MedBiquitous Educational Trajectory Profile

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Version History

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0.2	5 Mar 2010	Valerie Smothers	Integrated person entries, added introduction, created sections for each type of activity, publications, people.
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0.32	11 May 2010	Valerie Smothers	Corrected leave of absence category.
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.5	5 August 2010	Valerie Smothers	Changes to primary degree and coursework beyond primary degree: orgdata used to indicate institution, activetime used to indicate length of program, degree category added, use of target date described for anticipated date of graduation. Addition of categories for degree programs. Definition of date for enrichment activities modified to be consistent.
0.6	30 August 2010	Valerie Smothers	Changed mechanism for referencing an institution, new programLength element for indicating the length of a program (activetime no longer used) Update to Leap2A 2010: • Change namespaces and version • Use enclosure for referencing files in a zip archive • Use leap2a publication type for publications • Use leap2a Intermission for leave of absence • Change content type for supervisor testimonials to include a description of a scanned letter. • Use of leap2a myrole element for publications
0.61	15 September 2010	Valerie Smothers	Added sponsor acknowledgement, Added leap2a status element to primary degree and coursework to help indicate successful completion of a degree vs non-successful completion. Added link to withdrawal and dismissal to establish relationship to degree program or coursework; changed rdf type to entry. Added text indicating program length maps to metadata of learning opportunities duration element but is more restricted.
0.62	21 July 2011	Valerie Smothers	Removed independent description of the joint degree program.

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2 Introduction

This document describes the MedBiquitous Educational Trajectory Profile in detail. It is intended for use by anyone who wants to develop tools or implement electronic systems for tracking or transferring the educational trajectory of physicians and other medical professionals. The status of the document is indicated at the bottom of the page; draft documents are subject to review and approval through the MedBiquitous Consortium Process (see http://www.medbiq.org/std_specs/devprocess/MedBiquitousANSIProcess.pdf).

An educational trajectory is the path of individual learners through one or more programs of study, including extracurricular learning, dates of study, gaps in study, and academic withdrawal or dismissal. Educational trajectory data can be enriching and important, but it is difficult to access, compare, and quickly comprehend. This profile is intended to change that, allowing learners to share the data on their strongest activities and accomplishments with residency directors and mentors. Learners may also carry their data forward throughout their careers, making the data part of a lifelong learning portfolio.

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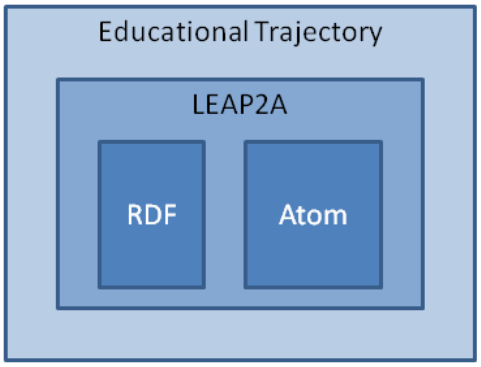
3 Other Schema Referenced

Rather than developing this specification from scratch, the Educational Trajectory Working Group is leveraging a set of existing specifications that meet its requirements. The working group is developing a specification profile that describes how to use the following existing specifications to clearly define a learner's educational trajectory:

- Atom Syndication Format – a publishing standard for personal content and weblogs
- Leap2A – a specification for the transfer of e-portfolio information
- Resource Description Framework (RDF) – a standard for data interchange that supports semantic relationships between linked resources.

The following image shows how the three specifications fit together in an educational trajectory.



Educational Trajectory Profile Architecture

3.1 Atom Syndication Format

Atom Syndication Format is an XML standard for web feeds developed by the Internet Engineering Task Force (IETF). A wide variety of content management systems, browsers, and newsreaders support the atom format. Primarily, web feeds have been used by website publishers to distribute information such as news headlines and article summaries to their readership. More recently feeds have been used to draw readers to weblogs and podcasts, audio broadcasts distributed via the internet. Atom and RSS feeds are typically identified by the following icon on the web page or appearing as a button in the web browser interface:

Atom Feed Icon

The following is a screenshot of the University of Saskatchewan Medical Education Blog Atom feed as it appears in Internet Explorer:

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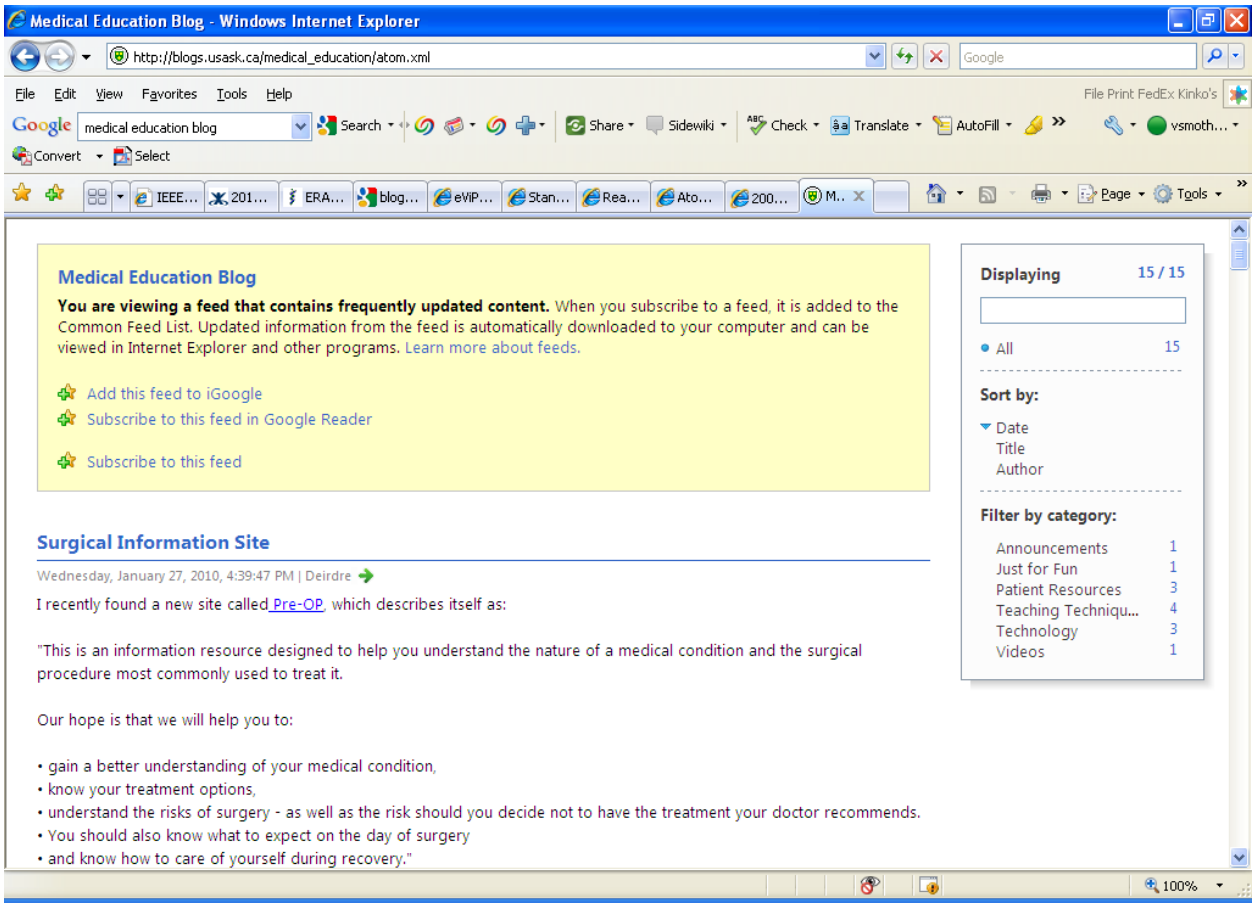

3.2 Leap2A

Leap2A is a specification for e-portfolios supported by CETIS, funded by JISC, and developed by Simon Grant and colleagues. Leap2A e-portfolios may contain:

- digital artifacts, including documents, audio, video, etc, made or jointly made by the portfolio holder
- expressions or text entries by the portfolio holder , including learner reflections
- information about the portfolio holder, their abilities, achievements, experiences, activities, goals, plans etc.

3.3 RDF

RDF supports semantic relationships between linked resources. Leap2A uses RDF to indicate what type of information is being conveyed: data about a person, an activity, a resource, etc.

