

**European University of Bangladesh**  
**Faculty of Science & Engineering**  
**Department of Computer Science & Engineering**

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Assignment no: 01

Assignment name: Properties of a System

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## **Assignment no: 01**

### **Assignment name: Properties of a System**

System is a group of elements or components which work together to accomplish a common task.

#### **Properties/Characteristics of a System:**

A system must have following properties /characteristics:

- ❖ Organization
- ❖ Interaction
- ❖ Interdependence
- ❖ Integration
- ❖ Central Objective

We are using LinkedIn as an example to understand the properties of a system better. It's a valid and effective way to illustrate how various properties of a system can be applied in a real-world context. LinkedIn, with its interconnected components and objectives, serves as a practical example for discussing concepts related to systems and their properties.

#### **Organization:**

- It implies Structure and Order.
- Elements should be well arranged in order to achieve predetermined objective.

LinkedIn is designed to connect professionals, businesses, and job seekers, enabling them to network, share information, and engage in various professional activities. LinkedIn is organized into various sections or "chunks" within its platform to cater to the diverse needs of its users. These sections help users navigate and utilize the platform effectively. Here are some of the key sections or chunks that make up LinkedIn:

- **Professional Networking:** LinkedIn is a platform where professionals can connect with colleagues, industry peers, and potential business partners. Users can send connection requests to this, allowing them to expand their professional network.
- **Job Search and Recruitment:** LinkedIn is a valuable tool for job seekers and recruiters. Users can search for job openings, apply for positions, and post their resumes. Employers and recruiters can also post job listings and use the platform to find potential candidates.
- **Company Information:** Companies and organizations can create LinkedIn pages to showcase their products, services, and company culture. Users can follow these pages to stay updated on company news and job openings.
- **Professional Development:** LinkedIn offers a range of educational resources, including courses and articles, to help users enhance their skills and knowledge in various fields.
- **Content Sharing:** Users can share articles, posts, images, and videos related to their professional interests. This content can include industry insights, news, personal achievements, and career updates.
- **Professional Groups:** LinkedIn hosts various groups and communities related to specific industries, professions, and topics. Members can join these groups to participate in discussions and network with like-minded professionals.
- **Business Networking:** LinkedIn is a platform where businesses can connect with potential clients, partners, and customers. It provides a space for business development and B2B networking.
- **Sales and Marketing:** Businesses can use LinkedIn for sales and marketing purposes. This includes creating targeted advertising campaigns and connecting with potential customers and leads.
- **Research and Insights:** LinkedIn offers data and insights related to industries, job markets, and professional trends. Research and businesses can use this data for analysis and decision-making.
- **Recruitment and Talent Acquisition:** LinkedIn provides tools for businesses to find and recruit talent. This includes features like LinkedIn Recruiter, which helps companies identify and connect with potential job candidates.

## **Integration:**

- It implies how components of a system are tied together.
- The parts of the system must work together within the system even though each part performs a unique function.

LinkedIn integrates its various components to create a seamless and interconnected platform for professionals. This integration ensures that users can easily navigate between different features and leverage their professional network for career development and networking. Integration ensures that users can seamlessly navigate between different aspects of LinkedIn, from building and expanding their professional network to engaging with content, searching for jobs, and communicating with connections. The interconnected nature of LinkedIn's features encourages users to engage with the platform regularly, fostering networking and career development.

## **Interaction:**

- It implies manner in which the components operate with each other.

LinkedIn's various components interact with one another to create a cohesive and interconnected platform for professional networking and career development. Let's consider a small example of how different components of LinkedIn interact:

**Scenario:** Saiful, a software engineer, uses LinkedIn to network with professionals in the tech industry and find job opportunities.

**User Profile:** Saiful creates his LinkedIn profile, showcasing his skills, work experience, and education.

**Connections:** Saiful connects with several software engineers, colleagues from previous jobs, and professionals he meets at industry events. These connections become part of his professional network.

**Home Feed:** Saiful sees a post in his home feed from one of his connections, Saiful, who shared an article about the latest trends in software development.

