Project; Database

Multimedia Design – 3.semester 1. project

07 Sep. 2015 - 18 Sep. 2015

IRF / TUJE

1. Description

Introduction

In the broadest sense, a database is anything that stores data. In the world of computers and the use of web-applications a database usually refers to a collection of related pieces of information stored e.g. on a server. Aside from the ability to store data, a database also provides a way for other computer programs to quickly retrieve and update desired pieces of information. Typically, for a given database, there is a structural description of the type of data held in that database: this description is known as a schema. The schema describes the objects that are represented in the database, and the relationships between them. There are a number of different ways of organizing a schema, that is, of modelling the database structure: these are known as database models (or data models).
The most common model for a database is a relational model. These databases are organized by fields (or attributes), records, and tables. A field / attributes is a single piece of information; a record is one complete set of fields; and a table is a collection of records.

2. Goals

Project purpose and goals

The group must analyse, fully document and develop a functioning database that can support a business in the future. The database and the interactions between the user and application / database must be fully documented using UML notation / User Stories / ER-Model.
The primary goals are

- To be aware of the importance of a well-defined and documented analysis before developing a product, and to understand the use of documentation for development and maintenance activities.
- To develop and document a database for a particular purpose

It's not a goal to focus on the aspects of design and layout of a website.

Process goals

It is important for everyone in the group to contribute to all parts of the solution, since learning is the primary objective.
A project plan will have to be made as well to show how you anticipate solving the project, and will have to be uploaded to the portfolio along with the learning objectives and the process. It is necessary to have uploaded these to the portfolio in order to obtain approval for the project.

3. Product

Choose a well-known shop, and develop an e-shop solution.
The requirements are in principle shown in "exhibit 18.2" below:

It must be well documented, because the documentation from your analysis is the requirement description someone else must be able use to implement in the physical application and database.

This means that we need thorough documentation of the interaction between the user and the application / database (e.g. a detailed Use-Case model or a set of User Stories) and a data model (ER-model) on 3.NF.

The Things of Interest include: Customer; Product; Orders; Shopping Carts

EXHIBIT 18.2 Capabilities Needed by Users of Electronic Storefronts

Buyers need the ability to:

- Discover, search for, evaluate, and compare products for purchase using e-catalogs.
- Select products to purchase and negotiate or determine their total price.
- Place an order for desired products using a shopping cart.
- Pay for the ordered products, usually through some form of credit.
- Confirm an order, ensuring that the desired product is available.
- Track orders once they are shipped.

Sellers need the ability to:

- Provide access to a current catalog of product offerings, allowing prospective buyers to analyze and evaluate the offerings.
- Provide an electronic shopping cart in which buyers can assemble their purchases.
- Verify a customer's credit and approve the customer's purchase.
- Process orders (back-end services).
- Arrange for product delivery.
- Track shipments to ensure that they are delivered.
- Provide the means for buyers and visitors to register at the site, to make comments, or to request additional information.
- Answer customers' questions or pass queries and requests to a Web-based call center.
- Analyze purchases in order to customize buyers' experiences.
- Provide Web-based post-sale support.
- Create the capability for cross-sell and up-sell.
- Provide language translation if needed.
- Measure and analyze the traffic at the site to modify and maintain the various applications.

ref.: Electronic Commerce 2010, 6/E
Efraim Turban ;
ISBN-13: 9780136100362
Prentice Hall, 2010

Overall requirements:

You must build a database and register customers (some of them) and products (items) in the DB. Customers and products have at least (and probably even more) the following attributes:

Attributes table:

Entity	**Attributes**	**Value**	**Notes**	**Datatype** Num. / Alfanum.
Customer	*CustomerID*	1 – X	Unique no.	N
	Customer name	a – Å	Max. 30 char.	AN
	Customer adress	All char.	Max. 35 char.	AN
	Post-CD	1000 – 9999	Number	N
	City	a – Å	Max. 30 char.	AN
	(SectorID	1 -20	Unique no. (industry)	N
	Sector name**)**	a – Å	Max 20 char.	AN
Product	ProductNo	1 - X	Unique no.	N
	Product name	a – Å	Max. 30 char.	AN
	Standard price	Currency		Currency
	Place in stock	1 -500	Number	N
	Number in stock	0 – 1500	Number	N
	Min. number in stock	0.5 – 200	Number	N

Interactions / Processes:

Handling the cart:

- Create (add) an item to cart
- Read content of cart
- Update (change) numbers of item
- Delete item from cart

When a product is selected it is essentially added to your cart.
When you place the order the items are taken OUT of your cart and an order is created. To represent this in a database structure you might have:
CART
Cart_LINE_ITEM (cart_id; product_id; price; quantity; etc)
or
ORDER
ORDER_LINE_ITEM

Handling Customer:

- Check customer; Existing customer?
  - If yes; get customer information from DB - Fill out form.
  - If no; ask “do you want to be a customer
    - If yes; get customer form, and add customer to DB
    - If no; show catalogue, costumer is able to browse in it.

Handling Order:

- Accept order:
- Mark as final order in db
- Or delete order

It is also a requirement, that there are good explanatory comments in the code.

4. Evaluation

Final hand-in: 20. September 2015
Upload on Fronter not later than Sunday 20. Sep. 2015 @ 23:59
- it is of course ok to hand-in before if you finish earlier.

