Aalto University School of Science

Web Shop

T-106.4300 Web Software Development

Project Plan

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1 Introduction to the Topic

The objective of the project is to develop a web shop with social media features, as stated in the instructions. The products to be sold in our web shop are Nintendo Game & Watch handheld games. All 61 different games in 11 series will be available through our imaginary web shop, even tough the production of the games has been stopped nearly two decades ago. Got to be prepared for the second coming :)

2 Requirements

Basic requirements for the project have been set by the course staff and are available at:

- https://noppa.tkk.fi/noppa/kurssi/t-106.4300/harjoitustyot/T-106_4300_project_info.pdf

3 Structure of the Web Site

The structure of the web site is illustrated in Figure 1. The web site has been divided into two main areas: Public and Administration.

In the Public area, users are allowed to search and browse products (games) arranged by categories (series), read product details, read and write product reviews as well as comment and rate them. Products can be added to a shopping cart and when ready, the user can checkout to purchase his/her selected products. Users can also register to the system (not required, though), which might become handy when shopping often in our web shop, as then they do not need to fill in their user information every time they place an order. Another benefit from the registration is that the user is able to browse his/her order history.

The Administration area, on the other hand, is accessible only to users with the administration role. The area contains necessary tools for managing users, their orders, products, reviews, and comments. This is only a rough draft of the web pages in the Administration area, and will likely see some changes as the work progresses.

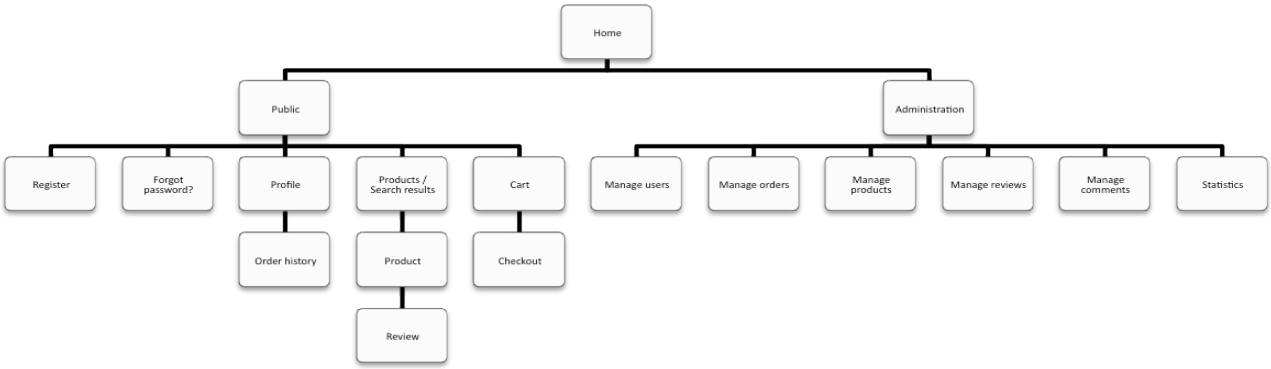

Figure 1: Web shop conceptual web site diagram

The following table lists details (name, URL, type of the content area) about each web page of the web site. The different types of the content area are: static and dynamic, in which dynamic means that the content area has been dynamically generated, whereas static means that the content area is static.

Table 1: List of web pages with details

Name	URL	Type
Home	/	static
Register	/register/	static
Forgot password?	/forgotpassword/	static
Profile	/profile/	dynamic
Order history	/profile/orderhistory/	dynamic
Search results	/search/	dynamic
Product	/products/{productid}/	dynamic
Review	/products/{productid}/reviews/{reviewid}/	dynamic
Cart	/cart/	dynamic
Checkout	/checkout/	dynamic
Manage users	/admin/users/	dynamic
Manage orders	/admin/orders/	dynamic
Manage products	/admin/products/	dynamic
Manage reviews	/admin/reviews/	dynamic
Manage comments	/admin/comments/	dynamic
Statistics	/admin/statistics/	dynamic

In addition to the above web pages/URLs, the web site also provides a RESTful API for accessing various resources. As an example, the following lists all “get a list of all XXXXX” URLs supported by the RESTful API: /api/users/{userid}, /api/orders/{orderid}, /api/products/{productid}, /api/reviews/{reviewid}, /api/comments/{commentid}, and /api/statistics/.

