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Ten Innovations That Should Drive Collaboration Technology

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As discussed in the Serious Insights report, *Why Collaboration is Broken* (available here), several technology choices made by collaboration software vendors contribute to the dysfunctional collaboration environments experienced across the business, government and non-for-profit sectors.

To review, these choices have led to the following conditions:

- Market fragmentation based on features and functional segments
- Failure to adequately help customers adopt new technology
- Too many products with collaborative features due to the ease with which collaboration can be implemented as a feature
- Poor user interface design
- Too much concentration on mobility
- An over emphasis on social networking
- Failure to invest in long-form, document collaboration and other complex activities
- A lack of data and repository openness and standards for data interchange
- A failure to invest in analytics and discovery
- Nearly exclusive use of industrial age measures for determining value

While these issues persist, combined with those generated by the organizations that acquire collaboration technology, and the users themselves, collaboration vendors are also pushing the edge of the collaborative experience by implementing new ideas prompted by technology innovations, emergent business needs and customer requirements.

This report outlines ten areas of technology innovation led by a variety of vendors. None of the areas mentioned here have become fully realized, nor do any of them currently dominate the requirements of organizations seeking to acquire or shift their collaboration platforms.

That said, each of these areas suggests future directions that could fundamentally enhance the collaboration experience through simplification, interoperability, completeness of function, or by leveraging emergent technology to provide vastly new capabilities unimaginable just a few years ago.

The intention of this report is to make collaboration buyers aware of emergent capabilities so they can expand the evaluation criteria used in the selection of tools. Perhaps more importantly, this report intendeds to drive industry dialog around the convergence of collaboration as an idea that can begin to create a shared set of operating rules. Had relational databases not converged on a single generally agreed to set of rules, the explosion of Big Data might never have occurred, or if it did, it would be driven by flat files and extracts. As the connections between people become the currency of 21st Century work, it is important that the vendor community seek ways to rationalize communications and collaboration so that what is said, what is shared and what is discovered, drive the conversation, not how things are stored, retrieved or annotated.

There are two innovations that must be pointed out as they have become fairly ubiquitous and should be considered game changing as collaboration interfaces.

The first is enterprise social networking as an implementation that drives transparency. E-mail may not be giving up its *King of Communications* status when it comes to cross-organizational messaging, but within organizations that have adopted enterprise social networking the flattening effect creates much more responsive and transparent work experiences.

The second area is the marketplace, which opens up various platforms and tools to external development. As has been shown in the mobile world, the creation of a marketplace can drive innovations that far outstrip the vision of the platform creators. We don't see that kind of innovation yet in the collaboration market places and add-in stores as most existing add-on products are designed to provide access to other platforms, most commonly external file stores like DropBox and Google Drive, not to empower new capabilities.

Marketplaces also act as process repositories or the home to shared templates associated with SAP Jam, Wrike and Citrix Podio — more a kind of knowledge management feature for sharing useful ways to wield a product than one that introduces new functionality. These process collections can be purchased or shared freely depending on the vendors model. This innovation reduces the learning curve to new users, but also introduces another level of management to the process, which will require users to be wary and aware as they employ these processes in their work. As a general rule, any process that isn't transparent and arrives uneditable should be avoided.

Many other marketplace apps provide productivity shortcuts and visualization tools that build atop existing capabilities. Imagine if the Clarizen or eXo Platform markets became the innovation centers for fulfilling the promise of collaboration by introducing tools that add radically new ways to work together through digital platforms.

This report's job, however, is to explore innovations that exist and are already shaping some collaboration experiences. The list itself will likely be argued by vendors for not featuring all of what they consider innovations. And they have been given an opportunity to make their arguments, and they have been heard. In the end, though, we remain trapped in a fragmented, under utilized world when it comes to collaboration, and part of that derives from the failure of the marketplace to find its way toward a set of principals that can be applied universally. The collaboration market awaits that innovation. In the meantime, we will need to seek light where we can find it.

Analysis
Ten Collaboration Innovations

1. Shared annotation

Collaboration often takes place within silos, even in products that own all of the silos. Microsoft, for instance, includes comments inside of a Word document, but despite the migration to XML those comments are trapped within Word. While a modification to a document may prompt a notification in any number of ways within Microsoft's collaboration products, or within products that generally track changes to files, the comments are not extracted, placed in situ and included in the activity stream. That means that all you know is someone save a document with some changes, not how they modified it, or where they commented.

This same issue holds true for PDF files marked up in Adobe Acrobat or any other PDF editing product.

There is progress on this front, and it is coming through previewers that are being built into various products like Bloomfire, SAP Jam, Fuze, Moxtra and Atlassian's Confluence.

Atlassian offers the most comprehensive approach to annotation, as can be seen in this video. They support comments on any object on any page, and they also include viewers that support comments on the previews.

While this is a big step in the right direction, it still separates the comments from the editing process. It also runs the risk of overlapping approaches, for instance, commenting on a preview of a Word document that already has comments in-body.

