ABSTRACT

This paper is a discussion about how the Application Perspective works in practice. We talk about values and attitudes to system development and computer systems, and we illustrate how they have been carried out in practice by examples from the Florence project. The metaphors 'utensil' and 'epaulet' refer to questions about how we conceive the computer system we are to design in the system development process. Our experience is that, in the scientific community, technical challenges mean making computer systems that may be characterised as 'epaulets': they have technical, fancy features, but are not particularly useful. Making small, simple, but useful computer systems, more like 'utensils', does not give as much credit even if the development process may be just as challenging.

1 INTRODUCTION

In this paper we will present our experiences from a project on computers and nursing, called the Florence project. Roughly speaking, we did not end up with a nice looking epaulet. Instead the result was a not-so-fancy, but useful, utensil. The title of this paper refers to our choices in these matters. We will start with presenting a few facts about the Florence project.

Firstly, the project has been a research project, i.e. knowledge of system development was a more important goal than any products or computer systems. Products have, however, been important side-effects of the project.

Secondly, the project is within the Scandinavian tradition of system development research. This means that we do biased research, often in favour of workers and trade unions. Historically seen, the research has been oriented towards the interests of unionised male production workers.

The third point to make is that the goal of the Florence project was to make a computer system for the nurses' daily work. We should add that the original goal of the project was to design languages that should be fitted to the use of computers within a specific professional setting. We abandoned this ambitious goal, and reduced it to making a tailored computer system, suited to professional work.

The last facts we will mention here are about the resources in the project. The project lasted from 1983 to 1987. From the University of Oslo, the participants were three computer scientists in part-time and one social-anthropologist in full-time work. During the four years we worked in two different wards at different hospitals:

— one ward for chronically ill children with asthma allergies, and
— one ward for cardiological illnesses, taking care of people suffering from heart diseases. In this ward they also treat emergency cases like heart attacks. Nurses from these wards also participated in the project.

We will discuss our experiences from the last one and a half years in the cardiological ward. We start with the computer system we developed in this period. Secondly we talk
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about the system development process; thirdly about the fundamental values of the project and, lastly, we discuss epaulets and utensils.

2 ABOUT THE COMPUTER SYSTEM

In the Florence project your goal was to develop a computer system for the daily work of the nurses. Tell me, what kind of computer system did you actually build?

We developed a rather simple computer system, which we called the 'Work Paper System'. From the Work Paper System the nurses get some paper reports, called 'Work Papers'. I will show you one. This Work Paper shows information about the patients who are now staying in the ward, and the information is structured according to the beds (or rooms) of the patients.

It seems to me that this is a rather small ward with only 6 patients!

This sheet contains reports of the patients who are connected to the heart-monitoring equipment. There are two more 'Work Papers' that correspond to the other beds in the ward, beds which are not so closely watched.

I can see that the information of a patient is name, year of birth, diagnosis, observations and results of investigations, medicines and tests. I suppose that the space in the middle of the Work Paper is reserved for information on the distribution of different work tasks and duties in the ward. But there is still much space left. Why?

The open space below the patient information is reserved for private notes and comments of the nurses.

To me, it seems that you are just introducing another form into a system that already has a lot of paper handling. Could you tell me why this new form is useful or, rather, how the nurses use the Work Paper?

The Work Paper replaces the scraps of paper that the nurses use during a shift. You see, at the beginning of each shift, there is a meeting where one nurse from the preceding shift gives the newcomers a sort of status report. Each of them writes down the most important patient information on their own scraps of paper. During the shift, the nurses use these notes to look up information and to write down important observations and happenings.

That means that you structure and standardise the private information of the nurses.

A Work Paper contains just the parts of the patient information which is common to the nurses. The information is presented in a way that gives the nurses overview of the patients in the ward. This overview is the basis for decisions made by the nurses during a shift. Compared to the nurses' notes, the Work Paper does not add structure to the information. The way of presenting the information is due to the differences in layout and size, and this in turn may lead to differences in the way the information is structured. Does this mean that the Work Paper System contributes to standardisation of the nurses' work?

No. Even if the Work Paper contains standardised information, the process of using the information is not standardised. Like the nurses' notes, the Work Paper is used to support the non-formalised professional decision making.

Then the Work Paper gives the same kind of overview as the notes, in a new way. However, I'm looking for the changes in work that stems from the use of the computer system. I suppose that less handwriting and more standardised information means that the