4 Project Goals, Group Members, and Responsibilities

Our team consists of three experienced web developers: Markku Laine, Juha Loukkola, and Kalle Säilä.

We are all committed to complete the project by the schedule of the course, even tough that might require some extra effort from us, as all the members of our group have a day job. Furthermore, we are aiming at a good/excellent grade. Detailed information about our group can be found below.

Table 2: Group information

Name	Student Number	Email	Credits Needed
Markku Laine	48605D	markku.laine@gmail.com	5
Juha Loukkola	57929V	jloukko@gmail.com	5
Kalle Säilä	64775E	kjsaila@gmail.com	5

Considering the responsibilities within our group, we are all trying to do everything as equally as possible, as stated in the instructions. Nevertheless, we have assigned a responsible group member for each sub task (a kind of a mini project manager for that particular sub task) in order to better organize and manage who should do what and when. Below is a detailed table of the responsibilities within our group.

Table 3: Group responsibilities

	Templates	Models	Views	Styling	Inter-action	Graphics	Content
Markku Laine						x	x
Juha Loukkola		x	x				
Kalle Säilä	x			x	x		

5 Web Application Architecture

As all Django-based applications, also this one is based on the Model-View-Controller (MVC) pattern, although in Django the pattern is called Model-Template-View. The Model is responsible for the data, templates are responsible for the representation of the data, and views are responsible for the business logic.

5.1 Database Schema

Because our application is a web shop, it is self-evidence that we need users and products in our model. Furthermore, because the application needs to be social (products can be commented and rated) we need a model for comments, comment threads and ratings. Lastly, because we need to see the shopping history of users and products, we have a model for orders as well.

