

P- MANAGER: ACTIONS VS. MESSAGES

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Abstract: The use of tools to support management and coordination among workers is a subject of important effort performed by researchers in several fields of computer science and information systems. But here we stress the importance of integrating a perspective based in actions and a perspective based in messages as way to achieve coordination. In this context, we propose a system used to support planning, organisation and control of operations. This system also intends to be enhanced with functionalities supported by mobile and wireless technology.

1 INTRODUCTION

The work we report here has as main purpose the development of tools to support people in the coordination of their work. In this context, it is our intent to improve coordination by using handhelds that can communicate to each other through infrared, bluetooth or wireless, or with other computers.

Mobile computing has, as support technology PDA (Personal Digital Assistant) as well as mobile phones and notebooks with wireless. But, here we are interested only in the PDA technology. This does not correspond exactly to the handhelds. In fact, in the handheld technology, we may find other devices that are not even "palm or pocket size". So, we use the word P-Manager: P of Palm, Pocket or PDA.

In the following section, we present the previous work. Then, we confront approaches based in messages and acts. A system is then proposed, while implementation strategies in Palm is discussed.

2 PREVIOUS WORKS

The work reported here corresponds to the development of pervious works. (Costa et al. 2003, Aparicio et al. 2003, Costa and Aparício 2003)

In those studies we started by carry out a literature review in the area of management theories (Costa et al. 2003). Then, we developed an initial prototype and we performed a preliminary evaluation (Costa et al. 2003). This system was also compared with other systems (Aparicio et al. 2003). Meanwhile, we identified the need of incorporating the concepts of authority and responsibility (Costa and Aparício 2003).

3 MESSAGES VS. ACTS

The previous work emphasis the performance of acts by agents related to an operation. Based in the traditional literature of management, the following acts were

identified (Costa and Aparicio, 2003): plans, performs and controls.

Another perspective consists of emphasising the messages. Examples of messages are the following: asking permission to do, giving orders, accepting or rejecting.

“May I perform” <Operation> “?”

“Do” <Operation> “!”

“I Accept” <Operation> “.”

“I do not accept” <Operation> “.”

Those perspectives may be incorporated in the same system. In fact, although being two different perspectives, they may be complementary.

4 PROPOSING A SYSTEM

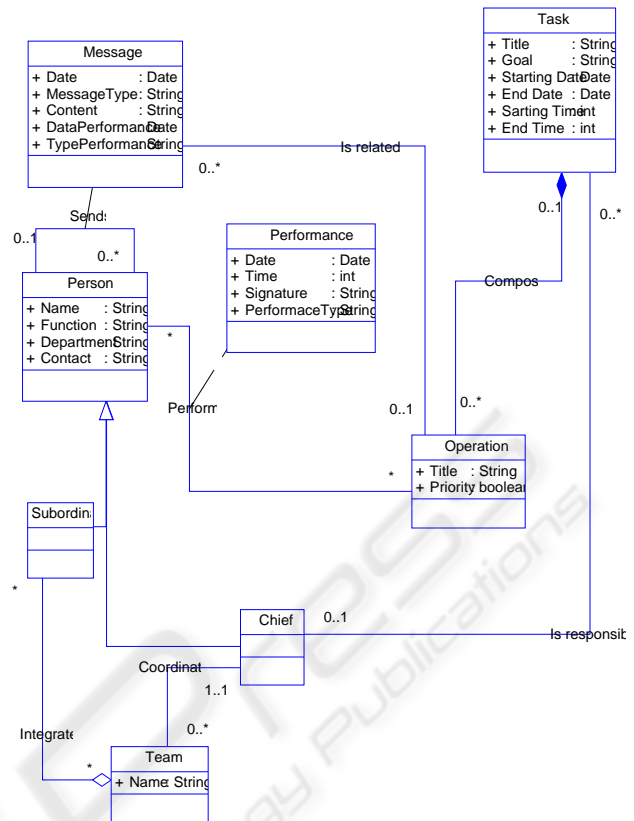
Director is responsible by a project or process, which is not important to store information about.

This project or process is composed of tasks, which are under the responsibility of a chief. It is the director who defines those tasks and assigns the tasks to each chief. In a task it is important to store the title of the task, its goal, starting and ending date and time.

The chief decomposes the tasks in operations. It is important storing the title and priority.