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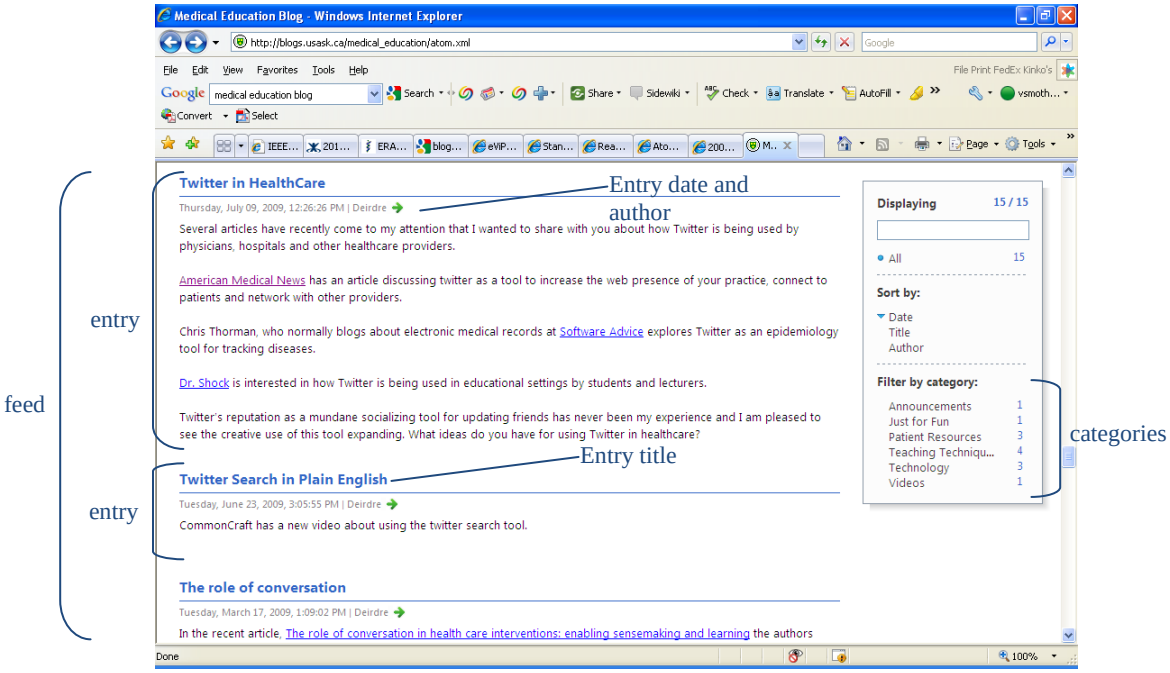
3.4 Underlying Concepts

Both Atom and Leap2A concepts are key to the architecture of the educational trajectory. The page below shows some key components of the atom architecture.



Atom Feed Showing Key Concepts

Feed – a feed is a collection of content on a specific topic. Within the Educational trajectory, the feed is the collection of activities and related items that comprise the educational trajectory. Each feed has an identifier, an author, a date, and a title.

Entry –An entry is a piece of content within a feed. Within the Educational trajectory, the entry is a description of an activity in which the learner engaged while pursuing their primary degree. Entries may also describe an artifact, such as a document or publication, or a competency. Each entry has a title, identifier, a date, and some content. If the entry is describing an activity within the educational trajectory, it should also have a start date and an end date. An entry may have links to related information and categories. For the educational trajectory, the categories are important as they would form the basis of a visual trajectory that shows the activities against the time frame of the learner's education.

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4 Documentation Conventions

This document uses the following conventions.

Documentation Conventions

Convention	Description
`monospaced type`	Sample XML tags, code, schema, or portion thereof
BoldText	When used with an XML tag name, indicates that the element contains sub-elements
Italicized Text	When used in an XML tag description, an attribute of the XML tag.

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5 Educational Trajectory Elements

The Educational Trajectory profile includes the following elements. Elements are taken from the Atom specification unless otherwise specified. Elements with the leap2: prefix are taken from Leap2A; elements with the rdf: prefix are taken from Resource Description Framework (see http://www.w3.org/RDF/).

1. feed
2. id
3. title
4. author
5. updated
6. published
7. entry
8. content
9. rdf:type
10. et:programLength
11. leap2:persondata
12. leap2:orgdata
13. leap2:spatialleap2:status
14. leap2:date
15. link
16. category

The root element is feed. All Educational Trajectory files are conformant Atom Syndication files and conformant Leap2A files.

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6 Educational Trajectory Grammar

Because Educational Trajectory builds on Leap2A and Atom, the bulk of the elements used to describe an Educational Trajectory are Atom elements. In some cases, Leap2A extends Atom elements adding custom elements and attributes. MedBiquitous leverages these customizations and adds customizations specific to the health professions education community.

The structure of an Educational Trajectory is described in the tables below. The tables indicate whether an item is Required by Atom, Required by Leap2A , or Recommended by MedBiquitous.

Note that there are additional Atom elements not described in this guideline. This guideline focuses on those elements most useful for representing the Educational Trajectory. For more information on Atom, see: http://www.ietf.org/rfc/rfc4287.txt

Feed Element Information

Element	Description	Required	Multiplicity
feed	Feed is the root element. It contains information on a learner's program of study, formal and informal learning activities outside a program of study, academic dismissal or withdrawal, and gaps in study.	Required by Atom	1
title	The title of the educational trajectory. For example, William Blake's Educational Trajectory. Title may have a type attribute that indicates the text formatting. Text may be of type text, html, or xhtml. Text titles are recommended.	Required by Atom	1
updated	The date the feed was last modified. Use the xml date time format. For example: 2009-12-13T18:30:02Z	Required	1
author	Author is a container element. Use the name subelement to identify the author of the educational trajectory. The author of the educational trajectory should be the learner that it describes.	Author is required by Atom and recommended by MedBiquitous.	0 or more (only 1 recommended)

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id	A globally unique and permanent resource identifier for the educational trajectory. The URL of the educational trajectory document is often used as the id.	Required by Atom	1
entry	Entry contains one of the following: • Information related to a single activity within the learner's educational trajectory. • Description of a person, such as the learner (name, id, etc) • Description of an organization or institution • Attachments, including publications. For more information, see one of the following sections: • Referencing People • Referencing Organizations • Representing Specific Types of Activities • Including Supervisor Testimonials • Including Publications	Recommended by MedBiquitous	0 or more

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7 Referencing People

Every educational trajectory should reference the learner to provide their name and other identifying information. In some cases, supervisors may be referenced as well, if , for example, a supervisor provided a testimonial for a learner's enrichment activity. Use the following entry elements to describe a person.

Element	Description	Required	Multiplicity
entry	Entry contains information related to a single person. There should be at least one person entry that provides the learner's name and identifying information. Additional entries can be provided to reference other people, such a supervisors.	Recommended by MedBiquitous	1 or more
title	When describing a person, the title should be the person's name.	Required by Atom	1
id	A globally unique and permanent resource identifier identifying the entry.	Required by Atom	1
updated	The date the entry was last modified. Use the xml date time format. For example: 2009-12-13T18:30:02Z	Required by Atom	1
author	Author is a container element. Use the name subelement to identify the author of the entry. The author will likely be the learner.	Recommended by MedBiquitous	1 recommended
content	Content contains a short description of the person. For example: "Mary Wollenstonecraft Godwin, University of Dundee."	Recommended	0 or 1
rdf:type	rdf:type indicates the type of entry being described. For entries describing people, the type is person, which is represented as: `<rdf:type rdf:resource="leap2:person" />`	Recommended by Leap2A	1 recommended

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leap2:persondata	The leap2:personadata element provides name or contact information for an individual, such as a learner or their supervisor for a given activity. leap2:persondata has the following attributes: *leap2:field* Defines what the persondata element is defining. MedBiquitous recommends defining persondata elements for the following fields: legal_given_name, legal_family_name, email, id. *leap2:service* Defines the domain or service associated with an id. leap2:service is required when defining an id. MedBiquitous recommends using the Internet domain of the university with which the learner or supervisor is associated. Example: `<leap2:persondata leap2:field="legal_given_name"> Mary</leap2:persondata> <leap2:persondata leap2:field="legal_given_name"> Wollstonecraft</leap2:persondata> <leap2:persondata leap2:field="legal_family_name">Godwin</leap2:persondata> <leap2:persondata leap2:field="email">mwgodwin@example.org</leap2:persondata> <leap2:persondata leap2:field="id" leap2:service="dundee.ac.uk"> 1234567</leap2:persondata>`	Recommended by MedBiquitous	1 or more

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Example:

```
   <entry>
     <title>Mary Godwin</title>
     <id>portfolio:people/0001</id>
     <updated>2009-12-13T00:00:00Z</updated>
     <author>Mary Wollenstonecraft Godwin</author>
     <content type="text">Mary Wollenstonecraft Godwin, University of Dundee
</content>
     <rdf:type rdf:resource="leap2:person" />
     <leap2:persondata leap2:field="legal_given_name">
Mary</leap2:persondata>
     <leap2:persondata leap2:field="legal_given_name">Wollstonecraft
      </leap2:persondata>
     <leap2:persondata
leap2:field="legal_family_name">Godwin</leap2:persondata>
     <leap2:persondata leap2:field="email">
      mwgodwin@example.org</leap2:persondata>
     <leap2:persondata leap2:field="id" leap2:service="dundee.ac.uk">1234567
      </leap2:persondata>
   </entry>
```

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8 Referencing Organizations

An educational trajectory will often reference an organization, such as an institution where the learner has taken a program or course. Use the following entry elements to describe an organization.

Element	Description	Required	Multiplicity
entry	Entry contains information related to a single institution. Include an entry that provides the information about the institution the learner attended. Additional entries can be provided to reference other organizations, such as those where enrichment activities took place.	Recommended by MedBiquitous	1 or more
title	When describing an organization, the title should be the organization's name.	Required by Atom	1
id	A globally unique and permanent resource identifier identifying the entry.	Required by Atom	1
updated	The date the entry was last modified. Use the xml date time format. For example: 2009-12-13T18:30:02Z	Required by Atom	1
author	Author is a container element. Use the name subelement to identify the author of the entry. The author will likely be the institution.	Recommended by MedBiquitous	1 recommended
content	Content contains a short description of the organization. For example: "University of Missouri."	Recommended	0 or 1
rdf:type	rdf:type indicates the type of entry being described. For entries describing organizations, the type is organization, which is represented as: `<rdf:type rdf:resource="leaptype2:organization" />`	Recommended by Leap2A	1 recommended

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leap2:orgdata	The leap2:orgdata element allows for the inclusion of website, email, telephone, and other details about the organization. Educational trajectory uses the following attributes of leap2:orgdata: *field* Defines what the orgdata element is defining. The following fields may be used in an educational trajectory: website, email, and workphone. *label* A label for the data used in the originating system. Label is optional. For details on other possible fields, see: http://wiki.leapspecs.org/2A/organizational_data#orgdata Example: `<leap2:orgdata leap2:field="email"> info@somecity.ac.uk </leap2:orgdata> <leap2:orgdata leap2:field="website"> http://www.dundee.ac.uk/cmdn/ </leap2:orgdata>`	Optional	0 or more
leap2:spatial	The leap2:spatial element provides subelements for describing an institution's address. See section leap2:spatial subelements for more details.	Optional	0 or 1

8.1 Leap2:spatial subelements

The leap2:spatial element has subelements that allow you to define address details for an organization.

