Analysis of ITS Architectures – Using eCall Example

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Evaluation

I found this to be a very interesting thesis in which he explains the use of the European ITS Framework Architecture (FRAME), the US ITS Architecture (ARC-IT) and makes a suggestion for a new tool to support the FRAME Architecture into the future. Whilst he does seem to understand the subject, he is not always successful in explaining it fully (note: this has nothing to do with his use of the English language – i.e. it relates to what is written, not how it is written). It is known that the published documentation that supports the FRAME Architecture is not as extensive that for the US Architecture (ARC-IT) and this is followed into the thesis, with almost all the figures in Chapter 1 being screenshots from the sources.

The European and US eCall examples in Chapter 3 were taken at their face value, without any explanations for the differences between them. However, it is clear that he has understood how to use the FRAME and ART-IT tools in convincing detail.

Chapter 4 is original work and I found it to be very interesting indeed, and highly relevant to the current FRAME NEXT project. I have been looking for an explanation on how we might use Enterprise Architect in this project, and I now believe I understand how it may be used.

Proposed grade

This is a good thesis, but how good? I am inclined not to award an A (Excellent) principally because of the lack of clear explanations in Chapter 1. It is therefore B (Very Good) or C (Good), and I am inclined to propose B (Very Good).

Note – if the examining board wishes to award an A then I will not be unhappy to be overruled.

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Specific Comments

1. Chapter 1.1 reads a little like a text book. That, in itself, is not a problem – the question is 'has he just copied it' or does he really understand the concepts, e.g.
   a. The difference between an Architecture View and an Architecture Viewpoint can be subtle. Does he understand the difference, or has he just quoted the bottom of page 2 from a 'text book'?
2. Figure 2 should have two separate terminators – preferably labelled '1' and '2'.
3. Para 1 of page 7 – he has not understood the difference between Terminator and Actor (as used by FRAME).
4. Para 2 of Page 7 – sentence 2 is incorrect. As the paragraph currently reads it would seem that he doesn't understand data flows and how they are used. Actually, I doubt if this is the case, and he has just tried to include too many concepts into this one paragraph. i.e. he should have:
   a. describe the concept of functions and data flows
   b. describe the concept of functional hierarchy
   c. hence describe the concept of data flow hierarchy

5. The problem extends into the end of page 7 and into pages 8 and 9. Once again, I think he understands the concepts – but his explanations are very confusing.
6. Chapter 1.3 – this is a better description of ARC-IT than of FRAME, which is probably due to the better descriptions in its website!! All the diagrams are screen-shots, but this is probably OK at this stage of the document.
7. Chapter 2 – good idea to compare FRAME with ARC-IT using the same case study.
8. It is a pity that he did not check the validity of the FRAME eCall example with other references to possible reasons for the differences identified.
9. Some of the criticisms of the Organisational View at the end of Chapter 3.2 are possibly true, but it would be unusual for a single physical 'box' to be managed by more than one organisation.
10. Chapter 3 – he seems to have grasped a good understanding of both FRAME and ARC-IT.
11. It is disconcerting for many of the diagrams to have their captions on the next page, when there is a very simple feature in Word to stop this happening.
12. Chapter 4.2 is comprehensible, and would seem to be a good approach to follow.
13. Chapter 4.3 – the author is very confident in what he is proposing.
    a. Is the size of FRAME a problem?
14. Chapter 4.4 – it is interesting that he thinks "the ultimate product for FRAME is the Functional Viewpoint". Is this his misunderstanding, or our lack of explanation?
15. Chapter 5 – Very good comments about the differences between FRAME and ARC-IT in para 3.