



Talkument™ and Voice Documentation in Project-Oriented Industries



A White Paper from OAISYS®



Talkument™

Information collaboration has always been a vital component in ensuring the successful completion of project-based business. Once upon a time, couriers, messengers and shipping services transferred drawings and documents from one actor in the project to another for review and comment, and extensive time lapses added significantly to the time it took to successfully complete any given project.

In the past decade, several solutions have emerged to collaborate on drawings, images and text-based documents, speeding efficiency and reducing costs. This is vital as large construction and engineering projects can involve 40 or more companies from dozens of countries.^[1]

As a general rule of thumb, Architecture/Engineering/Construction (A/E/C) projects generate 1,000 documents per \$1 million of construction spending.^[2] By helping to make faster and more accurate use of those documents, project collaboration tools have been shown to save up to 10 percent on construction costs, thus improving projects profitability.^[3]

The A/E/C industry was quick to adopt collaboration technologies for drawings and documents as they became available. In 2001, only 2 percent of projects used collaboration tools. By 2005 that percentage was up to 42. That widespread adoption, according to sharptechnology.com, is because, "Collaboration technology can help improve the business' internal processes and improve their cost control and management of projects and supply chains."^[4]

Much of the collaboration and communication that occurs for A/E/C projects is telephone-based. This method of communication is still reliant on non-digital means of documentation including paper notes and personal memory. With crucial information being conveyed outside of digital document systems there are still opportunities to increase project efficiency and to improve cost control.

Background

OAISYS Talkument is a voice documentation solution uniquely suited to project-based industries with multiple telephone contacts between parties. Firms specializing in Architecture, Construction, Engineering, Manufacturing, Real Estate Development, General Contracting and Sub Contracting are some examples of businesses whose projects require multiple phone contacts for successful project completion. Voice documentation digitally documents these phone contacts for storage, markup and collaboration throughout the project lifecycle.

Purpose

The purpose of this document is to describe a typical project – in this case Real Estate Development - and explain where OAISYS Talkument can be utilized to increase efficiency and control costs through the digital documentation of phone conversations that can occur at different stages of the project.

Phone Interactions

Phone contact is required throughout the Development Project as issues arise and decisions are made. Table 1 focuses on – but is not limited to - the Project Manager and its phone interaction with the various entities required for successful completion of the project.

Table 1: Phone Interaction by Stage

Stage	Phone Contact Between	Topics
Acquire Property	Project Manager and Real Estate Agent(s) Project Manager and Partners Partners and Finance Entity Project Manager and Finance Entity	Site Selection/Visits Criteria/Timeline/Decision Approve Funding Funding Particulars/Delivery
Perform Boundary Survey	Project Manager and Surveyors	Green Light/Site
Design the Plat	Project Manager and Plat Consultants Project Manager and Partners	Options/Decisions Options/Specifics/ROI
Obtain Prelim Plat Approval	Project Manager and Approval Authority	Deficiencies/Remedies/Approval
Sell/Continue Decision	Project Manager and Partners	ROI/Options/Decision
Engineer the Plat	Project Manager and Engineering Firm Project Manager and Partners	Specifics/Options/Decisions Options/Decisions
Obtain Plat Engineering Approval	Project Manager and Approval Authority Project Manager and Engineering Firm	Deficiencies/Remedies/Approval
Sell/Continue Decision	Project Manager and Partners	ROI/Options/Decision
Put up Bond	Project Manager and Partners Project Manager and Finance Entity Project Manager and Approval Authority	Options/Decisions Funding Particulars/Delivery Bond Specifics
Hire General Contractor (GC)	Project Manager and Prospective GCs Project Manager and GC	Specific Requirements/Timeline Green Light
Perform Work to Approved Specs	General Contractor and Subcontractors Project Manager and GC	Specific Requirements/Timeline Progress Report/Issues/Decisions
Inspection	Project Manager and Approval Authority Project Manager and GC Project Manager and Partners	Deficiencies/Remedies Specifics/Options/Decisions Options/Decisions
Obtain Final Plat Approval	Approval Authority and Project Manager Project Manager and Partners	Notice of Approval Notice of Approval
Sale of Plat or Parcels	Project Manager and Builder(s) Project Manager and Partners	Specifics/Approval Progress Reports/Wrap Up

Talkument and Documenting Voice Conversations

Document the Entire Call

During a project many issues and options are identified. Whenever a decision is made and expressed verbally over the phone, Talkument is able to document the conversation in its entirety. It is then easy to retrieve the voice document and, if necessary, add text notes to the document for future reference.

