

The Use of Internet based Project Management Software Extranet Applications to Facilitate a Process Approach

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Executive Summary

As a widely distributed communication media, the Internet can provide an effective communication medium for project management. By combining a process approach with workflow enabled software extranet applications, project management becomes capable of reduced cycle times and increased collaboration. If a self-directed team model structure is also used, the benefits are further increased.

Introduction

The relative ease of use of the Internet for communication together with the low cost of personal computers and other Internet devices has opened new communication gateways for neophytes and power users alike. The Internet has become a magnet which is drawing people to personal computers and PDA's who would not otherwise have made the transition in the same time frame or intensity. As those persons gain skill and confidence in electronic communication, they are preparing themselves to participate in electronic project management through extranets.

Workflow and Process Management

During the eighties and nineties, methodologies

or approaches such as Total Quality Management, Convergent Engineering and re-engineering resulted in a change in emphasis on how project management was practiced in many organizations. The emphasis on process and its underlying workflow provided the opportunity for greater teamwork by reducing interpersonal conflicts. By eliminating inconsistent or ineffective process, team members were given a means of setting aside the interpersonal barriers created by their own personalities.

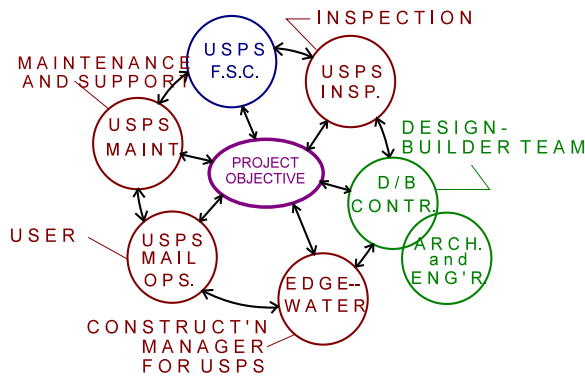
Self-Directed Team Model

When most, if not all of the project management responsibilities were outsourced, a certain amount of structure was also lost as the many outsource participants had no common process among themselves or with the remaining in-house staff. The communication capability of the Internet was part of the solution as it replaced or supplemented the organization's internal communication systems and made them more widely available.

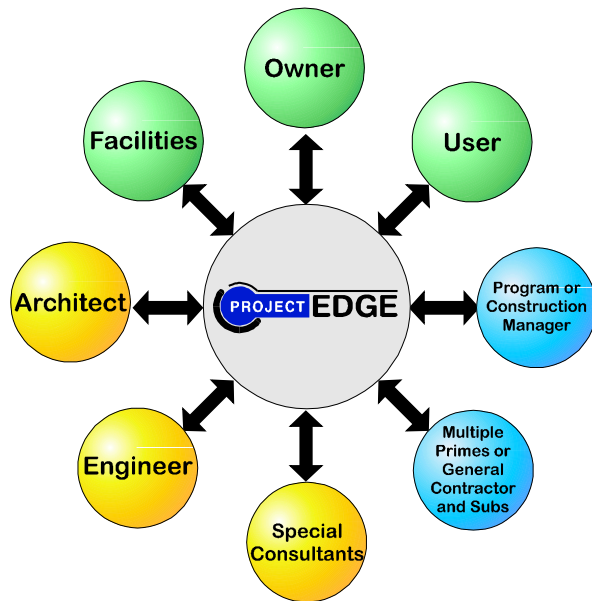
Another significant solution is the use of the self-directed team model for the structure of the project management team. The structure shown below has resulted in significant project accomplishments. Once such project, owned by the United States Postal Service, resulted in

a project being completed in 48% of the normal time, 25% below budget and nearly doubled the planned productivity in its operations.

SELF-DIRECTED TEAM



The Internet and replicated databases in a groupware software application such as Lotus Notes have changed the model slightly while making it extremely more powerful. In the previous model used for the Postal Service, the focus was on the project objective with communication being directed solely from individual to individual. Today's model combines the project objective and the project



database as a combined focal point and extranet resource for the entire project team. Project data and communication should all be through the database to provide every project participant with the opportunity to collaborate on the information. The result is more open communication and sharing of information about the project and its objectives.

Illustrated example based on the use of ProjectEDGE

Based on Lotus Notes, ProjectEDGE uses both the replicated database and Internet communication to integrate all of the project management functions encountered during a project's life cycle. The examples below illustrate how workflow process, self-directed team structure and enhanced communication are all brought to bear on project management.

At the beginning of a project, both the mission and vision for the project should be clearly defined. The mission statement should be worded as a consensus of the project objective. The vision statement should represent the consensus of the project team regarding how they are going to accomplish the mission. The project core team will have to form and define their roles and responsibilities as well as the common processes they will use. If no common processes exist, a self-directed team structure and the underlying workflow can provide a basis to improve upon.

