Requirements Analysis

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Building Analysis model

- Provide a description of required informational, functional & behavioral domain
- Different ways to look at the requirements
  - Scenario-based elements
  - Class-based elements
  - Behavioral-based elements
  - Flow-oriented elements

Scenario-based elements

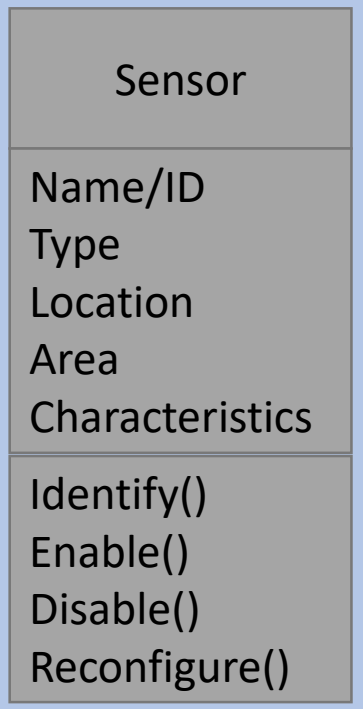
- System is described from the user point of view
- Basic use-cases & their use-case diagrams lead to detail use-cases
- Activity diagram & swim-lane diagrams depicts activities

Class-based elements

- Each scenario describes a set of object that are manipulated as an actor interacts with the system
- These objects are names as classes – a collection of things that have similar attributes and common behavior

Class-based elements

- Ex – a class diagram depicts a sensor class
- Lists attributes & operations

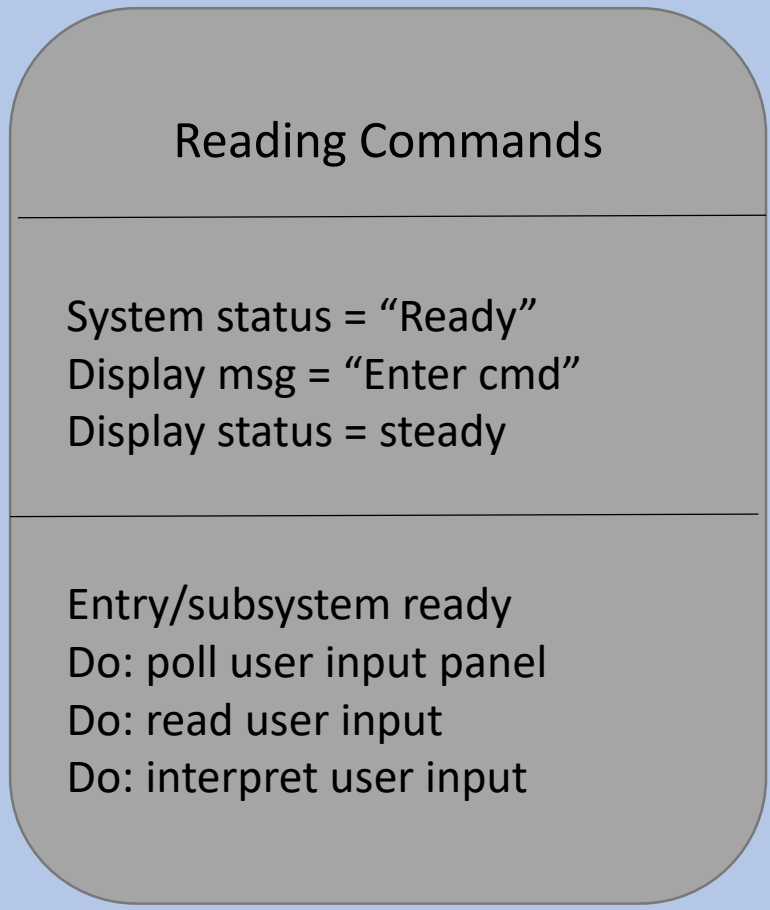


Behavioural elements

- State diagram- represents behavior of a system by describing states and events that cause change of state
- A state is an observable mode of behavior
- Also indicates which actions are taken as a consequence of a particular event

Behavioural elements

- Ex. Reading commands sate of office photo copier
- Rectangle is divided in 3 parts
- 1. state name
- 2. state variables- how state is displayed to outside world
- 3. sate activities – how state is entered & actions are invoked



Flow-oriented elements

- Information is transformed as it flows through a computer based system
- System accepts i/p in different forms – a control signal, a seriese of numbers typed, a packet of information transmitted on a n/w, a data file
- Applies functions to transform it – a simple logical comparison or a complex numerical algorithm or rule-inference approach of AI system
- Produces o/p in different forms- a light, message or a long report