This approach to annotation begs the question if annotations need to be anything other than a post (see item 10: Universal Post)? The content associated with an annotation, be it video, a scribble, voice or text, contains the same data as a post. The annotation can be stored as metadata, in a BLOB or as structures within a native XML database. These representations could be used to determine where and how to manifest the annotation, and they would also permit the extraction and infusion of annotations directly into the activity stream. No longer would people need to open a document to see mark-ups and comments, their activity stream would act as an X-ray through the collaborative process, and they could then decide if further contextual examination was required or not. That will be the next step forward.

2. Deconstruction and platforms

Deconstruction and platforms may seem as though they are in the wrong order. Becoming a platform is the stated goal of many collaboration vendors, if they don't claim that status already. The approach to becoming a platform, however, is usually to create an all-encompassing solution, and run that solution as a service from the cloud. There may be on-premise or hybrid cloud options for now, but regardless of the deployment approach, a platform's code is a unified, single vendor approach to managing the work experience.

I do not necessarily disagree with this goal, but I put deconstruction at the top of this category of innovations because a traditional platform is not an innovation. Deconstructing the work-experience, and then building up a platform from components, would be.

Think of deconstruction as a technical approach to developing features, and contextualization (see item 9

below) as the ability to make a feature available at the most appropriate place in the work stream.

To that point, Moxtra is demonstrating the first moves in that direction. Moxtra started its application life as a mobile client on iOS. It initially included real-time and asynchronous collaboration spaces formed around binders, a virtual manifestation of a common physical organization construct.

But it turns out that Moxtra the client is but an implementation of deconstructed work components. While Moxtra is a platform in the broadest sense, unlike a monolithic collaboration environment where components can be hidden—but remain to be called upon by the quick modification to the user interface—Moxtra's pieces can be implemented in a different way; those features exist in isolation from other features in a programatic way, but with data across the platform remaining accessible. Using the Moxtra SDKs and APIs, Moxtra components can be implemented turn-key, or modified to reflect branding, or even have the UI elements rearranged to better meet a particular use case.

The Moxtra client experience

Moxtra is perhaps the first product to offer a truly deconstructed collaboration toolset where individual features can be transformed into a collaboration environment, or used completely independently. A platform presumes a set of integrated services with some shared architecture beyond data. Moxtra provides individual services with shared data, processes, memory management, etc., all invisible to the implementer and the user. Individuals or organizations can select components that meet their experience expectations without the need to worry about data loss or migration.

Such an approach interestingly leads to a situation similar to that in the database world where tools interact with data models built on databases that are agnostic about the underlying technology. A common definition of a Universal Post library could include objects available for calls from any other collaboration component. This would permit separate streams of innovation to come from those seeking to build better data representations of collaborative objects, and those looking to build user experiences that integrate those objects.

Along with Moxtra, products like SAP Jam, and Democrasoft's WeJITs, offer services that can be called very discretely. They have, at the technical level, made services so that they can be embedded into a transaction or in the case of WeJITs, another object, like an e-book.

The ultimate expression of collaboration will be a set of functions that can compete in discrete spaces based on their data and functions rather than their user experiences, supporting the standards-based, or SDK, API-oriented, exchange and management of data. The componentization of features also empowers the development of item 8 on this list, *Bring Your Own Interface*, as it separates data and logic from the presentation, manipulation and capture of the data.

3. Collaboration and analytics

There are two ways to look at analytics in collaboration, and both are emergent. The first is to look at analytics as it applies to collaboration. This analytics approach takes into account social graphs, content and concepts, in order to provide insights into the use of content and the behaviors of those within the collaboration environment.

The second form of collaboration is the use of collaboration to drive the transformation of insights from analytics systems into decision making or other action.

This second issue is not the purview of this current report, but it is important to note it because analytics vendors, and those who perpetuate collaborative activities within their firms, need to understand there is a significant emergent form of work that requires the application of collaboration technology in order to meet its potential.

To core collaboration, analytics derived from collaborative data has arisen as a way to create awareness and increase use of collaboration and the content associated with collaborative activities.

Analytics can be broken down into eight areas, nine if search is included. Most of these analytics features apply and interpretive algorithm to content in order to provide

a given insight. How they achieve this insight is not relevant to the feature as an innovation, but may well be critical to the buyer of a collaboration environment looking to attain a particular outcome. No qualitative analysis has been conducted to compare the performance or outcome of the analytics tools mentioned in this report.

The following table outlines the categories of analytics and provides a list of products that support that feature. While dashboards are included, dashboards do not perform analytics themselves, but rather offer a way to display the results of analytical inquires. It should be noted that the inclusion of integrated collaboration analytics is by no way common at this point.