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Element	Description	Required	Multiplicity

leap2:addressline	The addressline element is used for a single line of a postal address. Use multiple addressline elements to represent a complete address. The order of appearance indicates the order in which the lines should be used.
	
	Addressline has the following attribute:
	
	label
	An optional label for the address line.
	
	Example:
	`<leap2:addressline>`
	`  420 Delaware St. S.E.`
	`</leap2:addressline>`
	`<leap2:addressline`
	`leap2:label="City and State">`
	`  Minneapolis, MN`
	`</leap2:addressline>`
		Optional	0 or more

leap2:postcode	The postcode address is used for postal codes or zipcodes. Example: `<leap2:postcode>55455</leap2:postcode>`	Optional	0 or 1

leap2:country	The country element contains a text string representing the name of a country. Country has the following optional attribute:
	
	countrycode
	The 3 letter country code as defined by ISO 3166-1. See the following page for details:
	http://en.wikipedia.org/wiki/ISO_3166-1_alpha-3
	
	Example:
	
	`<leap2:country>USA`
	`</leap2:country>`
		Optional	0 or 1

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9 Representing Specific Types of Activities

Several different types of activities and related academic events may be represented as an entry. Use the sections that follow to understand the entry elements within the context of specific types of educational trajectory activities.

9.1 Primary Degree

Learners should indicate some basic information about the primary degree program, the primary degree serves as the backbone of an educational trajectory. The educational trajectory should contain general information about the degree program rather than details of coursework completed. All coursework leading to the primary degree are considered part of the degree program and should not be listed separately. Coursework is defined as any credit bearing activity from an accredited academic institution OR any activity from an accredited academic institution put on an official transcript. Use the following entry elements to describe a primary degree program.

Entry Element Information for the Primary Degree Activity

Element	Description	Required	Multiplicity
entry	Entry contains information related to a single activity within the learner's educational trajectory.	Recommended	0 or more
title	The title of the activity. For example, University of California San Francisco Medical Degree Program.	Required by Atom	1
id	A globally unique and permanent resource identifier identifying the entry.	Required by Atom	1
published	The date the entry was first published. Use the xml date time format. For example: 2009-12-13T18:30:02Z	Optional	0 or 1
updated	The date the entry was last modified. Use the xml date time format. For example: 2009-12-13T18:30:02Z	Required by Atom	1
author	Author is a container element. Use the name subelement to identify the author of the entry. For the primary degree program, the author will likely be the institution if they are providing the data.	Recommended by MedBiquitous	1 recommended
content	Content should contain a one paragraph	Recommended	0 or 1

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	description of the program completed that is written by the institution. If the learner is engaged in an elective program such as pathways to discovery, the description should indicate that.		
rdf:type	rdf:type indicates the type of entry being described. For the primary degree program, the type is an activity, which is represented as: `<rdf:type rdf:resource="leap2:activity" />`	Recommended by Leap2A	1 recommended

et:programLength	et:programLength indicates the length of the program as indicated by the institution. The programLength element uses the XML schema duration type to indicate the length of the program.
	
	The following example shows a program duration of 4 years.
	
	Example:
	
	`<et:programLength>`
	`  P4Y`
	`</et:programLength>`
	
	The programLength element is defined by the Educational Trajectory Extension schema at http://ns.medbiq.org/educationaltrajectory/v1/
	
	programLength maps to the Metadata of Learning Opportunities duration element but is more restricted. For more information, see CEN Workshop Agreement 15903 at: ftp://ftp.cenorm.be/PUBLIC/CWAs/e-Europe/WS-LT/CWA15903-00-2008-Dec.pdf
		Optional	0 or 1

leap2:status	The leap2:status element clarifies whether the program has been completed successfully, is in progress, or has been	Recommended by MedBiquitous	0 or 1

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	suspended due to withdrawal or dismissal. The following are potential values of the stage attribute: progressing – the learner is currently enrolled in the program. completed – the learner successfully completed the program. suspended – the activity ended, but the learner did not complete the program successfully. Use suspended for learners that have withdrawn or were dismissed from the program. Example: `<leap2:status leap2:stage="completed"/>`		
leap2:date	The leap2:date element indicates the start, end, or target date for an activity. For the primary degree program, the start date is that date of matriculation and the end date is the graduation date. If the student has not yet graduated, omit the end date. Primary degree activities should contain a start date at a minimum. Activities with a start date and no end date should be considered ongoing unless a withdrawal dismissal, or leave of absence is shown. Withdrawal, dismissal, and leave of absence indicate a temporary or permanent end to the activity, but not successful completion. A target date may be shown to indicate the anticipated date of graduation. Example: `<leap2:date leap2:point="start">2005-08-01</leap2:date>`	Recommended by MedBiquitous	2 recommended (one start and one end date)

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	<leap2:date leap2:point="end">2009-05-20</leap2:date>		
link	A link to a web resource or attachment. Link must contain an href attribute whose value is a resource identifier, such as a URL. MedBiquitous recommends: • Linking to an entry for the institution where the degree program took place. Use the rel attribute with the relationship type leap2:supported_by. • Linking to an attachment included in the educational trajectory package (ie zip file) or linking to a publicly accessible and permanent URL. Use the Atom enclosure relationship type for any files included in an educational trajectory package. • Using the rel attribute with Leap2A relationship types to indicate the relationship of the link to the primary degree program. Example: <link rel="leap2:supported_by" href="http://www.example.edu/portfolio/1234/umn.edu/12345" /> <link rel="leap2:enclosure" href="NeuroResearchPublication.pdf" /> <link rel="leap2:has_outcome" href="http://www.example.edu/portfolio/1234/umn.edu/23456" /> Leap2A provides the following relationship types: • supports • supported_by • has_evidence	Optional	0 or more

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	• is_evidence_of • reflects_on • reflected_on_by • has_part • is_part_of • has_outcome • is_outcome_of A link to the transcript may be provided. Use has_outcome to link the primary degree program to a withdrawal or dismissal if applicable.		

category	For the primary degree program, the category is primary degree:
	
	`<category scheme="http://www.medbiq.org/edtrajectory/trajectorycategory#" term="primary_degree"/>`
	
	The category should also be used to indicate the type of degree:
	
	`<category scheme="http://www.medbiq.org/edtrajectory/degree_type#" term="M.D."/>`
		Recommended by MedBiquitous	2 recommended

9.2 Leave of Absence

If there is a Leave of Absence, learners should include information about that leave in their educational trajectory along with an explanation for the leave. Leave of absence may have a parallel enrichment activity, such as a research fellowship, that provides additional explanation for the leave.

Entry Element Information for a Leave of Absence

Element	Description	Required	Multiplicity
entry	Entry contains information related to a single activity within the learner's educational trajectory.	Recommended	0 or more
title	The title of the entry. For example,	Required by	1

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	Leave of Absence.	Atom	
id	A globally unique and permanent resource identifier identifying the entry.	Required by Atom	1
published	The date the entry was first published. Use the xml date time format. For example: 2009-12-13T18:30:02Z	Optional	0 or 1
updated	The date the entry was last modified. Use the xml date time format. For example: 2009-12-13T18:30:02Z	Required by Atom	1
author	Author is a container element. Use the name subelement to identify the author of the entry. For the leave of absence, the author will likely be the institution.	Recommended by MedBiquitous	1 recommended
content	Content should contain information about the leave, including the reason.	Recommended	0 or 1
rdf:type	rdf:type indicates the type of entry being described. For the leave of absence, the type is an activity, which is represented as: `<rdf:type rdf:resource=" leap2:activity" />`	Recommended by Leap 2A	1 recommended

leap2:date	The leap2:date element indicates the start, end, or target date for an activity. For the leave of absence, the start date is the date leave started and the end date is the actual end date for the leave. The target date indicates a planned end date for the leave. Leave of absence activities should contain a start and end date. If there is no end date, the leave should be considered ongoing.
	
	Example:
	
	`<leap2:date leap2:point="start">2008-08-01</leap2:date>`
	`<leap2:date leap2:point="end">2009-01-`
		Recommended by MedBiquitous	2 recommended (one start and one end date)

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	01</leap2:date>		
link	Use the link element to indicate that the leave of absence is related to the primary degree activity. Example: <link rel="leap2:is_part_of" href="portfolio:activity_010" /> Where portfolio:activity_010 is the identifier of the primary degree activity.	Optional	0 or more
category	For the leave of absence, use the category Intermission: <category scheme="categories:common_item#" term="Intermission" /> An additional category is used to indicate whether the leave occurred at the institution request or the learner request. Example: <category scheme=" http://www.medbiq.org/edtrajectory/leave_request_type#" term="personal_request"/>	Recommended by MedBiquitous	1 recommended

9.3 Dismissal

If the learner was dismissed, the learner should include that information in their educational trajectory.