Upload documentation as ZIP-file (not .rar or other)
Other formats etc. will not be evaluated and the project evaluation will be given "Not passed".

Studypoint & Feedback
Study points
This project gives a total of 20 study points split on 4 areas.

Project is approved according to the problemformulation	5 studypoints
Upload project on Fronter with group number as the first part of the filename and in time	5 studypoints
All required documentation (e.g. UserStories; ER-Model; Attribute-table is included in the zip-file	5 studypoints
Your SQL is supplied with good explanatory comments, is executable and there is registered records in all tables	5 studypoints

Feedback
The project will be evaluated by the teachers and the evaluation for each group will be given and be available in an uploaded Excel-sheet including a few comments.
There will be several evaluation criteria:
Regarding the requirements for the documentation according to the attachment,
Regarding the code in the report and in the programme according to "Best coding practices".

The project evaluation will be given as "Passed / Not passed" - as a hint to you, so you can see your professional skills, and if necessary the possibility to improve them
If you want more feedback than given in the excel sheet, you must arrange a meeting with the teachers

5. Methods
See the attachment 1 (requirements for approval too)

6. Group
Group size should be of max. four. You choose your own groups.
The group must develop a contract describing the frame for group work. In case of any problems in the group, it's the groups responsibility to contact teachers.
IRF irf@cphbusiness.dk; TUJE tuje@cphbusiness.dk must receive an email from you about the group member's names (Full name and mail is required) – no later than 2 days after the project has started.

7. Deadlines and project plan
Project start: 7.September @ 08.30
Final Hand-in: 20. September - Uploaded on Fronter not later than 23:59

8. Counselling / Guidance

See the schedule at Fronter

9. Requirement: Format

Hand in

Upload as a zip file at Fronter:

- 3. semester - CLmul-a14e > Aflevering > Project 1 - Database
- 3. semester - CLmul-b14e > Aflevering > Project 1 - Database
- 3. semester - CLmil-v14e > Aflevering > Project 1 - Database

The material must be organized in a zip-file and handed in as a group hand in.
The Zip-file must have a unique name and all files are structured in subfolders

NOTE: use your group number as the first part of the filename for your report.
Ex: Grp08.report.pdf and do the same for the Containing folder – the zip file:
EX: Grp08.zip

The front page must include:

✓ Project title

Fact Sheet (can be equal to the front page) – See and use attachment 2

✓ Project title
✓ Project URL-address
✓ Full name and mail on all members of the group
✓ Group number, class, name on counsellors / guides
✓ All members must sign the fact sheet

Content of the Report Headlines and page numbers

- There must be an index with page numbers and or a structure of chapters and subchapters
- There must be headlines og sup headlines according to the index.

Volume and number of characters

The project must as a maximum be on 3 normal pages + 2 normal pages per group member inclusive space, notes, text boxes etc. – A normal page is 2400 characters.

Front page; Index; list of literature and attachments (appendix) is not included in the number of normal pages, but will be included in the evaluation. There is no limitation in attachments.

Notes

References to literatures from the list of literature must be shown In footnotes, where they are
The footnote must include: Name of the author; year of release; a page number for the reference
e.g.: ”Schwartz Dahlberg (2011) p. 9”.

Annex

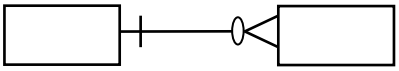
All attachment must have an Annex number and a title

Attachment1 - Methods:

Database Project - Requirements to Documentation

Each group must hand in as shown below

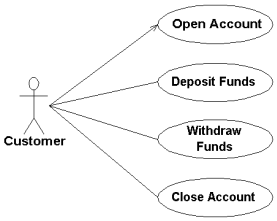
1. An Entity – Relation Diagram on 3rd normal form



2. A Table of attributes

Entity/ Relation	Attributes	Value	Notes	Data type Num/Alfanum
Customer	CustomerID	1 - 200	Unique no. 6 digits	N

3. A Use Case Model
or
User Stories



4. A detailed description of a least 3 essential Use Cases or User stories
Use a template:

Use-Case Description:
Name:
Identifier *A unique identifier for this use case, e.g. UC10*
Preconditions *List the state(s) the system can be in before this use case starts*
Basic Course *Describe the "normal" processing path, aka, the Happy Path*
Here you can use an activity diagram - incl. swim lanes if necessary Use case begins when …
Use case ends when …
Alternate Course A: Description of the alternate course
Condition: Indicate what happened
List the steps
Post conditions *List the state(s) the system can be in when this use case ends*

5. A CRUD matrix

Use Case \ Entity	Member -	Role-	Population-
Login	**R**		
Search Information			**R**
Sign up for Event			
Create / Update/ Delete Member	**C**	**R**	
Insert new Event			
Create / Update / Delete Land			
Create / Update / Delete Population			**C**

All models (all documentation) are complemented by a short explanatory text.

6. And of course a well-functioning database and SQL-statements.

Attatchment 2

Study: Multimediea Design
Project 3.semester 1. Project: Database
Period: 07. Sep. 2015 – 20. Sep. 2015

Fact Sheet

Project title:		
Class:		
Group Number:		
Group member:		
Name:	School mail:	Sign:

By signing this document we confirm that the submitted material is all our own work. We have not copied another person's work or used material without referencing the source. We have not cheated in any way.