

# BUSINESS ANALYSIS FOUNDATION

*Lecture 8 – Function & Feature*



# CONTENT

- 01 Function & Feature**
- 02 Business Function Diagram**
- 03 Function & Feature list**
- 04 State Machine Diagram**
- 05 Homework**



# CONTENT

**01 Function & Feature**

**02 Business Function Diagram**

**03 Function & Feature list**

**04 State Machine Diagram**

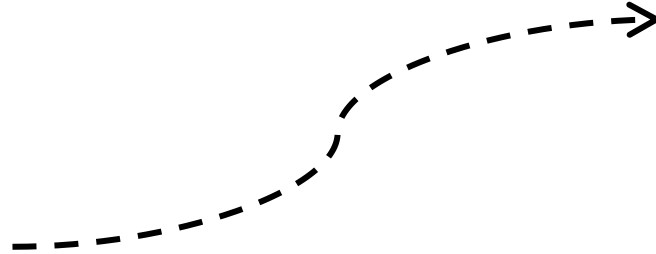
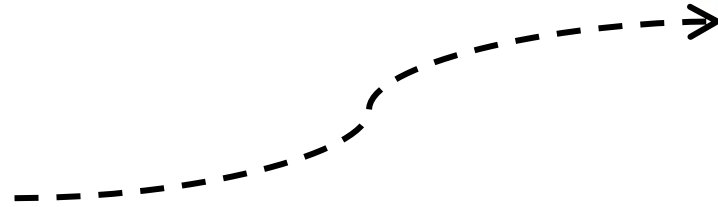
**05 Homework**



# Why we need Functional Analysis?



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# FUNCTIONAL ANALYSIS

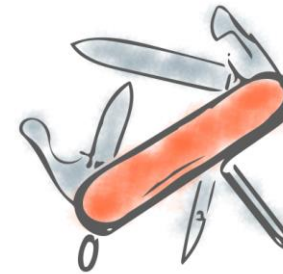


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- To analyze an organization's information requirements
- Manage complexity and reduce uncertainty
- Understand what tasks an organization performs



- Find out the data, the information used and created in the functions.
- Limitation and Constraints



