Using Technology To Unite The Extended Project Team

There's good news for the construction industry: the American Institute of Architects (AIA) predicts that overall construction spending will increase 8% in 2015, driven by double-digit growth in office building (19%), the 'red-hot' hotel market (11%), as well as strong growth in retail, commercial and manufacturing facilities.

While the economic challenges are subsiding, others persist. Specifically, construction projects increasingly rely on myriad specialties, which result in project teams made up of numerous consultants and subcontracts with highly specialized skills. Project success is driven by how effectively these extended teams are united. Put another way, when projects fail, the cause is invariably due to failures of communications and collaboration.

The industry is idiosyncratic in a significant way: from design through the building phases, numerous companies that have never worked together before (and are possibly located in different time zones) come together for a particular project. They're expected, within days or weeks, to morph into a fully functional team, even though they may have little opportunity to work face-to-face to tackle problems.

Complicating matters further, through the years, the industry has developed rigid lines of communication, which, in turn, can create adversarial relationships between architects, general contractors and subcontractors. For instance, a subcontractor may have a question, which must be posed to the contractor, who, in turn, submits a request for information (RFI) to the architect, who then requests clarification from a consultant. The answer then follows the reverse route, resulting in delays, teams working with potentially outdated information, and a sense of mistrust.

These challenges have led Newforma to ask:

How can the entire team gain access to the right information during the right times of a project to keep it moving smoothly?

This paper examines the challenges faced by the extended project team, and suggests ways in which technology can be deployed to overcome those difficulties. It ends with Newforma's approach to uniting the extended project team with technology.

CHALLENGES & SOLUTIONS NEEDED

Volume of information exceeds long-used methods for managing it

The volume of data, drawings, RFI responses, architect's supplemental instructions (ASIs), submittals, and so on exceeds the ability for team members to manage it via long-used methods, such as email, Microsoft Excel spreadsheets and FTP file transfers. This issue is compounded by the industry's adoption of 3D modeling (see below). The extended team members struggle to keep up with the data manually.

Solution: A system to house all of the data in a centralized location that every team member can access, 24/7, via a computer or mobile device on an as-needed basis.

Siloed project data leads to conflict

Too many construction projects contain multiple copies of the project documents siloed in the offices of the owners, architects, general contractors and subcontractors. In most cases, the information is out of synch with one another. This situation can lead to conflict, such as team members recording different due dates.

Solution: One set of documents, updated in real time, that's contained in a central repository with access provided to the owner, architect, consultants, general contractor and subcontractors. The visibility leads to accountability. If every member sees the same information it's is no longer possible to 'game' the system. Simple features, such as displaying Submittal Turnaround Time to everyone on the project, results in faster turnaround times because team members know they are on the clock.

Permission levels should ensure that each constituent has access only to the information they need to do their jobs.

Disconnects between team members

Most project management systems serve either the architect or the general contractor and the team members they interact with directly. The owner, the design consultants and the subcontractors are often left out by these solutions. To get needed information, the project management systems are supplemented by rigid and formal processes, where one person serves as the point of contact for the general contractor or architect.

This situation is time consuming, creates delays, and runs contrary to a growing desire for more cooperative project teams. A free flow of information ensures that the entire team is working together effectively, and enables them to complete projects on time.

Solution: A single repository for RFIs, submittals and field orders so that the full team, including design consultants and subcontractors, can track the status and progress of their information. The repository should provide transparency to all team members, so as to foster cooperation, rather than mistrust. For example, a subcontractor who asks a question will have more confidence in the project systems and general contractor's management abilities if he or she sees that the RFI is moving forward through review process and passing through the appropriate hands, and not thrown into a black hole.

No single team record

Related to siloed information, construction teams spend too much time reconciling logs at meetings. Accountability is critical, given the idiosyncratic nature of the construction industry, where numerous companies and individuals will participate at various stages of the project. A question may be asked and answered in January, but in March a new company may start working at the jobsite, and may raise the same question, unaware that it has already been answered.

Solution: A permissions-based system to serve as a centralized team record that all participants can access as needed, and holds all members accountable to the most updated information. The system should enable team members to query and see all questions that have been raised, along with the answers provided.

Inefficient process for sharing changes

In most cases today, email and FTP are the main sources for sending design changes to the general contractor. Often, the contractor downloads and prints the files to distribute to the subcontractors. The ownership team may or may not have access to the FTP. And even more crucially, the jobsite crews may not have the current design at their fingertips, running a high risk of errors and expensive rework in the field.

