Embedded System Super Thesis Project

Proposal, Seminar, Demo, Conference Paper & Thesis Report

This guide shows how your proposal, seminar and thesis should be organised.

1 Assessment

- You must be enrolled in a Thesis project course for the Semester you are doing (e.g. two semesters means you must enrol TWICE).
- Based on assessment items linked from the ITEE Thesis website: https://www.itee.uq.edu.au/assessment-items

2 Project Proposal

The proposal consists of the following sections:

- Introduction - Introduce the topic.
- Literature Review.
- Topic Definition Introduce the topic.
- Project Timeline and Schedule.
- Progress
- Conclusion
- OHS and Ethics

2.1 Literature Review

Summary of existing work. Should have atleast 20 references. Must include conference papers and journals. White papers or URLs can be included but must be cited correctly.

2.2 Topic Definition

In-depth description of the topic. You must include the following:

- Topic and Scenario Description (e.g. what is the topic)
- System Overview (Hardware Architecture - block diagram of system, Top-level flow chart of software implementation (mote and PC).

- System Integration - e.g What sensors are used? What type of data is required? How are the sensors integrated?
- Algorithms schemes used - e.g. Machine learning approaches
- atleast 5 Key Performance Indicators - how is 'success' of the project measured?
- List the equipment required.
- List Technology Readiness Level (TRL) that will be aimed for. State how each subsequent TRL level be achieved. e.g. if TRL 5 is the end goal, list how TRL 1-4 will be achieved.

Technology Readiness Level (TRL) Definitions:

- TRL 1 – basic principles observed
- TRL 2 – technology concept formulated
- TRL 3 – experimental proof of concept
- TRL 4 – technology validated in lab
- TRL 5 – technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies)
- TRL 6 – technology demonstrated in relevant environment (industrially relevant environment in the case of key enabling technologies)
- TRL 7 – system prototype demonstration in operational environment
- TRL 8 – system complete and qualified
- TRL 9 – actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies)

2.3 Project Schedule and Timeline

List Project Tasks (this can be adjusted as the project progresses). The timeline must be estimated in hours and end, when the thesis report is submitted. Dates showing when a TRL is due, should be shown.

2.4 Progress

List the current progress made in the project.

2.5 Conclusion

Summarise the document.

2.6 OHS and Ethics

You must complete the Occupational Health and Safety (OHS) matrix. You must also consider ethics, if you are planning to test your system with people. If you are testing with people, then a separate ethics application must be made (see supervisor).

3 Seminar

15 minutes presenting + 5 minutes questions
10 to 15 slides - NO MORE!
Present an overview of the topic, brief literature review, implementation of system, evidence of progress and the project plan.

See https://www.itee.uq.edu.au/thesis/assessment/seminar

4 Poster and Demo

You must demo your project, using a poster. You must use the poster to present your project. You should not have a separate presentation.

See https://www.itee.uq.edu.au/thesis/assessment/poster-demonstration

The poster must use the template provided (see link)

5 Conference Paper

If you enrolled in a masters course, then you must submit a conference paper for assessment. If you are not, then conference paper is optional and is not assessed.

See https://www.itee.uq.edu.au/thesis/assessment/conference-paper

The conference paper should conform to a conference paper template and should consist of the following sections:

- Abstract - summary of paper. Must be standalone with no references.
- Introduction - Introduce the topic
- Literature Review - summary of current literature
- System Overview
- Methodology - implementation of system
- Discussion - analysis of results
- Conclusion - summary of paper and results.

6 Thesis

Page length: 50 to 60 pages. Chapters: 5

See https://www.itee.uq.edu.au/thesis/assessment/thesis-final-report
Sections:

- Abstract
- Chap 1: Introduction
- Chap 2: Literature Review
- Chap 3: Methodology (Implementation)
- Chap 4: Results
- Chap 5: Conclusion
- References
- Appendices

A link must be provided to any software or code developed. This can be dropbox or a git repo link. This should be emailed or submitted on slack.