

Shoe-Fanatics

Product Name	Shoe fanatics
Team name	KMSK
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1. Introduction

Description of our project

„ Mr. Hakkarainen has been selling shoes in his web store for 15 years. The current web store solution is completely outdated, and your team wants to get the contract for the new portal.“

Therefore we are implementing a web solution, which provides functionalities, as browsing through the webpage, searching for items, purchasing shoes with a Finnish web bank account or using a credit card. Furthermore, we offer the possibility to register as a user and to easily add shoes to your shopping cart and buy them later. Moreover, if you visit our web store there will be recommendations of shoes our customer might like be listed, which is based on either previous purchased shoes or previous visited web pages. As our team is very agile concerning all new possibilities, the web store we'll create will be with the latest standards, very easy to use for the customer and of course visually very attractive. As a guarantee for the users and also for Mr. Hakkarainen, we'll provide the most secure web store for the company and also provide that the personal user data and all the purchases are secure.

Shoemanics- Web store - is our new solution to the already existing web store by Mr. Hakkarainen. It is a faster, securer and easier way to communicate with the customers. Our system is connected to the internet providing a ordering service for customers all over the world, which are then able to get the products shipped and can pay either with a Finish web bank account or use their credit card.

Furthermore, our web store can operate with the following Web browsers: Microsoft Internet Explorer version 5.0 and higher, Opera 10.5 and higher, Safari 4.0 and higher and Firefox 3 and higher. Moreover, our system runs on a server, which is a Linux Red Hat server combined with an Apache Webserver. We're using an Oracle database engine using SQL and web page is created with HTML5.

2. User Requirements Definition

2.1. Revision History

Name	Date	Reason For Changes	Version
Carolina Rodríguez	05/12/11	Initial draft	1.0 draft 1

2.2. User groups definitions

<i>User group</i>	<i>Brief definition</i>	<i>Definition</i>
Administrator / Vendor	Owner of the shoes store	The administrator is the unique vendor in the shoes store. Therefore, he has the access to all information. As exceptions , the bank account and the password of the clients are inaccessible to him because of privacy issues. Anyway, he can delete or edit a client account.
User / Visitor	Not registered user	The visitor can either be a user that has never been in the shoes store or a user that has not registered though visit the shoes store for several times. So, the visitor has rights to browse the shoes' information or even to add pair of shoes to the shopping cart. Still, the visitor will not be able either to buy or see recommendations.

User / Client	Registered user	The client is a user who is registered as a client of the shoes store. Therefore, in addition to what the visitor can do, he can check out his shopping cart and see recommendations. Also, he can browse his shopping history (order confirmations) and his own account information.
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2.3. Use cases and primary actors for the Shoe Fanatics E-Commerce

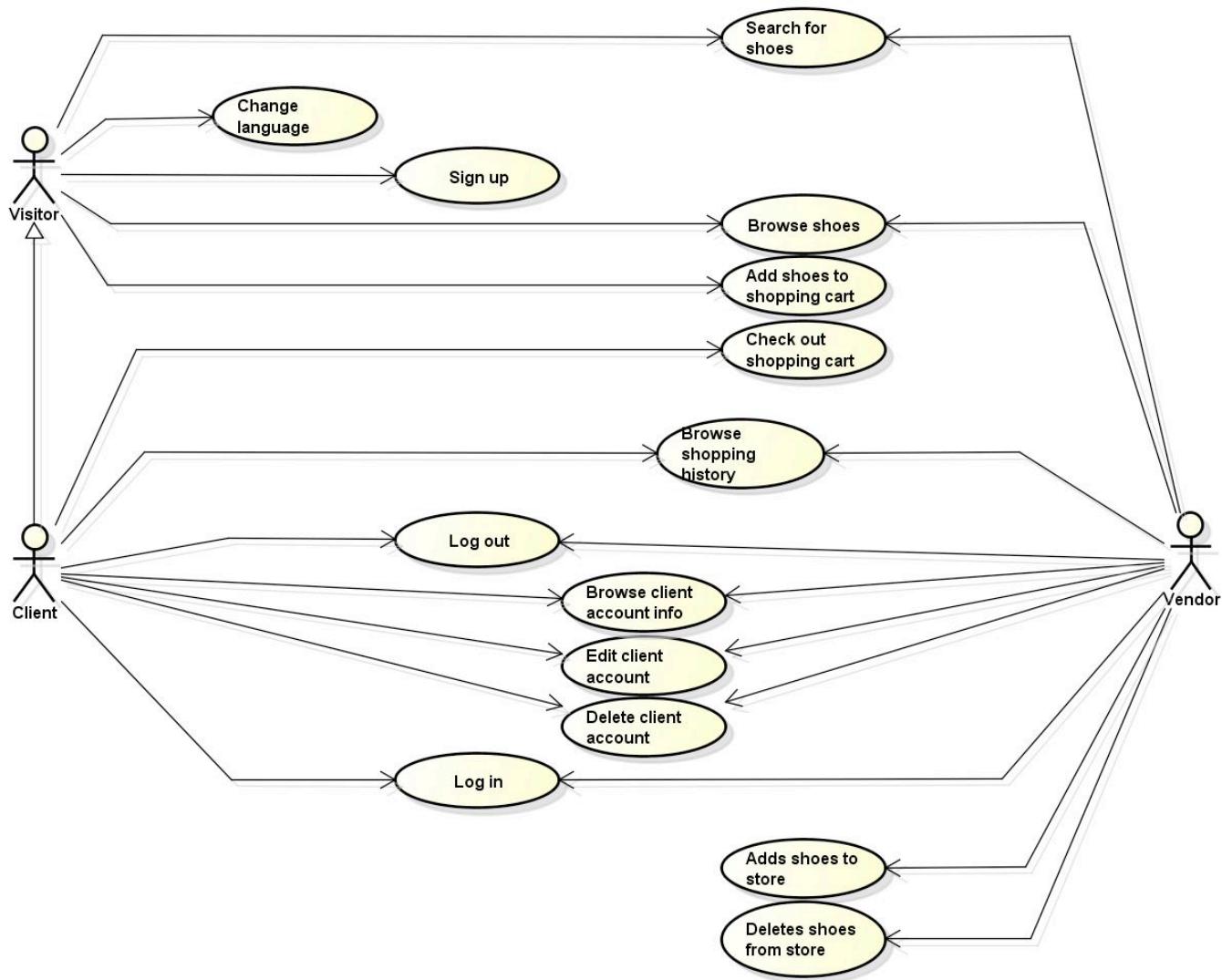
<i>Primary Actor</i>	<i>Use Cases</i>
Vendor	1. Edit Client Account 2. Delete Client Account 3. Add Shoes 4. Delete Shoes 5. Browse Shoes (in more detail than users) 6. Browse Client Account
Client	7. Login 8. Log Out 9. Edit Client Account 10. Delete Client Account 11. Browse Shoes 12. Search for Shoes 13. Add Shoes to Shopping Cart 14. Check Out the Shopping Cart 15. Browse Shopping History 16. Change Language 17. See Recommendations
Visitor	18. Sign Up 19. Search for Shoes 20. Browse Shoes 21. Add Shoes to Shopping Cart

