

Chapter 1

Method

Concepts

Object	Entity with identity, state and behaviour
Class	Describes a collection of objects sharing structure, behavioural patterns and attributes
Problem domain	Part that is administrated, monitored or controlled by a system
Application domain	The organization that administrates the problem domain Where the user is
System	A collection components that implements modeling requirements, functions and interfaces
Context	Problem domain and application domain

Problem domain

Class structure and behaviour

Application domain

Usage functions and interfaces

Method

Purpose, concepts, principles and results.

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1.1 Objects and classes

Objects - *Entity with identity, state and behaviour*

Each object serves as a separate function. The object could be a customer, where specific people are treated as customers. The object contains that specific customer's identity, state and behaviour.

Class - *Describes a collection of objects sharing structure*

The class contains multiple objects, meaning a customer class will contain multiple data points. The class also contains multiple different customers and their data points.

When describing a class it's important to choose the right granularity. Gravel pit should not be described by the individual grains of sand, instead by the type, whereas a warehouse the individual packages should be described.

Analysis - outside the system

In analysis the object's behaviour is described by its events it performs and experiences that happen in definite points in time. Eg. customers ordering and shipping goods.

Design - inside the system

In design the object's behaviour is described by the operations it can perform and make available to other objects in the system. Eg. add order etc. This allows the update of eg. the customer's object state. The design object encapsulates the internal representation of the object state through its operations.

1.2 Principles

The 4 principles:

Model the context - Useful systems fit the context, so model both application and problem domain during analysis and design.

Emphasize the architecture - Understandable architecture makes collaboration between programmers and designers possible. Flexible architecture makes modifications and improvements affordable.

Reuse patterns - Building on well-established ideas and pretested components

Tailor the method to suit specific project - Must be tailored to the specific needs of the analysis and design situation

Model

Model is a representation of the state in the problem domain. How often the model is updated is a design decision

Problem domain -> model -> application domain.

Chapter 2

System Choice

Define the system in its context problem domain + application domain.

Using the F.A.C.T.O.R system.

F: Functionality - System functions that support the AP tasks.

A: Application domain - The organization that administrates the problem domain. Where the user is

C: Condition - The conditions under which the system will be developed

T: Technology - Both the technology used to develop the system and the technology which the system will run.

O: Objects

R: Responsibility

System definition

Situation

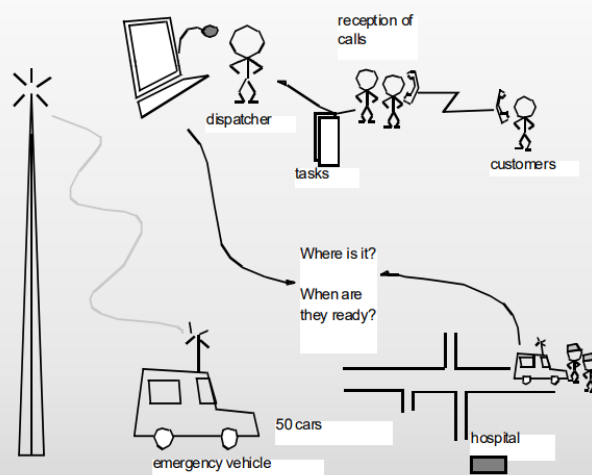
Describe the situation based on the context of the system. Described in a rich picture.

Which is the described by its focus, entities, processes and structure.

Ideas

Examples - eg. Study preexisting systems.

Rich Picture



- ▶ The situation is described by a rich picture
- ▶ Focus:
 - on actors and the role of the system
- ▶ Entities:
 - People, roles and tasks, locations
- ▶ Processes such as:
 - work, production, information processing, exchange, planning, control, development, organizational change
- ▶ Structures such as:
 - production, use, application, communication, deal, ownership, membership, relationship, power

System definition

Not to be confused with *system*. A concise description of a computerized system expressed in natural language.

Context