Review
* Dissertation Document
* Software
* Survey results on CD
* etc.
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| **Timeframes & Project Plan**For each sentence in the project description, put an approximate timeframe (in weeks) to each element.e.g.* Literature
* People/Organisation
* Measuring Current Situation
* Experiment/Intervention
* Evaluation

You need create a Risk Mitigation, Monitoring and Management matrix.An effective strategy must consider three issues:* risk avoidance,
* risk monitoring, and
* risk management and contingency planning.
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| **Technical and Non-Technical Resources Required**Over to you...* Access to people
* PC / Laptop / PDA / etc.
* Software Libraries
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| **References*** At least 20 references
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Signed : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_