	22. Can Change Language
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*For this assignment, only the bolded use cases have been written.

Use Case Diagram

UcUsecaseShoeFanatics

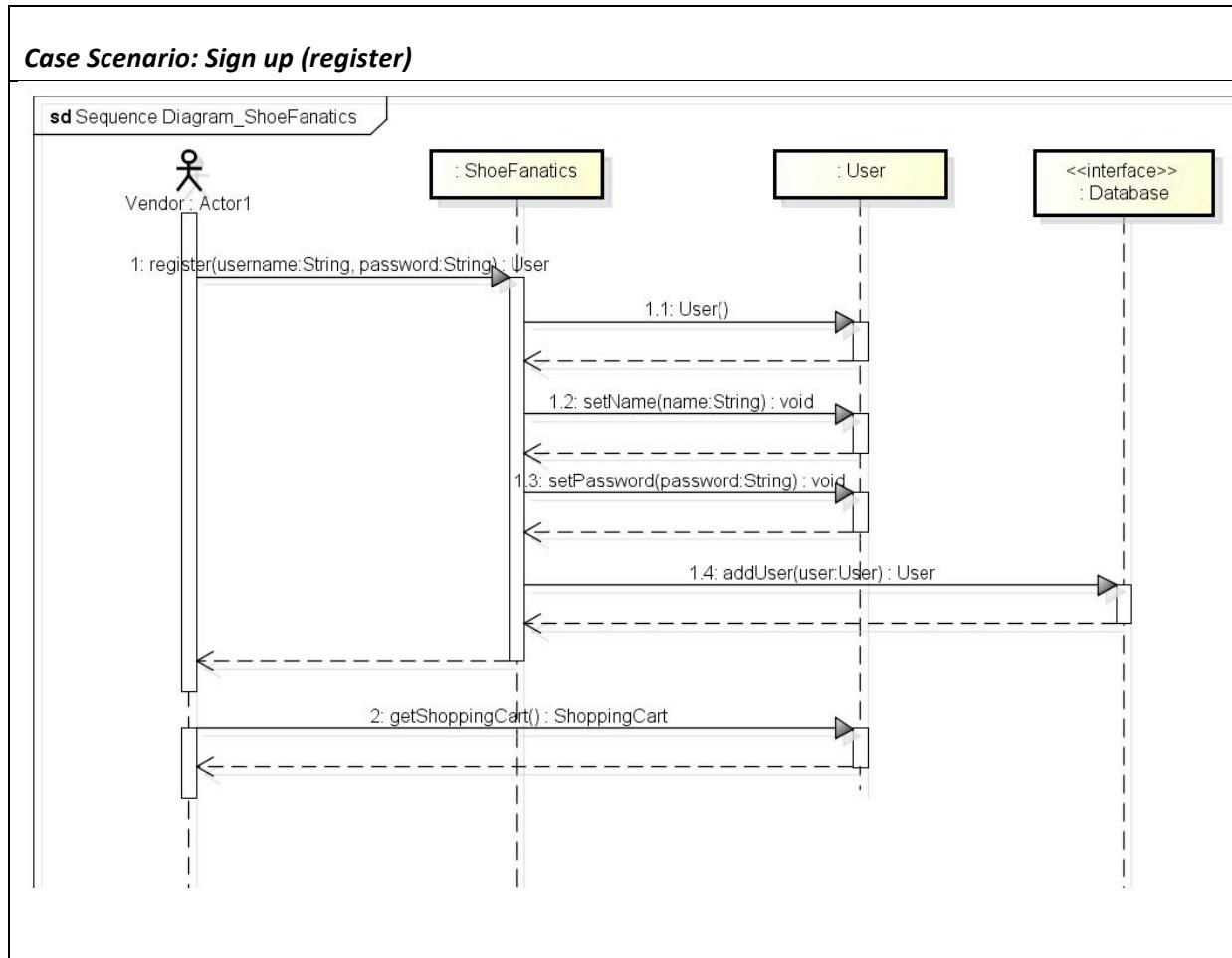


Use Case ID:	1		
Use Case Name:	Add shoes		
Created By:	Carolina Rodríguez	Last Updated By:	Carolina Rodríguez
Date Created:	December 6, 2011	Date Last Updated:	December 8, 2011
Actors:	Vendor		
Description:	The vendor accesses the E-Commerce of Shoe Fanatics to add a new pair of shoes.		
Preconditions:	<ol style="list-style-type: none"> 1. Vendor has logged in. 2. Vendor can see the start page of store with the admin view. 		
Post conditions:	<ol style="list-style-type: none"> 1. Vendor has added one new pair of shoes to the store. 2. The new pair of shoes is shown in the start page as the client would see it. 		
Normal Flow:	<p>1.0 Add One New Pair of Shoes</p> <ol style="list-style-type: none"> 1. Vendor asks for the form to add a new pair of shoes. 2. System will show the form. 3. Vendor fills/edits the required fields: <ol style="list-style-type: none"> a. Name of the pair of shoes b. Sizes available c. Colors available d. File location of the pictures to upload 4. Vendor submits the information. 5. System will show the information and ask for confirmation. 6. Vendor will confirm the information. 7. System will store the information in the database and will upload the required pictures. 8. System will show the new added pair of shoes in the start page from the client view. 		
Alternative Flows:	<p>1.1 Add multiple pair of shoes (branch after step 5)</p> <ol style="list-style-type: none"> 1. Vendor will check the checkbox that requires another form to add a new pair of shoes and confirm the information. 2. System will do step 7. 3. System will print a message to the vendor of how much memory there is in the database, and how much memory the new added shoe used. 4. Return to step 2. 		