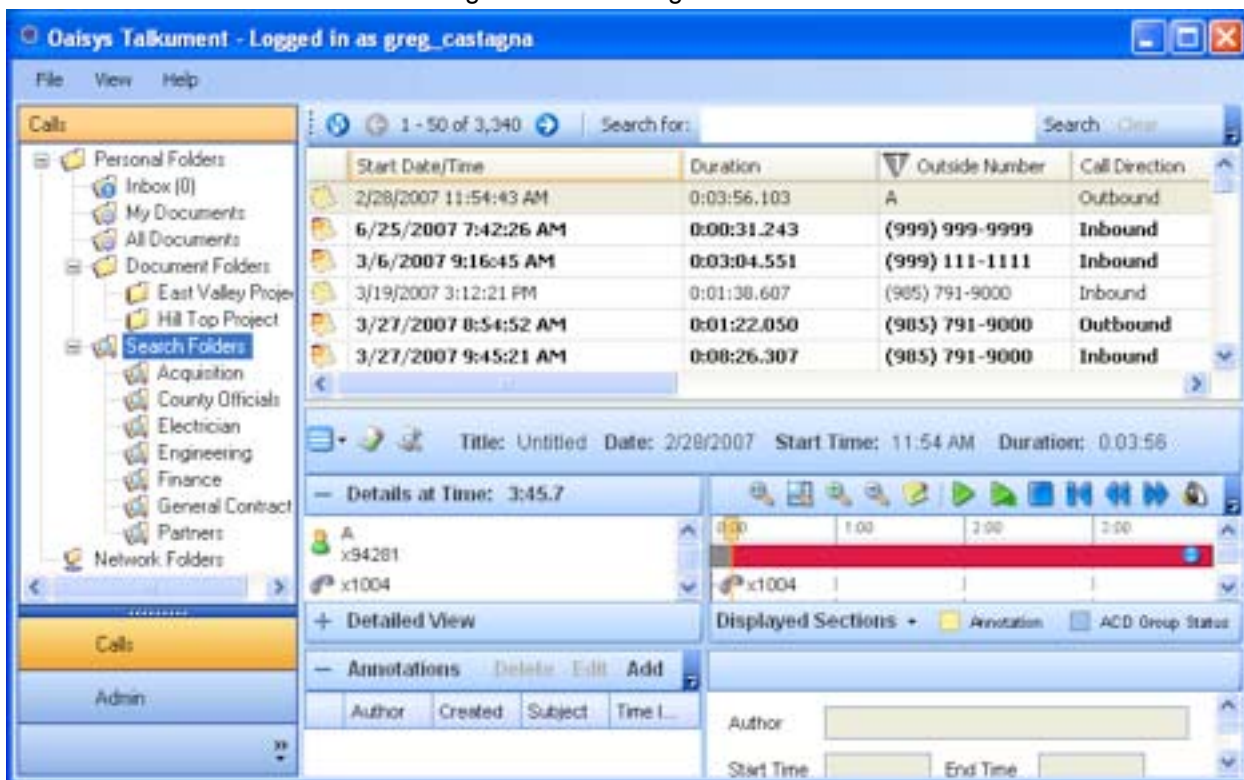
Complete Information is Captured

Due to its very nature, notes or call transcription may not convey the exact meaning of the conversation, as context and nuance may be lost. This is not so with Talkument as the actual conversation is available. Subtle differences in tone and inflection will be available to the user, minimizing the possibility of misinterpretation.