Entry Element Information for a Dismissal

Element	Description	Required	Multiplicity
entry	Entry contains information related to a single activity within the learner's educational trajectory.	Recommended	0 or more
title	The title of the activity. For example, Dismissal.	Required by Atom	1

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id	A globally unique and permanent resource identifier identifying the entry.	Required by Atom	1
published	The date the entry was first published. Use the xml date time format. For example: 2009-12-13T18:30:02Z	Optional	0 or 1
updated	The date the entry was last modified. Use the xml date time format. For example: 2009-12-13T18:30:02Z	Required by Atom	1
author	Author is a container element. Use the name subelement to identify the author of the entry. For the dismissal, the author will likely be the institution if they are providing the data.	Recommended by MedBiquitous	1 recommended
content	Content could contain information about the dismissal, including the reason.	Recommended	0 or 1
rdf:type	rdf:type indicates the type of entry being described. For the dismissal, the type is an entry, which is represented as: `<rdf:type rdf:resource="leap2:entry" />`	Recommended by Leap 2A	1 recommended

leap2:date	The leap2:date element indicates the start, end, or target date for an activity. For the dismissal, the start date is the date of the dismissal.
	
	Example:
	
	`<leap2:date leap2:point="start">2008-08-01</leap2:date>`
	
	If the learner was dismissed and then re-admitted, include an end date for the dismissal.
	
	`<leap2:date leap2:point="end">2010-08-01</leap2:date>`
		Recommended by MedBiquitous	1 recommended (start date)

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link	Use the link element to indicate that the dismissal is related to the primary degree program or coursework beyond primary degree. Example: `<link rel="leap2:is_outcome_of" href="portfolio:activity_010" />` Where portfolio:activity_010 is the identifier of the primary degree activity.	Optional	0 or more
category	For the dismissal, the category is dismissal: `<category scheme=" http://www.medbiq.org/edtrajectory/trajectorycategory#" term="dismissal"/>`	Recommended by MedBiquitous	1 recommended

9.4 Withdrawal

If the learner withdrew from the primary degree program, the learner should include that information in their educational trajectory.

Entry Element Information for a Withdrawal

Element	Description	Required	Multiplicity
entry	Entry contains information related to a single activity within the learner's educational trajectory.	Recommended	0 or more
title	The title of the activity. For example, Withdrawal.	Required by Atom	1
id	A globally unique and permanent resource identifier identifying the entry.	Required by Atom	1
published	The date the entry was first published. Use the xml date time format. For example: 2009-12-13T18:30:02Z	Optional	0 or 1
updated	The date the entry was last modified. Use	Required by	1

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	the xml date time format. For example: 2009-12-13T18:30:02Z	Atom	
author	Author is a container element. Use the name subelement to identify the author of the entry. For the withdrawal, the author will likely be the institution if they are providing the data.	Recommended by MedBiquitous	1 recommended
content	Content could contain information about the withdrawal, including the reason.	Recommended	0 or 1
rdf:type	rdf:type indicates the type of entry being described. For the withdrawal, the type is entry, which is represented as: `<rdf:type rdf:resource=" leap2:entry" />`	Recommended by Leap2A	1 recommended

leap2:date	The leap2:date element indicates the start, end, or target date for an activity. For the withdrawal, the start date is the date of the withdrawal.
	
	Example:
	
	`<leap2:date leap2:point="start">2008-08-01</leap2:date>`
	
	If the learner withdrew and was then re-admitted, include an end date for the withdrawal.
	
	`<leap2:date leap2:point="end">2010-08-01</leap2:date>`
		Recommended by MedBiquitous	1 recommended (start date)

link	Use the link element to indicate that the withdrawal is related to the primary degree program or coursework beyond primary degree. Example: `<link rel="leap2:is_outcome_of" href="portfolio:activity_010" />`	Optional	0 or more

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	Where portfolio:activity_010 is the identifier of the primary degree activity.		
category	For the withdrawal, the category is withdrawal: `<category scheme=" http://www.medbiq.org/edtrajectory/trajectorycategory#" term="withdrawal"/>`	Recommended by MedBiquitous	1 recommended

9.5 Coursework beyond primary degree

Learners should include information about any coursework beyond the primary degree, including joint degree programs and coursework that does not lead to another degree, such as a single Spanish class at community college or class within a School of Business.

If the joint degree program is fully integrated into the primary degree, the dates for the two programs may overlap to reflect that. If the joint degree program is discrete from the primary degree, such as a PhD program that takes place in years 3 and 4 of a six year MD/PhD program, the dates of the both entries should indicate that.

Use the following entry elements to describe any coursework beyond the primary degree.

Entry Element Information for Coursework Beyond the Primary Degree

Element	Description	Required	Multiplicity
entry	Entry contains information related to a single activity within the learner's educational trajectory.	Recommended	0 or more
title	The title of the activity. For example, Doctor of Philosophy in Public Health, Bloomberg School of Public Health.	Required by Atom	1
id	A globally unique and permanent resource identifier identifying the entry.	Required by Atom	1
published	The date the entry was first published. Use the xml date time format. For example: 2009-12-13T18:30:02Z	Optional	0 or 1

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updated	The date the entry was last modified. Use the xml date time format. For example: 2009-12-13T18:30:02Z	Required by Atom	1
author	Author is a container element. Use the name subelement to identify the author of the entry. For coursework beyond the primary degree program, the author will likely be learner.	Recommended by MedBiquitous	1 recommended
content	Content should contain a one paragraph description of the program completed.	Recommended	0 or 1
rdf:type	rdf:type indicates the type of entry being described. For coursework beyond the primary degree, the type is an activity, which is represented as: `<rdf:type rdf:resource="leap2:activity" />`	Recommended by Leap2A	1 recommended

et:programLength	et:programLength indicates the length of the program as indicated by the institution. The programLength element uses the XML schema duration type to indicate the length of the program.
	
	The following example shows a program duration of 4 years.
	
	Example:
	
	`<et:programLength>`
	`  P4Y`
	`</et:programLength>`
	
	The programLength element is defined by the Educational Trajectory Extension schema at http://ns.medbiq.org/educationaltrajectory/v1/
		Optional	0 or 1

leap2:status	The leap2:status element clarifies whether the coursework has been completed successfully, is in progress, or has been suspended due to withdrawal or dismissal.	Recommended by MedBiquitous	0 or 1

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	The following are potential values of the stage attribute: progressing – the learner is currently enrolled in the program. completed – the learner successfully completed the program. suspended – the activity ended, but the learner did not complete the program successfully. Use suspended for learners that have withdrawn or were dismissed from the program. Example: `<leap2:status leap2:stage="completed"/>`		
leap2:date	The leap2:date element indicates the start, end, or target date for an activity. For coursework beyond the primary degree program, the start date is the date the learner started the coursework and the end date is the actual completion date. Omit the end date if the coursework in ongoing. Coursework beyond primary degree should contain start date at a minimum. Activities with a start date and no end date should be considered ongoing unless a withdrawal, dismissal, or leave of absence is shown. Withdrawal, dismissal, and leave of absence indicate a temporary or permanent end to the activity, but not successful completion. A target date may be shown to indicate the anticipated date of graduation. Example: `<leap2:date leap2:point=”start”>2005-08-`	Recommended by MedBiquitous	2 recommended (1 start and one end date)

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	01</leap2:date> <leap2:date leap2:point=”end”>2009-05-20</leap2:date>		
link	A link to a web resource or attachment. Link must contain an href attribute whose value is a resource identifier, such as a URL. MedBiquitous recommends: • Linking to an entry for the institution where the coursework took place. Use the rel attribute with the relationship type leap2:supported_by. • Linking to an attachment included in the educational trajectory package (ie zip file) or linking to a publicly accessible and permanent URL. Use the Atom enclosure relationship type for any files included in an educational trajectory package. • Using the rel attribute with Leap2A relationship types to indicate the relationship of the link to the coursework. Example: <link rel="leap2:supported_by" href="http://www.example.edu/portfolio/1234/umn.edu/12345" /> <link rel="enclosure" href="NeuroResearchPublication.pdf" /> <link rel="leap2:has_outcome" href="http://www.example.edu/portfolio/1234/umn.edu/23456" /> Leap2A provides the following relationship types: • supports • supported_by • has_evidence • is_evidence_of	Optional	0 or more

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	• reflects_on • reflected_on_by • has_part • is_part_of • has_outcome • is_outcome_of A link to the transcript may be provided. Use has_outcome to link coursework to a withdrawal or dismissal if applicable.		

category	For coursework beyond the primary degree program, the category is coursework beyond primary degree:
	
	`<category scheme=" http://www.medbiq.org/edtrajectory/trajectorycategory#" term= "coursework_beyond_primary_degree"/>`
	
	The category should also be used to indicate the type of degree:
	
	`<category scheme=" http://www.medbiq.org/edtrajectory/degree_type#" term="Ph.D."/>`
		Recommended by MedBiquitous	2 recommended

9.6 Enrichment

Learners should include information about enrichment activities in the educational trajectory. Enrichment activities are any activities outside of official coursework that enrich a learner and contribute to their overall education and development.

Entry Element Information for Enrichment Activities

Element	Description	Required	Multiplicity
entry	Entry contains information related to a single activity within the learner's educational trajectory.	Recommended	0 or more
title	The title of the activity. For example, Creation of Student Run Free Clinic.	Required by Atom	1
id	A globally unique and permanent resource identifier identifying the entry.	Required by Atom	1

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published	The date the entry was first published. Use the xml date time format. For example: 2009-12-13T18:30:02Z	Optional	0 or 1
updated	The date the entry was last modified. Use the xml date time format. For example: 2009-12-13T18:30:02Z	Required by Atom	1
author	Author is a container element. Use the name subelement to identify the author of the entry. For enrichment activities, the author will likely be learner.	Recommended by MedBiquitous	1 recommended
content	Content should contain a description of the enrichment activity. Plain text is recommended for this activity description.	Recommended	0 or 1
rdf:type	rdf:type indicates the type of entry being described. For enrichment activities, the type is an activity, which is represented as: `<rdf:type rdf:resource=" leap2:activity" />`	Recommended by Leap2A	1 recommended

leap2:date	The leap2:date element indicates the start, end, or target date for an activity. For enrichment activities, the start date is the date the learner started and the end date is the actual or planned end date. Enrichment activities should contain start dates. Activities with a start date and no end date should be considered ongoing. A target date may be shown to indicate the anticipated date of completion.
	
