

Diploma Thesis Review

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Thesis: "Zpracování dat naměřených elektromagnetickým spektrálním analyzátozem IZ225"

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The work of the student is not oriented to research or scientific achievement as it is purely the development of an application, however, the student had to solve a lot of challenges like (and not limited to):

- medium to large project development;
- analysis of an existing implementation (of course, very well known because the student is the author of this work, however the student does an objective analysis followed by the improvement of this former work);
- software and graphical interface ergonomics;
- analysis of the hardware / software limitations and adapting the project to go around them;
- writing documentation.

There is something which I would like to criticise: the presence of pure code in the project. Although this would be recommended in a User Manual, it carries no value to a reader of a thesis. For example (and the thesis is full of such examples), on page 13 there is the following piece of code:

```
struct GraphLinesPointers{
    int Length;
    int * MaxHold;
    int * MinHold;
    int * Learned;
    int * Avg;
};
```

What the parameters MaxHold, MinHold, Learned and Avg only the student knows and also the reason why they are type integer and not another type. The thesis should be focused on presenting the "why" aspect of the work more than the "what" result of it. The code should be packed in the appendix / addendum and surely it has to be commented. If this is not possible, then the code should not be present at all, its place being taken by the pseudocode. One more aspect is that the blocks of code have no referencing numbers, thus reference can be done as "the second block of code on page 13".

Overall I found the thesis very well written, easy to read and understand its principles, interesting. As a compliment to the student for his work, in my office I have an Agilent N1996A spectral analyser around 10 years old which costed approximately 250000 Kc (at the time of purchase). From the ergonomic and flexibility points of view, the product which the student delivered is much superior when compared to the services the Agilent device provides. In conclusion I kindly recommend the committee mark:

A - vyborne - excellent

for the student.



in Prague,
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ing. Alex Moucha, PhD