USERS  
NEEDS

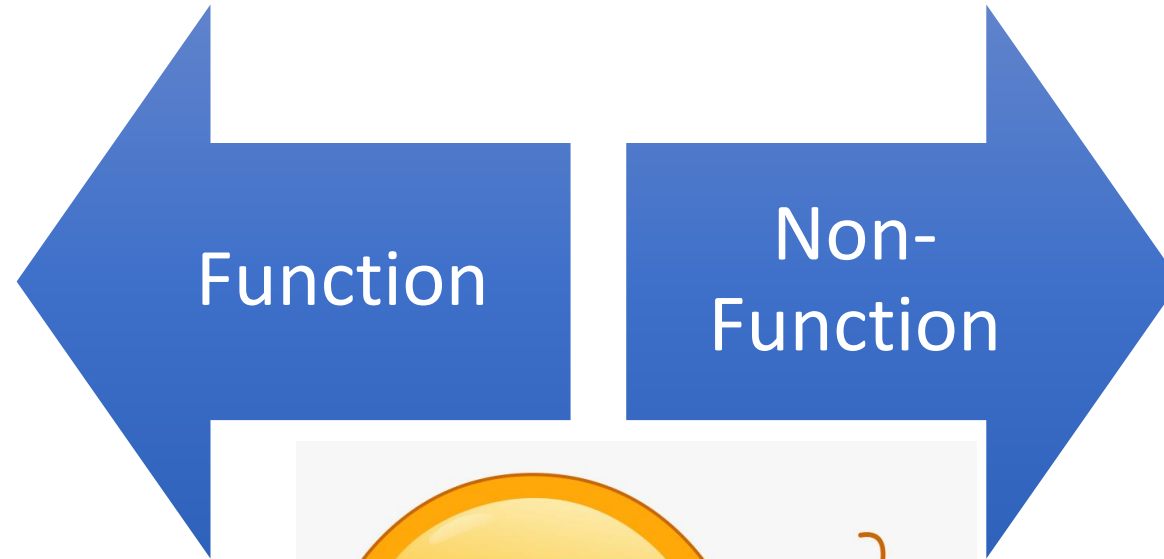


STAKEHOLDERS  
IDEAS

# FUNCTION & NON-FUNCTION



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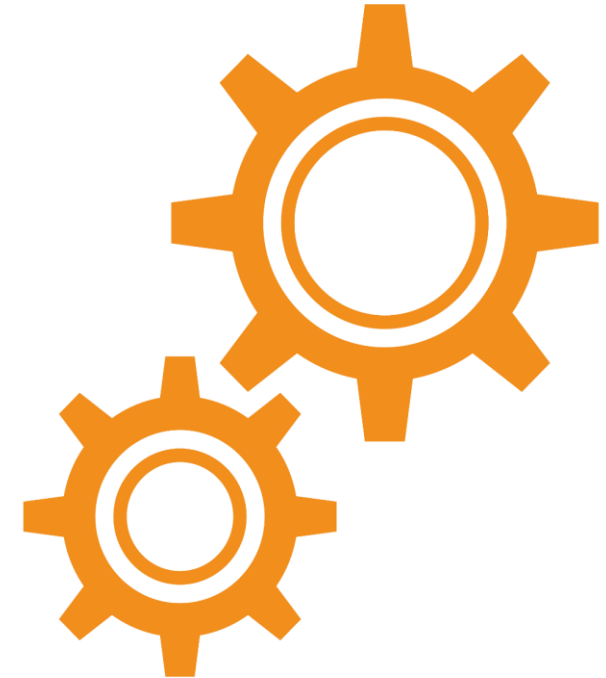
## WHAT the System Should Do

**Functional Requirements:** describe the capabilities that a solution must have in terms of ***the behaviour and information*** that the solution will manage.



**Some of the more typical functional requirements include:**

- Business Process
- Business Rules
- Transaction corrections, adjustments and cancellations
- Administrative functions
- Authentication
- Authorization levels
- Audit Tracking
- External Interfaces
- Certification Requirements
- Reporting Requirements
- Historical Data
- Legal or Regulatory Requirements ...





## HOW the System works

**Non-functional requirements:**  
describe conditions under which a solution must remain ***effective or qualities*** that a solution must have.



A non-functional requirement for a hard hat might be “must not break under pressure of less than 10,000 PSI”



**Some of the more typical non-functional requirements include:**

- Security
- Performance – for example Response Time, Throughput, Utilization, Static Volumetric
- Usability
- Integrity
- Availability
- Audit
- Scalability
- Capacity
- Reliability
- Environmental
- ...

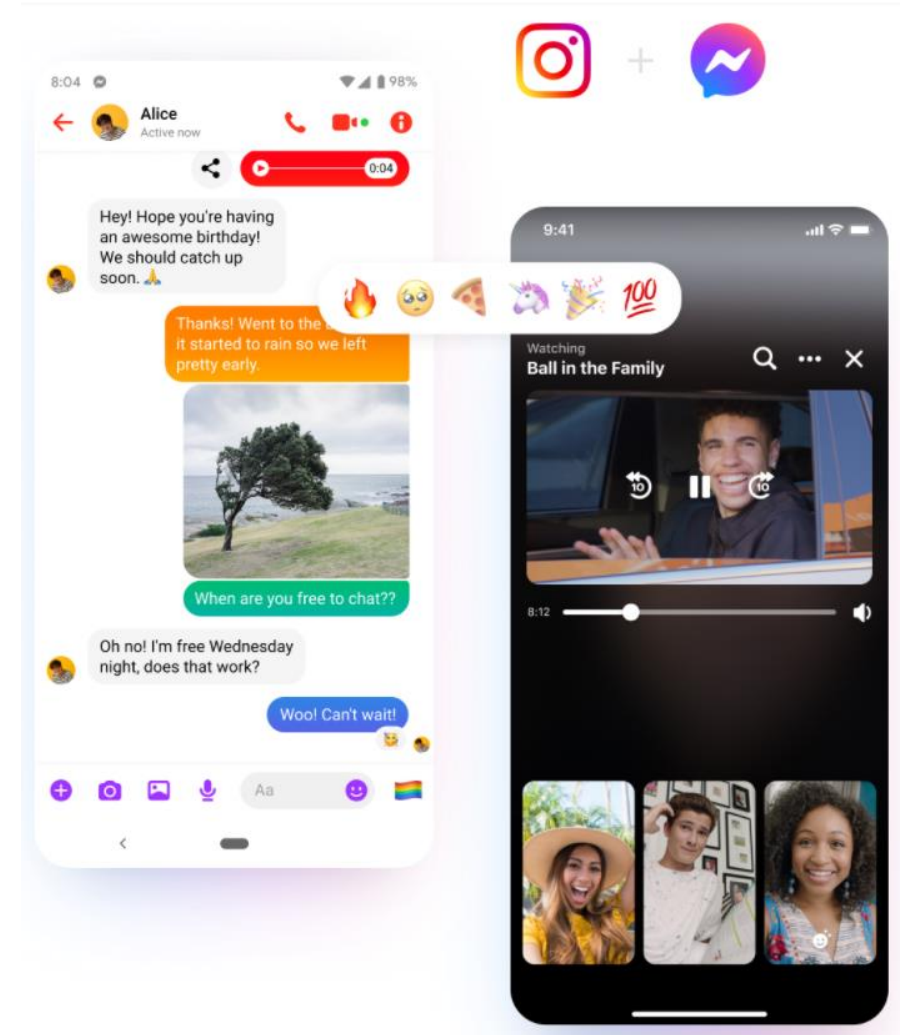
# Functional & Non-functional Requirement