Separate Calls into Individual Folders

Talkument allows for organization of individual documents into electronic folders. Standard folders are populated as a user drags and drops a voice document from the Inbox or My Documents folder. Self-organizing file folders can be created to separate all documents related to a particular entity, project or team automatically based on identifying criteria. Retrieval, review, markup of and collaboration with voice documents is performed directly within organization folders.

Figure 1: Folder Organization

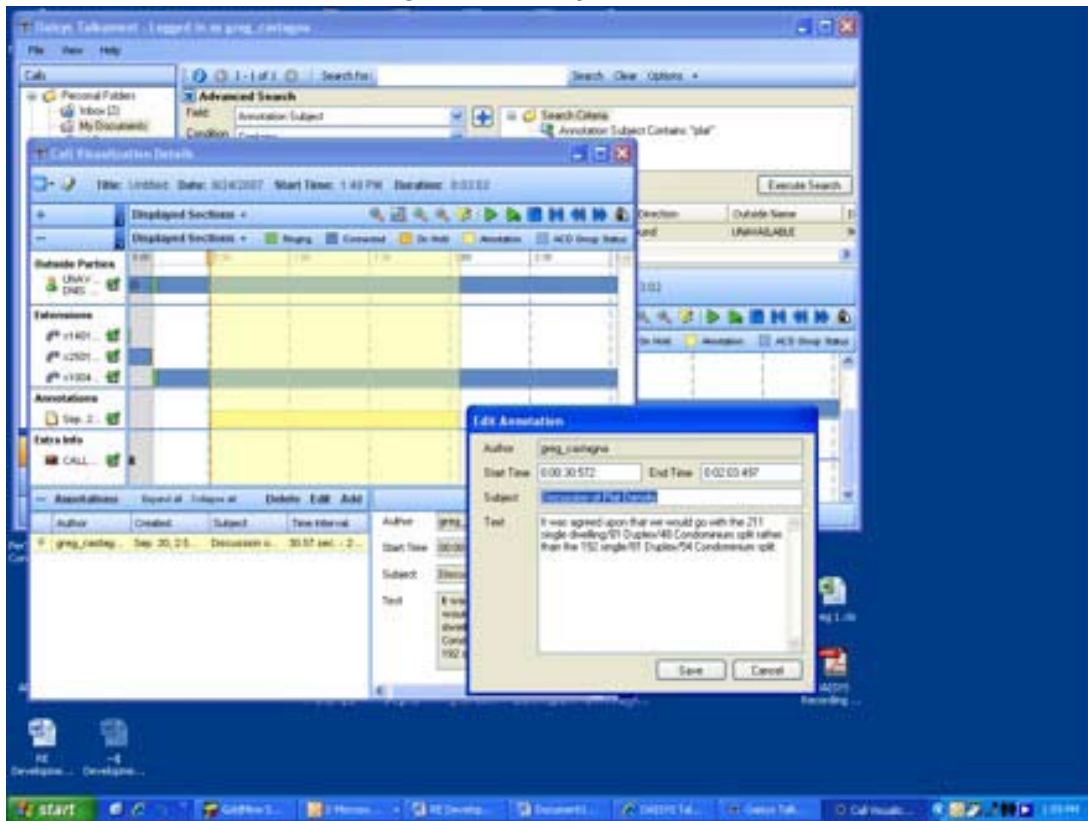


In Figure 1, separate document folders for the East Valley Project and for the Hill Top project have been set up. These electronic file folders are populated by dragging and dropping calls from other folders. Self-organizing folders have been set up to show calls to or from separate entities – Acquisition, County Officials, Electrician, Finance, General Contractor and Partners.

Adding Notes

Review and markup of calls is performed from the defined folder. Text notes are associated with specific highlighted portions of the voice document. These are added with a click-and-drag step similar to highlighting documents in tools such as MS Word™.