Exceptions:	<p>1.0.E.1 Database is full (at step 1)</p> <ol style="list-style-type: none"> 1. System will inform that the database has no more memory space. 2a. The system will ask if the vendor wants to delete pairs of shoes. 3a. Vendor will confirm. 3b. Vendor will not confirm. 4a. System will show “delete pair of shoes” use case. 4b. System will change use case. <p>1.0.E.2 Vendor does not have the required information (at step 3)</p> <ol style="list-style-type: none"> 1. System will provide the default information: 		

	<ul style="list-style-type: none"> a. Sizes available b. Colors available c. Shoe pictures already uploaded will be selected <p>2. Return to step 4</p> <p>1.0E.3 Vendor wants to edit the information (at step 6)</p> <ol style="list-style-type: none"> 1. Vendor will not confirm the information 2. Vendor will ask to edit the information 3. System will show the form page 4. Return to step 3 <p>1.0E.4 System loses internet connection (at step 7)</p> <ol style="list-style-type: none"> 1. System will return to step 2 and print a message in it informing about the connection problem. <p>1.1.E.1 Database is full (at step 3)</p> <ol style="list-style-type: none"> 1. See 1.0.E.1 exception
Special Requirements:	<ol style="list-style-type: none"> 1. Vendor can cancel the adding of a new shoe at any time. 2. The information of the shoe should contain the name of the shoe and at least one size and one color available.
Assumptions:	<ol style="list-style-type: none"> 1. Vendor has the access (username and password) to access as an administrator. 2. Vendor knows what the system means by file location (file path with the hard disk address included) 3. Vendor should have the necessary picture files of the shoe.