STT	Functional Requirements	Non-functional Requirements
1	They define a system or its component	They define the quality attribute of a system
2	It specifies, <b>“What the system should do?”</b>	It specifies, <b>“How should the system fulfill the functional requirements?”</b>
3	It is mandatory to meet these requirements.	It is not mandatory to meet these requirements.
4	It is captured in use case	It is captured as a quality attribute.
5	Defined at a component level.	Applied to a whole system.
6	Helps you to verify the functionality of the software	Helps you to verify the performance of the software.
7	Usually easy to define	Usually more difficult to define

# FEATURE

## “TOOL” TO SATISFY THE FUNCTION

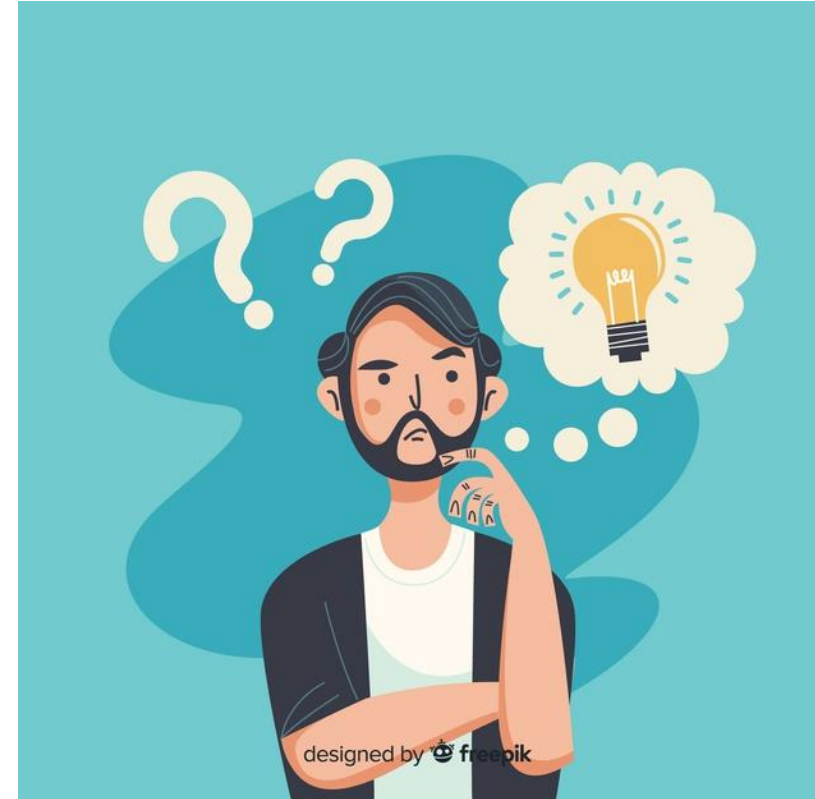
A *feature* is a tool that helps to achieve functions.



# FUNCTION & FEATURE



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# HOW TO WRITE FUNCTIONS/FEATURES?

