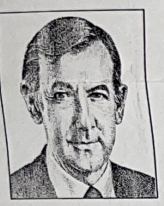
APPLIED INTELLIGENCE

Motivation of Players Crucial to Success of RAD Process



JAMES MARTIN

This is the eighth in a series on rapid applications development (RAD), a methodology designed to give much faster results than the traditional life cycle.

As we make machines ever easier to use, the work of building systems becomes more of a sociological problem and less of a technical one. Many of the elements of RAD are intended to improve the facility for human communication. So the choice of participants in the life cycle must be based more on their skills in human interaction. Rapid applications development, like team sports, depends greatly on the skills of certain critical players who must know their roles and perform them well.

In team sports, excellent equipment is only one aspect in a team's formula for success. Team members must be highly specialized, well-trained and must know how to work well together. For fast development, excellent tools are needed, but people must know how to use the tools and work together as a highly coordinated team trained to use a well-designed methodology.

As discussed in last week's column, there are four phases in the RAD life-cycle process: the requirements-planning phase, the user-design phase, the construction phase and the cutover phase.

The functions performed by critical players in the first two phases of the RAD life cycle are shown in the figure.

Requirements planning is done in a user joint requirements planning (JRP) workshop. A team of high-level users identifies the requirements under the guidance of a workshop leader. Members of the requirements-planning team must be able to think creatively about how operations could be changed by using the system. They must be able to make business judgments about the value of potential system features.

A workshop similar to the JRP workshop—the joint application design (JAD) workshop—is used in the user-design phase. The team of users who participate in the JAD workshop usually includes some members of the JRP workshop. In this phase, more detailed decisions are made about the design of the system. This requires talents somewhat different from those of requirements planning. Users who will work with the eventual system should be part of this team.

Members of the user-design team will monitor the evolution of the system during the construction phase, ensuring, for example, that transaction screens can be used easily and do not omit important items.

A characteristic of the RAD life cycle is the involvement of users at every stage. The short life cycle allows users to see the results of activities they start. They are, therefore, more committed to the process, unlike in the lengthy traditional life cycle.

With the RAD life cycle, the managers who start a project are more easily held accountable for it because they will probably be there when it becomes operational. They will have a strong incentive to make it succeed. If the initiation of the project is far back in the past, this accountability is lost.

Key members of the end-user team include the following:

- The executive owner, sometimes called executive sponsor, a high-level user executive who funds the system and "owns" it. This executive must be committed to achieving results quickly.
- The user coordinator, a user appointed by the executive owner to oversee the project from the users' viewpoint. (This person is sometimes the executive owner.)
- The requirements-planning team, a team of high-level users that participates in the JRP workshop.
- The user-design team, the team of users that participates in the JAD workshop. Some of these may be members of the requirements-planning team. Others should be able to participate in more detailed design.
- The user review board, the team of users that reviews the system after construction and decides whether any modifications are needed before cutover.
- The training manager, the person responsible for training users in how to use the system. This person organizes the design and creation of training materials and plans the training process. The training manager may be from the information-systems (IS) community.

To ensure that the users are fully involved, groups of key users are selected to participate in every phase. They may form the following groups: a requirements-planning team, a user-design team, a construction-assistance team, a user review board and a cutover team.

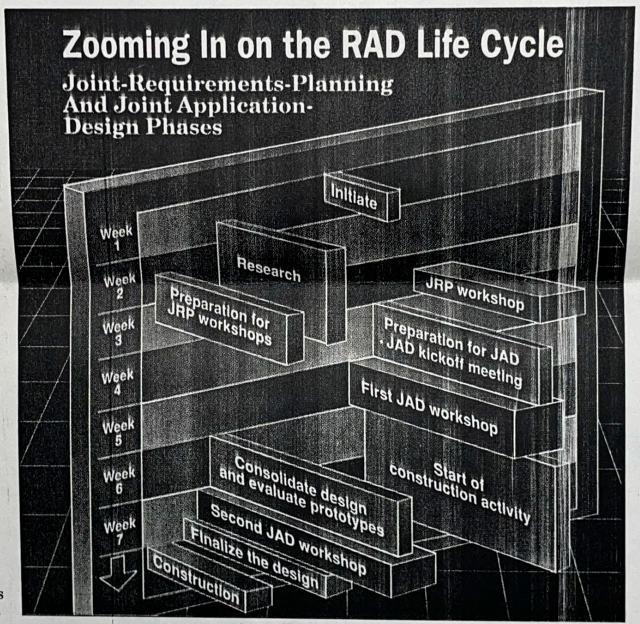
To a large extent, the same users play successive roles in these groups; thus, a large number of people is not required.

Key members of the IS development team include the following:

- The project manager, who is responsible for the overall development effort. In a project with one construction team, this person may be the team leader.
- The construction team, a small team of implementors (typically two, three or four people), highly skilled with the tool set, that builds the system. Large projects will need multiple construction teams.
- The JAD leader, a specialist who organizes and conducts the workshops for JRP and JAD.
- Human-factors expert, a specialist on human factoring who is responsible for usability testing.
- Data-modeling expert, a specialist with experience in data modeling who can create data models rapidly and competently.
- Repository manager, an executive responsible for the integrated computer-aided software engineering (I-CASE) repository and its integrity. He or she may control what reusable constructs are in the repository. The repository manager is particularly important in an environment of information engineering or reusable design.

Teams are very important in the RAD life cycle. The requirements-planning team and the user-design team are together for a short period.

The construction team, if it works well, should stay together for many projects. The players in each team should maximize positive interaction. The members of the construction team may be changed if necessary to increase its effectiveness.



John Avakian

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Keep the Ball Rolling

At each phase of a project, certain activities have to move fast, and so the people who can make this happen must be highly motivated. They must have deadlines and work well under pressure to meet the deadlines.

Those who must work quickly are different at different stages of the life cycle.

At the start, it is critical that management, including the executive owner, initiate the project quickly, cutting through any potential political delays or bureaucracy. At the requirements-planning stage, the key users must participate in the JRP workshop and, following that, users must move swiftly to the JAD workshop. During construction, the IS team using the I-CASE tool set for detailed design and code generation must be geared to move quickly. At the end of the life cycle, those responsible for training and cutover must also move quickly.

To avoid delays at any part of the life cycle, each phase must come into play on time, like a well-produced stage show.

The players for each phase must be ready to play their role; they must be highly motivated to move fast and work hard for their part of the project. Success of the process depends on skilled planning that is highly coupled to careful human motivation.

Next week I will discuss the critical functions performed by the JAD user-design team and the construction team. ■

The concepts embodied in RAD are described in a new volume in the James Martin Report Series. For more information on this volume, call (800) 242-1240. For information on seminars, contact (in the United States and Canada) Technology Transfer Institute, 741 10th St., Santa Monica, Calif. 90402 (213) 394-8305. In Europe, contact Savant, 2 New St., Carnforth, Lancs., LA5 9BX United Kingdom (0524) 734 505.