Each operation is planned, performed or controlled by an executive in a specific date and time. The executive must put his signature attesting that he performed this action.

An executive may send messages to other executives ordering, “asking to do” an operation. When the message is sent, it must be identified what operation it is. An executive may “ask to do” an operation “till a certain date”. On the other hand, the answer may be an “acceptance” or “refusal”.



PerformanceType={Plans, Performs, Controls}
 MessageType={AskToDo, Orders, Accepts, DoNoAccets}

Figure 1: Class Diagram

In the following paragraphs we present the system implemented in Windows.

The access is controlled through login and password.

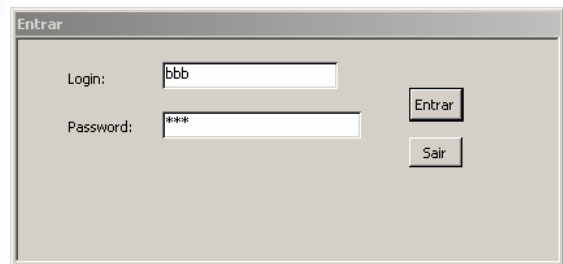


Figure 2: Entrance screen

Then, the user may access to his menu, where he may see his profile. Through the menu he may access to the task he manages, the operations he develop and the messages he sends and receives.

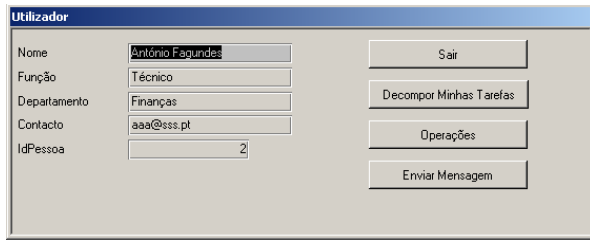


Figure 3: User menu and profile

In this screen, the user may see all the tasks for what he is responsible for, as well as the operations resulting from the decomposition of those tasks.

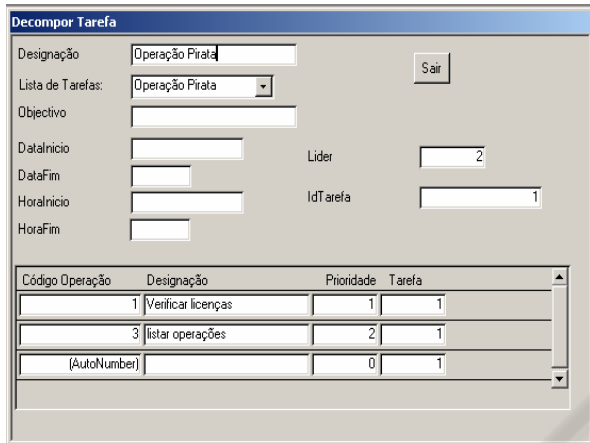


Figure 4: Task Screen

The executive may also manage his “performance” by registering what he plans, performs and controls.

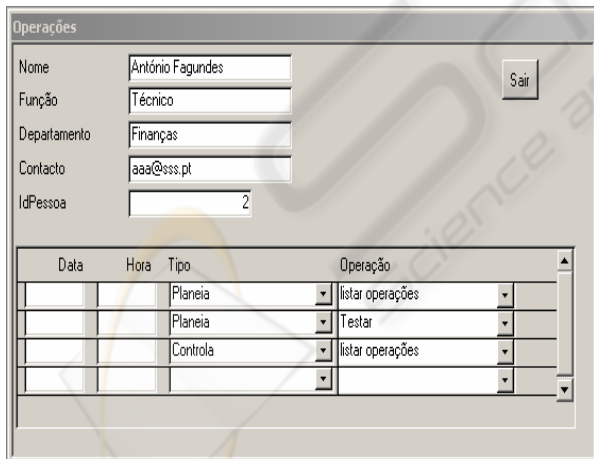


Figure 5: Operation Screen.

In the following screen, the user may see the messages that she/he sends to other people involved in the task or in a set of tasks (project or process).