- Use Case
- User Story



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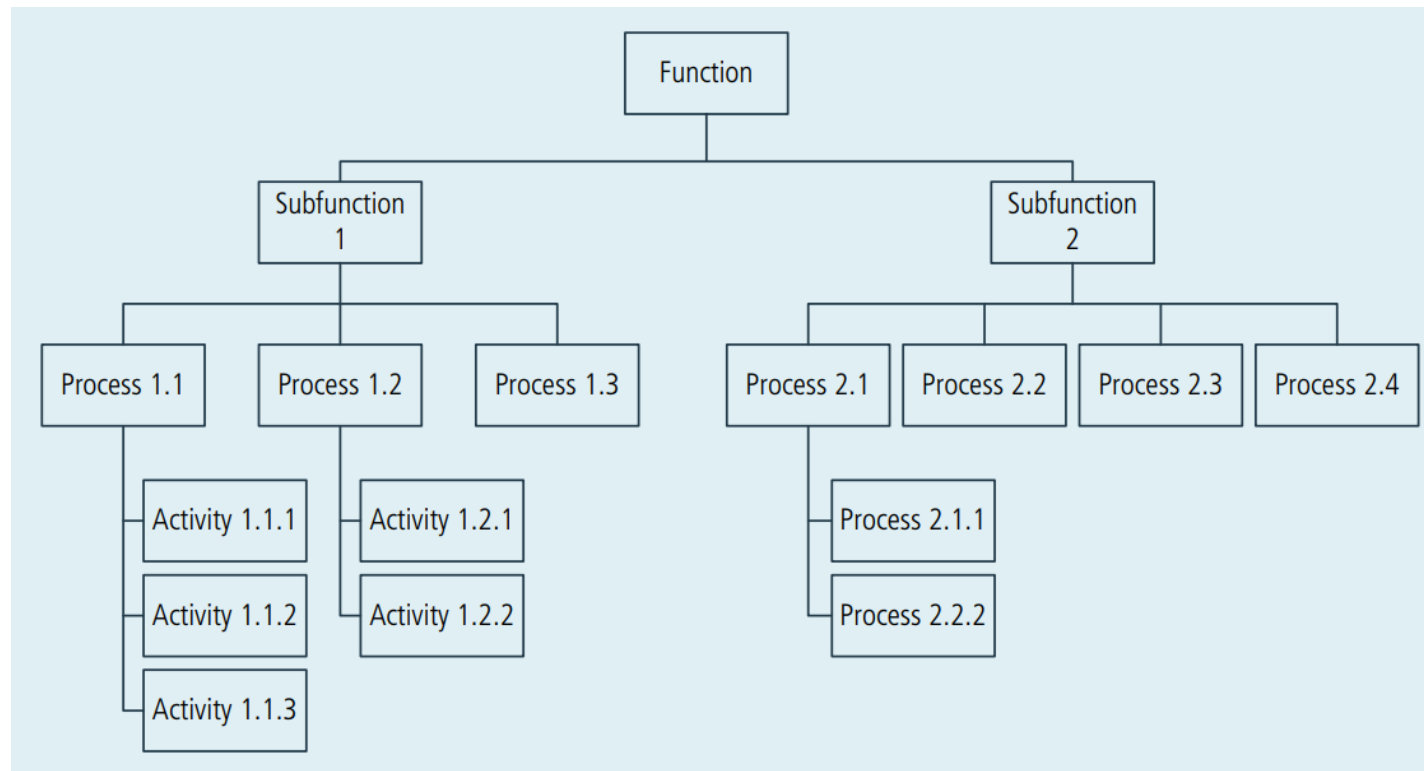
**04 State Machine Diagram**

**05 Homework**



# BUSINESS FUNCTION DIAGRAM - BFD

**BFD - Business Function Diagram** is a simple hierarchical decomposition tool to perform. Each job is divided into sub-jobs, the amount of division depends on the size and complexity of the system.





# BUSINESS FUNCTION DIAGRAM - BFD



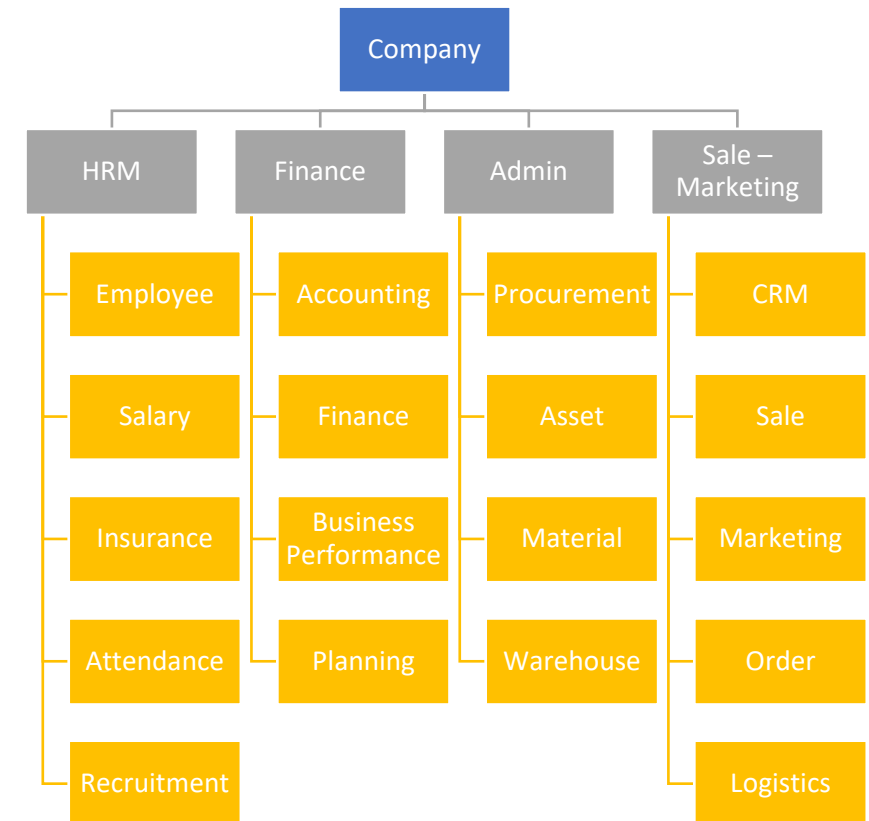
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## Purposes:

- Define Scope of the system/ software
- Manage manage complexity and reduce uncertainty by breaking down processes, systems, functional areas, or deliverables into their simpler constituent parts and allowing each part to be analyzed independently
- General description of the organization's functions directly and objectively, detect missing or duplicate functions.
- Create favorable conditions for cooperation between designers and users in the system/ software development process.

