- The main features of a system include:
    - **Input**
    - **Output**
    - **Transformation**
    - **Boundaries**
    - **Environment**
    - **Feedback**

- **Input**:
    - What is going into a system this is usually data or materials
    - Everything in the system was either present at the start or arrived via input
    - Nothing new can be created in boundary
- **Transformation**:
    - Transforms of what is provided. Nothing new can be created within a system boundary.
    - Most system, particularly organization, have purpose of transformation of some sort
- **Ouput:**
    - What we perceive leaving the system
    - Logically everything that leaves the system leaves via output as nothing new can be created. The output is some transformation.
- **Boundary:**
    - The purpose of the system often determines where the boundary is set. Exist in the environment
    - Finding boundary is essential in finding what is under system control and what is external to it
    - System interface exchange take place in and out of system

    - Where process happen/ What will system do

- **Environment:**
    - What it needs to do processing
    - What influence system

- **Feedback:**
    - Occurs when the outputs are rerouted to the inputs, creating a cycle that influences overall behavior of the system.
    - Often built in the system: ie mechanical
    - Occur naturally: ie rabbit and fox population
    - Act via human agent: where the system itself includes people: manager acting on report to make changes to input

    - **Negative feedback:** feedback which regulates the system by inhibiting the effect of the system
    - **Positive feedback**: acts to reinforce the action of the system.

- Properties of a system include:
    - **Emergence:**
    - **System & subsystem:**
    - **Connectedness**

- **Emergence:**
    - Emergence is where properties of the whole is not properties of a parts (so think a car is fast but parts are not described as fast.) But they do all help make the emergence. So we interested in what does the system do not what does the data do
- **System and subsystem:**
    - System has subsystem. So system can be broken down internally to smaller and simpler subsystem. And the smaller simpler system may be part of supasystem:
        - Eg – Australian government includes taxation, health record and centerlink. Then centerlink has sub system
    - With this we can choose which level to study system at and leave the other parts as "black boxes" while we do so
- **Supersystem:** (ASK)
    - Decide size of network. If we compare with other people (fitbit). Where we expand the system.
- **Coupling:**
    - Is where system interacts with other system? So system is independent through the output of one system being the input of another system.
    - **Tightly couple:** where the output of one system is directly linked to input of another. Usually automated. *LIKE AUTMOATIC TAX*
    - **Loosely couple:** where the link may not be direct or complete or may be overridden. Ie: we can influence it (humans in loops). *Think centerlink we can report*

- **Information system:**
    - How we see organization as system. And how information works within it and where directed. So think- student grade. ***So not materials but information so not baking cookie. Issue:*** We cant visually but can model
    - Contains: People, Repository, Techology that perform useful function
    - Interested impact on human context. So what does the technology do in the organsation **people**
    - Characteristics: may be manual, may involve tech,

- **People:**
    - Are usually **stakeholders**.

- They actively involved by giving or taking from system
- Decision making happens through stakeholders
- May be influenced positively or negatively by the system
- Includes end user and is specialist, government, investors

- **Repository:**
  - Where information is stored in an organized way. These include:

  - **Flat files:**
    - Data stored in plain text file.
    - Each line of text file holds one record, fields separated by delimiters eg: commas, tabs, or having fixed length.
  - **Database:**
    - Most modern form of recording data
    - **Database:** Refers to a particular set of facts. The physical presence of facts on computer.
    - **Database system:** data itself + software application used to manipulate it.

  - **Spreadsheet: (**EASY TO VISUALISE COMPARED TO DATABASE)
    - Spreadsheets are array of values laid out on a computer screen. Usually have rows and columns of data.
    - Stores and manipulate the data dynamically in various ways
    - Flexible + and have numerous application in a information system
    - If a change is made in one part of spreadsheet then the entire array can be recalculated automatically

  - **Knowledge repository:**
    - Information about data is recorded rather than the data itself: ie- process so it wont say getting a d it will say how to get d
    - Metadata: allows us to analyses stuff more than if we only had data

- **Technology:**
  - Used: Hardware, Software, and network (telecomuncation ie: intranet, internet)