Software Design and Architectures

3

Modeling Software

Modeling Software

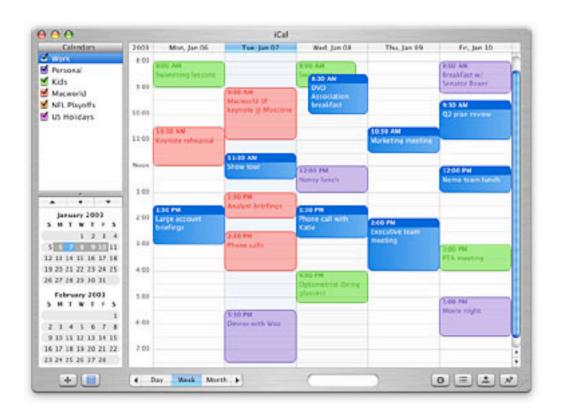
- Multiple Models
- Black and White Boxes
- Software Entities and Relationships
- Views: Classifying Models

Design

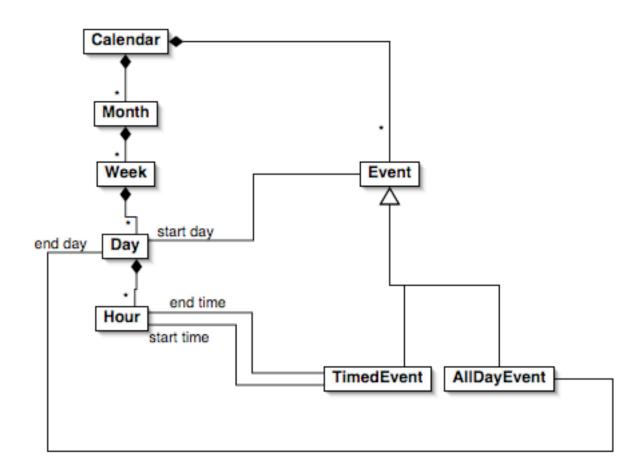
models boxes entities classifying

> A design is a model or set of models of a projected construction produced by a deliberate process.

iCal Screen Shot

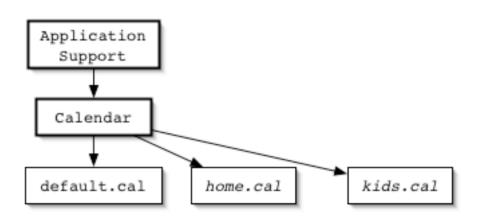


Calendar Data Model



Calendar: Repository Model 1

models boxes entities classifying



directory

data file

environment variable

Names in oblique font are typical.

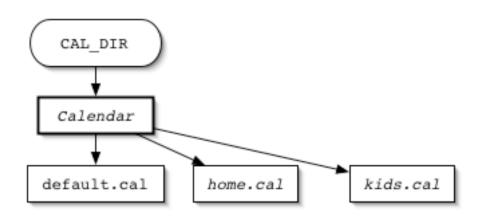
Names in regular font are constants.



— refers to —>

Calendar: Repository Model 2

models boxes entities classifying



directory

data file

environment variable

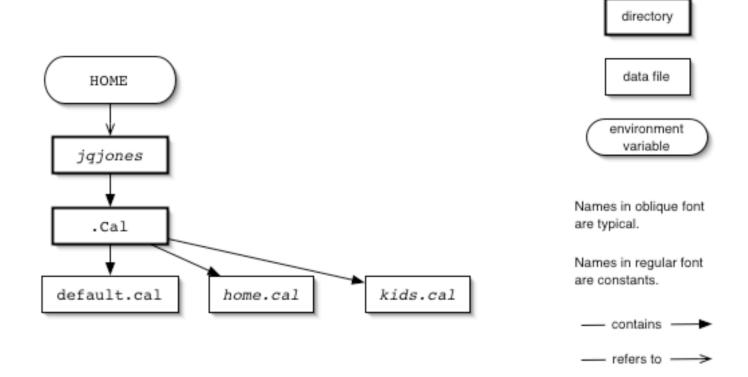
Names in oblique font are typical.

Names in regular font are constants.

