

# Analysis Principles: Modeling

Software Development Team first check the type of entity for which model has to make is either

Physical  
Entity

OR

Software  
Entity

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## Physical Entity :

Physical thing like a building, a plane, a machine, engineers has to make a functional model that is Identical in form and shape but smaller in scale.

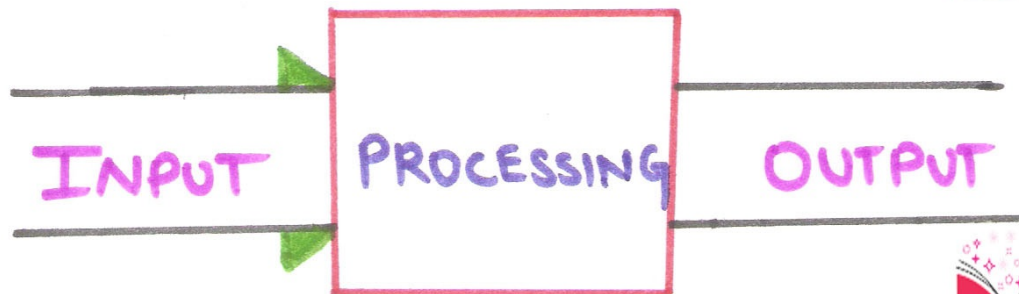
## Software Entity :

In this model must be capable of representing the information that software transforms, the functions (and sub functions) that enable the transformation to occur, and the behavior of the system as the transformation taking place.

The second and third Operational Analysis principles require that we build models of function and behaviour.

## Functional Models:

Software transforms information, and it needs to perform 3 generic functions



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The functional model begins with a single context level model (i.e. name of the SW to be built). Over a series of iterations, more and more functional detail is provided, until a **thorough delineation** of all system functionality is represented.

## Behavioral Models:

Most SW responds to events from outside world. This **stimulus/response** characteristic forms the basis of the behavioral model.

A computer program always exists in some state - An externally observable mode of behaviour (Eg. **Computing, printing**)

**Polling, waiting)** that is changed only when some event occurs.

**For Ex:-**

Software will remain in the wait state until

- An internal clock indicates that some time interval has passed
- An External Event (eg. mouse movement) cause an interrupt,
- An external system signals the software to act the some manner.

A behavioral model creates a representation of the states of the software and the events that causes a software to change state.



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