Figure 2: Markup Editor

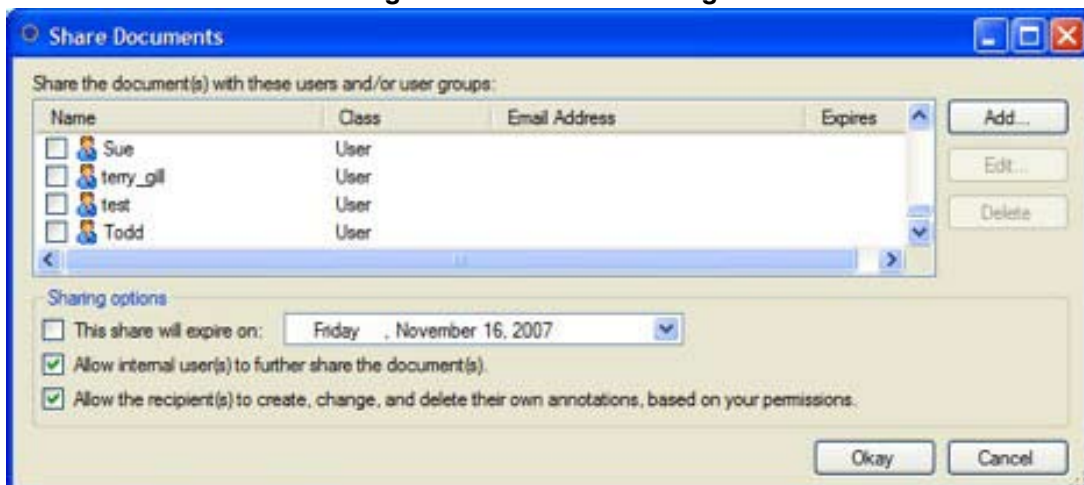


In Figure 2, a markup is attached to a portion of the document beginning 30 seconds into the conversation and lasting 1 minute and 33 seconds. The text note summarizes the conversation topic as the project density split.

Sharing the Call

When review of the conversation is required for any reason, the user will share the conversation with another party. This facilitates seamless and accurate information transfer leading to more effective collaboration.

Figure 3: Document Sharing



Example 1 – Change in Design Due to Review or Inspection

In our example, an issue is raised by the Reviewer during the approval process for the Plat Engineering – the location of a fire hydrant needs to be moved to ensure code compliance. During the phone conversation with the Project Manager this deficiency is discussed as well as the remedy. Utilizing Talkument's markup feature, the Project Manager highlights the section of the document dealing with this issue and adds a note for the Engineer. The Engineer reviews the marked up segment of the document, reviews the plat design and responds by editing the markup.

Note that no transcription was required and all elements of the document segment dealing with the hydrant were easily available to the Engineer. The Engineer also had direct access to update the document with comments via the markup feature so that all relevant pieces of information were in a single electronic document.

The next step in the process is to inform other project team members of the change so it can be properly implemented. The Project Manager shares the voice document with the Purchaser for the project. The Purchaser has the ability to add any necessary questions to the document for response by the Project Manager or responsible team member. Once completely informed, the Purchaser makes the purchase and retains a copy of the voice document for auditing purposes if there is ever a question as to why the purchase was made.

Once again, transcription of the call was not required. The Purchaser accessed the voice document and heard the conversation directly. He was able to hear exactly what was said and how it was said. Now all voice documents concerning the issue of the hydrant variance can be easily accessed from the "Hydrant Variance" folder for retrieval, review and collaboration. The process is efficient and effective.

Example 2 – Materials Ordering

In this example, the subcontractor in charge of pouring the concrete slabs for the development has called his supplier to order concrete with the following mixture: six percent air, 11 percent cement, 41 percent coarse aggregate, 26 percent fine aggregate and 16 percent water.

The supplier faxes over an order confirmation but lists a different set of proportions. In this case, the subcontractor searches for and retrieves the voice document of their conversation, highlights the portion of the call where he stated the correct proportions and shares a link to the voice document with his supplier, who corrects the order and faxes an amended confirmation.