Use Case ID:	2		
Use Case Name:	Sign up		
Created By:	Carolina Rodríguez	Last Updated By:	Carolina Rodríguez
Date Created:	December 7, 2011	Date Last Updated:	December 8, 2011
Actors:	Visitor		
Description:	The visitor wants to check out the shopping cart where he has some shoes. When he clicks the link to check out, he sees the log in page. He selects the sign up link. The signing up succeeds and the system returns to the check out page.		
Preconditions:	<ol style="list-style-type: none"> 1. Visitor has opened the browser. 2. Visitor has found the website of Shoe Fanatics E-Commerce. 3. Visitor has added some shoes to the shopping bag. 		
Post conditions:	<ol style="list-style-type: none"> 1. Visitor has succeeded in creating a new account. 2. Visitor is ready to buy the shoes. 		
Normal Flow:	<p>1.0 Sign up</p> <ol style="list-style-type: none"> 1. Visitor hovers over the Shopping Bag link. 2. System displays in real time a dropdown with the shoes that have been added to the shopping bag. 3. Visitor asks to check out the shopping bag. 4. System displays the Login page. 5. Visitor asks to Sign up. 6. System displays the Sign up form. 7. Visitor fills all the required fields, accepts the terms and submits the information. 8. System saves the information to the database and returns the Check Out page with a hello-message in the header. 9. Visitor continues in the Check Out page. 		
Alternative Flows:	<p>1.1 Visitor is a client who did not log in. (at step 4)</p> <ol style="list-style-type: none"> 1. Visitor logs in with his client credentials. 2. System checks the credentials 3. System confirms that credentials are correct. 4. System displays the Check Out page. 		
Exceptions:	<p>1.0.E.1 Hovering the Shopping Bag does not show the dropdown (at step 2)</p> <ol style="list-style-type: none"> 1. Visitor clicks the Shopping Bag link. 2. Return to step 2. <p>1.0.E.2 Required fields of the Sign up form are empty (at step 8)</p> <ol style="list-style-type: none"> 1. System highlights the required empty fields with an error message. 2. Return to step 7. <p>1.1.E.1 Password is not correct (at step 2)</p> <ol style="list-style-type: none"> 1. System displays an error message and the “Don’t remember my password” help-link. 2. Visitor tries again to insert the correct password. 2a. Visitor asks to remember password. 3. Return to step 3. 		

	<p>3a. System shows a form to input his email.</p> <p>4a. Visitor writes his email.</p> <p>5a. System sends an email to the visitor with a link to reset the password.</p> <p>6a. Visitor resets his password by creating a new one.</p> <p>7a. Return to step 4.</p>
Special Requirements:	<ol style="list-style-type: none"> 1. In the dropdown shopping bag, each shoe must have the information of its price and the total price of the whole shopping bag. 2. From the dropdown shopping bag, visitor can also delete one shoe and the system will ask for confirmation.
Assumptions:	<ol style="list-style-type: none"> 1. The visitor has added some shoes to the shopping cart. 2. The visitor wants to buy the shoes.