Analytics Category	Example Products
Content recommendation	Chatter, Bloomfire, Huddle, Saba, SAP Jam
Content use analysis	Bitrix 24, Bloomfire, Axero Communifire
Dashboards	Clarizen, eXo Platform
Expertise recommendations	Bloomfire, Saba, Salesforce Chatter, SAP Jam, Interact-Intranet, Tibco
Keyword suggestions/ concept extraction	Interact-Intranet, harmon.ie
Profile analysis	Interact-Intranet, harmon.ie
Relationships	Axero Communifire
Reporting	Bloomfire, Igloo, SAP Jam
Search	Atlassian Confluence, Bloomfire, Interact-Intranet, SAP Jam
Social influence	Interact-intranet, Tibco
Project Performance	Clarizen, Wrike, Redbooth

Search is included on this list because it should be considered part of the overall analytics capabilities of a product given that it creates indexes based on document and content analysis. Search in products like those from Interact-Intranet, Saba and Bloomfire, represents a significant internal investment, with capabilities like type-ahead, expertise suggestions and content recommendations as a result. The availability of video search based on audio transcription is also a powerful recent feature added to Bloomfire.

The availability of integrated search, especially a sophisticated proprietary version of search, can be taken as an indicator of future interest in more personalized, proactive information delivery models.

Analytics will be an increasingly important element of collaboration experiences. At this point most of the analytics are looking at what might be considered, in a

Interact analytics for Active Users

knowledge management sense, false metrics. This includes areas like content use and participation.

Bloomfire, which concentrates on knowledge transfer, includes analytics to gauge completion of their unique content packages.

Value from content, however, isn't determined directly from retrieval but from application, and currently, no collaboration platform offers the ability to track a collaborative interaction through its lifecycle and demonstrate the realized value of an idea that started out as a post or realtime chat — nor can they gauge the application of ideas applied from learning. For collaboration vendors to truly demonstrate the value of their products, they need to invest in analytics capabilities that reveal the value generation of interactions that originate, are nurtured and are ultimately realized, through their platforms.

4. Open source

It is unlikely that the majority of collaboration platforms will move toward open source at any point in the near future, but open source tools like eXo Platform and Acquia's commercially supported version of Drupal, offer alternatives to those looking for collaboration technology as a community learning exercise.

These open source tools, and the very idea of open source, is listed in this report, not because of the particular innovations they currently offer, but because of the potential to drive the other innovations mentioned here into the open source platforms, and therefore, engage in a challenge for the future of collaboration that more proprietary vendors may not choose to undertake because of cost, customer or other strategic priorities. There is nothing listed in this report that is too radical to be tackled by a motivated community of developers, including the complete deconstruction and modularization of their platforms.

Unfortunately, open source often tends to produce incremental innovations because the community does not tend to attract leaders who invest in a vision. Companies like Acquia, however, may decide to invest in features to differentiate their commercial implementations from basic open source versions, as they have done with the Lift line of intelligence products for delivering more insightful customer experiences.

5. Collaboration in everything

It is increasingly difficult to find business software that does not include some collaboration feature. Dropbox supports comments on files. Evernote includes a chat feature. Even IBM's Watson now touts collaboration on analytics models. This development is the opposite of deconstruction. Rather than permitting the integration of a "deconstructed" component into a product like Evernote, that company has decided to create their own feature. As mentioned in the *Why Collaboration is Broken* report, many of these features reflect well-known technologies and are therefore easy to duplicate. While collaboration in everything is an innovation, given the former silos of collaboration driven by monolithic collaboration environments, this approach also creates silos because information from one environment does not easily flow between systems. Since many of these systems concentrate on messaging or posts, often in the form of comments, it would be ideal if they negotiated their way toward an interchangeable messaging and post format.

Unfortunately, most vendors have a difficult enough time integrating their own proprietary systems, let alone taking on the task of open integration across platforms. Microsoft, has a number of instant messaging protocols in play across Skype and Lync, not to mention their commercial implementations such as Windows Live Messenger. These have yet to be reconciled to facilitate common exchanges across products, though that appears to be their direction.

The recognition that people may want to work together on anything they are creating or processing is an innovative step ahead. This suggests that the idea of collaboration has become sticky enough that vendors at least believe various types of collaboration add value to their offerings—and that is a good thing. There is a caution however. With the entry barriers to developing collaboration technology constantly being reduced, the risk of collaboration becoming even more fragmented has increased.

6. Visual representation of collaboration

The majority of collaboration tools present collaborative interactions as a flow of activities streaming vertically through a user interface. Modern collaboration products typically call this an *activity stream*. Of course, the e-mail in-box is also a linear representation, and many products still offer a hierarchy of dialog managed in a forum discussion thread with topics and responses or comments. While entries may be sorted in various orders (take, topic, author, etc.), regardless of the sorting capabilities, much of the collaborative experience is textual and linear. We write questions and answer them. We scroll through a document and add comments or circle issues. We post and wait for comments.