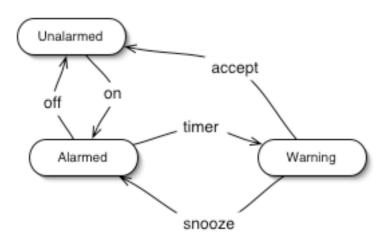


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Calendar: Repository Model 3

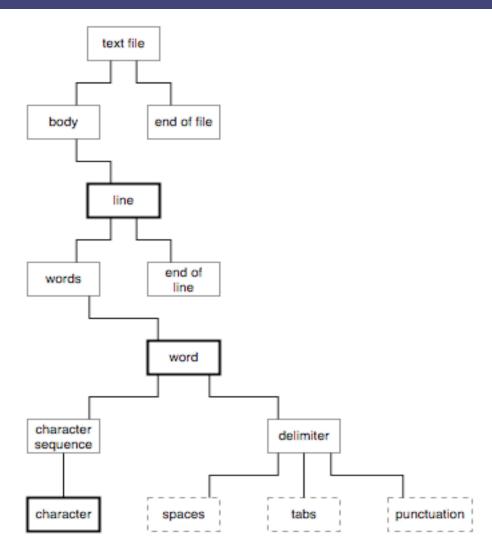


Calendar: Event State Transition



Black-Box Model: Structure Chart for Text File

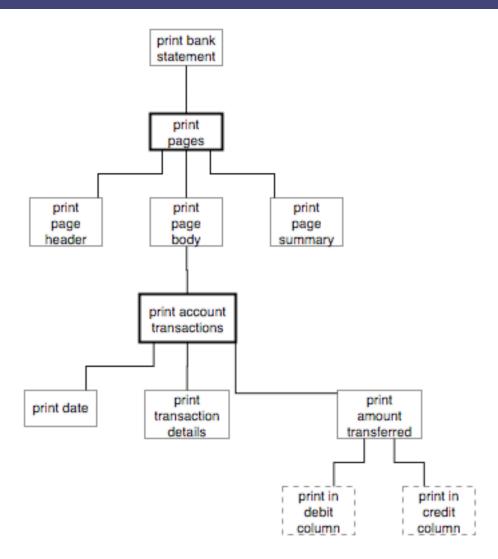
models boxes entities classifying



[Budgen p 151]

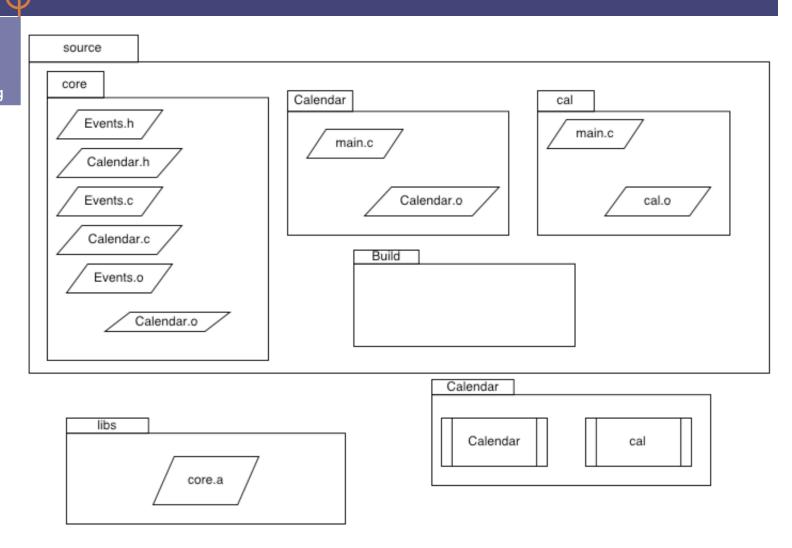
White-Box Model: Structure Chart for Program

models boxes entities classifying

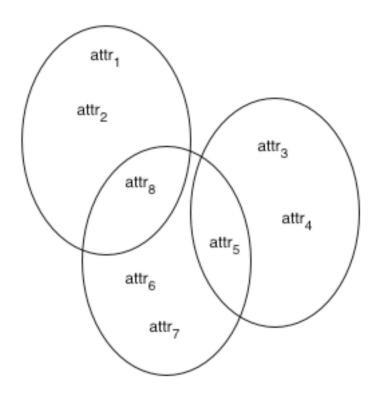


[Budgen, p 152]

Calendar: Source Base

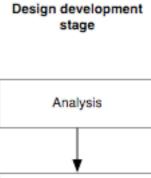


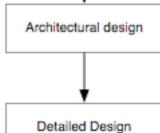
Resolving Attributes



Views in the Design Process

models boxes entities classifying





Typical system properties modelled

Information flow Performed functions

Performed functions Concurrency threads System states

Module packaging Invocation hierarchy Data structures