

SYSTEM ANALYSIS AND DESIGN

UNIT – 1

System Study and System Development Life Cycle

System

- System is an organized relationship among the functioning units or components to achieve predefined goal.
- i.e. Car, Computer, Bank etc.
- System consisted of man, machine and method.
- Try to find out other Examples of System.
- Justify, How a Software (system / Application) is a system ?

System Characteristics

▪Organization

Organization means structure and order. It is the arrangement of components to achieve goal. Organization chart can be used to show structure and order.

▪Interaction

Functioning units must interact with each other for specific purposes. Marketing must interact with production department for the information about products.

▪Interdependence

Component depends on each other. For example engine of vehicle depends on the fuel tank.

▪Integration

It describes the relationships between different components and level of bindings.

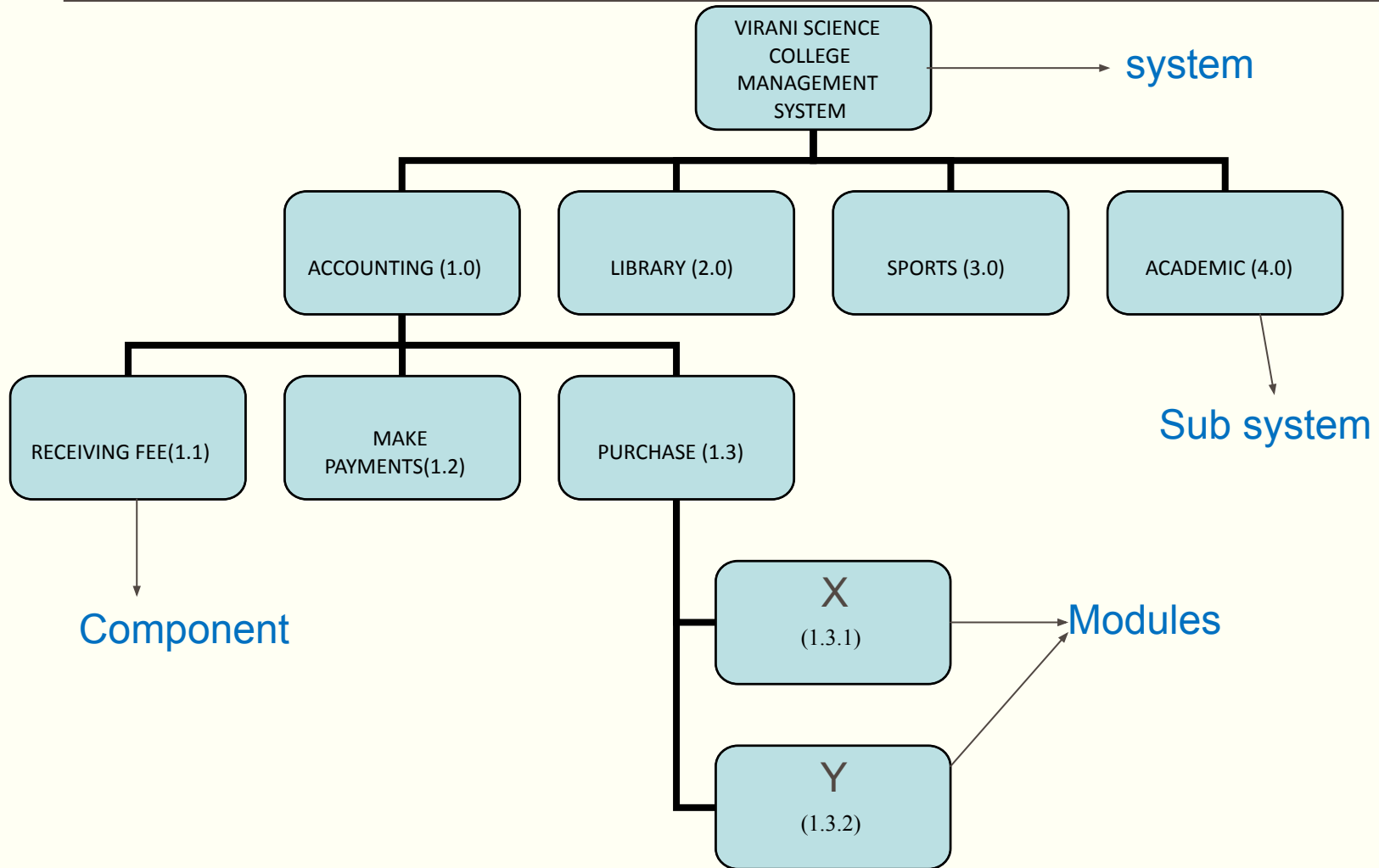
▪Central Objective

It is pre-defined goal. The goal of vehicle is to reach at its destination with safety.

System Types

- Physical Vs. Abstract
- Tangible Vs. Intangible
- Open Vs. Closed
- Man Made Information System

Identify System, Subsystem, Component & Modules.



