



## ENTERPRISE WEB APPLICATION (ECC3004)

### Problem Statement 1

#### **Problem Title: E-MART**

A supermart has been cataloging and digitizing its inventory system. The General Manager (GM) requests information like items identifier, description, category, price etc., and publish these data in a new web store, 'E-MART', that the company is going to launch.

The intention is for customers to easily search for items which they need whether it is during the daytime or after midnight hours; it also aims to efficiently inform its customers of current promotions and group discounts. There may be occasional misuses of this system, such as customer not paying up for the items they have purchased online, or competitors trying to pull out all items' prices from the web store.

Presently, there are issues on individuals having difficulty locating certain items that they need in the supermart, and also individuals having no idea whether some items are available in the outlets that they are going to visit. As smart phones and tablet PCs are becoming ubiquitous today, customers can easily avoid these issues with the new web-based 'E-MART' system. It should provide the different services below:

- Customer role
  - join free membership, and search for items (using XML & XSL)
  - order items online (using JavaBean & JDBC)
- Outlet Manager role
  - search customers' orders for his outlet (using XML & XSL)
  - send items promotion messages to interested customers (using JavaBean & JDBC)
- Inventory Officer role
  - search for items in outlet with quantities below 5 (using XML & XSL)
  - send appropriate restock messages to manufacturers (using JavaBean & JDBC)
- Manufacturer role
  - search customers' orders for his products (using XML & XSL)
  - send group discount messages to interested customers (using JavaBean & JDBC)
- General Manager role
  - search for top 10 best selling items (using XML & XSL)
  - send messages on these items' details to outlet managers (using JavaBean & JDBC)

*As a bonus, each project group should also incorporate a DOM/SAX parser as part of their enterprise architecture to facilitate importing of XML system data. Bonuses will also be given to additional use-cases which make the system more complete.*



## ENTERPRISE WEB APPLICATION (ECC3004)

### Problem Statement 2

#### **Problem Title: G4U**

Gifts-For-U is a gifts supply chain selling toys, chocolates, cards, ornaments and other gift items. It has several retail shops in Singapore and it also offers mail-order service.

The current business process is to send catalogues to customers and customers can order gifts through the order form printed on the catalogues or they can order gifts through phone or purchase the gifts directly from the shops. When an order is received, a sales clerk filed it into the Order Entry System. At the end of each day, the order is processed by the warehouse. In processing the order, the warehouse supervisor updates his inventories, authorises payment and pack the goods for delivery. There were instances of mistakes found in the entries created. On top of that, there are issues on data portability and security among the different computer systems in its departments.

To increase its market share and improve productivity, the management team has decided to implement an online Gifts-For-U (G4U) system to satisfy its business needs:

- Customer role
  - search and view items (using XML & XSL)
  - select and purchase items online (using JavaBean & JDBC)
- Sales Clerk role
  - search and view customers' orders (using XML & XSL)
  - change items' prices (using JavaBean & JDBC)
- Warehouse Supervisor role
  - search and view items' orders (using XML & XSL)
  - change items' quantities (using JavaBean & JDBC)
- Director role
  - view top-selling 10 items (using XML & XSL)
  - change items' discounts and promotions (using JavaBean & JDBC)
- Administrator role
  - view customers with outstanding bills (using XML & XSL)
  - ban customers with long outstanding bills (using JavaBean & JDBC)

*As a bonus, each project group should also incorporate a DOM/SAX parser as part of their enterprise architecture to facilitate importing of XML system data. Bonuses will also be given to additional use-cases which make the system more complete.*



## ENTERPRISE WEB APPLICATION (ECC3004)

### Problem Statement 3

#### **Problem Title: B4U**

Books-For-U is a selling, renting & buying of books & magazines organization that allows users to buy, rent or sell away good printed publications. It has several retail shops in Singapore and also offers mail-order service.

Users can buy/rent/sell books through the order form printed on mass-distributed catalogues, or they can buy/rent/sell books directly from the shops. The business has a loyal user base. As the catalogue is updated quarterly, the sending of catalogue to its users has incurred much cost to the organisation. Users' feedback showed that they have difficulties browsing through the catalogue as well as searching for a specific item, and the ordering process is inefficient. Mail-order approach has also limited the organisation's exposure to new users.

To enlarge its user base and improve its service, the director has proceeded to engage a technical team to develop an online Books-For-U (B4U) system:

- Director role
  - change categories' discounts (using JavaBean & JDBC)
  - view top-selling 10 categories of books (using XML & XSL)
- Publisher role
  - add new books published by its printing house (using JavaBean & JDBC)
  - view list of books published by its printing house (using XML & XSL)
- Warehouse Supervisor role
  - update books' prices (using JavaBean & JDBC)
  - search and view books by different publishers (using XML & XSL)
- Despatch Rider role
  - disable customers who are uncontactable (using JavaBean & JDBC)
  - view list of customers and their orders (using XML & XSL)
- Customer role
  - purchase books online (using JavaBean & JDBC)
  - search and display lists of books according to categories (using XML & XSL)

*As a bonus, each project group should also incorporate a DOM/SAX parser as part of their enterprise architecture to facilitate importing of XML system data. Bonuses will also be given to additional use-cases which make the system more complete.*



## ENTERPRISE WEB APPLICATION (ECC3004)

### Problem Statement 4

#### **Problem Title: V4U**

Videos-For-U is a renting & buying of video CDs & DVDs organisation that allows users to buy or rent video CDs & DVDs. It has a large user base and to improve its service, the management team held a meeting to brainstorm their strategies. The Marketing Director expressed the need to have quick access to all their regular users' records in order to customise special offers for them. The Operation Director suggested a centralized system to enable staff and user to check for videos availability and place orders. Besides these, management would like to be able to retrieve statistics of the business online; statistics may include most popular videos, sales reports etc.

