

Entity Life-Histories

- Design technique
- Introduce time into the models
- Represent ordering of events
- Fill in holes in analysis

What are events?

- Events affect entities
 - change the values of data
- Look for writes to data stores
- Inputs or temporal events
- Events happen at a definite point in time

Extracting Events

- Verbs and verb-phrases
- Make a list of candidate events
- Decide what entities are affected
- Work out which attributes change

Ordering Events

- One thing follows another - SEQUENCE
- Either one thing or another happens -
OPTION
- Something happens many times -
ITERATION

Other Orderings?

- Sequence, options and iteration are all that computers can do
- Other orderings are not necessary
- Other orderings give simplicity
- Describe them as we need them

Tree Structure

- Root is the entity itself
- Branches have nodes
- Leaves are the events
- Parents, children and siblings

Leaves

- Represent events
- Three types:
 - creation
 - deletion/destruction
 - modification
- Events affect attributes

Nodes

- Represent:
 - sequences, [blank]
 - iterations, *
 - options, O
- Do not mix types of nodes!
- Iteration is always an only child.

Special Structures

- Quit and Resume
 - quit from anywhere
- Parallel Structures
- Null events

Reading ELH's

- Read left to right
 - Creation on left
 - Death on right
- Children explain how to do parent
- Quit - read the box and then jump

Components of ELH

- Root is the entity
- Leaves are events
- Nodes indicate ordering:
 - sequence, iteration, optionality

Building ELH's

- Identify events
- Classify events
 - creation, deletion, modification
- Order the events
- Repeat and innovate

Identify Events

- In data-flow model
- From inputs and temporal events
- Happenings in case study

Classify Events

- Creation, deletion, modification
- Entity-event matrix
- Modification events affect attributes

Order Events

- Creation events on the left
- Deletion events on the right
- Order events using different types of node
- Use special structures if necessary

Repeat and Innovate

- Review case study
 - look for creation and deletion events
- Define sensible modification events
- Match business practices

Validation

- Are there a root entity, a creation event and a deletion event?
- Do modification events modify?
- Are the nodes correctly arranged?
- Are quit and resume correctly labelled?

ELH and Dictionary

- Description of events
- Attributes effected by events
- Entity-event matrix