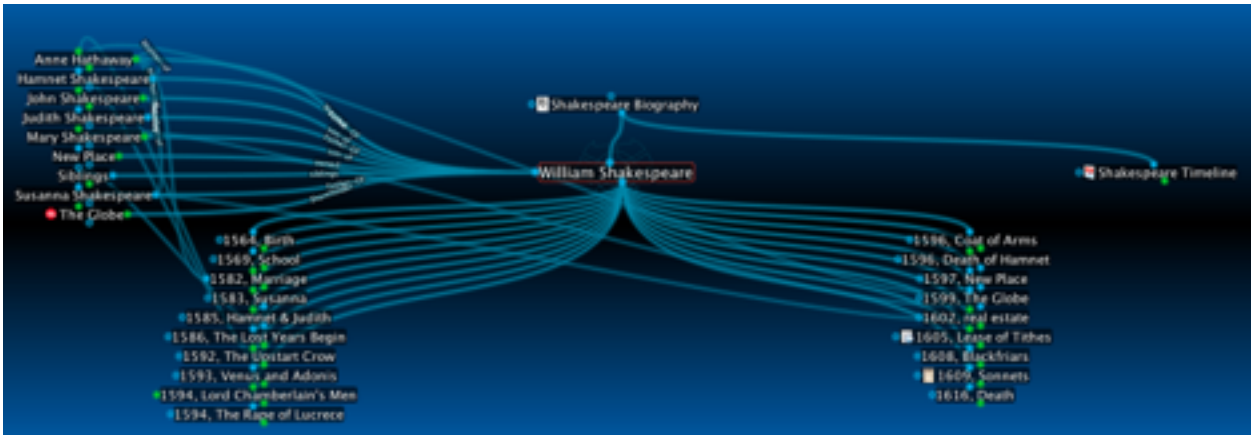
The most traditional form of visual representation of collaboration would be the cork board, of which several tools now exist that mimic that experience, most notably in the collaboration space, mural.ly, which is designed to provide a virtual interaction space. And like most technology, mural.ly expands the capabilities of a physical cork board covered with 3M PostIt Notes, to include features like comments, an activity stream, areas for clustering, image stickers and voting. And mural.ly also fits into the item *5. Collaboration in everything*, because its visual environment is also a network collaboration tool, not just an app to use on a shared screen.

Several mind mapping tools, which represent information in 2-dimensional drawings rather than linear lists, have also added collaboration features. Think Buzan's iMindMap, MindJet's MindManager and Mind Meister's Mind Mapping tools. Mind maps were invented to represent information in a visual way, and they are often applied in team situations to rapidly collect ideas, and, more importantly, to create instant context. With the inclusion of online collaboration features, it is no longer necessary to bring people together to create maps.

Information, however, is actually N-dimensional; concepts and things are related in ways that belie linear representation. There is no product more suited to capturing this kind of representation than TheBrain,

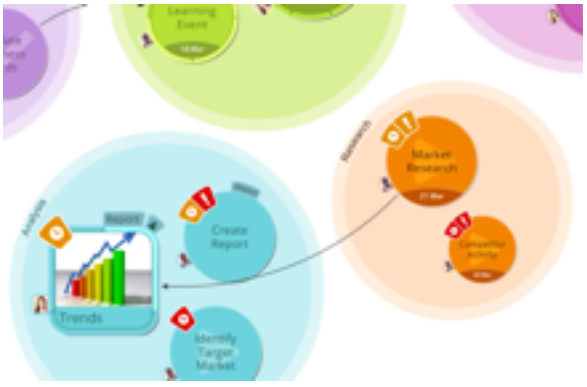
which has been used for everything from documenting the cardio-thoracic knowledge of U.S. surgeons, to documenting James Burke's famous *Connections* or the life of Shakespeare.

Visual representations of information can benefit from collaborative development of such representations, which means input from multiple people, as well as challenges to assumptions in the models. That is why TheBrain, whose first product catered only to individuals, developed TeamBrain to facilitate the collective development of contextual maps.



A "plex" for the life of Shakespeare visually represented in TheBrain

While TheBrain supports import from OPML, N-dimensional representation in TheBrain differentiate it from other tools because the developers don't allow an export into any other file type, except variations on TheBrain itself or images. The representations become too complex to output into any other existing file format. This suggests that TheBrain, more than any other tool, accepts and embraces the complexity and messiness of the world. All other tools, as David Weinberger documents so well in *Too Big To Know*, attempt to simplify the world, and therefore create a loss of information for their users.



An example of DropTask visual task and project management

Another tool that brings visualization to collaboration is DropTask, a visual task and project management application that represents projects as clusters of tasks. Drag-and-drop creates dependencies. Visual cues inform viewers of status.

Visualization can also tie to analytics, as it does with Saba's DNA, which produces visual representations of personal and enterprise networks, providing individuals with a way to understand their influence, and for organizations to identify, nurture and encourage change agents.