	Example:
	
	`<leap2:date leap2:point="start">2005-08-01</leap2:date>`
	`<leap2:date leap2:point="end">2009-05-20</leap2:date>`
		Recommended by MedBiquitous	2 recommended (1 start and one end date)

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link	A link to a web resource or attachment. Link must contain an href attribute whose value is a resource identifier, such as a URL. MedBiquitous recommends:
	• Linking to an entry for the organization where the activity took place. Use the rel attribute with the relationship type leap2:supported_by.
	• Provide links to work products associated with the activity or to supervisor testimonials.
	• Linking to an attachment included in the educational trajectory package (ie zip file) or linking to a publicly accessible and permanent URL. Use the Atom enclosure relationship type for any files included in an educational trajectory package.
	• Using the rel attribute with Leap2A relationship types to indicate the relationship of the link to the enrichment activity.
	
	Example:
	
	`<link rel="leap2:supported_by" href="http://www.example.edu/portfolio/1234/umn.edu/12345" />`
	`<link rel="enclosure" href="NeuroResearchPublication.pdf" />`
	`<link rel="leap2:has_outcome" href="http://www.example.edu/portfolio/1234/umn.edu/23456" />`
	
	Leap2A provides the following relationship types:
	
	• supports
	• supported_by
	• has_evidence
	• is_evidence_of
	• reflects_on
		Optional	0 or more

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	• reflected_on_by • has_part • is_part_of • has_outcome • is_outcome_of If the link points to a supervisor testimonial of the activity, use the has_evidence relationship.		

category	For enrichment activities, the category is enrichment:
	
	`<category scheme=" http://www.medbiq.org/edtrajectory/trajectorycategory#" term="enrichment"/>`
	
	Enrichment activities should also indicate whether they were paid or unpaid using the payment category:
	
	`<category scheme=" http://www.medbiq.org/edtrajectory/payment_type#" term="unpaid"/>`
		Recommended by MedBiquitous	1 recommended

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10 Including Supervisor Testimonials

Learners may include supervisor testimonials as documentation relative to an enrichment activity. A scanned letter on organization letterhead is recommended.

Entry Elements for Supervisor Testimonials

Element	Description	Required	Multiplicity
entry	Entry contains information related to a single testimonial.	Recommended	0 or more
title	The title of the testimonial. For example, Testimonial for Student Run Free Clinic.	Required by Atom	1
id	A globally unique and permanent resource identifier identifying the entry.	Required by Atom	1
published	The date the entry was first published. Use the xml date time format. For example: 2009-12-13T18:30:02Z	Optional	0 or 1
updated	The date the entry was last modified. Use the xml date time format. For example: 2009-12-13T18:30:02Z	Required by Atom	1
author	Author is a container element. Use the name subelement to identify the author of the entry. For testimonials, the author should be the supervisor. If more detailed information describing the supervisor is necessary, create an entry describing the supervisor and reference that entry. See section Referencing People for more information.	Recommended by MedBiquitous	1 recommended
content	Content should contain the supervisor's testimonial of the activity. Testimonial's should make the student's role in the project clear and provide some idea of the outcome/impact the project had. If the testimonial is in the form of a scanned letter,provide a brief description of the scanned letter, for example, "Testimonial from Dr. Jordan, clinic supervisor."	Recommended	0 or 1

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rdf:type	rdf:type indicates the type of entry being described. For testimonials, the type is a resource, which is represented as: `<rdf:type rdf:resource=" leap2:resource" />`	Recommended by Leap2A	1 recommended
Link	A link to a web resource or attachment, such as a scanned supervisor letter. Link must contain an href attribute whose value is a resource identifier, such as a URL. MedBiquitous recommends linking to an attachment included in the educational trajectory package (ie zip file) or linking to a publicly accessible and permanent URL. Use the Atom enclosure relationship type for any files included in an educational trajectory package. Example: `<link rel="enclosure" href="files/testimonial.jpg"/>`	Recommended by MedBiquitous	1 or more recommended
category	For testimonials, the category is testimonial: `<category scheme=" http://www.medbiq.org/edtrajectory/evidence_type#" term="testimonial"/>`	Recommended by MedBiquitous	1 recommended

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11 Including Publications

MedBiquitous recommends including publications in the educational trajectory as separate entries. These publication entries can then be linked to the activities with which they are associated. In addition, educational trajectory programs can develop a list of publications. Use the following entry elements to include a publication.

Entry Elements for Publications

Element	Description	Required	Multiplicity
entry	Entry contains information related to a single publication.	Recommended	0 or more
title	The title of the publication. For example, Social Networking and Medical Student Perceptions of Professionalism.	Required by Atom	1

link	A link to the publication. The link may point to the file or to a permanent, publicly accessible URI for the publication. Including the file is recommended if copyright permissions allow.
	
	Use the following attributes of link:
	
	rel
	The relation of the link. The value of rel should be “enclosure” if pointing to a file included in the educational trajectory package. If pointing to a URI, rel should be “related.”
	
	Href
	The URI for the resource. For documents included in an educational trajectory zip file, this may be the file name or relative path to the file.
	
	Example pointing to a local file:
	`<link rel=”enclosure” href=” files/1219345.doc “/>`
	
	Example pointing to a URL:
	`<link rel=”related” href=http://www.example.org/pub1>`
		Recommended by MedBiquitous	1 recommended

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id	A globally unique and permanent resource identifier identifying the entry.	Required by Atom	1
published	The date the entry was first published. Use the xml date time format. For example: 2009-12-13T18:30:02Z	Recommended by MedBiquitous	1 recommended
updated	The date the entry was last modified. Use the xml date time format. For example: 2009-12-13T18:30:02Z	Required by Atom	1
author	Author is a container element. Use the name subelement to identify the author of the entry. This will usually be the learner.	Recommended by MedBiquitous	1 or more recommended

content	Content should include the citation in a text format.
	
	Example:
	
	`<content > Doe, J. Social Networking as a Chronic Disease Management Strategy. Med Care Res Rev. 2007 Oct;64(5):500-5. PubMed PMID: 12345678.</content>`
	
	`””`
		Recommended by MedBiquitous	1 recommended

summary	A short description of the publication. For example, “A study of medical student online behavior funded by Robert Wood Johnson.”	Recommended by MedBiquitous	1 recommended
rdf:type	rdf:type indicates the type of entry being described. For publications, the type is a resource, which is represented as: `<rdf:type rdf:resource=”leap2:publication” />`	Recommended by Leap2A	1 recommended
category	Use the category element to indicate whether the entry describes a publication or presentation.	Recommended by MedBiquitous	1 or more recommended

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	For publications, the category is publication:
	
	`<category scheme=" http://www.medbiq.org/edtrajectory/evidence_type#" term="publication"/>`
	
	For presentations, the category is presentation. Examples of presentations include abstracts, posters, oral presentations, and workshops.
	
	`<category scheme=" http://www.medbiq.org/edtrajectory/evidence_type#" term="presentation"/>`
	
	You may also use the category element to indicate whether or not a publication is peer reviewed.
	
	For peer review:
	
	`<category scheme="http://www.medbiq.org/edtrajectory/review_type#" term="peer_reviewed"/>`
	
	To indicate that a publication is not peer reviewed:
	
	`<category scheme="http://www.medbiq.org/edtrajectory/review_type#" term="not_peer_reviewed"/>`		

leap2:myrole	The leap2:myrole element allows the learner to describe his or her role in producing a publication.	Optional	0 or 1

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12 MedBiquitous Categories

Atom allows developers to create categories for entries in an Atom feed. Categories are an essential part of the educational trajectory profile: the working group authoring the specification anticipates that educational trajectory readers will provide visual displays of learner trajectories based on the category element. Categories also allow those reading a trajectory to find relevant activities more quickly. For more information on the use of categories for visual display, see section Visual Trajectory.

The category element of Leap2A has the following format:

```
<category scheme="URI#" term="term" label="label" />
```

Where:

- *URI* is the web address or identifier of the page defining the categorization scheme
- *term* is the name of the term within that categorization scheme
- *label* is a human readable label for the term.

Example:

```
<category scheme="http://www.medbiq.org/edtrajectory/trajectorycategory"
term="primary_degree"/>
```

The definition for MedBiquitous categories can be found by combining the scheme and the term. For example:

http://www.medbiq.org/edtrajectory/trajectorycategory#primarydegree

MedBiquitous has defined four categorization schemes: trajectory category, leave request type, payment type, and evidence type. MedBiquitous also uses some categories defined by Leap2A as shown in the entry descriptions.

12.1 trajectorycategory

Trajectory category provides a categorization scheme for the various types of activities and events represented in an educational trajectory. The categories and their definitions are described in the following table. There is no default value.

Trajectory category

primary_degree	Any credit bearing activity or activity from an accredited academic institution put on an official

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	transcript which leads to the primary degree.
dismissal	A judgment directing the learner to leave the program of study.
withdrawal	Voluntary discontinuation of the program of study.
coursework_beyond_primary_degree	Any credit bearing activity from an accredited academic institution that does not lead to the primary degree OR any activity from an accredited academic institution put on an official transcript that does not lead to the primary degree.
enrichment	Activities that enrich a learner's development that are non-credit bearing and do not show up on an official transcript.

