

Systems Analysis and Design

6 Entity Life History (ELH) Diagrams

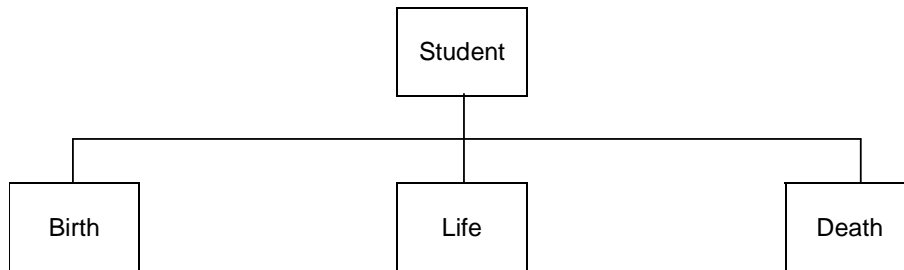
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An Entity Life History Diagrams shows the sequence of events that affect an entity. We see what they look like and how to create them.

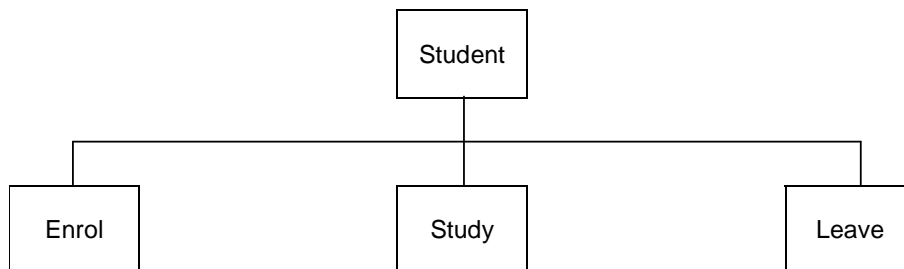
6.1 Sequence

A sequence shows the order in which events take place. They are shown from left to right in an ELH diagram.

For example: a student has a birth when they enrol, a life as a student, and a death when they leave the college.



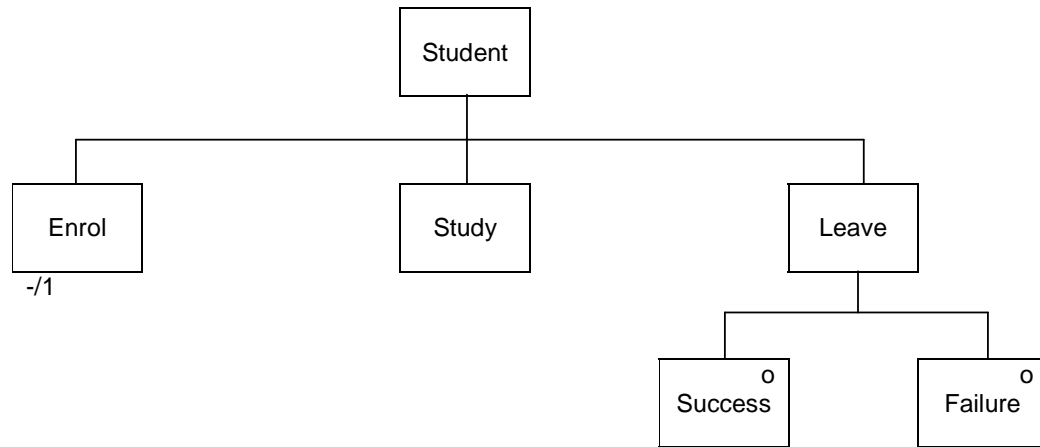
It is more usual to use descriptive titles.



The events here are Enrol, Study and Leave.

6.2 Selection

Selections show alternatives.