## Characteristics:

- Give overview of the system/ software
- Easy to do



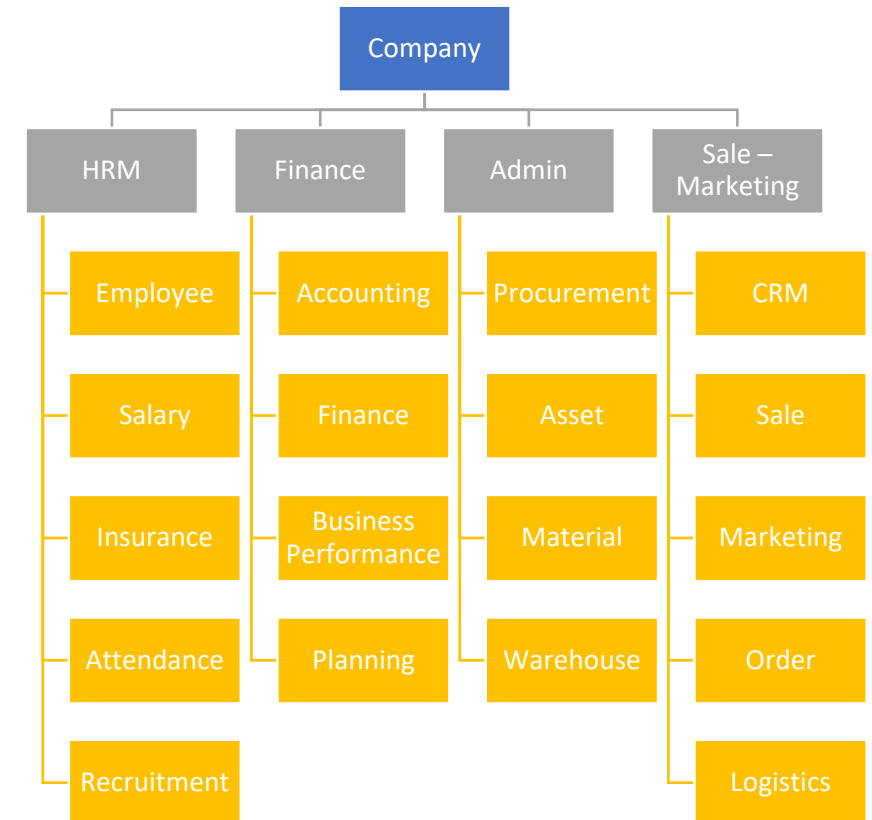
# BUSINESS FUNCTION DIAGRAM - BFD



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Steps to do BFD:

- Identify Entity
- Identify main functions (father)
- Identify sub-functions (son)



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# FUNCTION & FEATURE LIST

## LIST IS JUST A LIST

### ADMINISTRATION / BACKEND FUNCTIONALITY

- Support unlimited products and categories
- Product-to-categories structure
- Categories-to-categories structure
- Add/Edit/Remove categories, products, manufacturers, customers, and reviews
- Support for physical (shippable) and virtual (downloadable) products
- Administration area secured with a username and password
- Contact customers directly via email or newsletters
- Easily backup and restore the database
- Print invoices and packaging lists from the order screen
- Statistics for products and customers
- Select what to display, and in what order, in the product listing page
- Support for static and dynamic banners with full statistics

### SEARCH AND MATCH

- All orders stored in the database for fast and efficient retrieval
- Customers can view their order history and order statuses
- Customers can maintain their accounts
- Address book for multiple shipping and billing addresses
- Temporary shopping cart for guests and permanent shopping cart for customers
- Fast and friendly quick search and advanced search features
- Product reviews for an interactive shopping experience
- Foreseen checkout procedure
- Secure transactions with SSL
- Number of products in each category can be shown or hidden
- Global and per-category bestseller lists
- Display what other customers have ordered with the current product shown
- Breadcrumb trail for easy site navigation

