

Proactive Contract Management Through the Development of a Customized Software Application

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Abstract: Construction management involves planning, coordinating, and directing multiple activities simultaneously, often within compressed timeframes due to site sensitivities and/or regulatory constraints. Documentation of restoration implementation actions is critical for monitoring and accounting purposes. Traditional paper-based methods of documentation are tried-and-true, but can be inefficient, particularly for information transfer between individuals and for final settlement of contracts. The presentation will demonstrate a standardized, but flexible data management structure from point-of-collection through summary reporting.

The Klickitat Watershed Enhancement Project (KWEP) is a broad-based in-stream, floodplain, and watershed restoration initiative of the Yakama Nation Fisheries Program. In any given year, KWEP implements multiple projects to enhance and restore watershed health in the Klickitat River subbasin, often concurrently. Given limited personnel and increasing workloads, staff identified cutting overhead demands as an opportunity to streamline process. Staff subcontracted a computer programmer to assist in the development of a mobile software application (FileMaker Pro/Go) on a user friendly data entry platform linked to a relational database.

The application was designed, created, field tested, and refined during two restoration projects in 2013. It was found to be particularly effective in three areas:

- *information transfer between staff:* The increased ease of information transfer from field designer to project manager shortened time and effort involved for contract administration and invoice processing.
- *real-time monitoring of project costs:* Almost all KWEP construction contracts involve a time-and-materials component. Field-entry of delivered quantities into digital format and calculated fields facilitates rapid and easy budget-tracking.
- *field-design and as-built documentation:* A majority of KWEP restoration projects involve a 30% paper design and extensive fit-in-the-field design. The application improved tracking of both construction actions implemented and field-level decision-making.

Work processes are often developed on an ad hoc basis and become the model for workflow through repetition. An evaluation of the status quo workflow employed by KWEP revealed an opportunity to use technology to restructure work processes.