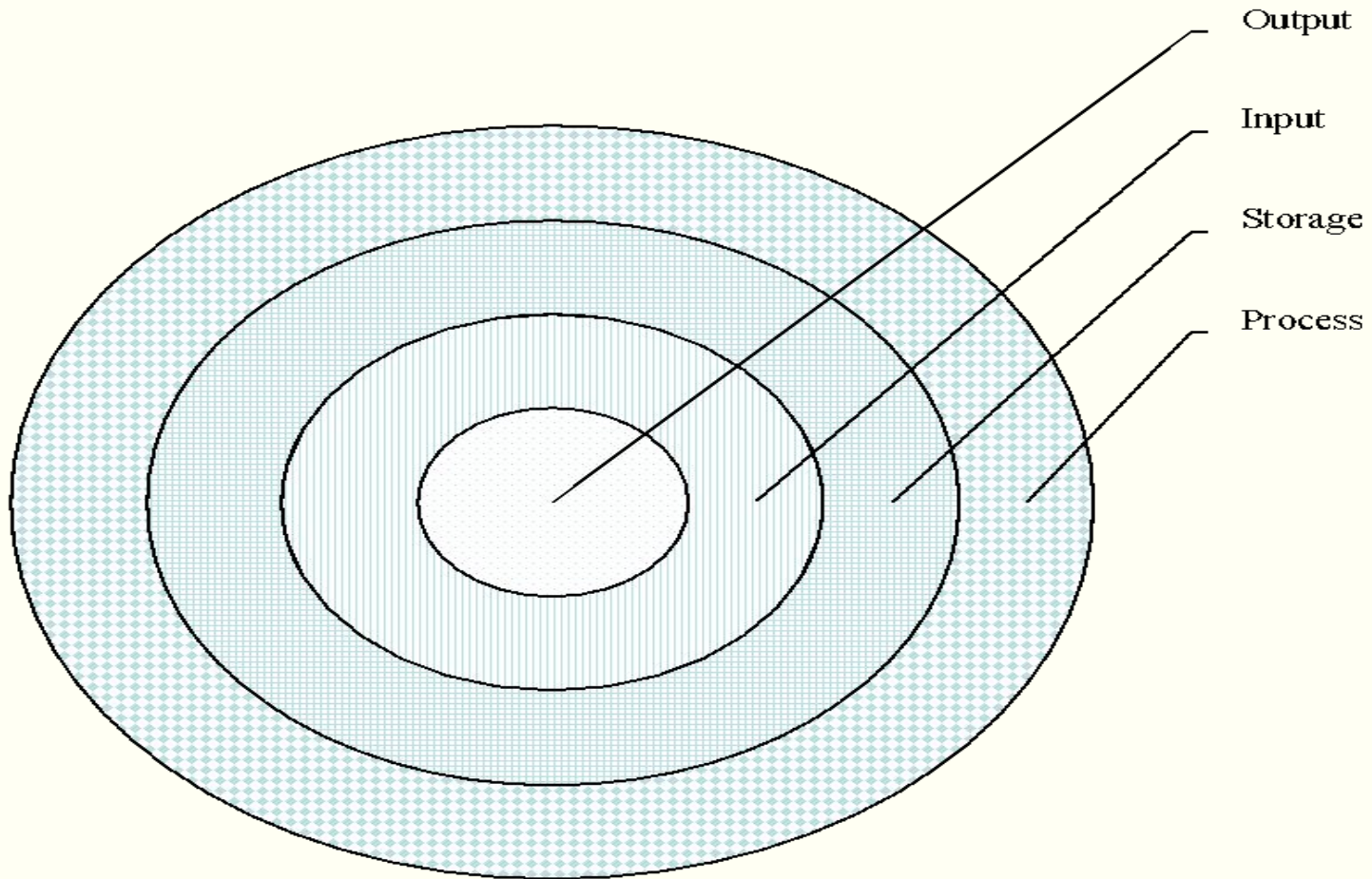
Business System

- Any business is generally established for Profit Maximization and Cost minimization. Business system may have different sub systems like accounting, marketing, purchasing, production, inventory etc.
- Each sub system may have its functional units using that they works. Business is not only production of goods but it may be service providers, Consultants etc. Like any system it takes inputs and gives output to their customers or clients.

System Study

- A detailed **study** to determine whether, to what extent, and how automatic data-processing equipment should be used.
- This system study also includes a detailed analysis of the existing system and a design of the new system, including in depth detailing of the development of the system specification. It is this study that will provide a basis for the selection of equipment to be used in the project.

Analysis starts Using – output, Input, Storage, Process



Elements of System Analysis

Outputs: It is the goal of system. Set of User requirements.

Inputs: Input depends on output. It must be accurate. It must be taken from source. It must be provided at the time it requires. Late inputs are useless. Input must be in proper format. Format of input must be fixed in advanced. Input must not be too costly.

Files: Data can be stored in files. Files are nothing but they are tables to store records. Files can stores inputs, intermediate processed data or final results. Files can be used to store historical data.

Processes: To convert input into output we must write code and theses code uses logic. Processes are nothing but programs written in any programming language.

System Approach

- The systems approach to problem solving used a systems orientation to define problems and opportunities and develop solutions. Studying a problem and formulating a solution involve the following interrelated activities:
 - Recognize and define a problem or opportunity using systems thinking.
 - Develop and evaluate alternative system solutions.
 - Select the system solution that best meets your requirements.
 - Design the selected system solution.
 - Implement and evaluate the success of the designed system.