12.2 degree_type

The degree_type indicates the type of degree a learner pursued. The categories and their definitions are defined in the following table. There is no default value.

Degree Type

B.S.N.	Bachelor of Science in Nursing
D.N.P.	Doctor of Nursing Practice
D.O.	Doctor of Osteopathy
M.B.A.	Master of Business Administration
M.D.	Doctor of Medicine
M.H.A.	Master of Health Administration
M.P.H.	Master of Public Health
M.S.	Master of Science
M.S.N.	Master of Science in Nursing
Pharm.D.	Doctor of Pharmacy
Ph.D.	Doctor of Philosophy

12.3 leave_request_type

The leave_request_type indicates whether a leave of absence was at the request of the learner or the institution. The categories and their definitions are described in the following table. There is no default value.

Leave Request Type

institution_request	Indicates that the institution requested the leave of

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	absence.
personal_request	Indicates that the learner requested the leave of absence.

12.4 payment_type

The payment type indicates whether an activity was paid or unpaid. The categories and their definitions are described in the following table. There is no default value.

Payment Type

paid	Indicates that the learner received payment for the activity.
unpaid	Indicates that the learner received no payment for the activity.

12.5 evidence_type

evidence_type indicates whether a resource included in an educational trajectory is a supervisor testimonial or citation/reference to a publication. The categories and their definitions are described in the following table. There is no default value.

Evidence Type

testimonial	A written statement from a supervisor elucidating the student's role in an activity and the overall outcome/impact of the activity.
publication	A resource offered for distribution to the public.
presentation	Examples of presentations include abstracts, posters, oral presentations, and workshops.

12.6 review_type

review_type indicates whether a publication is peer reviewed or not. The categories and their definitions are described in the following table. There is no default value.

Review Type

peer_reviewed	Indicates that a resource that has undergone the peer review process as defined by the International Committee of Medical Journal Editors: "Peer review is the critical assessment of manuscripts submitted to journals by experts who are not part of the editorial staff."
not_peer_reviewed	Indicates that a resource has not undergone the above

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	defined peer review process.

12.7 Highlighting Activities in a Profile

Categories can be used to highlight a certain number of activities within an educational trajectory. MedBiquitous recommends highlighting no more than 3 activities. Use the priority category as shown to highlight an activity (note that 5 indicates the highest level of priority).

```
<category scheme="http://wiki.cetis.ac.uk/2009-
03/Leap2A_categories/priority#" term="5" />
```

This category may be added to any activity within an educational trajectory.

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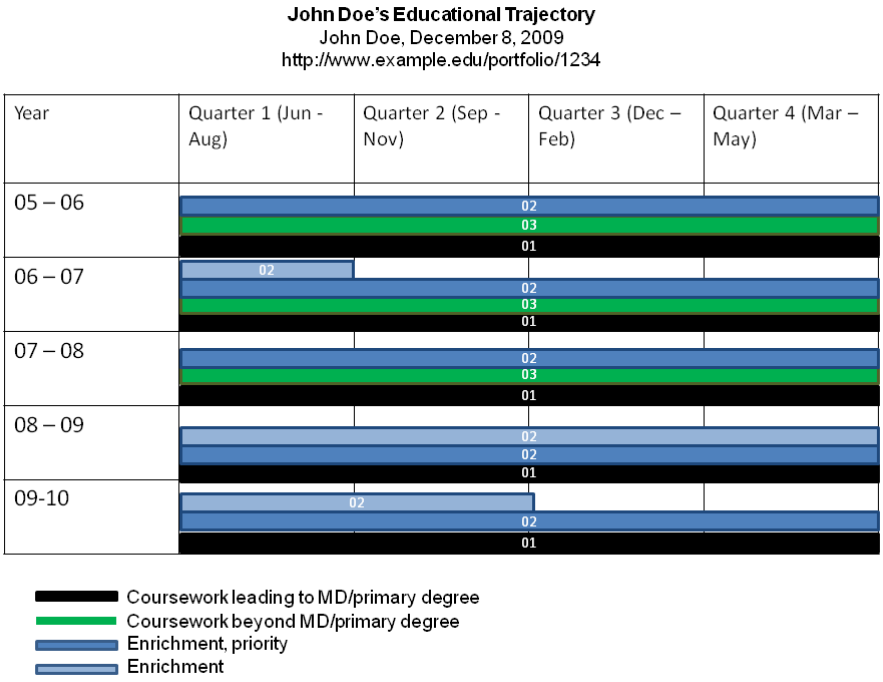
13 Visual Trajectory

The following figures show what an educational trajectory for an individual may look like if visually represented by a computer program. The first figure shows a starting point; subsequent figures show how the image would look with mouseovers of specific activities. The final figure shows a list of publications.



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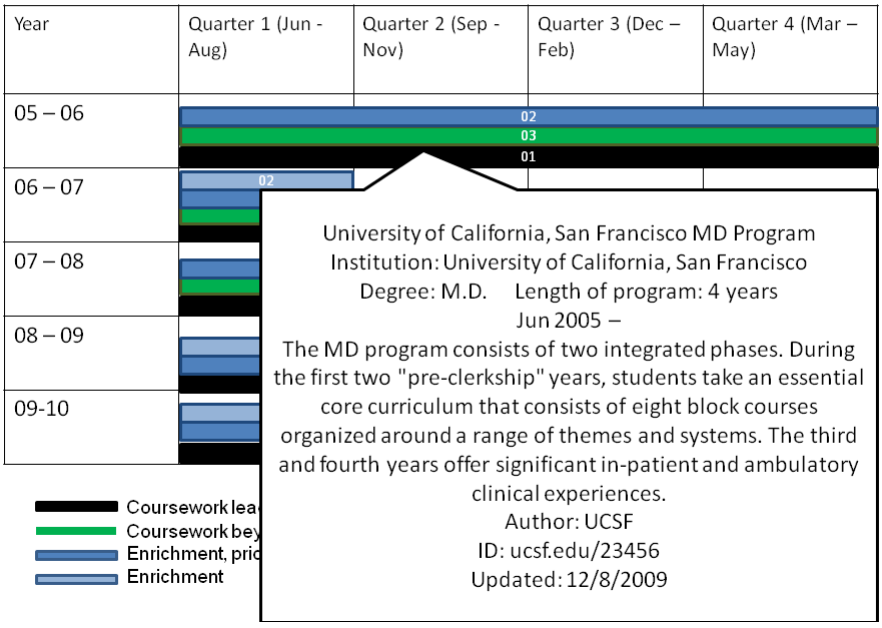
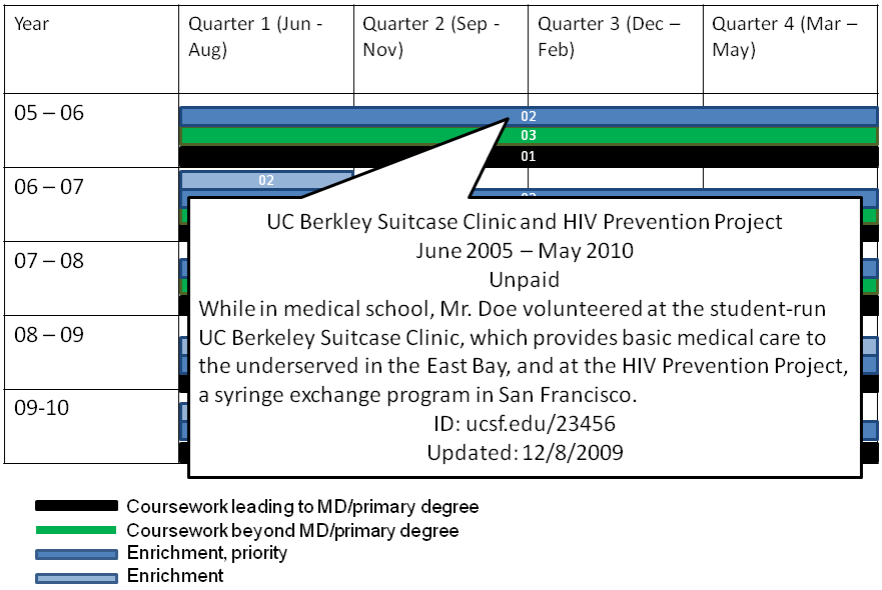
John Doe's Educational Trajectory
John Doe, December 8, 2009
http://www.example.edu/portfolio/1234



John Doe's Educational Trajectory
John Doe, December 8, 2009
http://www.example.edu/portfolio/1234



