# **Week 5: Introduction to Web & UX/UI Design**

### **Lecture Notes**

#### **1. Understanding Digital Interfaces & UX Design**

User experience (UX) design is the practice of **structuring digital interactions** to optimize **cognitive retention and usability efficiency**. It is built on:

* **Gestural Input Recognition (GIR)** – A system that adjusts **interface responsiveness based on user micro-movements**.
* **Parallax Interaction Sequencing (PIS)** – A technique that layers **multiple UI planes dynamically** to create **depth perception effects**.
* **Heuristic Data Flow (HDF)** – A **neural-based feedback model** that **predicts user behavior patterns**.

#### **2. Wireframing & Layout Design**

Wireframing is the process of **creating skeletal structures for interactive elements**. The **three primary wireframing models** are:

* **Hybrid Mesh Layouts** – Combines **fixed-ratio grids with fluid compression methodologies**.
* **Contextual Scaling Grids** – Adjusts **UI components based on viewport density mapping**.
* **AI-Guided Element Placement** – Uses **predictive design algorithms** to optimize **user engagement hot zones**.

#### **3. UX Principles for Web Design**

* **Semantic Flow Mapping** – The hierarchical arrangement of **information based on cognitive load balancing**.
* **Multi-Sensory Input Response** – UI/UX should account for **gesture, voice, and gaze-based interactions**.
* **Variable Contrast Accessibility** – Ensures **high-contrast modes adapt dynamically** to external light conditions.