



HNDIT 2312 Software Engineering
2nd Year
Tutorial-06

1. Perfect Pizza wants to install a system to record orders for pizza and chicken wings. When regular customers call Perfect Pizza on the phone, their phone number goes automatically into the Pizza system. The phone number invokes the name, address, and last order date comes automatically up on the screen. Once the order is taken, the total, including tax and delivery, is calculated. Then the order is given to the cook. A receipt is printed. Occasionally, special offer (coupons) is printed so the customer can get a discount. Drivers who make deliveries give customers a copy of the receipt and coupon (if any). Weekly totals are kept for comparison with last year's performance.
 - a. Identify the external entities
 - b. Identify process.
 - c. Draw the context level diagram
 - d. Draw the level-1 DFD diagram
2. Consider a mail order company that distributes CDs and tapes at discount prices to its members. When an order processing clerk receives an order form, she verifies that the sender is a member by checking the MEMBER FILE. If the sender is not a member, the clerk returns the order along with a membership application form. If the customer is a member, the clerk verifies the order item data by checking the ITEM FILE. Then the clerk enters the order data and saves it to the DAILY ORDERS FILE. At the same time the clerk also prints an invoice and shipping list for each order, which are forwarded to the ORDER FULFILLMENT DEPARTMENT for processing there.
 - a. Identify the external entities
 - b. Identify process.
 - c. Draw the context level diagram
 - d. Draw the level-1 DFD diagram
3. Explain following concepts of Database design.
 - a. Cardinality ratio
 - b. Participation constraints
 - c. Identifying relationship
 - d. Weak entity
 - e. Degree of relationship
 - f. Structural constraints

4. MOTOR VEHICLE BRANCH ADMINISTRATION

The motor vehicle branch administrators driving tests and issues driver's licenses. Any person who wants driver's license must first take a learners exam at any motor vehicle branch in the province. If he/she fails the exam, he can take the exam again any time after a week of the failed exam date, at any branch. If he passes the exam, he will be issued a license(learners type) with a unique license number. A learners license may contain a single restriction on it. The person may take his driver's exam at any branch any time before the learners license expiry date(which is usually set at six months after the license issue date).If he passes the exam, the branch issues him a driver's licence .A driver's license must also record if the driver has completed driver's education ,for insurance purpose. Each driver should own a vehicle .If he has no money he can lend it through loan.

- Find out the entities in the spec.?
- Find out the relationships among the entities?
- Find out the attributes of the entities and the relationships?
- Figure out constraints between entities and relationships?
- Draw the ER diagram.

5. The following figure is an UI develop for a system. Identify the problem of the UI design.