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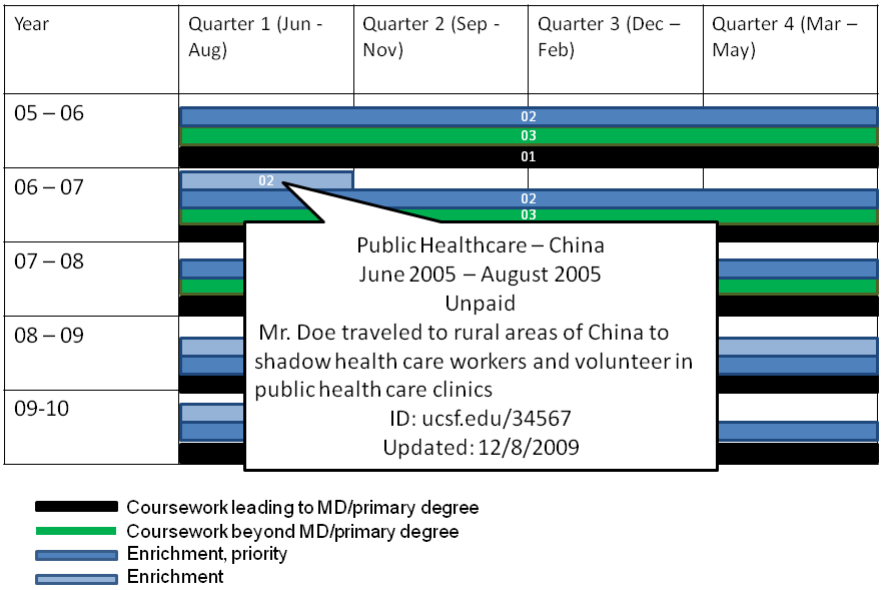
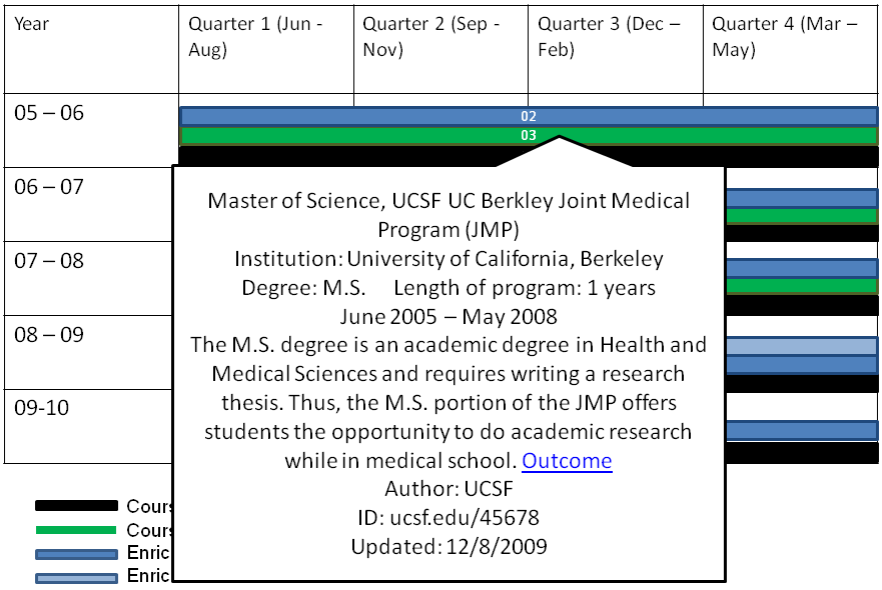
John Doe's Educational Trajectory
John Doe, December 8, 2009
http://www.example.edu/portfolio/1234



John Doe's Educational Trajectory
John Doe, December 8, 2009
http://www.example.edu/portfolio/1234



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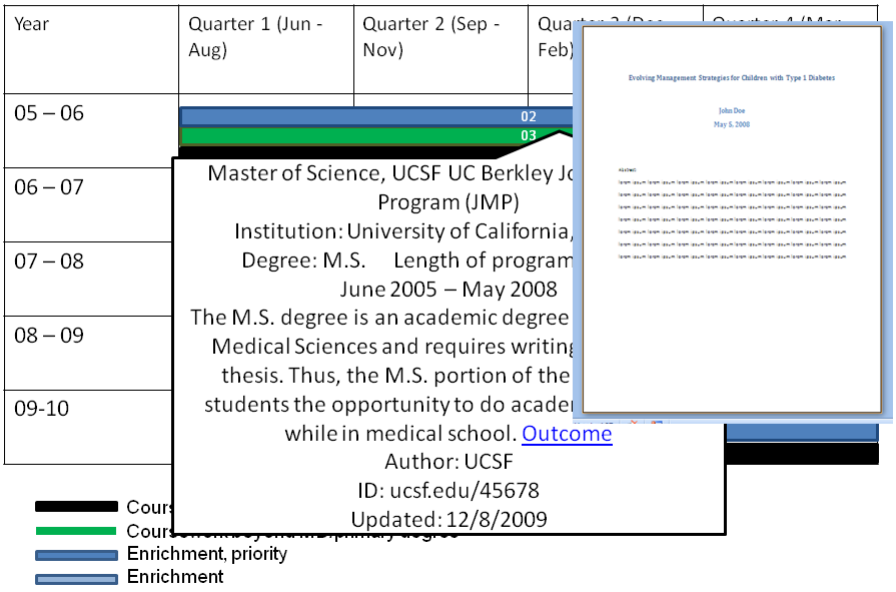
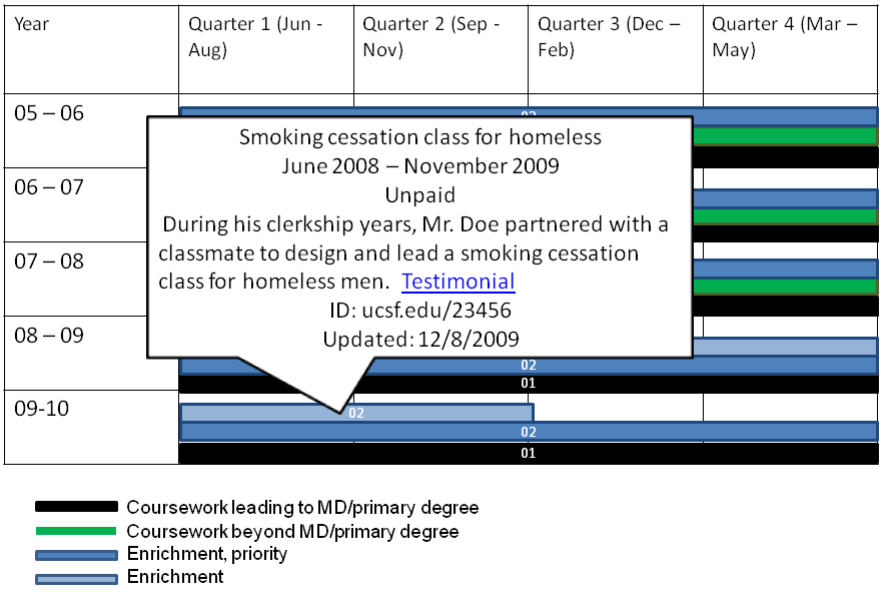
John Doe's Educational Trajectory
John Doe, December 8, 2009
http://www.example.edu/portfolio/1234



John Doe's Educational Trajectory
John Doe, December 8, 2009
http://www.example.edu/portfolio/1234



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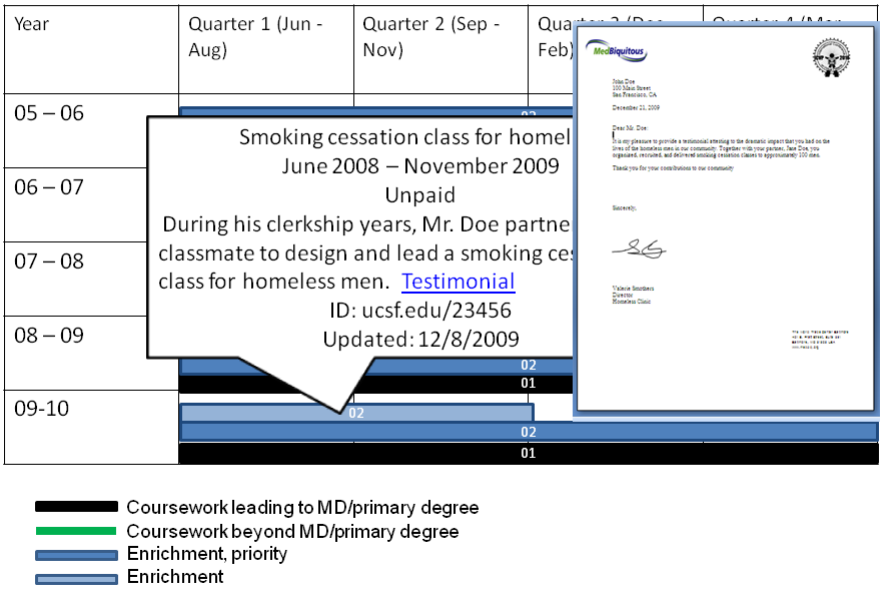
John Doe's Educational Trajectory
John Doe, December 8, 2009
http://www.example.edu/portfolio/1234



John Doe's Educational Trajectory
John Doe, December 8, 2009
http://www.example.edu/portfolio/1234

Publications

1: Ellaway RH, Poulton T, Smothers V, Greene P. Virtual patients come of age. Med Teach. 2009 Aug;31(8):683-4. Publication. Peer reviewed . File: files/vps.doc
Summary:On-screen simulations of clinical settings have been used for educational purposes since the 1970s. Despite this, it is only now that these 'virtual patients' are increasingly forming a part of the medical education mainstream.
Role: Performed data analysis and error checking
Reflection: Analyzing data for this paper gave e a new appreciation for education…

2: Doe, J. Social Networking as a Chronic Disease Management Strategy. Symposium on Medical Education Innovation, 2009. Presentation. Not peer reviewed. Filetype: pdf files/socialnetworking_cdm.pdf
Summary: A review of how diabetic patients use social networking tools to help manage their condition.
Is outcome of: University of California San Francisco MD Program

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The following shows what the interface for entering a publication might look like:

Publication

Citation: _____ **Your role:** _____

Reflection: _____ _____

Is peer reviewed? ☐ Yes Summary: _____
☐ No _____

Publication or presentaton?

☐ Publication
☐ Presentation (ex. abstracts, posters, oral presentations, and workshops)

Is this related to an activity in your portfolio?
Relationship: Is outcome of
Activity: UCSF MD Program . . .