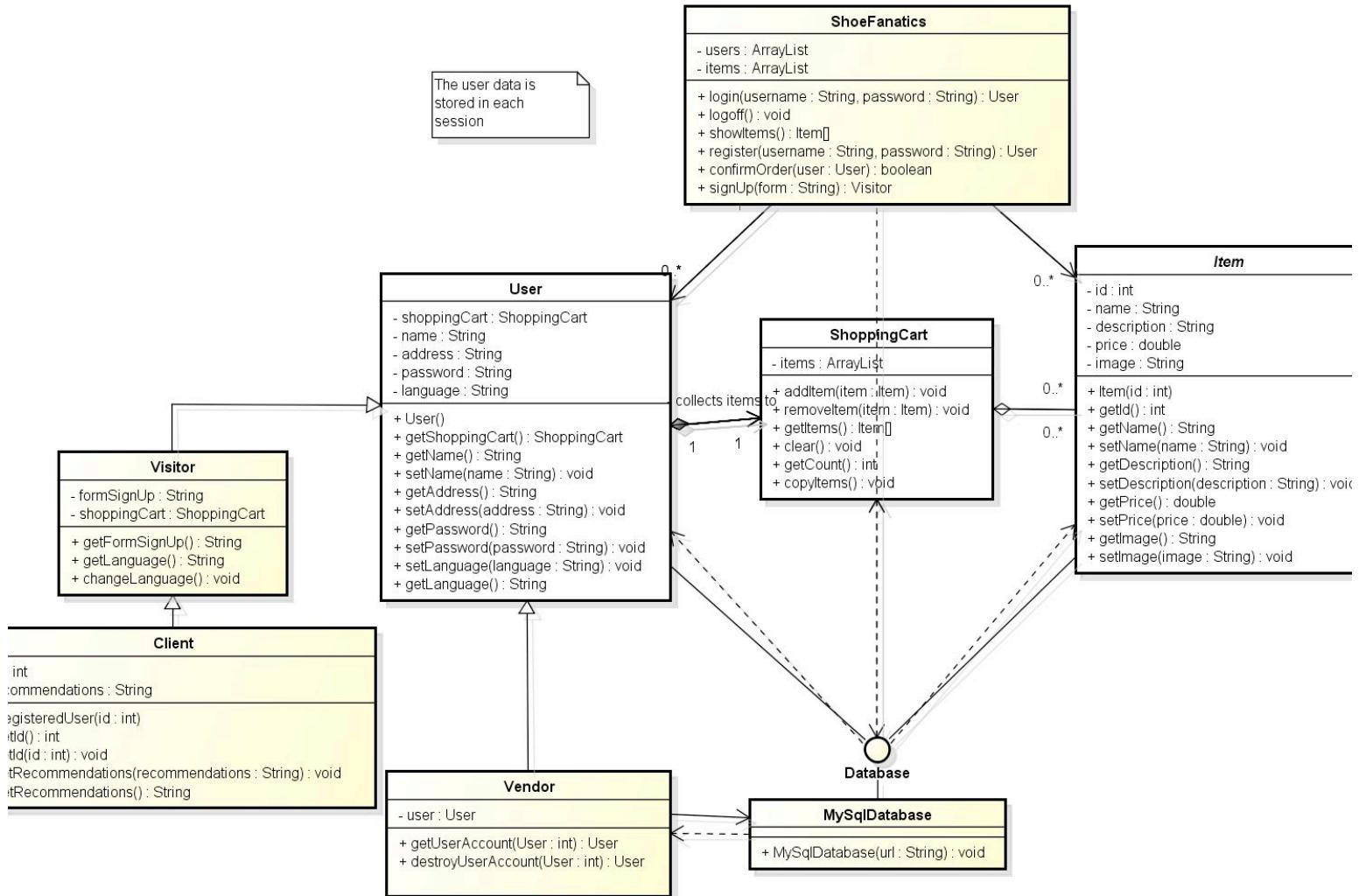


3. System Architecture

3.1. High-level overview of the system

The Shoe Fanatics is a store application. Vendor adds shoes to the database so they are available online. The user is able to create an account by creating client credentials, thus he can buy shoes by adding them to the shopping cart. Visitor or client can add as many shoes as they want to the shopping cart. Client can have the privilege to have recommendations in a banner. These recommendations are compiled from other purchases.

3.2. Main modules and their functions represented



- ShoeFanatics class is an e-shopping center, is the main class which provides the content for the UI. Creating an instance of this class you create a new store.
- In this store, there can be many users and items (these are the attributes of ShoeFanatics class). So ShoeFanatics, User and Shoes are related with a parental relationship (User and Shoes are parents of ShoeFanatics). This means that when creating a store you can add as many users to it as you want, and also Shoes.
- User and Shoes classes' instances will be stored each one in different arrays. These two arrays will be stored in the class ShoeFanatics. In addition, Shoes cannot be created in its own because it's an abstract class.
- Shopping cart is a container both for Shoes and User classes. This class (ShoppingCart) has two relationships. Relationships between data tables define cardinality.
- In the relation of User with ShoppingCart, the type of cardinality, so the multiplicity is one-to-one 1... 1, meaning that only one user can have one ShoppingCart. This is a composition relationship. The visibility here is narrow.
- In the relation of Shoes with ShoppingCart there can be as many Shoes or none in the shopping cart, so the type of cardinality, so the multiplicity is many-to-many 0...*. This is an aggregation relationship and the visibility is wide here.
- Client of ShoeFanatics you can register as a new user. Or check out your shopping bag or confirm an order.
- What the user can do, are call methods: login() and logoff(), showItems(), register(), confirmOrder().
- Visitor of ShoeFanatics you can login, logoff. Also, visitor can browse items from the ShoeFanatics, change language and add Shoes to the ShoppingCart. Methods: getUserAccount(),destroyUserAccount(),addItemToStore().
- MySQLDatabase is the database to store all the data. The data consists for example of the shoes' name, the price of the shoes, the shoes description, the picture, the total price of the ShoppingCart, etc.
- Vendor, User, ShoppingCart and Shoes classes can have access to the database.