There are many other ways that visualization could be integrated into collaborative environments. If we single out meetings, the very nature of meetings within a flow of time suggests a visualization that would be represented by a timeline dotted with meetings. The rhythm of the team would be visual, and the timeline would provide a high level context for the work. A hover or call-out would display major decisions. A click or tap on any meeting would drill into the meeting's detail.

Current products offer a strong starting point, but much more can be done to create more visual environments that employ the visuals as active elements in collaboration. The collaboration market needs to recognize that as they simplify the interactions and representations in the name of productivity, users lose rich information and subtle nuances. When it becomes impossible to find an entry point for an idea, the idea doesn't get posted. When a comment needs to span multiple topics, its creator seldom takes the time to copy it to the different place it applies. The recognition of complexity is as important as the visual representation of that complexity—only by employing visual metaphors do we arrive at a way to handle both adequately.

7. Gamification

Gamification is included here with some hesitancy, but it can be used to illustrate a broader point: new engagement models and new forms of measurement come and go. Gamification is the latest attempt to create an incentive layer that will improve technology adoption, and maybe, the quality of content and interactions.

One of the things that gamification delivers, and an idea that has existed in knowledge management systems for years, is recognition. In fast-paced organizations it is too often the case that those who participate in the electronic world aren't recognized the same way as those who are more dominant in the physical world. In many cases thought leaders who write well may not be interested in other forms of leadership or management. It is also true that young, emergent thought leaders may test their ideas implementation on blogs or other types of posts before they are ready to espouse them as managers and executives.

Top Members in Communifire's Gamification Implementation

Some collaboration vendors have embraced gamification, most notably Axero's Communifire, Saba and Bloomfire. Bloomfire offers leaderboards that track content contributors, contributor quality based on likes and views, and also those who consume the most content. Saba includes badges, the ability to leave "impressions" as a type of feedback comment. Saba also calculates a p! or "People Quotient" score for awarding points-based actions like shared content, the usefulness determined by others, the elicitation of feedback and high content ratings. And because Saba concentrates on learning, they also gamify their learning experiences.

Some vendors choose to partner on gamification, as SAP has done in its integration of Bunchball's Nitro gamification features with SAP Jam.

Gamification offers alternative forms of recognition, that are far more timely than traditional recognition cycles. Also unlike traditional recognition and reward systems, gamification provides a wide range of evaluations on content and ideas with much less overhead. Managers need not seek feedback on employees in a highly interactive social environment, the feedback just arrives.

Work environments, however, are not always highly interactive social environments when it comes to their collaboration platforms. If people aren't engaged, and they don't see value in the relationships and content in the system, then gamification is not going to produce positive results. Likewise, if the collaboration system is already actively being used, it is unlikely that gamification is going to greatly enhance the value already being realized.

The use of gamification cannot be taken out of context. Gamification must be applied in areas where it can actively engage, but where it does not trivialize existing knowledge sharing activities. Gamification has proven useful, for instance, in some training situations as well in areas where incentives and rewards are common, like sales. It may have limited application in areas like engineering or finance.

Some organizations have chosen to use it as a behavior modification intervention system. If an organization wants to reduce its support costs by encouraging more one-to-many support activities via their support community, they would need to encourage that behavior, while minimizing one-to-one service ticket support. Gamification creates incentives for enhanced one-to-many support, while downplaying the value of one-to-one support situations.

It is important to note that competition and the implementation of gamification may be better deployed toward external communities, such as those used to encourage customer information sharing, rather than internal communities.

For internal gamification, or the related idea of rewards and recognition in the knowledge management sense, to reach meaningful levels of use, it is critical to consider formal teams, random acts of value and other much more subtle ideas than those available in the rather blunt instruments of recognition that exist today.

Despite all of the buzz about gamification, organizations should be measured in the use of the concept, applying just what makes sense to the context, such as turning on a "like" function that leads to the recognition of important content, without, perhaps, turning on author leaderboards that create competition where collaboration and collegiality is the desired behavior. It is highly recommended that gamification only be applied to stable infrastructure or processes. If the underlying systems are

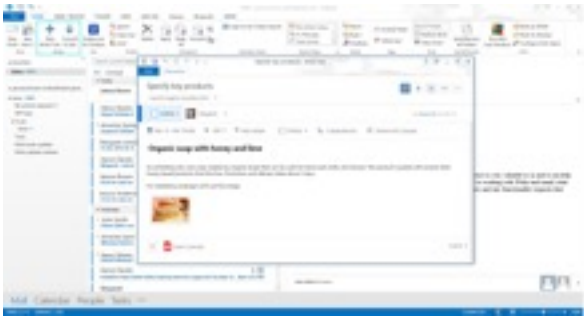
influx then gamification will introduce complexities that shouldn't be dealt with when introducing new architectures or undergoing remediation efforts.