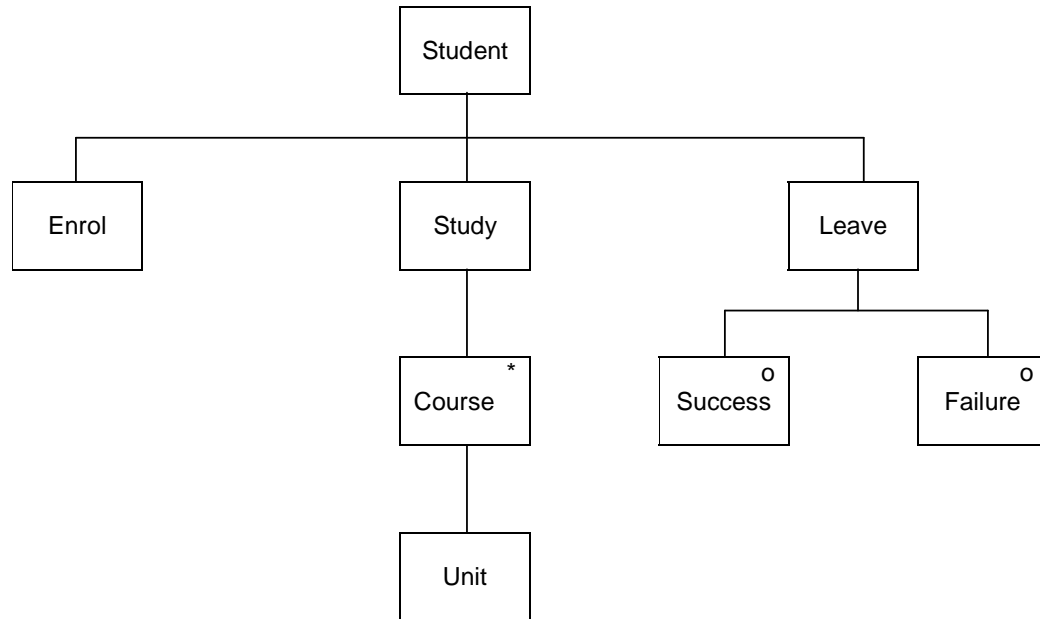


A student either completes all their assignments and leaves with a diploma - Success OR leaves without having completed all the required assignments - Failure.

The alternatives here are either leave with success, or leave with failure. Alternatives are indicated with an o.

6.3 Iteration

Iteration means repeating the same event time and time again.



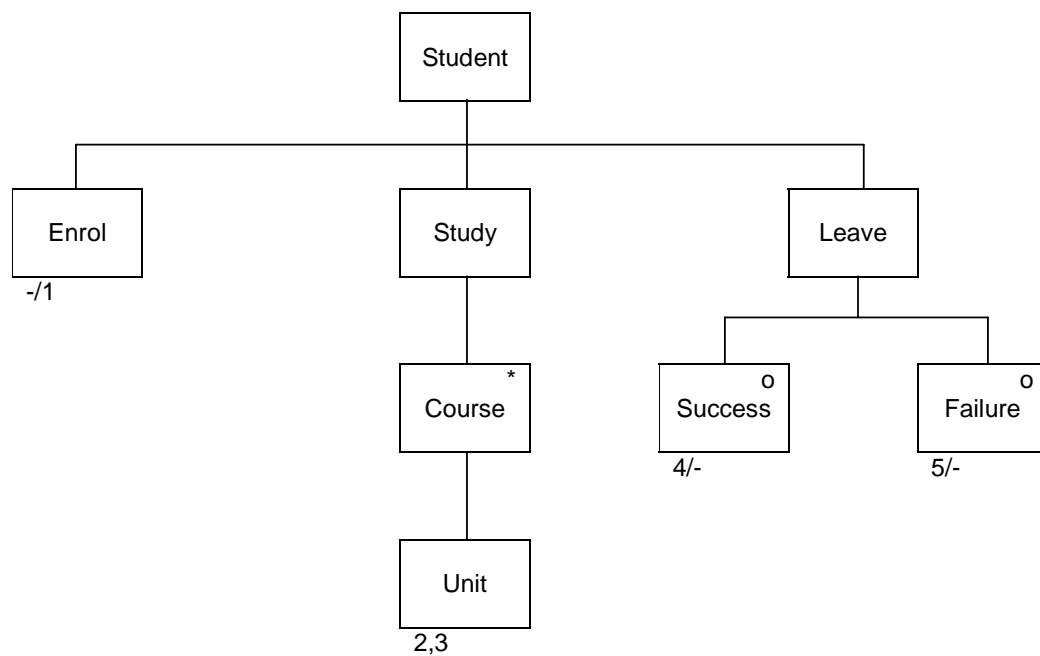
During a student's life at college they are on a course and study many units.

