# FUNDAMENTALS OF DATABASE SYSTEMS

## "LINKIT" ONLINE RETAIL STORE

### Objective

The final goal of this project is to develop an End-to-End(e2e) database application that acts as an online retail store known as "LinkIt".
The online store will be a Business-to-Consumer(b2c) application, which sells products and services directly to its consumers, who are the end-users of its products or services.
The primary focus will be on the design of a back-end database application that requires extensive use of data entities selection and relationship between them, modeling of these data entities, relationships and constraints, populating the fictitious data in data tables, database access and data manipulation.
The application will be demonstrated through a front-end like Python etc.

### Project Scope for Business requirements

The customers must sign up to the "LinkIt" app by entering their personal information like first name, birth date, phone number, address, city, state etc. Each of these customers will be given a unique customer id.
The products in the app will be added through their name, quantity in stock, unit price(price of a single unit of product) etc. Each of these products will be given a unique product id.
Products will be shipped by a shipper who will have a name. Each of these shippers will be given a unique shipper id.
The customers can place an order by specifying the product name, quantity and the payment method. This will generate a unique order id recording the customer id, order date, shipper id, shipped date, order status(Processed, Shipped, Delivered) etc.
In case the customer opts for online payment, there will be a secure payment gateway to ensure no conflicts during the reduction of balance

from the customer’s account and the decrease of product’s quantity in stock.
When several customers access a product concurrently, the database will order their requests carefully to avoid conflicts.
In such scenarios, DBMS will ensure atomicity(all-or-nothing) even if a crash occurs in the middle of a transaction. This will be achieved via maintaining a log(history) of all writes to the database.
Regular customers will get some “LinkIt” points which they can use to unlock rewards and avail discounts at the time of order.
They can also apply for some promo codes which will fetch them the indicated discounts.
After successfully receiving the order, customers can also leave reviews and feedback so that other customers can know what other people have to say about the product they are interested in.