

# Research Proposal for a Research Degree in Computer Science

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Clearly formulate your research problem according to the guidelines presented in the honours Research Methods course. You should produce a proposal of 2000–4000 words.

## Required Components

### Title

Give your proposal a meaningful (provisional) title that summarises your area of interest and your planned research project.

### Project Description

Short, high-level, overview

### Research Questions

What is being investigated? What are the main research questions you are asking?

Why is the problem important, has anyone else said so? Briefly review previous research on each research question.

What is your contribution? How is your research topic different from what has been done before?

### Methodology

What do you intend doing? Briefly describe the methods that you will use to answer your research questions.

Why is this strategy being adopted? Why is this necessary for your study?

### Work Detail

Decide on the stages of the project and the dependencies between them. Compile a project plan.

- Risks (e.g., delays in obtaining key resources) and Risk Management Strategies.
- Timeline, including Gantt chart. Use specific dates so that you finish on time.
- Resources required (equipment, people, special software etc)
- Deliverables
- Milestones (which should refer to the Timeline)

### Evaluation of Research Questions

You should have a plan for testing your system when it is complete. Work this out now; everything will be wasted if you finish your implementation but cannot evaluate your “advance” convincingly.

Indicate the interpretation and conclusions that you will place upon the results. What difference will they make? Indicate the implications of your research for current theory and practice.

### Anticipated Outcomes

- What might we expect the outcomes of your project to be? What do you expect to find? The aim here is not to anticipate your study but rather to give an outline of what you envisage.
- Major software artefacts to be produced, their key features and major design challenges.
- Key success factors – how will you judge whether the project has succeeded or not?

### Bibliography and Previous Systems

List the main sources on which your research will be based. In the proposal we want a preliminary outline of the key works. All work must be properly cited.

As your work progresses you have to show that you have read the relevant papers and books and understand the field. You should show that you know which important contributions are and how they are related and may be grouped. You should know where the concepts you use were first described.