Programming Applications with Databases

Exercise Set 9

1. In the all remaining classes each student will create one of the following applications:

- e-Shop. Main requirements:
  - customer is able to browse the product catalog,
  - customer is able to buy products and select the type of delivery,
  - customer is able to track the order status,
  - manager is able to see several reports.
- Delivery. Main requirements:
  - system is able to receive an order for delivery,
  - system is able to provide and change delivery status,
  - system is able to provide several reports,
  - both user interface and API should be created.

In this exercise prepare the functional description of the application. As a result ca. 2 standard A4 pages are expected (e.g. in Microsoft Word) which describe

- main high-level business process which includes key activities
- a list of the key business entities like *customer*, *product*, *order*, etc. with main properties
- all key functionalities, i.e. expand the main requirements enumerated above.

All of the above should be created in a form that can be easily maintained and further modified.
[4p]

2. Prepare prototypes of all different types of views, i.e. prepare a visual representation of how the application is going to look like. It can be created in any application including famous MS Paint or even MS Power Point, but usage of a dedicated *mockup* tool is highly recommended.
[3p]

3. Once prototypes are ready,

- define which operations are connected to each view (e.g. getting data, update of an entity, etc.) and
- determine which entity is involved to perform such an operation in the context of a specific view.

As a result a table should be created where each row consists of the following columns: *view type* (e.g. show product details), *operation* (e.g. show), *information entities* (e.g. product, product category, user info).

Review the table and try to ensure that in the final proposal each view is related to 1 key entity what means that the main data comes from 1 key information entity and all activities are related to this selected entity. At the same time it is acceptable that additional supporting information on the view (e.g. authenticated user name) comes from other entities.
[3p]

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