

## Identifying Common Registration Elements for Pathways Projects - Fall 2006

This document contains:

- A brief introduction, background and methodology
- A report of the registration elements and vocabularies currently collected by Pathways projects

### Identifying Common Registration Elements for Pathways Projects

At the Pathways Project Meeting in August 2006, much interest was expressed in developing a common user registration profile across Pathways. One of the first things to know is: what elements are the Pathways currently collecting from users during the registration and login process? A quick survey of Pathways sites (summarized in the report below) provides a basis for discussing common elements and vocabularies and for reviewing broader issues (e.g., aligning privacy policies) that are directly related to implementing Community Sign On (CSO). Here is a brief explanation of why registration elements and CSO are related.

User testing of nsdl.org has shown that the creation/provision, recalling, and re-entering of user account information is a barrier to wider NSDL use. The Columbia-developed CSO technology has the potential to reduce this barrier and to make NSDL more usable by reducing the number of times users have to register to view NSDL resources in different Pathways. CSO technology will provide a common and secure registration system across participating projects. CSO will reduce the number of times that a user will have to create an account while using NSDL.org and Pathways' sites.

So, while the immediate task is to begin a conversation about common registration elements, the ultimate goal is to lay the foundation for implementing CSO across all Pathways. The potential benefits of CSO can be seen from the following use cases.

#### Use case 1 (without CSO implementation)

Sheila visits Pathway A, and has to register to view a resource, providing such information as her email address and a user name. She then visits Pathway B, and again has to register to view a resource, again providing such information as her email address, a user name, her grade level and home organization. She then visits Pathway C, and again has to register to view a resource, again providing such information as her email address, a user name, address and subject areas of interest.

#### Use case 2 (with CSO implementation)

Bob visits Pathway D and has to register to view a resource, providing such information as his email address, and a user name. He then visits Pathway E, and is able to view resources immediately, as Pathways D and E share user information amongst themselves through CSO, and Pathway E is able to identify Bob from his previous registration with Pathway D. He then visits Pathway F, and is again able to view resources immediately, as Pathways D, E, and F share user information amongst themselves through CSO, and Pathway F is able to identify Bob from his previous registration with Pathway D.

For the potential of CSO to be realized, it would be helpful for Pathways projects to reach a consensus about which elements to collect during registration on their sites and which data elements they would share with one another via CSO technology. On the surface, identifying registration elements seems a rather simple process. However, there are ramifications for privacy policies,

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technical implementations and incorporation of pre-existing registration requirements, among other issues.

### Methodology

Members of the Pathways Evaluators' Group (Sarah Giersch, Flora McMartin), Mick Khoo (CI) and Rob Lane (Columbia University) began work on identifying common registration elements first by learning about the technical, and related policy and cultural requirements of CSO. The next step was to review Pathways projects sites and to catalog elements required at login and during the registration process, undertaken by Sarah Giersch.

The Pathways sites (AMSER, BEN, ComPADRE, CSERD, Engineering Pathway (consisting of NEEDS and TeachEngineering), MatDL, MathGateway, Middle School Portal, and Teachers' Domain, with the exception of the new Pathway), along with NSDL.org and the Instructional Architect (IA), were reviewed for this report. Expert Voices has implemented CSO, but was not included in this version of the report. From Sept 13-15, 2006, login and registration elements were noted in a spreadsheet, along with their placement on the page, any text and the overall process of finding and completing the forms. For this report, only the registration elements and vocabulary for two elements are included. The order in which the elements are presented in this report does not match the order in which they appear on sites. After cataloging the elements, the reviewer completed the registration process; however, comments on usability etc. are not part of this report. Of the sites reviewed, NSDL.org and IA have implemented CSO. A [poster](#) from 2005 NSDL Annual Meeting provides an overview of CSO; contact Rob Lane with further questions.

### About the Report

The *element* part of the report is divided into four sections: elements required at login; elements required at registration; contact information elements that are optional at registration; and, other optional elements at registration. Each section summarizes Pathways current practices, provides a draft list of elements that **could** comprise a common set of elements, and provides a draft list of elements that **could** be exchanged via CSO. The draft lists were developed by Sarah Giersch. They draw solely on the information currently collected by sites; no new elements were introduced.

The *vocabulary* part of the report contains information on the Role / Occupation and Grade / Level / Audience elements. Again, Pathways current vocabulary is summarized and a draft list of common terms was developed using only the vocabulary currently provided.

