Intermidia Working Approach in Tidia-Ae: an Internal View

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Abstract

Intermidia Development Laboratory members have different types of skills, backgrounds and history time in the project. We report how we have exploited these differences to provide a productive, healthful and collaborative work environment, with the aim of evolving our working model by discussing our approach with current and new Tidia-Ae laboratories.

1 Overview

When the Tidia-Ae Project started in August 2004, the group of research assistants that integrated the development team carried out the most diverse activities, from discussion with respect to the system architecture to user interfaces, from hardware specification to learning actions that would take advantage of the TIDIA network infrastructure. This effort involved not only Intermidia but also the other labs in the São Carlos Cluster.

Research assistants Qualification. By the end of 2004, several aspects relative to the development had been defined, including the UML Components software process and technologies such as J2EE and Hibernate.

Some efforts regarding the qualification of the research assistants with the elected common points have been carried out, including tutorial presentations which involved members of all labs in the cluster. These tutorials were presented by the research assistants themselves and by some invited specialists. As new collaborators were included in the project, they participated in the tutorials so that all members had some initial contact with the main standards, processes and technologies adopted in the project. As expected, overviews were followed up by deep studies by all members.

Personal Skills. A management concern is to guarantee that a specific work is being executed by the right person at the right time. This is only possible when personal skills and affinities with activities are known.

Intermidia research assistants skills are very different and wide. Most have abilities to carry out activities in all phases of software development cycles. In the project, they had the opportunity to participated in the specification, prototyping, validation, development, tests, documentation and technical decisions.

In some cases, the research assistants can choose their activities and in others the tasks are distributed in agreement with the whole group, according with each member confidence and familiarity.

As the group expanded, staff with more specialized was recruited according with the demands of the project.

Background. Each person’s background is exploited in everyday activities. Personal profile, computer science and administrative background, employment history and participation in previous projects inside or outside the academia have impact on the contribution each one adds to the project. Moreover, skills such leadership and planning are as important as inter-personal skills. Although gathering this type of information is usually a long-term process, in Intermidia this is facilitated because most members had some previous contact with the group and, to improve the team relationship, several types of social activities are promoted.

History Time and sharing knowledge. Although the main project decisions are registered at the Fapesp Incubator, important knowledge is contained in Intermidia archives and people own records and minds. Members with more time on the project tend to have a wider project vision. Informal discussions have been an important opportunity to members to share information not formally registered with others. This is of particular importance for some new research assistants given the demand for knowledge in terms of the inter-cluster and intra-cluster interactions and contributions expected.

Communication. One particular concern is sharing the workspace. Intermidia’s researchers work in the same physical space, with large intersection in their 40+
weekly hours. This approach supports the information flow between the researchers assistants. Faculty and other collaborators do not share the physical space most of the time; scheduled group meetings are frequent.

Given that most Intermedia members work together in the same lab space, several important rules must be followed to guarantee order, silence and promote collaboration. The first obvious rule is that only authorized people use the Intermedia laboratory. Intra-lab and interlab meetings are carried out outside the lab space. Video and audio conferences are organized as needed.

To reduce conversation in the lab space, simple discussions are carried out via an instant messenger server exclusive for the São Carlos Cluster. Each person is responsible for registering their conversation since important information is shared and important design rationale decisions are supported by such conversation.

More importantly, most members of all labs in the São Carlos Cluster – LSC/UFSCar/COC, GPIMEM/Unesp and CDCC/USP – use the same communication service. There is a formal recommendation that all lab members be connected to the server while working on the project. This means that everyone online is easily reachable for short discussions regarding development or other tasks important for the project such as the writing of reports.

2 Information Technology Management

To manage the machines and systems infrastructures needed for Intermedia researcher assistants, besides the support from ICMC staff one research assistant and one Faculty member, with particular skills relative to networking and server infrastructures, guarantee the labs in working order infrastructure. This includes the TIDIA’s optical fiber connection we were able to light between Intermedia and LSC/UFSCar, via IFSC.

However, Information Technology (IT) contemplates not only hardware and software but also about the procedures and people involved in IT service support and delivery. Although Intermedia has installed a project manager service for supporting the management at cluster level, its results have not been as effective as expected given that it was not integrated to a central server managing the overall project.

People concerns. The Intermedia laboratory has a steady and well supported infrastructure, the procedures are defined and stabilized. However, we cannot lose the focus on people. With one year of project, not everybody have the same enthusiasm all the time and problems faced during the period can generate disagreements. Therefore, there is an important effort so as to keep a collective interpretation about the project, interpretation which must thank into account and integrate individual visions, in order to keep a shared vision and the common understanding.

Quality versus Costs Each laboratory has a Project budget for a range of services. How to maximize the use of these budgets with quality control? Regarding the researcher assistants, the training and task allocations are based on the individual skill. Third party services are contracted in order to incorporate new skills that will reduce the gap needed to reach objectives relative to project activities. We identify the project needs or the planned activities for which we do not have the proper skills — for example, Education and Psychology skills for the elaboration and execution of some learning actions. In terms of travel costs, the planning takes into account the meeting type and people skills – in meetings, participants travel when their knowledge and contribution is demanded. When some subject can be discussed remotely, videoconferences are used.

3 Final remarks

The several activities and concerns reported have supported the group’s collaborative work regarding the TIDIA-Ae design, the software development and learning actions – the main aim being the successful conclusion of expected deliverables by the end of the first phase of the Tidia-Ae project.

By reporting our approach, we aim at evolving our working model by discussing it with current and new Tidia-Ae laboratories. This is very important since one of the targets of project is the collaborative work per se.

The overall approach is quite important for the intra-cluster collaboration, as reported elsewhere but it is even more important when all 15 laboratories are concerned. The amount of complementary skills in the whole project can be compared only with the amount of different, and sometimes conflicting, views of the working approach with respect to the project development. We are all learning and producing solutions.

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\footnote{Pimentel M.G.; Borba, M.C; Schiel, D.; Teixeira, C.A. "Sao Carlos Cluster’s Collaborative Work in TIDIA-Ae. Poster at the II Intl. Workshop TIDIA, 2005.}