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14 Sample XML Documents

```
?xml version="1.0" encoding="utf-8"?>
<feed xmlns="http://www.w3.org/2005/Atom"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
xmlns:leap2="http://terms.leapspecs.org/"
xmlns:categories="http://wiki.cetis.ac.uk/2009-03/LEAP2A_categories/"
xmlns:et="http://ns.medbiq.org/educationaltrajectory/v1/educationaltrajectory

   <leap2:version>http://www.leapspecs.org/2010-07/2A/</leap2:version>
   <id>http://www.example.edu/portfolio/1234</id>
   <title>John Doe's Trajectory</title>
   <author>
      <name>John Doe</name>
      <email>jdoe@example.org</email>
   </author>
   <updated>2009-12-08T12:06:37-05:00</updated>
   <entry>
      <title>University of California San Francisco MD Program</title>
      <id>ucsf.edu/23456</id>
      <updated>2009-12-08T17:25:15-05:00</updated>
      <author>
         <name>University of California San Francisco</name>
      </author>
      <content>The MD program consists of two integrated phases. During the
first two "pre-clerkship" years, students take an essential core curriculum
that consists of eight block courses organized around a range of themes and
systems. The third and fourth years offer significant in-patient and
ambulatory clinical experiences.</content>
      <rdf:type rdf:resource="leap2:activity"/>
      <leap2:date leap2:point="start">2005-06-01</leap2:date>
      <leap2:date leap2:point="end">2010-05-05"</leap2:date>
      <category
scheme="http://www.medbiq.org/edtrajectory/trajectorycategory#"
term="primary_degree"/>
   </entry>
   <entry>
      <title>UC Berkley Suitcase Clinic and HIV Prevention Project</title>
      <id>ucsf.edu/23456</id>
      <updated>2009-12-08T11:03:55-08:00</updated>
      <content>While in medical school, Mr. Doe volunteered at the student-
run UC Berkeley Suitcase Clinic, which provides basic medical care to the
underserved in the East Bay, and at the HIV Prevention Project, a syringe
exchange program in San Francisco.</content>
      <rdf:type rdf:resource="leap2:activity"/>
      <leap2:date leap2:point="start">2005-06-01</leap2:date>
      <leap2:date leap2:point="end">2010-05-30"</leap2:date>
      <category
scheme="http://www.medbiq.org/edtrajectory/trajectorycategory#"
term="enrichment"/>
```

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```
      <category scheme="http://www.medbiq.org/edtrajectory/payment_type#"
term="unpaid"/>
   </entry>
   <entry>
      <title>Public Healthcare China</title>
      <id>ucsf.edu/34567</id>
      <updated>2009-12-08T11:03:55-08:00</updated>
      <content>Mr. Doe traveled to rural areas of China to shadow health care
workers and volunteer in public health care clinics.</content>
      <rdf:type rdf:resource="leap2:activity"/>
      <leap2:date leap2:point="start">2005-06-01</leap2:date>
      <leap2:date leap2:point="end">2005-08-30"</leap2:date>
      <category
scheme="http://www.medbiq.org/edtrajectory/trajectorycategory#"
term="enrichment"/>
      <category scheme="http://www.medbiq.org/edtrajectory/payment_type#"
term="unpaid"/>
   </entry>
   <entry>
      <title>Master of Science, UCSF UC Berkley Joint Medical Program
(JMP)</title>
      <id>ucsf.edu/4567</id>
      <updated>2009-12-08T17:25:15-05:00</updated>
      <author>
         <name>University of California San Franciso</name>
      </author>
      <content>The M.S. degree is an academic degree in Health andSciences
and requires writing a research thesis. Thus, the M.S. portion of the JMP
offers students the opportunity to do academic research while in medical
school.</content>
      <rdf:type rdf:resource="leap2:activity"/>
      <leap2:date leap2:point="start">2005-06-01</leap2:date>
      <leap2:date leap2:point="end">2008-05-05"</leap2:date>
      <link rel="leap2:has_outcome"
href="http://www.example.edu/portfolio/1234/ucsf.edu/34588" />
      <category
scheme="http://www.medbiq.org/edtrajectory/trajectorycategory#"
term="coursework_beyond_primary_degree"/>
   </entry>
   <entry>
      <title>Smoking cessation class for homeless</title>
      <id>ucsf.edu/23456</id>
      <updated>2009-12-08T11:03:55-08:00</updated>
      <content>During his clerkship years, Mr. Doe partnered with a classmate
to design and lead a smoking cessation class for homeless men. </content>
      <rdf:type rdf:resource="leap2:activity"/>
      <leap2:date leap2:point="start">2008-06-01</leap2:date>
      <leap2:date leap2:point="end">2009-11-30"</leap2:date>
      <link rel="leap2:has_evidence"
href="http://www.example.edu/portfolio/1234/ucsf.edu/34599" />
      <category
scheme="http://www.medbiq.org/edtrajectory/trajectorycategory#"
term="enrichment"/>
```

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```
      <category scheme="http://www.medbiq.org/edtrajectory/payment_type#"
term="unpaid"/>
   </entry>
   <entry>
      <title>Evolving Management Strategies for Children with Type 1
Diabetes</title>
      <id>ucsf.edu/34588</id>
      <updated>2009-12-08T11:03:55-08:00</updated>
      <content>Mr. Doe traveled to rural areas of China to shadow health care
workers and volunteer in public health care clinics.</content>
      <rdf:type rdf:resource="leap2:activity"/>
      <leap2:date leap2:point="start">2005-06-01</leap2:date>
      <leap2:date leap2:point="end">2005-08-30"</leap2:date>
      <link rel="enclosure" href="DiabetesThesis.pdf"/>
      <link rel="leap2:is_outcome_of"
href="http://www.example.edu/portfolio/1234/ucsf.edu/4567" />
      <category
scheme="http://www.medbiq.org/edtrajectory/trajectorycategory#"
term="enrichment"/>
      <category scheme="http://www.medbiq.org/edtrajectory/payment_type#"
term="unpaid"/>
   </entry>
   <entry>
      <title>Supervisor Testimonial:Smoking Cessation Class</title>
      <id>ucsf.edu/34599</id>
      <updated>2009-12-08T11:03:55-08:00</updated>
      <content >This is a written testimonial from Judy Smith, director of
the smoking cessation program.</content>
      <rdf:type rdf:resource="leap2:resource"/>
      <link rel="leap2:is_evidence_of"
href="http://www.example.edu/portfolio/1234/ucsf.edu/23456" />
      <link rel="enclosure" href="files/testimonial.jpg"/>
      <category scheme="http://www.medbiq.org/edtrajectory/evidence_type#"
term="testimonial"/>
   </entry>
   <entry>
      <title>Virtual Patients Come of Age</title>
      <id>ucsf.edu/34555</id>
      <updated>2009-12-08T11:03:55-08:00</updated>
      <author>
         <name>Rachel Ellaway</name>
      </author>
      <contributor>
         <name>John Doe</name>
      </contributor>
      <content>Ellaway RH, Poulton T, Smothers V, Greene P. Virtual patients
come of age. Med. 2009 Aug;31(8):683-4. PubMed PMID: 19811203. </content>
      <summary>On-screen simulations of clinical settings have been used for
educational purposes since the 1970s. Despite this, it is only now that these
'virtual patients' are increasingly forming a part of the medical education
mainstream.</summary>
      <rdf:type rdf:resource="leap2:resource"/>
      <link rel="enclosure" href="files/vps.doc" />
```

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```
      <link rel="leap2:reflected_on_by"
href="http://www.example.edu/portfolio/1234/ucsf.edu/55555" />
      <category scheme="http://www.medbiq.org/edtrajectory/evidence_type#"
term="publication"/>
      <category scheme="http://www.medbiq.org/edtrajectory/review_type#"
term="peer_reviewed"/>
   </entry>
   <entry>
      <title>Social Networking as a Chronic Disease Management
Strategy</title>
      <id>ucsf.edu/44444</id>
      <updated>2009-12-08T11:03:55-08:00</updated>
      <author>
         <name>John Doe</name>
      </author>
      <content>Doe, J. Social Networking as a Chronic Disease Management
Strategy. Med Care Res Rev. 2007 Oct;64(5):500-5. PubMed PMID:
12345678.</content>
      <summary>: A review of how diabetic patients use social networking
tools to help manage their condition.</summary>
      <rdf:type rdf:resource="leap2:resource"/>
      <link rel="enclosure" href="files/socialnetworking_cdm.pdf" />
      <link rel="leap2:is_outcome_of"
href="http://www.example.edu/portfolio/1234/ucsf.edu/23456" />
      <category scheme="http://www.medbiq.org/edtrajectory/evidence_type#"
term="publication"/>
      <category scheme="http://www.medbiq.org/edtrajectory/review_type#"
term="peer_reviewed"/>
   </entry>
</feed>
```

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15 Validation Notes

No official XSD schema exists for Atom syndication format or for Leap2A, but other validation options are available.

Sam Ruby, Mark Pilgrim, Joseph Walton, and Phil Ringnalda developed a website to validate publicly accessible atom feeds at: http://beta.feedvalidator.org/ The validator can also be downloaded and run locally (see http://beta.feedvalidator.org/about.html).

A Leap2A XSLT validation website is available at:
http://www.niallbarr.me.uk/leap2a/xslt/index.php

Other validation options will be added to this document as they emerge.

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16 References

Nottingham M, Sayre R. The Atom Syndication Format. December 2005. [Web page] Available at: http://tools.ietf.org/html/rfc4287. Accessed March 4, 2010.

Portfolio Interoperability Projects. 2009-03/Leap2A specification. March 2009. [Web page] http://wiki.cetis.ac.uk/2009-03/LEAP2A_specification. Accessed March 4, 2010.

The World Wide Web Consortium RDF Working Group. Resource Description Framework. February 2004. [Web page] Available at: http://www.w3.org/RDF/. Accessed March 4, 2010.

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