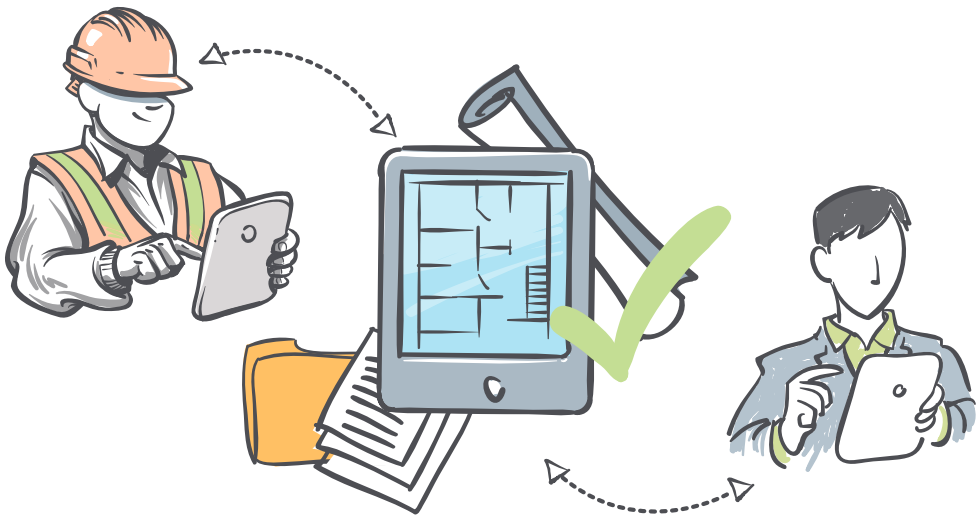
Additionally, the design team asks various consultants to review shop drawings, all of which must be coordinated. In some cases they transfer red lines from a reviewer's document to a central one. This manual work limits the opportunity to collaborate on issues.

Solution: A system that lets architects upload PDFs and automatically notifies the appropriate team members. Team members can sign in to review, download or print the information. The system should integrate with mobile apps that automatically synch each time an update is provided, ensuring that the most current design changes are immediately available in the field.

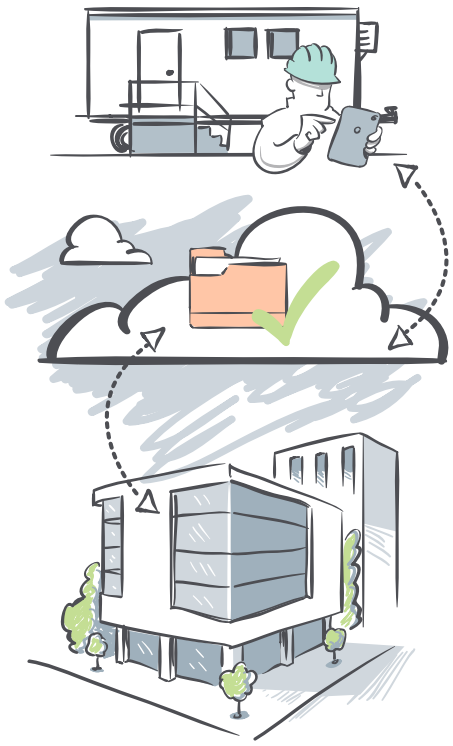
ADDRESSING THE NEEDS OF THE EXTENDED TEAM

Newforma set out to design a system that incorporates that needs of the extended team – owners, architects, design consultants, general contractor, subcontractors – so that they become active participants in project planning and goals.

We believe that a system specifically designed for the entire team--including subcontractors and design consultants – ensures that all of the people who are engaged in a project participate as full team members instead of disenfranchised second-team members who must wait for the architect and consultant to share information piecemeal. This benefit extends to the ownership team as well, who traditionally relied on the general contractor and architect for updates.



With a central repository, the owners can sign in and check on status at will. At that point, with full knowledge of their project, the owners can have as little or as much interaction with the project team as they choose.



Process submittals and RFIs in half the time

By integrating information from the design, construction and owner's teams, Newforma Project Cloud automates workflows related to document approval, PDF markup and general communication. Integration with Newforma mobile apps extends the software's reach into the field.

Automate the review and approval process

- Process submittals with just a few clicks.
- When forwarding an RFI or submittal, Newforma Project Cloud pre-populates the checklist of recipients, making sure no one – including the owner's team – is left out of the loop.
- Each week, the design team receives an emailed to-do list and reminders of overdue action items.

Web-based markup tools save work and mitigate risk

- All team members collectively redline, stamp, and ultimately work from the same document.
- Newforma Project Cloud notifies designers when consultants and owners have reviewed documents, contributing to a transparent and collaborative workflow.

Collaborate in a single, cloud-hosted document repository

- Never again hand-copy shop drawings, transfer redlines, type emails, or print and ship transmittals.
- The system logs user input, capturing the project history.
- At the project's end, receive an offline closeout of your project documents.

ABOUT NEWFORMA

Newforma enables owners, designers, builders and extended construction teams to collaborate, speed decisions, and manage information for more predictable and successful projects.

The company's mobile, cloud and desktop applications have saved design and construction dollars on more than 1.6 million projects, and helped teams exceed expectations for budget, schedule, performance and quality.

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