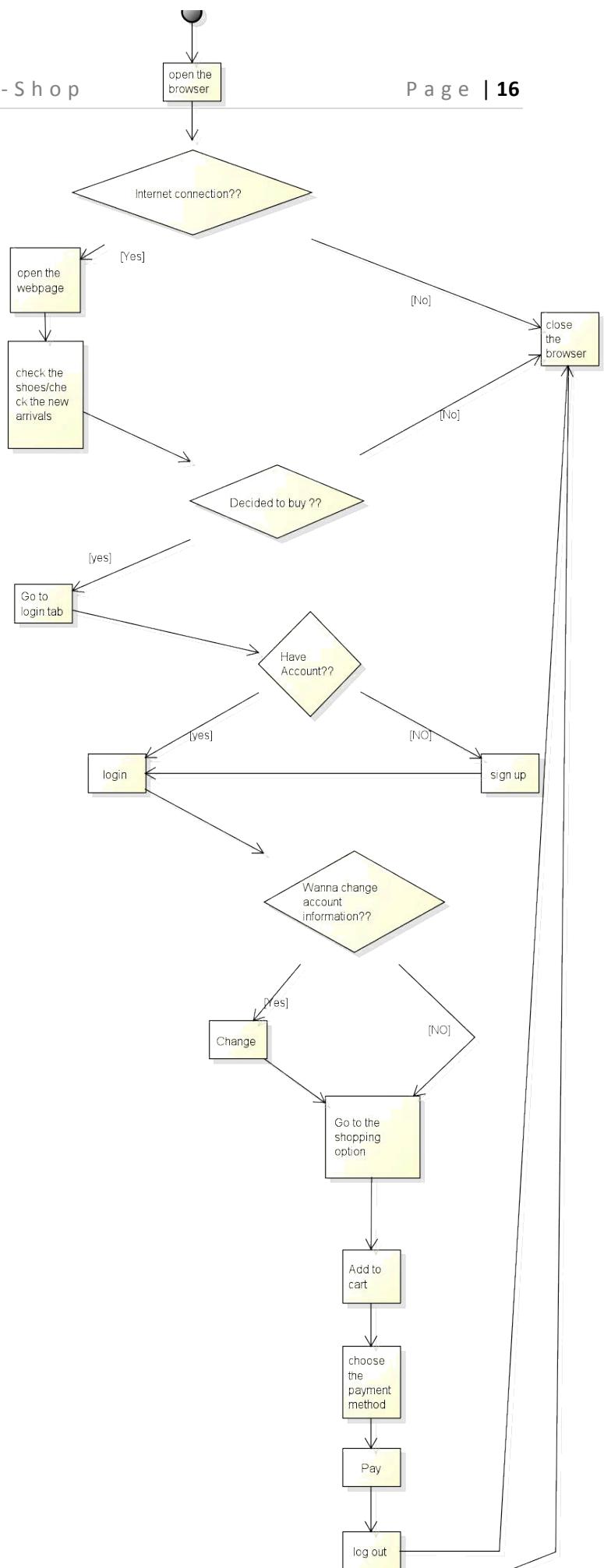
4. System Requirements

4.1. Functional Requirements

- Order.shoes : The client who is logged in, can order one or more shoes at a time.
- Order.login: The system should confirm whether the client has completed the rules to place an order.
- Order.Account: If the visitor is not logged in, the system shall give the options to those who have no account sign up now and continue to order, and to those who have account but not logged get option of login.
- Order.ForgetU: If the username and password of the account is mistyped or forgotten, the system shall inform that one of them is incorrect.
- Order.ForgetP: If client forgets password, system shall ask registered username and email-address so that system can send the password to client through email. If client forgets username, system shall ask registered password and email-address.
- Order.cancel : The client can cancel its order if they inform the vendor within 24 hours of ordering.
- Order.back: The vendor can pay back to the client's account if the client cancels the order within 24 hours of ordering.
- Order.deliver.address : The system reminds to check the delivery address before client buys the shoes.
- Order.deliver: The system specifies the delivery time when the payment has been confirmed.
- Order.Lists: The system shall display the lists of newly arrived shoes as soon as the client is logged in into their account.
- Order.Multiple : The client can order more than one identical shoes depending on the number of availability of shoes.
- Order.changeNumber: If the availability of shoes is less in number then client can change the number of shoes or cancel the order.
- Order.Confirm: Client can edit or delete the order until he confirms the order.
- Order.confirmPrice: When the client indicates that he does not wish to order any more shoes, the system shall display the cart with price and the calculated amount to be paid.
- Order.Pay.Method: when the client confirms that he is done with purchasing shoes, system asks to select the payment method and client choose one of the given options.
- Order.details: The details of the payment like shoes ordered, payment method and delivery instructions is displayed after the payment has been confirmed.

- Order.Pay.ok: If the payment is confirmed, the system shall display a message confirming acceptance of order with the transaction number.
- Order.Pay.No: If the payment request is rejected, the system shall display a message with the reason for rejection. The client can decide whether to continue the payment or to cancel it.
- Order.toVendor: The system sends a message to the vendor with number of shoes in the order.
- Order.toclient: The system sends email to client with the order and the details of payment.
- Order.update: The system updates the menu where the availability of the shoes which are already sold is changed.
- Order.Failure: If order fails somehow, then system informs the client and also clarifies the reason of it.
- Order.access: Client can access all the information of himself like number of shoes bought until the certain period of time.
- Order.Reorder: Client can re-order the same shoes again depending on the availability of the shoes mentioned by the system.
- Order.feedback: Client can give feedback by filling the feedback form and vendor receives the feedback.

4.2. Shopping flow-chart



5. Non-functional System Requirements

5.1. Usability

To ensure that the system is easy to use, we consulted some system from other similar website. From this website we got some ideas about what is good and not good, what should be improved and modified.

After discussion, our group has come to the conclusion that the system should be the simpler, clearer and easier, it is the better. Even the system of the website is simple but it is also contained enough information and requirements.

The front page will lead visitor to either register form or products that are divided into different seasons, brands and use. On each product will also list the colors, sizes and availabilities. So it is easy for visitors easy to follow and purchase.

They can choose which brands, season and use of products; they want to see and purchase to click in.

The registration is actually easy to fill, not require much knowledge. Anyone can do it unless they do not know how to type words on the computer. The form is asked for ID, user-name, password, address, and email. It will help administrator to control the customers. And the clients when they have ID, it also helps them to purchase products, get the email in case the web has new products or offers.

5.2. Reliability

All customers' information will be protected, it will be personal issues, and no one will see it except administrator and customer itself. When purchase products, the bank account number is also secured.