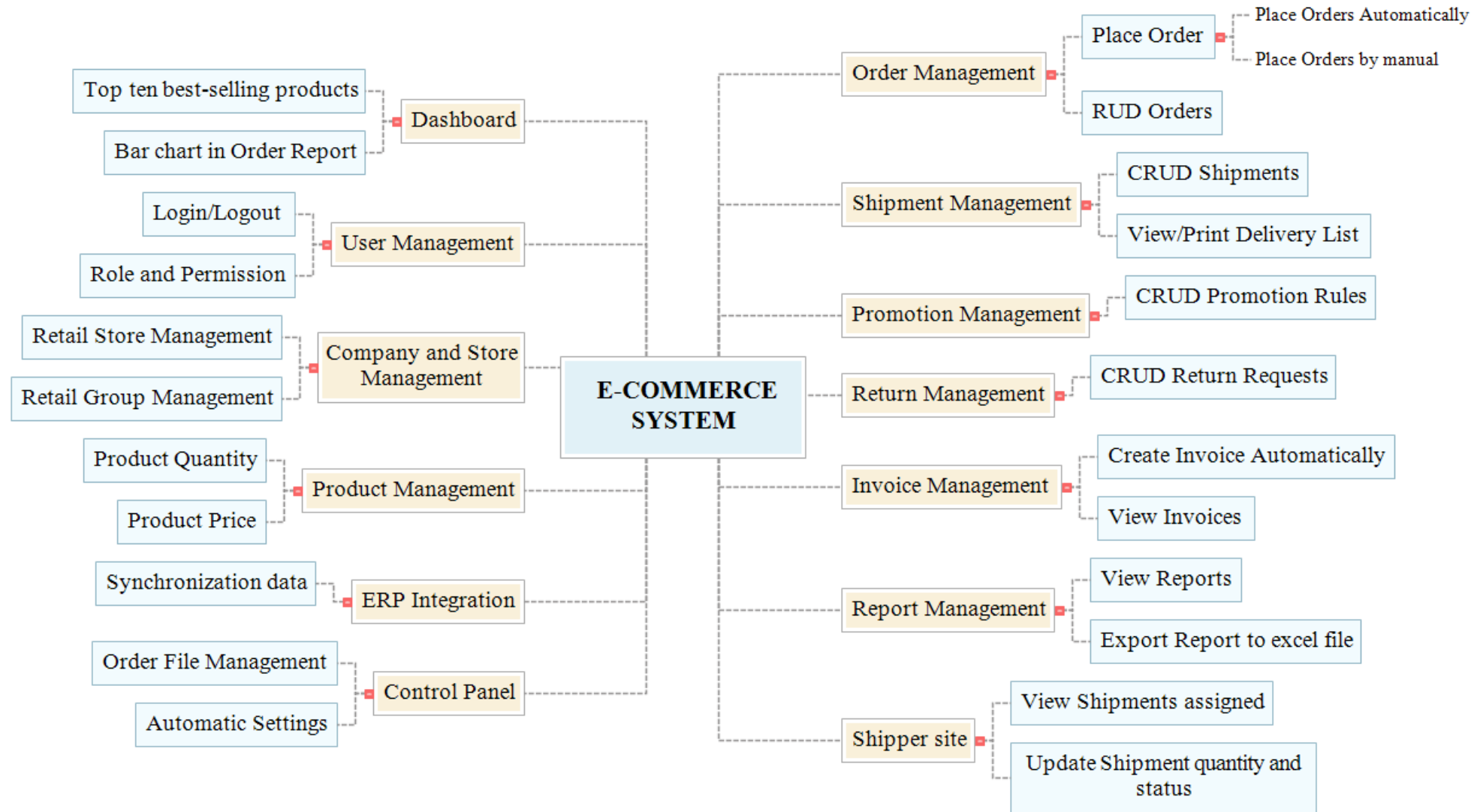
### COMMUNICATION

- Dynamic product attributes relationship
- HTML based product descriptions
- Automated display of specials
- Control if out of stock products can still be shown and are available for purchase
- Customers can subscribe to products to receive related emails/newsletters

### SITE ADMINISTRATION

- Accept credit cards, paypal and offline payment methods
- Pay using purchase orders and admin purchase order management

# MIND MAP



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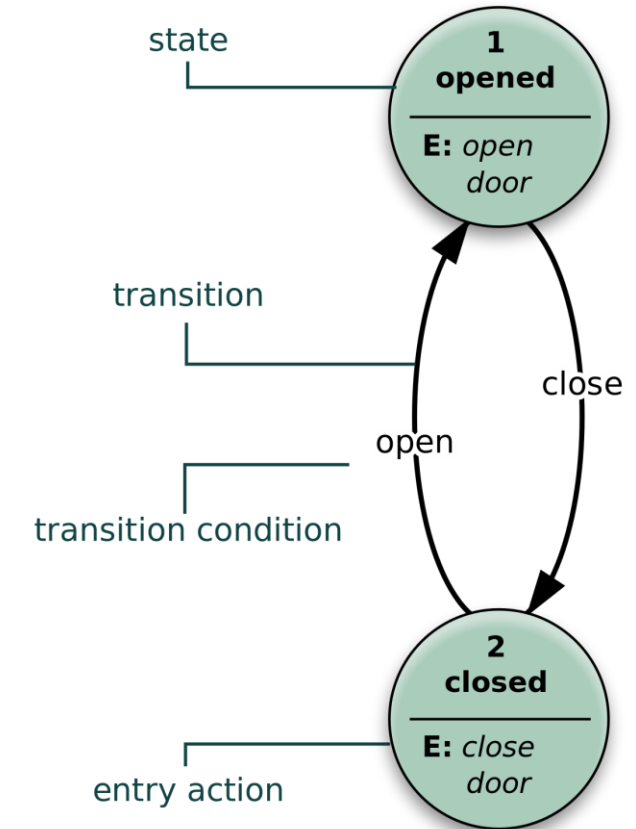
# WHAT IS STATE?



