



Strategic Roundtable RT 2: What's In a Standard? Tales of Mapping and **Exchanging Electronic Transcripts**

Monday, June 16, 2014 4:30 - 5:30 pm Discussion led by: Doug Holmes,



Ontario Universities' Application Centre, **SPEEDE** ARUCC Rep to AACRAO SPEEDE Committee, PESC ARUCC Rep to Canadian PESC User Group





eTranscript Roundtable Synopsis

The American computer scientist Andrew S. Tanenbaum once said, "The nice thing about standards is that there are so many to choose from."

Members of the $\underline{\textit{Canadian PESC User Group}}$ have spent the last two years working towards the goal of a *Canadian electronic* transcript exchange network.

In a data exchange world that includes the widespread use of ANSI X12 EDI and many longstanding proprietary values, but is moving rapidly towards *PESC XML*, what sorts of issues have presented themselves during $\underline{\textit{data mapping}}$ and $\underline{\textit{exchange}}$ exercises?





eTranscript Roundtable "Agenda"

- Desire is to make presentation as interactive as possible
- Prepared slides
 - eTranscript exchange
 - Available standards
- Attendee input
 - Discuss your experiences, issues, questions





Electronic Data Exchange (EDX)

- EDX = umbrella term covering EDI, XML and PDF
- Computer-to-computer exchange of standardized documents
- An electronic replacement for
 - Mail
 - Fax
 - Courier
- Eliminates or reduces
 - Fraud
 - Delays
 - Re-keying of Data
 - Errors (both in keying and interpretation)



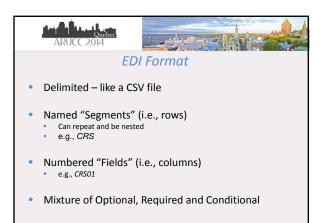


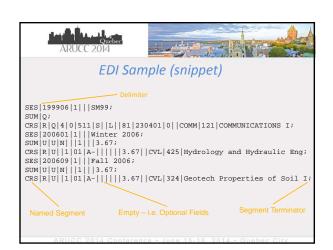


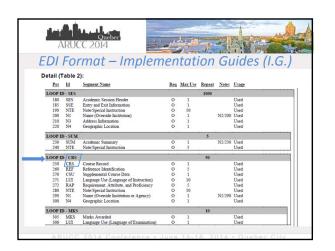
Lessons Learned

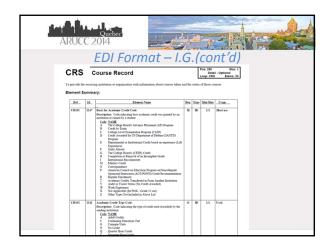
- 1. We now have it within our power to completely eradicate fraudulent transcripts.
- 2. EDX transcripts are no harder to implement than printing transcripts was originally. It is just a different Format.
- 3. The facility to send and receive EDX transcripts (EDI, XML or PDF) already exists within many student systems.

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EDI Format (cont'd)

Common Formatting Questions:

- Transmission Segments & Fields (i.e., sender & receiver)
- Institution ID's
- Transcript Legend
- ... Do you have any questions?





What is XML?

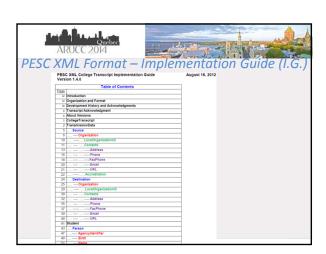
- XML stands for eXtensible Markup Language
- XML is a markup language much like HTML
- XML was designed to carry data, not to display data (though it can)
- XML is designed to be self-descriptive

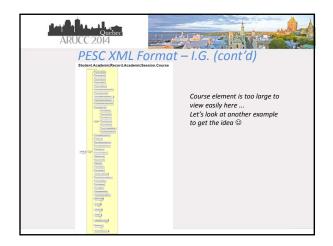
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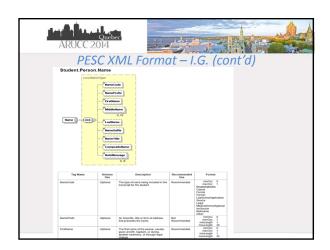


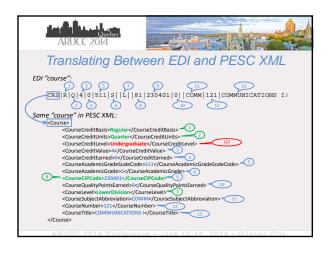
What is PESC XML?

- PESC = P20W Education Standards Council
- North American higher education standards-setting body
- XML "schemas" (standardized definitions):
 - Documents (e.g., Transcript)
 - Data elements (e.g., Course, Name)













Translating Between EDI and PESC XML (cont'd)

- SPEEDE Committee developed crosswalks
 - not yet complete for *all* versions of *all* PESC standards
- OUAC, OCAS and some U.S. schools have developed proprietary translation processes based on SPEEDE's crosswalks
- SPEEDE Committee developing open source software
- Multiple translations are equivalent, but not identical to the original:

 $XML_1 \rightarrow EDI \rightarrow XML_2$

 $EDI_1 \rightarrow XML \rightarrow EDI_2$





EDX Challenges - Mapping & Sharing

- Multiple representations of the same data
 - e.g., Courses (within semester or not), Grades (actual or "special")
- · Parts of standards are open to interpretation
 - e.g., DEG/FOS vs. SES13 → program of study?
 - e.g., <TransmissionType> → "Resubmission" vs. "Reissue"
- Some data exists in either EDI or PESC XML but not both
 - e.g., <CourseCreditLevel> was not in EDI
- Some data exists in both EDI & XML but not the same format
 - e.g. # 1, character codes vs. word codes
 - → "L" versus "LowerDivision" from previous example





EDX Challenges - Mapping & Sharing (cont'd)

Some data exists in both EDI & XML but not the same format (cont'd)

e.g. # 2, addresses



up to 3 occurrences, each max 40 char XML:

<Address>
<AddressLine>Adm Office</AddressLine> <addressLine>AddressLine>
<addressLine>Bilg A</addressLine>
<addressLine>33 - 72nd Ave</addressLine>
<ir>
<id>City>Toronto</id>
</r>

StateProvinceCode>ON</stateProvinceCode>

PostalCode>MSK 3A1 </Address>

- Standards evolve over time
 - PESC XML attempts to maintain backward compatibility





EDX Challenges - Mapping & Sharing (cont'd)

- EDI "NTE" and PESC XML "NoteMessage" & UDE's
 - → For data that doesn't "fit", isn't specific enough or may only be applicable in a certain jurisdiction
- Mutually defined codes
 - e.g., BGN02 / <RequestTrackingID>
- "Non-standard" usage of codes
 - e.g., DEG01 "level of academic award"
 - Ontario universities defined several additional codes to fulfill business requirements
- Automated document matching & exceptions
 - Which fields? Effectiveness? Always included?
