Lecture 3: System Stakeholders; System Measures

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System Conditions

- Prerequisite Conditions
  - System *stability*, *integrity*, and *consistency* of performance
- Initial Operating Conditions
  - Static vs Dynamic
  - Stabilization
  - Balance of Power

- End Users; Stakeholders; System Users
- Roles of Stakeholders
  1. Somebody who benefits from it
  2. May not benefit but thinks of it as a friendly
  3. The system is in competition to the current one or s/he is part of
  4. Adversarial – in conflict with
- Major Roles of a System – System of Interest
  - Mission; and
  - Support

Closed Source or Proprietary Software

- Roles are -
  - Draw up the Specifications
  - Programming/Coding team
  - Integration
  - Testing
  - Marketing
  - Support
  - Project Management

- Felicity as an example of an organizational system

- Roles to Entities
- Entities have
  - goals, objectives, missions, or performance requirements that contribute to achieving the organization's role
- Multiplicity of Stakeholder's roles

Measures of a System

- **Measures of Performance (MOP)**
  - **Measures of Effectiveness (MOE)**
  - **Measures of Suitability (MOS)**
    - Subjective user criteria
- **Operational Effectiveness**
  - "An operational Test & Evaluation (OT&E) metric
- **Operational Suitability**
- **System Effectiveness**
  - suitability, dependability, (reliability, availability, maintainability), and capability
- **Cost Effectiveness**

- Eg; What measures are important to have a hitch-free or high comfort level for New Students arriving at IIIT-H

System Acceptability

The *degree of success* of any human-made system and its mission(s) ultimately depends on:

1. Whether the marketplace is ready for introduction of the system—an operational need driven **"window of opportunity."**
2. The User's perception of the system's ***operational utility*, *suitability*, and *availability*.**
3. The system's ability to accomplish the User's mission—*system* ***effectiveness***.
4. The return on investment (ROI) for the resources expended to operate and maintain the system— ***cost effectiveness***.

Different groups in the chain view this differently

Choice and Use of the System

- Objective assessment and measures

- Subjective criteria

Challenges in Developing Systems

- Acceptance to the user

- Timing is RIGHT?
- System feasibility and ROI
- Does the proposed system have OPERATIONALLY UTILITY to the User relative to their organizational missions and objectives?
- Is the proposed system OPERATIONALLY SUITABLE for all stakeholders relative to its intended application?
- Is the proposed system OPERATIONALLY AVAILABLE when tasked to perform missions?
- Is the system OPERATIONALLY EFFECTIVE, in terms of cost and technical performance, for its intended mission applications and objectives?

Class Assignment 1

- Take any system of your choice and

(a)list out at least 10 of its attributes, based on the one given in the Table (System Attributes Table.pdf)

(b) Pick 3 non-functional attributes and explain briefly why they are important to your system

- Submit it as pdf
- Last Date is 10th Jan 2018(wed)