8. Bring Your Own Interface

While Bring-Your-Own-App suggests that individuals select a tool to perform a particular function, that differs from an organization's choice for the same function, or that the individual is bringing an app to manage something for which the organization has not specified a tool. Bring-Your-Own-Interface (BYOI) is different. With BYOI a backend service, standard or otherwise, is fronted by an interface not necessarily created by the original maker of the service. A good example here is DropTask, which has a partnership with Think Buzan, and the iMindMap tool. Heavy users of iMindMap can link their DropTask accounts to their copy of iMindMap. When they create a task in iMindMap, that task can be sent from the mind map to DropTask. This may be a simple act, but it represents a significant act of innovation that permits people to create work in a single space that meets their needs, and reach out into other data streams without switching application contexts. If nothing else, this is a productivity innovation, but it can be much more.

BYOI, combined with the deconstruction of collaboration features, offers the ability for end users to develop their own environments that are highly personalized and function specific without jeopardizing the exchange of knowledge or information. Vendors could spend time developing customizable environments, as well as highly function-specific vertical applications that facilitate the capture and maintenance of data in shared collaboration repositories. Moxtra, for instance, can have its various features implemented in a variety of collaboration scenarios without end user awareness of the origin of the feature.

For BYOI to work, "standards" need to be established, but it isn't important if these standards are proprietary or open, just that they are transparently available. It would also be good if they were stable, but in emerging technology areas, that isn't always something that can be accomplished.



Wrike's Outlook Plug-in brings the application into e-mail

Perhaps the most frequently used BYOI applications are common and rather mature: calendaring and mail. Apple Mail and Microsoft Outlook act as interfaces to mail and calendar systems built by others, in addition to their own implementations of standards or proprietary systems, like Microsoft Exchange.

This concept can also be flipped around, as is the case with Wrike, which has developed an e-mail client for managed task status without going into the Wrike client or web-based interface.

Another unique BYOI approach comes from Clarizen, which employs smart in-bound mailboxes that parse incoming mail, even from non-Clarizen users, in order to trigger events within the Clarizen platform. Basic HTML forms, for instance, can be filled out on a website, their data packed into an e-mail and sent to a Clarizen mailbox, and a trouble ticket workflow will initiate from that incoming e-mail. Unlike Wrike, which brings their functionality into the e-mail client, Clarizen uses standard e-mails as an interface trigger for Clarizen actions, including workflows, discussions and likes without using the Clarizen UI at all. This is useful for transforming disheveled, hidden and siloed e-mail communications into more open, more visible and more manageable collaborative interactions without forcing products on external partners and customers, and without the need to take people who "live in their mailbox" out of their mailbox.

Tibco offers a version of BYOI with Tibbr, which includes a plug-in for Outlook that brings its functionality into the Microsoft client.

BYOI can be considered a specialization on the idea of collaboration in everything. Rather than vendors creating proprietary features that create silos, they could practice collaboration themselves and negotiate toward a common data definition that would enhance their ability to facilitate work, and enhance the work experience of their customers.

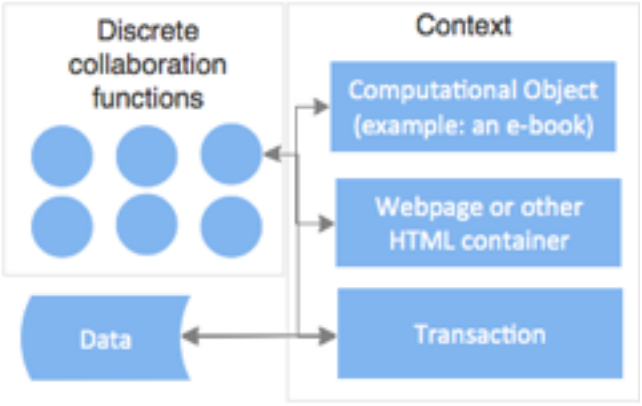
9. Contextualization

All collaboration takes place in a context. The idea of contextual collaboration has been around for a long time, but most collaboration systems exist outside of the work environment. E-mail exists outside of everything. If a person e-mails someone about a factory design issue or a late expense report, neither of these connect the e-mail to the environment. Another person looking at the factory will have no idea that a design issue exists unless

they read the e-mail on the factory floor. While the late expense report e-mail may exist on the same screen as the accounting system, and perhaps be stored on the same device as the belated receipts, there is no relationship between the e-mail and the system. Even if the reminder is generated by the system, it is highly unlikely that it will be capable of storing any excuse or promise thrust at it. A manager will see a report identifying the offense, and somewhere in his or her inbox will be, perhaps, an excuse, or a request for leniency.

SAP, Salesforce.,Democrasoft and Tibco are leading the way in one form of collaboration context by integrating their collaboration products with their transaction systems. A conversation can take place about records, and those conversations appear in the activity stream, bridging the gap between transaction systems and collaborative activity. This integration extends to other collaboration systems, like Huddle, which includes Tibco's Tibbr as their social capability.