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The state of an object

How the object move from one state to another



# STATE MACHINE DIAGRAM

State machine diagram is a **behavior** diagram which shows the discrete behavior of a part of designed system through finite state transitions.

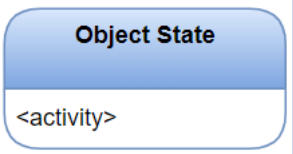





State diagram is a diagram in UML system.

There are 2 kinds of state machines:

- Behavioral State Machine;
- Protocol State Machine.



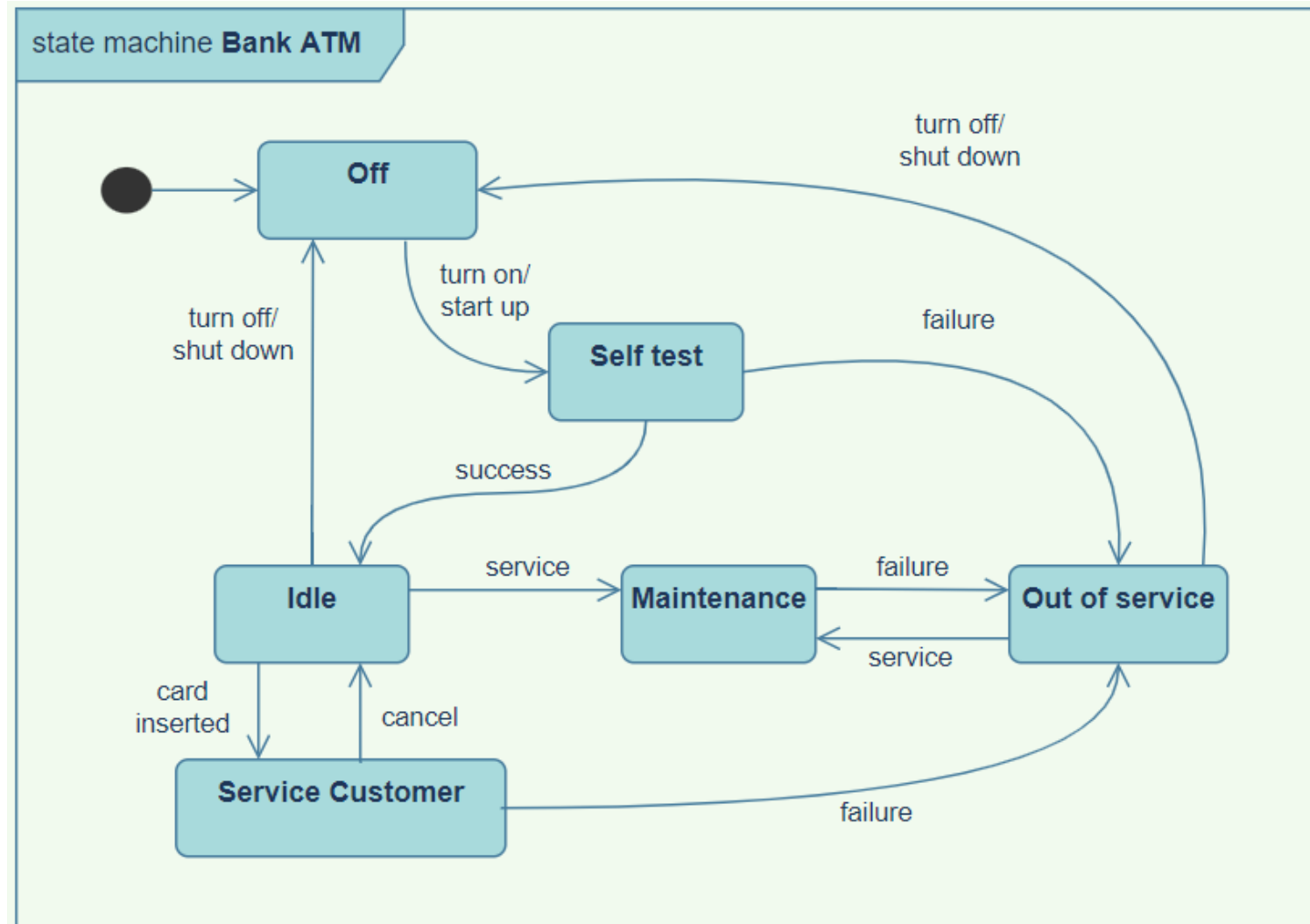
# NOTATION

NOTATION	DESCRIPTION	NOTATION	DESCRIPTION
	State box		Start/Initial state
	Transition/Connector/ Association		End node
	Choice/Decision box		Notes

