Final report

Version 1.0

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RTD-Log

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1 Introduction

The system implemented by the RTD-Log project is a new log handling subsystem for the distributed Rodain 2000 Real-Time Database System that is being studied and developed by the RTD-Pilot project. The aim in implementig this system was simply make the recovery faster than before in case of other unit fails and starts to recover.

This document gives an overview about the project and working in this project. Project organisation has been described in Section 2. Section 3 outlines the progress of this project. Members of this project have commented their own opinions about the project in section 4.

2 Project organization

Five people belonged to the project group: Dan Patrick Doepel, Matti Johansson, Marko Moisio, Juha Saarelainen and Minna Vasankari. Mika Karlstedt was the instructor. The projectmaster in charge of our project was Raine Kauppinen, although Juha Taina watched our demonstration.

Everyone was given their task in the group in the second meeting. Matti was selected to be the Project Manager. Marko, Juha and Patrick were responsible of the coding and Minna was given the responsibility about documentation and testing. The secretary post was circulated every two weeks among Marko, Patrick, Juha and Minna.

The group was very democratic. Everyone could have their say in the decisions. Design problems were first solved individually and then discussed and refined in the meetings.

3 Progress of the project

The duration of the project was first chosen to be 12 weeks but it was extended a few times and finally the project took 16 weeks. In this section has been compared how the project was first planned to proceed and how it finally went.

The first project schedule can be found in the Figure 1 and the final schedule in the Figure 2.

The project started 16.1.2001 in a gathering meeting. Meetings were held mainly every Tuesday and Friday. On the Easter holiday no meetings were held.

The project followed the waterfall method consisting of four stages. The deadline of the first stage, requirement analysis, was first set to 23.2.2001 but we were able to get it ready 20.2.2001 so we were little ahead of the time schedule at that point.

Next stage was planning. This stage was supposed to be ready 16.3.2001 but we were able to close this stage only 30.3.2001 so the planning stage finally stretched two weeks. One reason for this was maybe too tight project schedule. Technical review of the design document was in 9.3.2001.

The implementation of the product started in the final weeks of the design phase. It was first estimated that the design stage would take approximately three weeks but it finally took little over four weeks. The implementation was ready 20.4.2001.

After and during the implementation stage, module testing was carried out. When the implementation was ready, one week was used for the integration testing. The deadline for testing was first set to 30.3.2001 but the testing was ready 27.4.2001. So at this point we were four weeks behind the first schedule.

The demo of our product was in 27.4.2001.

After the testing was ready one week was used to finish the project and to write this final report.

The project ended 4.5.2001.

All the documents and meeting minutes can be found in the project's home page www.cs.helsinki.fi/group/rtd-log/.

The total hours spent in the phases of the project are listed below:

- Project plan - 54 hours
- Requirement analysis - 57 hours
- Planning - 171.5 hours
- Implementation - 173 hours
- Testing - 122.5 hours

The total hours spent on the project (excluding meetings) was 578.

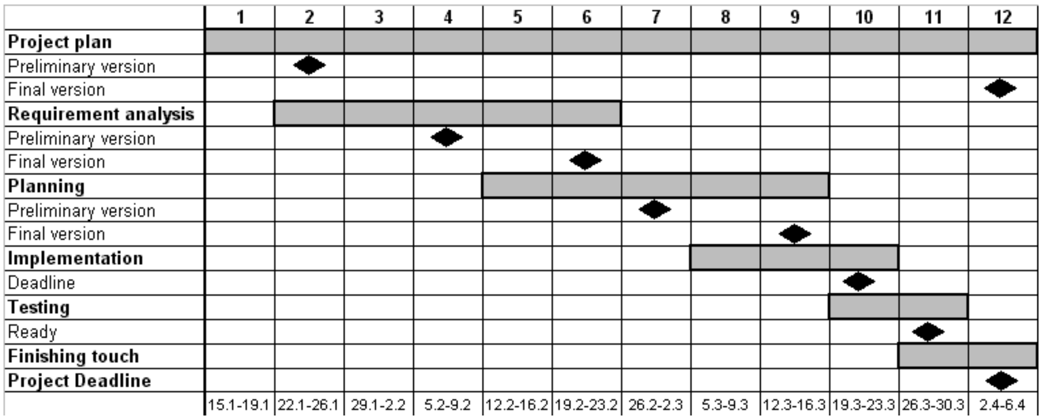

Figure 1: Outline of the first project schedule

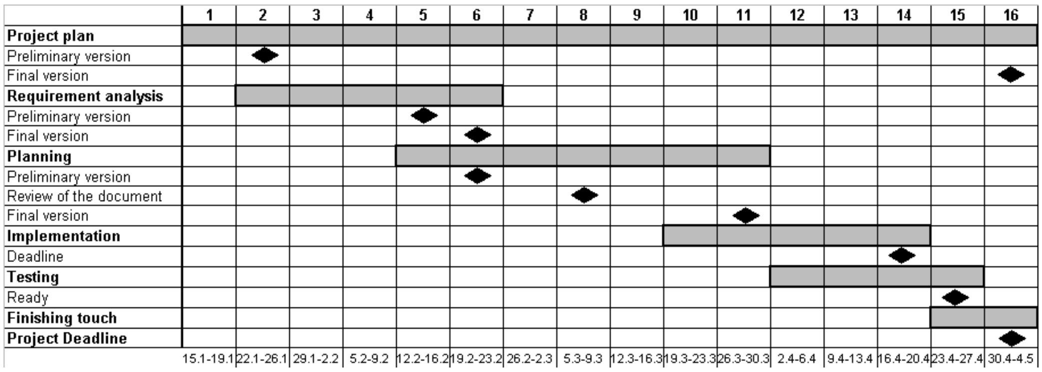

Figure 2: Outline of the final project schedule

4 Comments on the project

This section contains project members' personal comments on the project. The group wants to thank Mika for his excellent performance as our instructor and Tiina for giving us this opportunity.