Actually if client want to buy products, they have to log in to their user account, in case they used the correct user ID and password, otherwise the system will throw them a warning to log in again or register if they don't have one.

In the customer profile, it will be the history of purchase, in case they paid more than one for the products, they can properly ask for refund.

Of course this personal information will be secret and secured by the system program. So the possible system failures are:

1. Uncorrected ID/Users -->log in again/renew password/register
2. Wrong purchase --> sends a message for cancel/change the purchase

3. Wrong payment (purchase history)-->ask for refund

The web navigator will be used to lead the customer where they are and what the site contains, in case they could not find what they want, they can actually come back to homepage and start again, or look for "searching tabs".

5.3. Efficiency

Since there are tons of people using the system, the system requires using some metrics which can help the system to guarantee the speed, availabilities of the website. There is range of metric to help you ensure the systems, but the most common thing we need to consider is a user's ability to quickly accomplish tasks with ease and without frustration. In order to answer this question, we need to really understand what actually contain in the site and what the users thought about the site.

To make users ease to know what the site is, we will create the site that appears should answer that question. On our e-shop, the shoes fanatics with the big logo on the homepage will present. Web navigator can also help user to know where they are and what they do. The "search" can also quickly help if they could not find what they actually want.

It really takes less time and do not make users feel frustrated in looking around the site. Since the users feel satisfied and happy with their requirement, they will leave happy and want to come back again next time.

Try to minimize the file size, so the loading of the site will be fast, users do not need to wait or server run out of time. Also, every link and source in the web will be active without hesitating. Furthermore, the website can be opened in any browser; it is not caused any error in open/use/purchase. Images and resource from the web can be downloaded and opened easily and quickly.

5.4. Other Non-functional Requirements

Flexibility: The organization should planned from the beginning about extending the functionality of the software which helps to influence the choices made during the design development, testing and deployment of the system.

Portability: It specifies the ease of software in all necessary platforms and the platforms on which it is expected to run.

Integrity: It specifies the security attributes of the system, restricting access to features to certain users for some reason and protecting the privacy.

5 common non-functional system requirements are the following:

1. Accessibility
2. Backup
3. Capacity
4. Efficiency (resource consumption for given load)

5. Environmental protection
6. Extensibility
7. Open source
8. Performance / response time (performance engineering)
9. Price
10. Privacy
11. Quality (e.g. faults discovered, faults delivered, fault removal efficacy)
12. Resource constraints (processor speed, memory, disk space, network bandwidth, etc.)
13. Robustness
14. Scalability
15. Security
16. Usability
17. Reliability
18. Efficiency

5.5. Metrics that guarantee unambiguity

- Product should meet its functional requirements.
- As business grows, vendor will probably take on larger steps, and then functional requirements need to evolve with the customer base.
- Scalability requirements and diagnostic/trouble-shooting capabilities.
- Capacity measurements, responsiveness, or speed, in the context of customer needs.

6. User Interface

Here are now the view and the components listed, explained and illustrated in words and pictures.

1) Views:

- i) Startpage/Main page
- ii) Login
- iii) Sign up
- iv) Account Information
- v) Check out

2) Components:

- i) Banner
- ii) recommendations
- iii) logo
- iv) menu
- v) menu bar
- vi) shopping bag
- vii) sidebar
- viii) footer

Components:

- ~ Banner: top left of the web site, shown at every view.
- ~ Recommendation: shown when you're on the main page and look through the gallery or if you have opened a show you want to have a closer look at
- ~ Logo: one logo is in the address bar and also the banner is the logo
- ~ Menu : Home, Women, Men, Children, Accessories, search, shopping bag
- ~ Menu bar: change language, change account information, sign in, login/logout, register, order
- ~ Shopping bag: located near to the search, has a drop down function to see the items, can check out-> leads you to the checkout page
- ~ Sidebar: changes, depends on which side you are /breadcrumbs
- ~ Footer: contains the Customer Service, Shops, About us, Newsletter -> these are simple HTML5 pages, which contain the given information

Pages:

- ~ Start page: select your language, logo, in the center and middle of the page the galleries of the shoes-> the only part of the page which is going to change to the detailed view of the shoes; also the login/logout, browser, search, shopping bag, account, order you can see, but this is viewable on every page.
 - You can do with it: Go to Log in or log out; browse Women/Men/Children/Accessories; from the shoe detailed view you can add it to the shopping cart; check your shopping cart. In the side menu bar you can filter the shoes by type size or color. Go to account details.
- ~ Login: username, password, submit, sign up link, fill in and log in
- ~ Sign up: Form: (e-mail, password, repeat password, name, surname, address, city, post code, Country, telephone, date of birth, bank information), agree to the Terms & Conditions and create; Fill in the Form and create a new account and then submit it

- ~ Account: see account info; edit info - all the information needed for a sign up can be edited here
- ~ Check out: sidebar changes: you have to be logged in to access this, write delivery address, you can see a summary of the shoes you bought and how much they cost, you have to check your payment information and also the shipping conditions, when you're ready you can confirm your order
- ~ At the end of every page: about us, shops, newsletter, customer service, and law conditions

Only thing changing is the content of the sidebar and the main content in the middle of the page.

