CASE STUDY
LADOK

Introduction

Ladok is a national consortium of 37 institutions in higher education in Sweden. Together, we develop and maintain a national system for student enrolment and documentation. Every year, 350,000 students are managed through the system. The hands-on work is mostly done by 2000 departmental online-users accessing 7 central computers. A maintenance group at the University of Umeå conducts software maintenance and is responsible for the development of the Ladok core system.

Background

The old Ladok system was designed and developed in the mid-eighties and began to show the obvious signs of the need for a redesign in the mid 1990's. A large re-engineering project called "Nouveau" was then started in 1995. Its focus was on the documentation part of the system, moving towards a new technology structure and a new graphical user interface. Nouveau also included new functionalities and a three-tier architecture. The development method used during the first 3 years of this project was a classic waterfall approach. However, by 1997 a number of issues were emerging that suggested a new approach was required.

From waterfall to DSDM

By 1998 the problems had culminated to such a degree it was necessary to solve them quickly if the Nouveau project was to succeed.

The problems encountered were:

- Insufficient organisation and management
- Lack of developers and testers
- Functions delivered later than planned or not at all
- Insufficient testing
- Lack of trust in the new system, the old system was "too good"

The focus at that stage was on delivery of every desired functionality and this resulted in many variants of the same function. Requirements were often inaccurate and the business needs had changed since the project had started. There was also a sense of frustration from the people involved. The perception was that the users did not know exactly what they wanted and the developers did not deliver a "good-enough" product for the users.

The main objective was to finish the Nouveau project in 1999. That meant that the planned functions for main users (department administrators) had to be delivered by then. At the same time it would then be possible to shut down parts of the old system. In this situation and with a fast approaching deadline it would have been impossible to meet the objectives using a waterfall approach. It was at this point that a decision was made to change approaches.

Why DSDM and not another method?

We did examine other approaches with the focus on quick delivery a key issue. The reason for choosing DSDM was that the framework was a proven approach. The fact we had an open user community was also favourable in terms of applicability of DSDM. Education was an important consideration with most project members undertaking a 3-day DSDM Practitioner or DSDM Project Management course. In January 1999 the switch was made to DSDM. The Nouveau programme was split into many small projects. We started with four parallel pilot projects. Each of these had between 6 and 8 team members and a fixed time limit of 3 months to develop 2 to 3 new complex functions. After that there were normally 3 to 5 projects running parallel. Today we have finished 27 DSDM projects.

Lessons learnt

The following describes some of the experiences we have had at Ladok as they relate to the DSDM principles.

Active user involvement

In each project we had one ambassador user and 1 or 2 testers also representing user interests. Ambassador users were professional users with many years of Ladok experience. Both the testers and the ambassador users worked halftime. Only the developer group were full time staff. We have had to deal with the problems associated with part time team members. Time planning has proved problematic for some users. It is difficult to just close the door and say 'today I am working for the project' if your input is what others are dependant upon. This has meant that the issue of prioritisation is very important. Team members often needed to re-prioritise their regular work to deliver what the project needed. Without clear prioritisation the use of part time team members becomes very difficult.

Another aspect was prioritising of functionality. The needs of the home institution were sometimes contrary to the interests of the Ladok consortia. For some users their reason for being involved was the fact they could represent the interests of their home institution. However, the project members had to represent the interests of the consortia and this balance of interests was often very difficult to achieve.

Empowered teams

The project teams are fully empowered to make decisions. They have the mandate to decide over the functionality and to prioritise. The teams have learned fast to make their own decisions. This has meant a real cultural change as before this such decisions were taken by a steering committee. This tended to take a considerable amount of time, sometimes weeks, often months. Now there is a member of the steering committee in each project, working as team leader. The feeling that project members have the power and control over the product has resulted in highly motivated project members.

Another problem encountered was that the project members were often geographically dispersed. We have some projects where there is more than 1000 km between locations of users. In order to bring these project teams together each project has 3-4 meetings with most contacts via the Internet and/or telephone. However, this does not work without an ongoing engagement of all team members. Sometimes decisions had consequences for other ongoing projects or for maintenance. Then it was very important to co-ordinate - we did not succeed in every case. We have learnt to accept that sometimes the project team can make the "wrong" decision but in the most cases it is better than no decision at all.

Requirements base-lined at high-level

We have followed this principle but we have also learnt that DSDM is not applicable to all projects. Positive results and experiences were the reasoning behind trying to use DSDM in all projects. But in some projects an alternative approach works better such as when requirements are fixed at a low-level or there are compatibility needs to the old system and database dependencies.

Collaborative & co-operative approach

There was no real problem here but we had to pay attention to risks related to this principle. Teams are put together depending on knowledge and availability and this often results in new team constellations. Overall we have found stable teams make it easier to collaborate and spend less time building relationships at the beginning of each project.

DSDM is today the main framework for the Ladok consortia. It is the key to ensuring that our projects are delivered successfully and on time. It is more enjoyable to work in development

projects for both the users and developers. Productivity has increased as the project members are given more responsibility and the projects are now delivered on time. Active user involvement and a focus on delivering the needed business functionality are important ongoing benefits for us.

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