A note on terms: The information that the CSO system will collect is divided into two types: attributes and values, or if you speak metadata, elements and vocabulary. For instance, one potential *attribute* is that of grade / level / audience, which could be described by *values* such as pre-K, grade 9, freshman undergraduate, etc. Another potential attribute is that of role, which could have, for instance, the values teacher, librarian, museum worker, educational outreach worker, etc. Any one attribute can include a number of different values.

**DRAFT: Common Elements to Collect at Registration and Exchanged via CSO**

**Report - Part 1: Currently-Collected Registration Elements**

The following sections contain a summary of elements collected at various points in Pathways' login and registration processes, brief discussions of elements, and recommendations for further consideration. These details are provided so sites can see their elements in the context of other sites' registration requirements. For ease of display and analysis, these tables do not represent the order in which sites list elements on their registration pages. If there are elements that are not recorded, please let us know.

The tables list the Pathways projects and Instructional Architect, followed by a draft of the proposed common element set for registration and a draft of the elements whose data would be shared between sites via CSO technology.

**Elements Currently Required at Login**

	AMSER	BEN	CompADRE	CSERD	NEEDS	TeachEngineering	MatDL	MathGateway	Middle School Portal	NSDL*	Teachers' Domain	Instructional Architect*	DRAFT: Common Elements	DRAFT: Elements to share via CSO
Username	X			X	X	X	X	X	NA	X	X		X	X
Email Address		X	X									X		
Password	X	X	X	X	X	X	X	X		X	X	X	X	NA

Of the 12 sites surveyed, 8 require a Username at login, 3 require an email address.

*Recommendation to consider:* Sites should standardize around requiring a Username at login instead of an email address because some privacy policy statements forbid sharing email addresses with third parties. Bigger issue: what constitutes a third party?

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### Elements Currently Required at Registration

	AMSER	BEN	CompADRE	CSERD	NEEDS	TeachEngineering	MatDL	MathGateway	Middle School Portal	NSDL*	Teachers' Domain	Instructional Architect*	DRAFT: Common Elements	DRAFT: Elements to share via CSO
Username / Login name	X			X		X	X	X	--	X			X	
Full Name							X							
Email Address	X	X	X	X	X		X					X	X	
Confirm Email Address	X												X	
Password		X	X	X	X	X	X	X		X	X	X	X	:
Confirm Password		X	X	X	X	X	X	X		X	X	X	X	:
First Name		X	X	X	X			X			X		X	
Last Name		X	X	X	X			X			X		X	
Address								X						
City								X			X			
State								X			X			
Zip Code								X			X		X	X
Country			X								X			
Title		X		X										
Organization		X		X							X			
Department		X												
Teaching Audience		X												
Security Question						X								
Answer						X								

Username and First Name / Last Name: There is some variability in which sites require a Username vs. those that require First Name / Last Name. Only two sites (CSERD, Math Gateway) require both sets of information. Sites that only require a Username are: AMSER, TeachEngineering, MatDL and NSDL. Sites that only require First Name / Last Name are: BEN, CompADRE, NEEDS and Teachers' Domain. IA does not require either.

*Recommendations to Consider:* In order to encompass all sites' registration requirements, Username and First Name / Last Name should be required. However, what are the implications for existing users and registration processes? And, what are the technical challenges for sharing Usernames and First Name / Last Name combinations? Finally, it is recommended that Full Name not be used as an element; it is difficult to sort users this way.

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Password: All sites except for AMSER, who mails users their passwords, require a password and confirmation.

*Question to consider:* Since passwords are not exchanged via CSO, should everyone standardize to require a password and confirmation? As in, does AMSER really need to change its registration workflow?

Contact Information: There is more variability among sites about where to ask for contact information such as address and phone. The sites that don't require this information ask for it in the optional info section.

*Recommendations to consider:* On the whole, it makes sense to put contact information in the 'optional' section for those sites that have a very streamlined registration (AMSER, IA). However, some sites with paper-based marketing and outreach may take a different view. The one piece of contact info that is useful, especially to Pathways evaluators is zip code, for analyzing usage on a geographic basis, which is why we recommend that it be required.