The organisation has a list of requirements to design and implement the new Videos-For-U (V4U) ordering system:

- Marketing Director role
  - send discount messages to selected Customers (using JavaBean & JDBC)
  - view list of customers by video CDs or DVDs categories (using XML & XSL)
- Operation Director role
  - send stock-up messages to Inventory Director (using JavaBean & JDBC)
  - view videos quantity by video CDs or DVDs categories (using XML & XSL)
- Inventory Director role
  - send messages to Marketing Director to promote high-quantity titles (using JavaBean & JDBC)
  - view video CDs or DVDs quantity by individual titles (using XML & XSL)
- Managing Director role
  - send messages to all staff on best-selling video CDs or DVDs (using JavaBean & JDBC)
  - view top 10 most profitable video CDs or DVDs (using XML & XSL)
- Customer role
  - purchase video CDs or DVDs (using JavaBean & JDBC)
  - view own account history of purchases (using XML & XSL)

*As a bonus, each project group should also incorporate a DOM/SAX parser as part of their enterprise architecture to facilitate importing of XML system data. Bonuses will also be given to additional use-cases which make the system more complete.*



## ENTERPRISE WEB APPLICATION (ECC3004)

### Problem Statement 5

#### **Problem Title: Online MOBILE Phones & Tablets (OMO Phablets)**

A new IT start-up company has observed and identified the market potentials for selling / re-selling / leasing of mobile devices (handphones & tablets) to online users. It has decided to build an enterprise web system to cater to different mobile user groups.

The intention is for online users to get detailed information about new or used mobile devices, make purchases / leases conveniently and expediently via the online platform, and sell / lease their available devices. Additionally, the data involved in each operation mode should be exportable in XML format, for subsequent data sharing via the Internet.

To build its 1<sup>st</sup> prototype, the VP Engineering of the company has engaged your team to design and develop the system: Online MOBILE Phones & Tablets (OMO Phablets). It shall support the user groups below:

- Seller role
  - enter details about the mobile phones / tablets he is selling (using JavaBean & JDBC)
  - view details about similar mobile phones / tablets that have been sold on the platform in the past (using XML & XSL)
- Lessor role
  - enter details about the mobile phones / tablets he is renting out (using JavaBean & JDBC)
  - view details about similar mobile phones / tablets that have been leased on the platform in the past (using XML & XSL)
- Lessee role
  - enter model of the mobile phones / tablets he intends to rent (using JavaBean & JDBC)
  - view available search results based on the lease query he has entered (using XML & XSL)
- Buyer role
  - enter model of the mobile phones / tablets he is buying (using JavaBean & JDBC)
  - view available search results based on the purchase query he has entered (using XML & XSL)
- Member role
  - enter model of the mobile phones / tablets he is querying (using JavaBean & JDBC)
  - view detailed information about the model being queried (using XML & XSL)

*As a bonus, each project group should also incorporate a DOM/SAX parser as part of their enterprise architecture to facilitate importing of XML system data. Bonuses will also be given to additional use-cases which make the system more complete.*



## ENTERPRISE WEB APPLICATION (ECC3004)

### Problem Statement 6

#### **Problem Title: Watches-Only-Online (WOO)**

Watches-Online-Wanted is a renting & buying of watches company that allows users to buy or rent watches.

Leveraging on its large user base, the management has decided to extend its services online. It hopes to capture bigger market share by facilitating online selling and renting of its watches. Additionally, the management would like to be able to conveniently retrieve statistics of the business; these may include most popular models, most profitable models etc.

The company has engaged your team to design and develop the system: Watches-Only-Online (WOO), to provide services to the user groups identified below:

- Customer role
  - purchase watches online (using JavaBean & JDBC)
  - view own history list of purchases (using XML & XSL)
- Hirer role
  - rent watches online (using JavaBean & JDBC)
  - search and view query on any watch model (using XML & XSL)
- Operation Manager role
  - send stock-up messages to Inventory Officer (using JavaBean & JDBC)
  - view watches quantity by different model categories (using XML & XSL)
- Inventory Officer role
  - restock any watch model quantity (using JavaBean & JDBC)
  - view messages from Operation Manager (using XML & XSL)
- Director role
  - send discount messages on selected watches (using JavaBean & JDBC)
  - view top 10 most sellable watches (using XML & XSL)

*As a bonus, each project group should also incorporate a DOM/SAX parser as part of their enterprise architecture to facilitate importing of XML system data. Bonuses will also be given to additional use-cases which make the system more complete.*