Juha

The project began 16th january. I had obtained my C experience from C course and from Unix-platform course. I had also used C at my work for three years.

At first it was difficult to conceive what kind of software we should implement. Requirement analyses made it more clearer to me what kind of work there were to do in order to achieve software meeting the requirements.

I was a bit suprised how much time we spent planning the software. I tought that there wouldn't be enough time for coding. I implemented my software based on plans and I released that time spent in well done planning saved me some time that implementing would have required otherwise. After all there weren't so hurry in coding because the plans seemed to work in practice very well (thanks to bright minds in our group). I am satisfied with working in our group and the piece of software we were able to produce.

Matti

Well, at least in this project I really noticed that planning is everything. Of course everyone has allways said that but now I really learned that in practise. And I have to say that our planning phase went pretty well and the design document was quite good because the changes we had to make in the implementation phase were really minor. It was quite nice to start coding according to the design document. Coding has never been so straightforward.

At the begining of the project we had to set a time estimate for the project and our instructor Mika suggested that 12 weeks would be enough. It sounded quite tight but we thougth that we could make it. Of course in that point none of us really knew how hard our project would be. Well, it finally took 16 weeks to finish the project. It maybe made us work harder in the begining because of the tight schedule but now I think that 14 weeks would be more suitable estimate for these projects. Of course it depends on the subject.

It was actually the planning stage that took much longer than we first thougth. But we did it quite carefully. We maybe could have done it faster if we would have had three meetings in a week when we were planning. But then again most of us were working at the same and also had other courses so that really wasn't a possibility.

Our customer, Tiina Niklander, was a great help to us. I think she managed to explain the idea of the RODAIN project quite well and also the requirements for our project. She had very good ideas how we could approach the subject but she also gave us space so that we could try to find our own solutions to the problems.

Mika, our instructor, was like one of the team members. He had good comprehension on the subject. He also had good opinions and ideas how we could solve some of the problems and that helped us a lot.

Everyone in this team took their job seriously. Sometimes I hoped that others would have been more active in the meetings but then again everyone did their share of the project very well. I think we did pretty well as a team. Especially in the testing phase everyone were very devoted to the project.

In the end I think we all learned something in this project and to myself it was an interesting experience to work as a project manager.

Marko

At the beginning of the project I had some doubts wether we would succeed or not. It took quite a long time to make a clear picture of what we were really trying to do, and when we started to dig our way deeper into the assignment, it seemed to me like there's always another problem to solve. Looking back I must say that it was a wise decision to extend our schedule in the planning phase, so that we could properly address all the problems. When we managed to clarify the requirements, and spent enough time planning the actual implementation, it all started to make sense. In the end it was really satisfying to see our modules working together for a bigger purpose.

Time to time I personally found it somewhat difficult to meet the deadlines we had set ourselves. This was simply because I'm working practically full-time in parallel with my studies. There were few occations when I had to work literally around to clock to fulfill my duties both for this project and for my employer. Thank god for the weekends!

Luckily I managed to find the time to complete my own part of the project so that my being late on few matters didn't ruin other people's efforts (or at least they were kind enough not to tell me about it).

Although my schedule was really tight and I had to compromise some of my other interests, I found it rewarding to take part in this project. I'd say we had a good team.

Minna

When the project started I was a little concerned because the subject seemed quite complex and I had not so much experience from coding and design; only from those course exercises. But I was also excited. New things can be learned and experience gathered only by aiming higher. In the first weeks I got into the subject and learned to use LaTeX and even the version control software CVS. Being responsible of the documentation I sketched the contents for the documents and maintained our project folder. Two of the modules were on my responsibility so I also got a taste of design and coding. Although the modules only called other modules I still managed to put some errors into them! But they were found during the testing phase and that is the main thing.

In the beginning of the project I was given responsibility of the testing. So I should maybe have put more effort into designing the test functions and the integration test material. But I'm sure it went better this way that the integration testing environment was designed by Matti, because with my time and skills the result wouldn't have been that good. As a whole I'm still satisfied with this project and my contribution to it. We managed to make a product the customer wanted and we did it as a team.

Patrick

The project started 16th january. The subject seemed difficult and with no (or very little) experience in planning and implementing a bigger project, the task seemed hard. My previous experience in the C language was only the C language course I attended in 1998 (and the C++ programming course in 2000).

It took a while before it became clear what we actually were about to implement. During the requirement analyses phase the pieces started to fall in place, and I started to get convinced that we actually had the ability to design and implement the software.

The planning phase was in my opinion a success. All the details where thoroughly designed with a lot off tought. This was clearly something that showed in the implementation phase, making the implementation more straightforward and easier.

In a whole I must say I'm satisfied with the project and the members of the group. Everyone did a good job, and all opinions where taken into account.