Products like Democrasoft's WeJITs offer a hint at this component-level, deconstructed view of collaboration technology. A WeJIT can, for instance, be integrated into an e-book, creating a collaboration experience within the book that does not rely on any technology within the book for the storage or management of collaborative content. That same WeJIT can be embedded in a webpage or sent as a link via e-mail. An instantiated WeJITs offer portability unlike features tied to platforms. WeJITs are generalized, granular, focused on resolution around a single topic, not a host of topics. Brainstorming, for instance, becomes a discrete activity. If teams need context, WeJITs can be embedded in a document or collaboration space, and because the data is shared with all the access points, the responses are automatically aggregated. Either approach backs into context rather than assuming a larger context at the onset. It could also be argued, that because of the granularity of the product, if a brainstorming WeJIT is



Contextual Collaboration

available from an issues-oriented website, that the WeJIT inherits its context from the website. While contextual scale is an important element, it isn't necessary depending on the size of the current problem at hand.

Unlike the other tools, Democrasoft WeJITs offer structures for collaborative activities, not just generic tools like discussions. Their tools include decision making, selection among alternatives, brainstorming, debates, prioritization as well as discussions.

SAP Jam also offers strong contextual capabilities. Jam can act as a bridge, for instance, between a customer service line-of-business application, and other staff and partners required to resolve a customer service issue, who may not even have access to the customer service application. It isn't just that the collaboration feature is available for embedding in this case, but that the collaboration is bound to the data in the transaction. This becomes bi-directionally contextual, meaning that the application is aware of the collaboration, and the collaboration information is aware of the transaction data.

While not componentized, ThinkTank offers similar structured, or facilitated collaboration tools. In contrast to WeJITs, the ThinkTank approach produces meta-structures, combining various decision making tools into the process necessary, for instance, to carry out the development of a strategic plan. ThinkTank's approach to collaboration is to offer thought leader informed guidance processes instantiated within a software service. A typical ThinkTank engagement might involve employing a well-established methodology from a major consultancy as the context for the way the various tools are employed, and the process managed.

Democrasoft and ThinkTank both described their products as being "outcome-based," meaning that a context for a particular outcome is established before the collaborative experience initiates. As an example, the WeJIT WePrioritize enables participants to drag & drop items from a list into a preferred order of priority. The algorithm displays a group consensus ranking of priorities (along with the accompanying discussion where people explain or debate their priorities). This patented Democrasoft "structure," also counts how many participants have weighed-in, which provides the initiator with the information required to drive collaboration to a measurable outcome, as opposed to a discussion that may have not ever find a clear resolution. General purpose collaboration tools tend to be non-deterministic, meaning that no one can determine ahead of time what might take place within the tool. Democrasoft and ThinkTank are both intentional tools meaning that the individuals or teams that initiated their use have a very

particular goal in the mind. Certain uses of mural.ly, and it appears PowerNoodle (who did not brief for this report) would also fit into this description of outcome-based, facilitated, contextual collaboration.

The other form of context comes from the integration of various collaboration systems into collaborative portals, such as those offered by harmon.ie with Collage, and the HyperOffice Share.to project. Both of these products leverage APIs to other products to bring together information common to a user and the projects with which they are associated. In the case of Collage, harmon.ie employs pattern recognition, drawing together posts and collaborative objects that share concepts, and reflect established relationship to others within the network. Discovery becomes context.

The development of context discovery products speaks to the prevalence of silos within collaborative work. If organizations created rationalized collaboration environments, there would be less need for tools that integrate digital work, though partnerships, mergers and acquisitions, and the ever increasing use of outsourcing and contract work, would still require tools that bring together content and information from different sources. Even within contained environments like Microsoft's Office 365, context is hard to come by, so the company has started making Delve available to enterprise customers— an analytics tool focused on creating local context for individual workers.

The openness of the activity stream has also created context. Rather than asking end users to bring together information from e-mail, workspaces and chats, the truly open activity feed that acts as a shared inbox for everything is perhaps the biggest movement toward context, and the least technically complex. People are free to react to, take responsibility for, or act on anything that comes through the feed. This approach to work radically reshapes the assign-and-act, or functional responsibilities that hinder organizations from quickly responding to operational or customer service issues. It does not, however, necessarily encourage long-term thinking, planning or innovation. This disconnect between context-of-the-moment, and context-for-the-future means that organizations cannot, and should not rely on overly simplified collaboration tools, lest they risk focusing only on the near-term. More inclusive tools, however, that don't include open activity streams will compromise the ability to act effectively in the moment. Thus the best solutions will balance between the short-term and the long-term.

With this wealth of new possibilities, however, collaborative context is no longer a mythical requirement. If context is everything, we are standing on a technological ledge overlooking everything.