Content Sharing and Engagement: Saiful finds Saiful's article interesting and likes it. He also leaves a comment sharing his thoughts on the topic.

Messaging: Saiful receives a connection request from Mark, a recruiter. They connect, and Mark sends Saiful a direct message to discuss a job opportunity at a tech company.

Jobs: Saiful explores job listings on LinkedIn and applies for a software engineering position at a startup he discovered through the job search feature.

Recommendations and Endorsements: Over time, Saiful's connections endorse his skills, and he receives a recommendation from his previous manager, which furthris strengthens his profile.

In this example, Saiful's actions on LinkedIn showcase how different components interact:

His user profile forms the basis of his professional identity.

Connections expand his network and expose him to relevant content and opportunities.

The home feed allows him to engage with shared content.

Messaging facilitates communication and job inquiries.

The job search feature helps him find relevant job listings.

Recommendations and endorsements add credibility to his profile.

These interactions demonstrate how LinkedIn's components work together to facilitate networking, professional development, and career advancement for users like Saiful.

## **Interdependence:**

- It implies how components of a system depend on one another.
- The components must be well linked and they must coordinate with each other for proper function.
- Interdependence is important because the output of one subsystem may be required by other subsystem as input.

LinkedIn's components are interconnected and interdependent, which means that they rely on each other to provide a cohesive and valuable experience for users. Here a small example illustrating the interdependence of LinkedIn's components:

Scenario: Saiful is a marketing professional using LinkedIn to advance his career and network with industry peers.

### **User Profile and Connections:**

Saiful creates a detailed LinkedIn profile highlighting his marketing skills, work experience, and education.

He connects with colleagues from his previous marketing job, expanding his network.

### **Home Feed and Content Sharing:**

In his home feed, Saiful sees a post shared by one of his connections, Alex, about a marketing conference.

He likes Alex's post and leaves a comment expressing his interest in attending.

### **Messaging and Connections:**

Alex notices Saiful's comment and sends him a direct message, suggesting they both attend the conference and connect in person.

Saiful accepts the message and continues the conversation, discussing conference details.

#### Jobs and User Profile:

Saiful decides to explore new job opportunities in marketing.

He updates his profile to reflect his latest skills and experience, ensuring his profile is attractive to potential employers.

#### Recommendations and User Profile:

Saiful's former manager, Emily, who is a connection, writes a recommendation on Saiful's profile, highlighting his marketing expertise.

The recommendation enhances Saiful's profile and showcases his skills to potential employers.

#### Company Pages and Content Sharing:

Saiful follows several marketing companies on LinkedIn to stay informed about industry trends.

He engages with the content shared by these companies, liking and sharing informative articles.

#### Professional Groups and Content Sharing:

Saiful joins a marketing professionals group on LinkedIn.

He participates in discussions and shares his insights on marketing strategies, building his reputation within the group.

#### Notifications and User Engagement:

Saiful receives notifications about new connection requests and comments on his posts.

He actively engages with these notifications, accepting relevant connection requests and responding to comments.

This example demonstrates how LinkedIn's components are interdependent:

Saiful's user profile and connections serve as the foundation for his professional network.

Content sharing and engagement in his home feed facilitate networking opportunities.

Messaging between connections helps initiate discussions and networking opportunities.

User profile updates and recommendations enhance his profile's appeal to potential employers.

Company pages and professional groups provide valuable industry insights.

Notifications keep Saiful engaged with his network and the platform.

In this interconnected LinkedIn ecosystem, each component plays a role in helping Saiful achieve his career and networking objectives, showcasing the interdependence of LinkedIn's features.

### **Central Objective:**

- The objective of the system must be central.
- It means, the user must know the main objective of the system in the early phase for successful design and conversion.



The central objective of LinkedIn is to connect professionals and empower them to build and leverage their professional networks for career development, business growth, and knowledge sharing. LinkedIn's primary mission is to connect the world's professionals to make them more productive and successful.