As the team prepares to use an electronic project management system, it should review any default user access role to determine if any changes should be made to the roles that provide editor, read only or as assigned access to the project information. The team's discussing who they are and how they are

going to do their work together is a significant step forward toward their successful completion of the mission and vision.

A Process Approach to Action Items

By combining both workflow and a process management approach to action items, the concept of a process owner can be introduced. The person who creates an Action Item is the person (Process Owner) who must be satisfied as to its completion. While other persons may be notified of the initiation and completion of an Action Item, it is the Process Owner who “owns” the item until its completion. The Internet plays a role in the Action Item completion by providing all the interested parties with access to the Action Item as it is being processed and with linked notification to all the participants including nonparticipating interested parties.

Based on their access roles, other project participants can review the status of any of the Action Items.

Contract Administration

Successful contract administration begins with a well defined scope of work being including any clarifications being made during the bid phase or at a preconstruction kickoff meeting where all of the obligations and expectations, including the closeout process, should be discussed to insure that all participants have the same understanding of what is expected of them. The underlying workflow can then be monitored by the project management extranet application to insure that all of the required actions are completed timely. When changes occur, additional workflow process can be used to integrate those changes into the project

database. Throughout the process from bid and award through contract execution to closeout, all of the participants can interact with the project database in accordance with their defined access roles.

Communications

Applications such as ProjectEDGE also integrate communications by letter, memo, fax, transmittal, voice conversation and e-mail into the project database. The workflow process can be applied to each to create both a collaborative draft and a final status for all such documents to allow for the necessary edits during the draft stage, but to preserve the integrity of the document once finalized. By using the Internet, addressees can be notified through their own e-mail systems that correspondence for them has been prepared and is in the database. This feature retains the flexibility of producing conventional letters which could be mailed while encouraging the authors to become paperless and send an electronic notice only.

Discussion

A Discussion Database involving threaded discussion can be made even more powerful through the application of process tools. One such use is to capture and verify architecture and engineering space program needs through the use of templates of program criteria. The templates are used to query the building owner and users to surface and quantify their needs. Workflow can be used for the sign off of program elements. The Internet can be used to advise all of the participants of the ongoing programming discussions as well as status approval and verification of each of those items.

Meetings

The Internet provides much more than a medium for publishing meeting minutes, by providing the opportunity for virtual meetings in which, most, if not all of the attendees, participate electronically. Significant staff and management time can be saved by having the meeting chairperson or facilitator prepare topics for all of the meeting invitees who read the proposed topic and add to their own comments and supporting attachments. When a meeting agenda topic is treated like a discussion, threaded responses are also possible. Additionally, Action Items, on a topic by topic basis, are also provided. The meeting chairperson or facilitator, as Process Owner, decides when each topic can be closed out and which topics should be carried over for subsequent meetings.

Contact Manager

The combination of the communications capability with a phonebook in the database provides the user with a full function contact manager for conventional or Internet usage. By categorizing the entries, the user can track leads and select particular contractors or consultants by their specialty.

Punchlist

Processing of punchlist corrective items can be made much more efficient through the use of a workflow process and the Internet as a communication device. The collection and dissemination of punchlist information is often time consuming and difficult. By implementing a list of standard descriptions and responsibilities for corrective action, both a checklist and input device can be created at the

same time. In addition to speeding data collection and entry, the standardized approach also insures consistency of descriptions for searching and analysis.

The Internet can provide both the distribution and update function which can be further enhanced through the use of hand held or wireless devices which interface with the database.

Request for Information (RFI)

Requests for information should use a workflow process which includes notification to both approval/review participants and to interested parties. The specific routes should be set up by the project team by reviewing suggested templates and modifying for the particular project circumstances. At that time, any interested parties should also be identified. During processing, the Internet would be used to provide notification of both actions and results. While normally used only in construction, we recommend using RFI's in planning as well.

Submittals

Early in the project design, the project team should decide its approach to submittals by using a generic list from which potential submittals are selected as either those requiring approval or those requiring record submission only. The project team should examine the need for submittals in light of the owner's facility operations and their use of either the plans and specifications or the submittals for ongoing maintenance and repair.

The project team should also review the default approval routings and make any necessary

modifications including interested parties to which to be notified. By defining the approach before the specifications are completed, the

quantity of unnecessary submissions that must be prepared and approved will be reduced as much as possible.

For more information on ProjectEDGE, white papers or demonstrations, visit our web site at www.projectedge.com or contact us at 888-516-EDGE, Fax 315-471-6659 or e-mail at projectedge@edgewater.net.

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