Creating a Tool to Evaluate MMUCC Compatibility of State Crash Reports

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Introduction

- The Model Minimum Uniform Crash Criteria was first created to help set a standardization of crash report data between different states, as states may collect and report on different information.
- In the past, federal grant money has been tied with a certain level of MMUCC compatibility or proof that a State is in the process of becoming more compatible.
- MMUCC currently contains 77 main elements to be collected at the scene, and 33 elements to be derived or linked to later.

Methodology

A data dictionary (DD) is uploaded for the tool to use. The user then selects from it two columns for the tool to use: one for the main elements (Ex. Weather Conditions) and one for the main attributes of each element (Ex. Windy, rainy, snow, etc.).

Preliminary mapping for each MMUCC element is done automatically to see if it has a corresponding match in the data dictionary. If there is a match at the element level, it next tries to match the attributes for that element with what is in the DD.

If there are elements/attributes that did not turn up a match result, the user has the option to select elements/attributes they know to match. The Tool then saves those selected items in a repository to be used as matching criteria for future elements.

For example, a data dictionary of the Wisconsin crash report was uploaded and had preliminary matching results shown here:

<table>
<thead>
<tr>
<th>Element</th>
<th>Wisconsin</th>
<th>Data Dictionary</th>
<th>Matched</th>
<th>Not Matched</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MMUCC elements that did not initially map due to different wording or nomenclature were then selected from the DD and added to the repository.

After, the new mappability score is shown for Wisconsin:

Results and Conclusion

The tool generates a report afterwards listing which MMUCC items are missing from the data dictionary and did not map, and can be added to increase MMUCC compliance.

Future Work

- Upload more Data Dictionaries to create a bigger, more knowledgeable memory bank
- Make attribute-element matching more consistent and accurate
- Publish tool in a web format to be easily available for use to anyone with access

Acknowledgements

- Dr. Andrew Graettinger, Professor, UA
- The Center for Advanced Public Safety at UA
- Alabama Department of Transportation
- Wisconsin Traffic Safety and Operations Lab