What could have been a major dispute between the subcontractor and the supplier, and a mistake that could have set the pouring of the slab back days or weeks and upset the entire construction schedule, has now been resolved in moments, without hostility, major expense or lost time.

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Locating, Accessing and Annotating Pertinent Calls Quickly and Easily

The ability to quickly find, markup and share the voice document allows recipients to grasp the issue and understand the reasons for decisions and actions. No time is wasted transcribing the call and no meaning is misinterpreted – the voice document of the originating conversation assures that.

Benefits for All Projects

Real Estate Development is just one example of a project-based industry. Other projects, such as infrastructure, commercial building construction, custom consumer construction, construction supply, etc., follow similar tracks to completion. Quick and easy access to voice documents along with the ability to markup and share those documents will offer similar benefits as the examples given.

While it has become common to collaborate on projects using image- and text-based documents, telephone-based information exchange has gone largely undocumented with the exception of notes or summaries. Talkument fills in the missing piece, allowing complete and accurate voice documents that are easily retrieved and shared for collaboration.

Appendix: Explanation of Terms Used in Typical Stages in a Real Estate Development Project

Acquire Property

Purchase of the property requires communication between the Project Manager, Real Estate Agent(s) and Business Partners. Location, size, codes, covenants and restrictions are discussed. When a suitable property is found, a decision is made on the type of purchase – borrow funds or purchase outright (cash.) Once the type of purchase has been decided upon, the actual transaction is executed.

Perform Boundary Survey

A survey team is then sent to mark the boundaries of the property – even though they may already be marked by the seller.

Design the Plat

The basis of the work to be performed during the project is the plat – the design of the actual development. A team of specialists is employed to develop the physical appearance of the project. Preliminary locations of utilities such as roads, sewers and streetlights are set, as well as the location and type of dwellings.

Obtain Preliminary Plat Approval

Once the plat is developed, it is presented to the governing authority for preliminary approval. Concerns about any regulatory aspect of the plat are brought up at this time and addressed by the development team. Once the concerns are worked out to the satisfaction of the governing authority, the plat is given preliminary approval.

Sell/Continue Decision

Once the preliminary plat is approved, a decision is made whether to proceed with the plat as approved or to sell the plat to another entity.

Engineer the Plat

With preliminary approval of the plat, a group of specialists is retained to engineer the project. Exact locations, dimensions and specifications of standards and materials are set at this time.

Obtain Plat Engineering Approval

Once the engineering is developed, it is presented to the governing authority for approval. Concerns about any regulatory aspect of the engineering are brought up at this time and addressed by the development team. Once the concerns are worked out to the satisfaction of the governing authority, the engineering is given approval.

Sell/Continue Decision

Once the engineering is approved, a decision is made whether to proceed with the plat as approved or to sell the plat to another entity.

Put Up Bond

If the decision is made to continue, the governing authority will require that monies be set aside to ensure the proper completion of the project. These funds are supplied by the Developer and kept in escrow until the portion of the project for which they are earmarked is complete to the satisfaction of the governing authority.

Hire General Contractor

If the decision is made to continue, a General Contractor is hired to complete the work as set for in the plat as engineered. The General Contractor may sub-contract portions of the work as it sees fit.

Perform Work to Approved Specifications

General Contractor oversees subcontractors as the land is developed. Grading and leveling of the property is performed. At this time, infrastructure such as roads, sewers and electrical power is installed.

Inspection

Inspections by representatives of the governing authority are performed as different stages of work are completed. Any deficiencies noted during the inspections must be rectified before approval.

Final Approval

Once all inspections are passed, final approval is given by the governing authority.

Recover Bond

Unused monies from the bonds are returned after final approval.

Sale of Plat or Parcels

Once final approval is received, portions of the plat, or the whole plat, can be sold off to individual builders. This is where the expenses are recovered and profit is hopefully realized.

Citations:

[1] www.aconex.com

[2] www.cadweb.co.uk

[3] www.ameinfo.com

[4] www.sharptechnology.co.uk



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