The event repeated time and again is Unit.

6.4 Status Indicators

A Student could be in one of the following states:

- - not yet enrolled
- 1 enrolled
- 2 unit completed
- 3 unit not completed
- 4 diploma awarded
- 5 diploma not awarded
- - enrolment closed



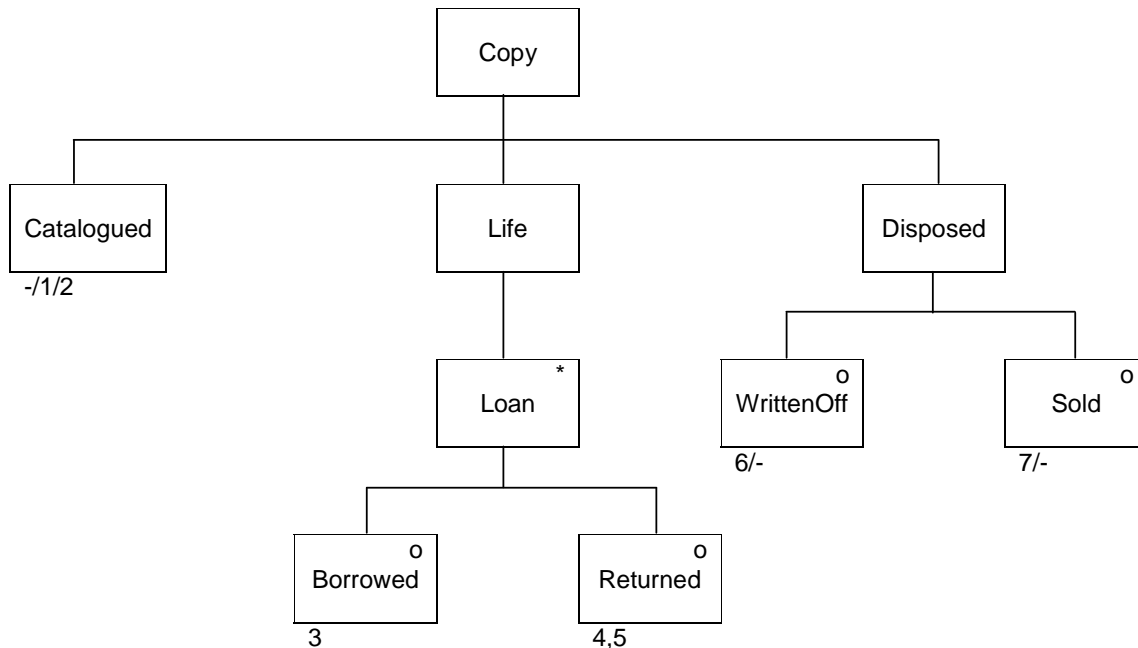
Status Indicators

- /1 student enrolls
- 2,3 unit completed OR not completed
- 4/- awarded diploma AND left
- 5/- not awarded diploma AND left

We show AND with /, OR with ,

6.5 ELH for a Library Copy

A library has many titles and each title may have several copies. For example, there might be five copies of the book (known as a title by librarians) Core Java Volume 1.



Status Indicators

- 1/2 copy purchased and catalogued
- 3 on loan
- 4,5 returned or not returned
- 6/- written off and removed from catalogue
- 7/- sold and removed from catalogue

Exercises 6.1

1. Construct and explain ELH diagrams for each of the following entities:
 - a. A Borrower of a library.
 - b. A Title (a collection of Copies with the same title)
 - c. A Reservation of a Copy or a Title.
 - d. A Loan

Bibliography

EVA, M *SSADM Version 4: A User's Guide* McGraw-Hill 1990

www.csm.uwe.ac.uk/teaching/notes/UQ1107S3/entitylifehistorydiagrams.doc

accessed 17 Dec 2007

learning.londonmet.ac.uk/CCTM/CS2E09N/week9/entity_life_history.pdf accessed

17 Dec 2007