**CTEC3451: Structuring the Main report**

Remember that the main report is supposed to be both an overview and a critical evaluation of your project. Relegate any low-level less important detail to an Appendix, i.e. the main report should be able to be read in isolation; the appendices may optionally be viewed for additional detail (e.g. tests or application screenshots that would overly clutter the main body).

Remember that this may be read by a moderator or by an External Examiner; they need to know not only what you did but also why you did it the way you did and what you learned from the project. Include appropriate illustrations to support your descriptions and put lots of focus on “why” as well as “how” in your deliverable.

The project documentation and lectures you received provided general guidelines on how to format the final deliverable. These guidelines are meant to supplement rather than replace them.

The **Final Deliverable** (main report) is typically structured into the following sections:

* Introduction
* Body
* Critical Evaluation (aka Conclusions)

The **Introduction and the Critical Evaluation** should each occupy about 15% of the main bodied report overall. The quality of these sections is normally the main discriminator between a good deliverable and an average one.

**The Introduction** provides the context for the rest of the deliverable. Some supervisors may ask you to write this first; others may require that you write this at the end when you have a clear picture of what you did, how you did and what you’ve learned. Generally, it should typically cover about 3-4 pages:

* What is the product? What are the main functions it performs? Provide a diagram or screen shot so a moderator has some idea what it looks like, for example if your project was to provide a newsfeed reader, give some background on how newsgroups are organised, how the relevant protocol operates and a screen shot of an existing client program
* Why is such a product needed or why is it worth doing? Your own personal skill development is a perfectly valid reason for doing the product
* What did you hope to get out of doing it (academic objectives)

Some supervisors may ask you to write **the Critical Evaluation** after the Introduction, or vice versa. The Critical Evaluation section will typically cover 3 things (in about 5-6 pages):

* Product evaluation:
  + How much does it do? How good is it?
  + Are there any bits you are particularly proud of?
  + What isn’t implemented? How would you extend it given more time?
  + You may use first person active voice for this section
* Evaluation of your approach:
  + In terms of project management approach and in terms of development methods or research methods used
  + How successful was the approach you adopted?
  + What techniques did you use that worked well? Why?
  + What did you learn by doing the project – did you met your academic objectives?
  + How would you do it better if you did the project again?
* Evaluation of tools used:
  + What languages, libraries, environments etc did you use for the development? Or, what libraries, methods, techniques did you use for the research?
  + Were they suitable? What were their main plus and negative points?
* And a rounding-off paragraph to end on a positive note

Now write the bits in the middle. Avoid a narrative (“I did this, then I did that...”) style and concentrate on highlighting the major decisions you made at each development stage and the reasons for your choices.

Why do it in this order? So that you focus on the overview for both the introduction and the conclusions. Then you can delve into the detail for the main body.

**Examples of Final Deliverable Structures**

There are two common ways of structuring the main body of the deliverable.

**1. by Activity Type 2. by Product Component**

e.g. e.g.

Analysis of Requirements Underlying Data Structures & Algorithms

Design Considerations User Interface

Implementation A.I. Interfaces

etc Networking Aspects

etc

If you choose the first structure

* Analysis of Requirements should cover:
  + What were the major components of the project; typically, you can break it down into a number of elements e.g. the basic functionality, the interface, comms elements, etc. Use diagrams or illustrations to highlight this if appropriate.
  + What did you identify as the most important requirements for each of these aspects?
  + Why are these the most important? How did you identify them (e.g. surveyed existing products in the same area)
  + If you do some research and have a literature review, this is where you put it – because your research is part of analysing the requirements
* Design Considerations should consider:
  + What were the main design decisions you had to take?
  + What alternatives did you consider and why did you make the choice you did
  + Use diagrams/ screen shots / code fragments etc to illustrate any significant data structures, GUI structure, background algorithms etc
  + If you have learned new concepts from your research, this is where you are likely to demonstrate how you applied them to your project, with brief mentions or referring back to the literature or literature review
* Implementation should consider:
  + What were the main problems you encountered in implementing your design?
  + How did you solve them, or if you couldn’t, how did you work around them? Again, use diagrams / screen shots to illustrate.
  + How did you test your implementation? How did you maintain the project code / documentation whilst you were developing it?

If you choose the second structure, you should cover the same material but discuss the requirements, design considerations and implementation techniques for each component in turn.

Of course, both of these proposed structures are there to provide you with an example of some of the key content you would typically discuss – they do not form an exhaustive list. For example, you will note the Activity Type approach focuses on Analysis, Design and Implementation and it suggests you include some discussion of your research and testing within these, but these could themselves form separate chapters if you wish. If in doubt you should liaise with your supervisor.