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### Elements Currently Optional at Registration - Contact Information

	AMSER	BEN	CompADRE	CSERD	NEEDS	TeachEngineering	MatDL	MathGateway	Middle School Portal	NSDL*	Teachers' Domain	Instructional Architect*	<b>DRAFT: Common Elements</b>	<b>DRAFT: Elements to share via CSO</b>
First Name						X			-			X		
Last Name						X						X		
Full Name										X		X		
Screen Name														
Email Address										X	X			
Confirm Email Address											X			
Organization / School			X		X								X	
Org Abbreviation			X											
Department					X								X	
Address (1)		X	X		X								X	
Address 2			X					X					X	
City / Town		X	X		X	X							X	
State / Province		X	X		X	X							X	
Zip / Postal Code	X	X	X											
Country		X				X							X	
Phone		X	X		X			X						
Fax		X			X									
Chat Handle			X											
Home Page URL					X									
Image URL					X									

In the draft of common elements, contact information, except for zip code, is placed in the optional section. None of this information would be shared via CSO.

*Recommendation for consideration:* Sites are split as to where to ask for contact information. Our recommendation is that this be optional.

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### Elements Currently Optional at Registration - Other Information

	AMSER	BEN	CompADRE	CSERD	NEEDS	TeachEngineering	MatDL	MathGateway	Middle School Portal	NSDL*	Teachers' Domain	Instructional Architect*	<b>DRAFT: Common Elements</b>	<b>DRAFT: Elements to share via CSO</b>
Role	X				X	X					X		X	X
Grade					X			X			X	X	X	
Subject	X											X	X	
Degree program or major	X													
Department or primary field taught	X													
Would you like to receive updates?			X			X					X		X	
How did you learn about?		X									X	X	X	
Specialties (e.g., degrees, knowledge areas)					X									
Can we recommend resources you viewed to others					X									
Older than 13?					X									
Student Login												X		
Why are you registering for MyTE?						X								
Have you used TeachEngineering curricular materials in your teaching in the past?						X								
Are you planning to use some of the TeachEngineering curricular materials in your teaching in the future?						X								
Please enter any comments on the TeachEngineering concept and website below.						X								

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Some of these elements, though optional, potentially present the most area for discussion. The primary motivations for including these elements are to enhance sites' personalization services and to target marketing efforts. The evaluators would add that these elements would be useful in providing yet another way to slice and interpret usage data. In fact, there may be a case for requiring some of these elements (e.g., role). Most of the discussion will revolve around the vocabulary associated with 'Role' and 'Grade,' which overlapped in some cases. A summary of current vocabulary used by sites is summarized in the next part of the report.

*Recommendation:* We recommend that the elements 'Would you like to receive updates?' and 'How did you learn about?' be included on all sites. Some standardization might be needed around vocabulary for 'How did you learn.'



## Report - Part 2: Summary of Vocabulary for Two Elements

This part of the report summarizes the vocabulary for the elements 'Role' and 'Grade.' These are somewhat arbitrary names, though 'Role' does have a basis in CSO documentation. For more information on the current status of CSO attributes, please see the NSDL User Attribute Policy (Draft): <http://www.columbia.edu/dlc/nsdl/sign-on/nsdl-attribute-policy.html> and <http://www.columbia.edu/dlc/nsdl/sign-on/attributes-background.html> - see Proposed Attributes. Note: these pages are dated and refer to AskNSDL vocabulary; however the background information is useful.

Not all sites have vocabulary for these elements. The CSO vocabulary, or values, developed by the Columbia team have been included. The Draft Vocabulary (last column) was developed based on terms that are already collected.

There are at least five other instances where sites have developed vocabularies to collect more information for some optional elements. Given the plethora of terms and the lack of a clear standard or implementation practice, considering 'Role' and 'Grade' are the top priority for this document. For a full list of elements and vocabulary, contact Sarah Giersch.

### Element: Role

Site	AMSER	NEEDS	TeachEngineering	Teachers' Domain	Community Sign On	Draft Vocabulary
<b>Required / Optional</b>	Optional	Optional	Optional	Optional		
<b>Element Name</b>	Role; check all that apply	I am a:	Occupation	Type of User	EduPerson Affiliation	<b>I am a:</b>
<b>Vocabulary</b>	Student	Student	K-12 Teacher elementary teacher	Teacher / Educator	faculty	<b>Student</b>
	Teacher	Educator	Middle school teacher	Student	student	<b>Teacher / Faculty</b>
	Librarian	Education Policymaker	High school teacher	School Administrator	staff	<b>Informal Educator</b>
	Administrator	Other	University teacher	Parent	alum	<b>Teaching Assistant</b>
			Community college teacher	Other	member	<b>Researcher</b>
			Home schooler		affiliate	<b>School Media Specialist</b>
			Student		employee	<b>Librarian</b>
			Other...			<b>Professional Development Coordinator</b>
						<b>Administrator</b>
						<b>Parent</b>
						<b>Education Policy Maker</b>
						<b>Other</b>