10. Universal Post

The paper, "Universal Post," for Cisco collected thirty-years of my thinking on collaborative chats, posts, forums and other forms of asynchronous communication. The paper asserted that there should be one post type, and that posts should be malleable, differentiated only by their metadata or content, not their object type. A microblog could be expanded into a full blog, even a document. A comment would be a version of a post with a relationship to its source connect, but it could also take on a life of its own.

Here are the basics of the Universal Post:

- Universal Post object as a data standard for all post-related collaboration.
- Transformation from private to public and through types, such as comment to a blog.
- Rich profiles tied to a personal post library, which can provide individuals with access to all of their posts, but also acts as a link to the profile for bi-directional metadata exchange and pattern discovery.
- Community-based prioritization, in which communities, through their interactions, determine the value of a post or the prioritization of it as a task.
- Full editing of all content and metadata.
- Repository independence.
- Post hierarchies, such as comments and replies.
- Granular permission control.
- Rich attachments.

- Rich post metadata both manual and inferred, for contextualization.
- State tracking for workflow, with states such as private, editable, in-review, approved, accepted, rejected and revised.
- Personal and group policies.
- Open APIs.
- Context determined from relationships such as linked profiles and related posts are used to enhance metadata. Context inference is not part of the core universal post feature set unless the functionality can be embedded directly into post objects, or as a distributed computing capably across a collection of such objects.

No current product incorporates the idea of the Universal Post, though that was the vision for the now defunct Cisco product known as Quad. The idea, however, to bring together messaging architectures and reduce the number of objects in play, as well as their relationships, is on many vendor roadmaps. The Universal Post is an important step toward eliminating the fragmentation of messages across features that make it necessary for the end user to act as the aggregator of information — and the engineering necessary to bring this innovation to fruition needs to be encouraged.

More about the Universal Post can be found here.

The Simplification Problem

Collaboration has become relatively easy to implement at the basic level, which has generated a proliferation of collaboration tools in unprecedented numbers. This translates into a strong market for technology designed to help people work better together. Many of those tools, however, offer simple ways into collaboration. Products like Slack, for instance, have generated huge valuations but offer no new insight into work, and even less insight into how they think about work. Though Slack raises awareness of the need for shared workspaces that operate without silos. The large, monolithic platforms, like Microsoft Exchange and SharePoint, and IBM Notes and Connections, came from companies who spent time trying to figure out a viable architecture and a philosophy for shared work.

Many smaller vendors create subsets of features without an explicit explanation of how they fit into a bigger context of work. While they offer a solution for a particular problem, they provide very little in the way of integration with other collaboration features. The ease of implementation means that many "innovative" features are implemented across a number of products. If one product doesn't meet all needs, organizations acquire another tool, and that new tool may well introduce duplicate features. Complexity out of a desire for simplicity.

Because of this propensity toward quick connections, easy-to-master features and completely Cloud-based models, have some companies, like Cisco, abandoning their more holistic collaboration offerings, like Quad, in favor of more light-weight tools, like Spark.

Collaboration is not a simple problem that should be implemented nonchalantly. It impacts how people work and how value is created. Success with some teams in large organizations does not address the larger problem, and it is rare indeed, that a solution provider openly discusses the edge problems on integration in a highly heterogeneous environment, one which may well include an incumbent solution from Microsoft or IBM.

This over simplification is driven by a lack of understanding of work, a drive toward creating apps that solve problems specifically experienced by a particular team, and can, by virtue of the Cloud, scale with relatively little investment. These tools find rapid adoption and their creators find easy money, for now, in the angel and venture community. This over simplification of collaboration skews the market away from focusing on the bigger issues of how businesses need to coordinate, track and facilitate work. Products that meet the needs of only a subset of workers will ultimately prove detrimental to the goals of the organizations that invest in collaboration technology.

What's Next?

In the next phase of this collaboration research, Serious Insights will concentrate on the exploration of collaboration through a set of four future of work scenarios set in 2025. These scenarios will be used to investigate how technology might mold itself to various social, technological, economic, political and

environmental circumstances, as well as how practice might evolve in those future settings.

Ideally this research will be conducted in conjunction with several technology vendors and their customers. Workshops will provide an opportunity for customers to share their insights into the future of work generally for the research, and specifically for individual products.

Vendor Briefing Thank You

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IBM	Igloo
Interact-Intranet	Moxtra
mural.ly	Saba
SalesForce	SAP
TheBrain	ThinkTank
Tibco	Wrike

About the author

Daniel W. Rasmus, is the Founder and Principal Analyst at Serious Insights. Rasmus uses scenarios to analyze uncertainties in society, technology, economics and politics in order to discover implications that help organizations put their future in context so they can more effectively develop and refine products, services and experiences.

In his book, *Listening to the Future*, Rasmus details the future of work scenarios he developed at Microsoft. His latest book, Management by Design, documents an innovative new methodology for work experience design.

Rasmus is the former Director of Business Insights at Microsoft, where he helped the company envision how people will work in the future. Before joining Microsoft, Rasmus was a Vice President and Research Director at Forrester Research.

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