# EXAMPLE



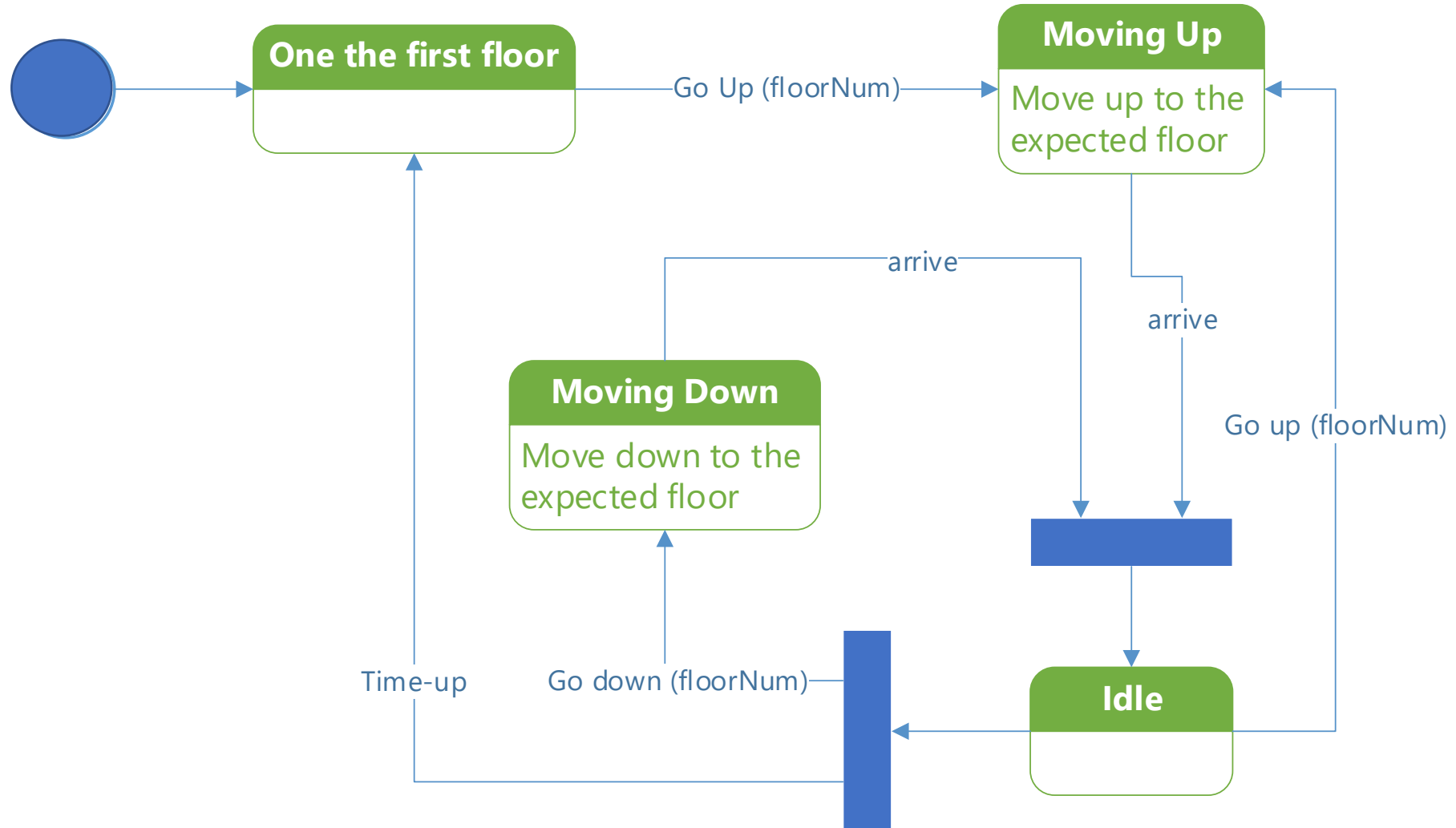
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# EXAMPLE



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# Homework



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1. **Draw the Function Structure (BFD)** for E-Office.
2. **List out the Functions/Features List** for E-Office.

THANK YOU !

Any Questions ?