Role, in this case, is related to occupation. Where the issue becomes murky is when role as occupation overlaps with grade or level or audience, as with the next element. The CSO definition of 'Role' is: User's role(s) at home institution

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### Element: Grade / Level / Audience

Site	BEN	NEEDS	MathGateway	Teachers' Domain	IA	Community Sign On	Draft Vocabulary
<b>Required / Optional</b>	Required	Optional	Optional	Optional	Optional		
<b>Element Name</b>	Teaching Audience	I attend / work at a:	Education levels of interest	Grade Level	Target Grades:	Role / Audience Level	<b>At what level:</b>
<b>Vocabulary</b>	Preschool	Primary Education	Elementary School	K	PreK	NSDL Partner	<b>PreK</b>
	Primary elementary K-2	Pre-K-2	Middle School	1	K	Elementary School Student	<b>K</b>
	Intermediate elementary 3-5	3 thru 5	High School	2	1st	Middle School Student	<b>1</b>
	Middle school 6-8	6 thru 8	Undergraduate - Lower Division	3	2nd	High School Student	<b>2</b>
	High school lower division 9-10	Secondary Education	Undergraduate - Upper Division	4	3rd	Undergraduate	<b>3</b>
	High school upper division 11-12	9 thru 12	Graduate	5	4th	Graduate Student	<b>4</b>
	Undergraduate lower division 12-14	Higher Education		6	5th	Elementary School Teacher	<b>5</b>
	Undergraduate upper division 15-16	Lower Division		7	6th	High School Teacher	<b>6</b>
	Graduate	Freshman		8	7th	Middle School Teacher	<b>7</b>
	Profession (degree program)	Sophomore		9	8th	School Librarian	<b>8</b>
	General public and informal education	Upper Division		10	9th	College / University Faculty	<b>9</b>
	Continuing education	Junior		11	10th	College / University Librarian	<b>10</b>
	other	Senior		12	11th	Advanced Placement Teachers	<b>11</b>
	Don't teach	Graduate & Postgraduate			12th	Other	<b>12</b>
		Technical School			Vocational Education		<b>Freshman</b>
		Professional Development			Community College		<b>Sophomore</b>
		Continuing Education			Higher Education		<b>Junior</b>
		Vocational Training			Adult / Continuing Education		<b>Senior</b>

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Site	BEN	NEEDS	MathGateway	Teachers' Domain	IA	Community Sign On	Draft Vocabulary
		All					Graduate
							Post-graduate
							Home School
							Vocational / Technical
							Community College
							Adult/Continuing Education

The long lists here and the overlap with Role indicate some uncertainty about how to ask users what they do at a level of granularity that is not too onerous to complete for users and that does not result in too-small sets of user groups that drive niche efforts to design services or marketing plans. Combining the vocabulary for both elements may not be feasible. In which case, one option is to develop vocabularies for the elements that do not overlap and leave it to each site to best present, and collect, this information to their users. This seems like an issue that warrants some group discussion.

CSO actually designates this element as Role and Audience Level and has the following definition: Describes the general role of users at their home institutions. This is virtually the same definition as the Role element in the preceding section.

**DRAFT: Common Elements to Collect at Registration and Exchanged via CSO**

Based on the initial review of elements currently collected by Pathways projects, these are the suggested elements to consider for login, registration and exchange via CSO.

<b><u>Draft: Common Elements</u></b>	<b><u>Draft: CSO</u></b>
<i><u>Required at Login</u></i>	<i><u>Exchanged via CSO</u></i>
Username	?
Password	--never exchanged--
<b><u>Registration - Required</u></b>	
Username	
Email Address	
Confirm Email Address	
Password	--never exchanged--
Confirm Password	--never exchanged--
First Name	
Last Name	
Zip Code	?
<b><u>Registration - Optional</u></b>	
Organization / School	?
Department	
Address 1	
Address 2	
City / Town	
State / Province	
Country	
Role	?
Grade	
Subject	
Would you like to receive updates?	
How did you learn about this site?	
Comments	