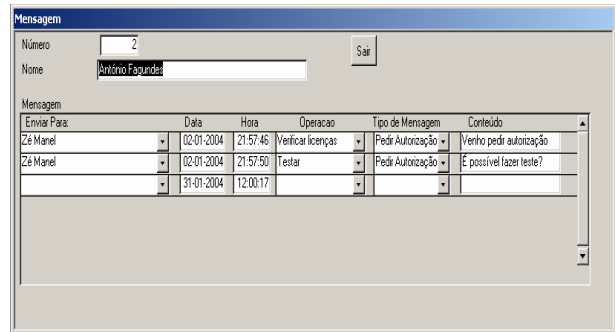


Figure 6: Messages Screen

The message component needs to be improved, as long as it does not allow showing in the same screen either the sent messages and received messages. Forwarding and reply is not yet developed. The implementation of forwarding and reply is fundamental for a satisfactory analyse of flow of messages.

5 PALM IMPLEMENTATION

The implementation of the system in a Palm device may follow one of the following strategies:

- Web Application.

- Java Application

- Palm Application (Costa et al. 2003, Aparicio et al. 2003, Costa & Aparício 2003);

The Web application needs a link to Internet (e.g. through Wi-Fi). The production of a Web interface to the Windows Application allows profiting from the Windows application already developed. It consists of incorporating a business rules in the business layer of the CGI program developed. It is also necessary to adjust web pages to low resolution screen.

A Java application allows incorporating some of the control in the client’s application. It allows the possibility of storing some date in the handheld. But, it has de disadvantage of producing a very slow application.

The production of a palm application was already partially developed (Costa et al. 2003, Aparicio et al. 2003, Costa & Aparício 2003). It is a more independent perspective. It is more difficult to incorporate rules. It is more difficult to control communication (beam).

6 DISCUSSION

The implementation of Palm system is just one of the components that are being developed. In fact, the incorporation of coordination rules in the system is also being discussed.

Relational schema of some of the tables implemented may be represented as followed:

Performance(IdPerformance,
IdPerson,IdOperation, Date,Time, Signature,
 PerformanceType)
 Message(IdMessage, IdPersonO,IdPersonD,
 MessageType, Content, Dateperformance,
 TypePerformance, IdOperation)

In order to control and improve coordination process, several rules must be incorporated in the system. Those rules are based in some assumption. For example, the identification of who is the superior or subordinate was implemented though sorting of the rank of the executives. This process was very simplistic, but corresponded just a preliminary phase.

IdPersonO>IdPersonD communication
 Superior/Subordinate or peer to peer.
 IdPersonO<IdPersonD communication
 Subordinate/Superior or peer to peer.

The identification of the flow of messages (e.g. Costa & Costa, 2002) and its connection with the performance of the operations must be analysed in detail.

7 CONCLUSION

In this paper we highlight the importance of integrating a perspective based in actions and a perspective based in messages as way to achieve coordination. Based in a previous work (Costa et al. 2003, Aparicio et al. 2003, Costa & Aparicio 2003) we propose a system used to support planning, organisation and control of operations that incorporate a perspective based in a paradigm of activities management integrated with a perspective based in messages. This system also intends to be enhanced with functionalities supported by mobile and wireless technology.

The research developed here it is supported in the assumption that IT alone is not responsible by improving coordination. In fact, IT may facilitate in the process of control and reporting or may help the coordination by automating some rules. But, coordinating people is impossible of being done just by using technology. If people do not feel responsible, if they do not feel compelled (or even forced) to do a work, or if they do not feel rewarded by doing the work, probably they do not do this work in the right time and with the adequate quality. Consequently, those technologies are just a tool to serve a strategy and a culture and organization. The strategy is composed of a set of objectives and goals. The culture and organization may be repressive or based in responsibility.

REFERENCES

- Aparício, M., J. Costa and C. Costa "P- Manager: Um Sistema de Apoio ao Gestor" Workshop de Sistemas de Informação Multimédia e Cooperativos, COOP-MEDIA Porto 8 Outubro 2003
- Costa C. and J. Costa, "Proposing a new EMS based in the IPA System", in N.Mastorakis & V. Mladenov (Eds.) Recent Advances in Computers, Computing and Communications., WSEAS, 2002, pp. 180- 184.
- Costa, C., J. Costa and M. Aparicio, "P-Manager: A system to Support Managers" WESEAS Transactions on Computers; Issue 1, Volume 2, January 2003. pp. 58 - 63..
- Costa C. and M. Aparicio, "P-Manager: The Importance of Authority and Responsibility" Proceedings of the 6th International Multi-Conference Information Society IS 2003, Collaborative and Information Society, Ljubljana, Solvenia, pp. 207-211.