

# TraCS Software Development Kit Training Evaluation

## Introduction

These are observations and recommendations arising from the Tracs 101 course held in Ames, Iowa from 06/24 to 06/27. This evaluation was made from the viewpoint of the Administrative Office of the Courts. For a complete picture, input from form owners and application users are recommended.

**BACKGROUND:** The Statewide Traffic Records Coordinating Committee (STRCC) is evaluating and piloting the Traffic and Criminal System (TraCS) that was developed by the Iowa DOT. The purpose of the evaluation and pilot is to determine if the TraCS software will meet the needs of the state of New Mexico. The TraCS software allows officers to electronically fill out forms (citations, crash reports, etc.) on a laptop in their vehicle. The appropriate signatures are also entered electronically. At the end of shift the data is transferred from the laptop to a desktop or server at the station. From there the data might be uploaded to a central server (not part of TraCS) for statewide access.

## Observations

1. 10 years and millions of dollars have been invested in TraCS development.
2. TraCS strengths are its user interface, validations and external search capability which are extremely powerful.
3. Concerns regarding scalability and maintainability:
  - appears that only one developer can work with a form at a time;
  - validations can be extremely complex and there are few facilities to manage this complexity;
  - change control (configuration files, lookup codes, database mappings) is limited or non-existent;
  - TraCS provides some functionality for software distribution (the TraCSPack), however, more complex
  - distributions require additional software (Wise, Install Shield).
4. Provides no capability to build the NM STRS Distribution Server, however functionality in later releases will include the Transmission Builder, which may help in transferring information to the Distribution Server
5. TraCS field installation is fully standalone: there is no requirement for wireless, cellular or satellite connectivity.
6. There are many pre-developed forms to use as examples.
7. There is limited form status tracking (e.g. open -> validated -> approved), but it is not customizable

## Recommendations

1. The stakeholders should be involved during form development:
  - form owner should work closely with the form user to ensure that the form layout, validations and help are useable and efficient
  - form owner should work closely with the form data consumer to ensure that the required data elements are present, that the data formats are correct, that the necessary validations are made, and that the data mappings(from form field to database field) are appropriate.
2. Additional mechanisms for change control for form development are necessary:
  - Text-based configuration files should be managed in a revision control system (e.g. <form>.val, <form>.pop, etc.). This would greatly assist compilation of changes and updates.
  - Database configuration (i.e. the TraCS support database) should be under revision control. In particular, database mappings and lookup codes. This would greatly assist compilation of changes and updates.
  - There should be a system to document user requirements and defect reports. This would help prioritization of work, among other things.
  - Form developers should consider using the design worksheets supplied in the TraCS SDK and make them available to other stakeholders for approval. This would promote feedback from stakeholders during the design phase.
3. Additional mechanisms for software distribution are necessary:
  - responsibility for software packaging (e.g. TraCSPack, Wise, Install Shield) should be designated since this may involve synchronizing the release of several forms, updated lookup codes, validations and database mappings.
  - a process for distributing TraCSPack releases should be designed, agreed upon by participating agencies and published.
4. Requirements for form data consumers:
  - Citation number should be globally unique.
  - Include approving officer id and timestamp in form data.

## Overall Evaluation

- TraCS application appears to be a mature, capable and stable system for form development and data collection. There appears to be no obvious roadblocks to the adoption of TraCS as a data collection application.
- Form development change control issues can be satisfactorily managed assuming the recommendations above are acted upon.

- TraCS has no facilities to build the NM STRS Distribution Server, although there are data export facilities, with more improvements to come in later releases.