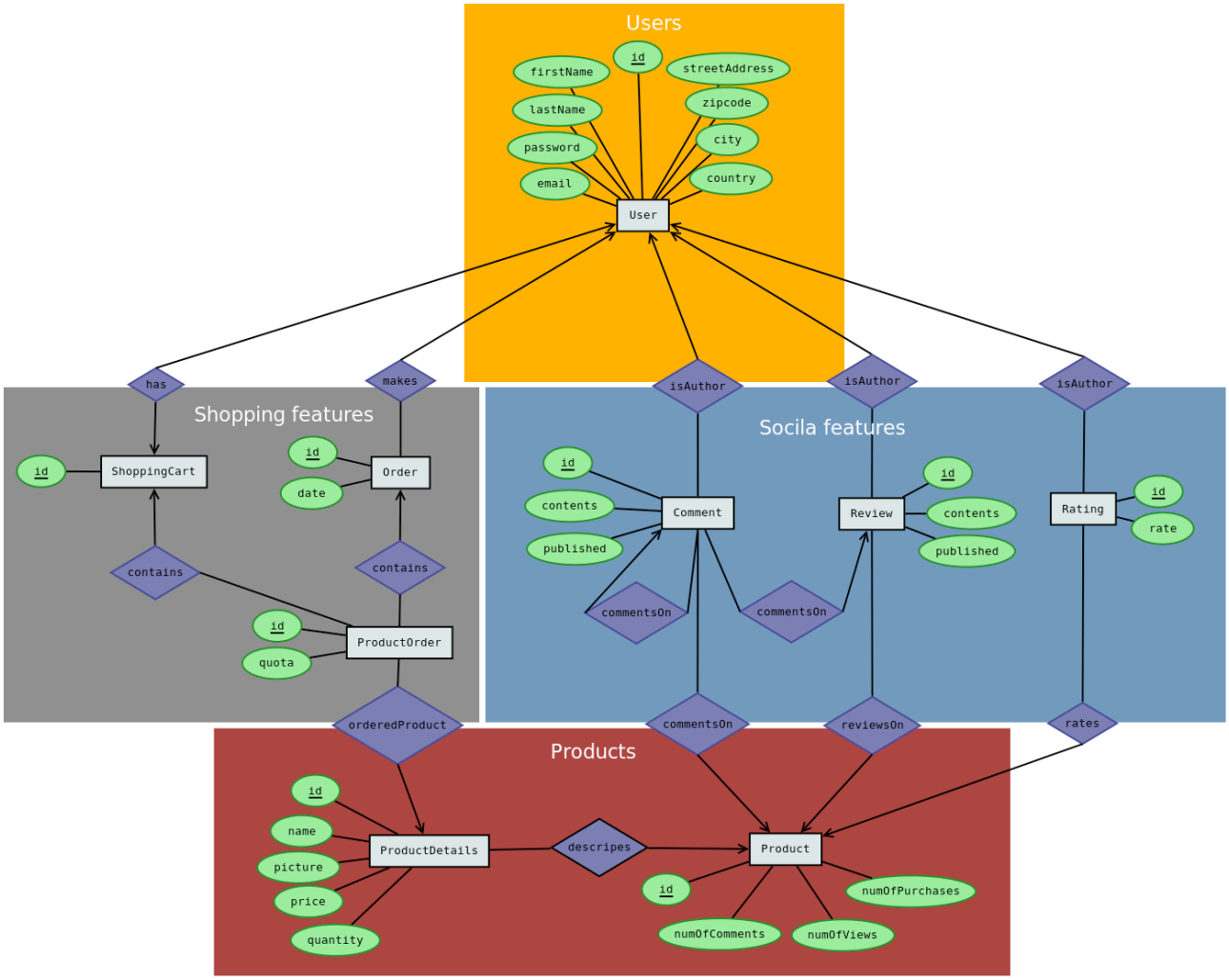

Figure 2: ER diagram

Below is a detailed representation of our models.

User {
  id : Integer
  firstName : String
  lastName : String
  streetAddress : String
  zipcode : String
  city : String
  country: String
  email : String
  password : String
  shoppinCart : IDREF
}

Product {
  id : Integer
  Details : IDREF
  numOfComments : integer
  numOfViews : integer
  numOfPurchases : integer
  comments : Collection of Comment objects
  ratings : Collection of Rating objects
  reviews : Collection of Review objects
}

ProductDetails {
  id : Integer
  product : IDREF
  name : String
  picture : String
  price : Double
  quantity : Integer
}

Comment {
  id : Integer
  user : IDREF
  published : Date
  contents : Text
  comments : Collection of Comment objects
}

Rating {
  id : Integer
  rate : Integer
  user : IDREF
}

Order {
  id : Integer
  date : Date
  user : IDREF
  productOrders : Collection of ProductOrders objects
}

ShoppingCart {
  id : Integer
  productsOrders : Collection of ProductOrders objects
}

ProductOrder {
  id : Integer
  quota : integer
  productDetails : IDREF
}

Review {
  id : Integer
  user : IDREF
  published : Date
  contents : Text
  threads : Collection of Thread objects
}

6 Schedule

Implementing will be done so that all functional requirements for the 4 cr version will be met prior moving on those of the 5 cr version. This will allow us to return successfully the 4 cr version of the project, even if something unexpected happens and we would not be able to complete the 5 cr version in time or with adequate quality.

Table 4: Project schedule

Task	Starts	Ends
Project plan	January 21, 2011	January 28, 2011
Setup version control	January 29, 2011	January 30, 2011
Setup project template	January 29, 2011	January 30, 2011
Implement URL patterns	January 31, 2011	February 1, 2011
Implement models	January 31, 2011	February 6, 2011
Implement RESTful API views	January 31, 2011	February 6, 2011
Content: product details	February 4, 2011	February 6, 2011
Graphics: layout and product images	February 4, 2011	February 6, 2011
Implement dummy views and templates	February 7, 2011	February 10, 2011
Check-point submission	February 10, 2011	February 11, 2011
HTML & CSS	February 12, 2011	February 20, 2011
Authentication and access control	February 12, 2011	February 16, 2011
Register, Forgot password?, and Profile	February 12, 2011	February 17, 2011
Search result, Product, Review, and Cart	February 12, 2011	February 18, 2011
Checkout and Order history	February 19, 2011	February 24, 2011
Admin: Statistics	February 25, 2011	February 27, 2011
Admin: Manage views	February 25, 2011	March 2, 2011
Testing	January 31, 2011	March 2, 2011
Final submission	March 2, 2011	March 3, 2011
Project demonstration	March 14, 2011	March 18, 2011

7 Resources

- Course information, web site, https://noppa.tkk.fi/noppa/kurssi/t-106.4300/etusivu
- Project information, web site, https://noppa.tkk.fi/noppa/kurssi/t-106.4300/harjoitustyot/T-106_4300_project_info.pdf
- Project FAQ, web site, https://wiki.aalto.fi/x/r_pMAw
- The Django Book, web site, http://www.djangobook.com/
- Django Documentation, web site, http://docs.djangoproject.com/en/1.2/
- jQuery API, web site, http://api.jquery.com/