Startpage

Shoe fanatics

Shoe fanatics

HOME | WOMEN | MEN | CHILDREN | ACCESSORIES

WOMEN

- ↳ High Heels
- ↳ Ballerinas
- ↳ Boots
→ Size
- Colors
- ↳ Pumps

Account | EN | Login | Register | Order

Shopping bag |

Recommendations

Customer Service | Shops | About us | Newsletter |

Startpage

Shoe fanatics

Shoe fanatics

HOME | WOMEN | MEN | CHILDREN | ACCESSORIES

WOMEN

- ↳ High Heels
- ↳ Ballerinas
- ↳ Boots
 - Size
 - Colours
- ↳ Pumps

Recomendations

Flat ankle boots
€ 59,95
Ref. Number: 1234567890

Size 36 37 38 39 40 41 42

Colours ■ ■ ■

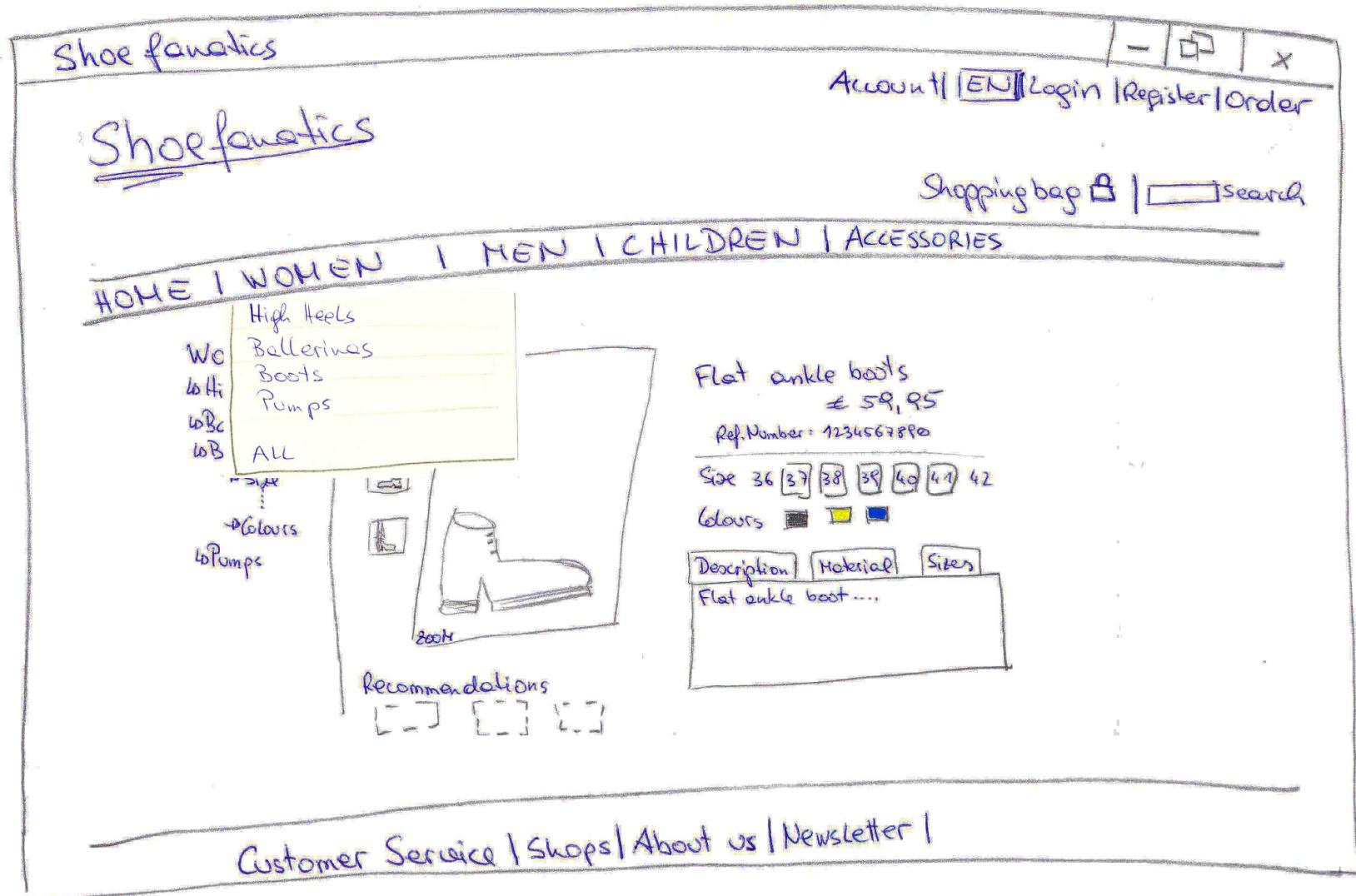
Description Material Sizes
Flat ankle boot ...

Customer Service | Shops | About us | Newsletter |

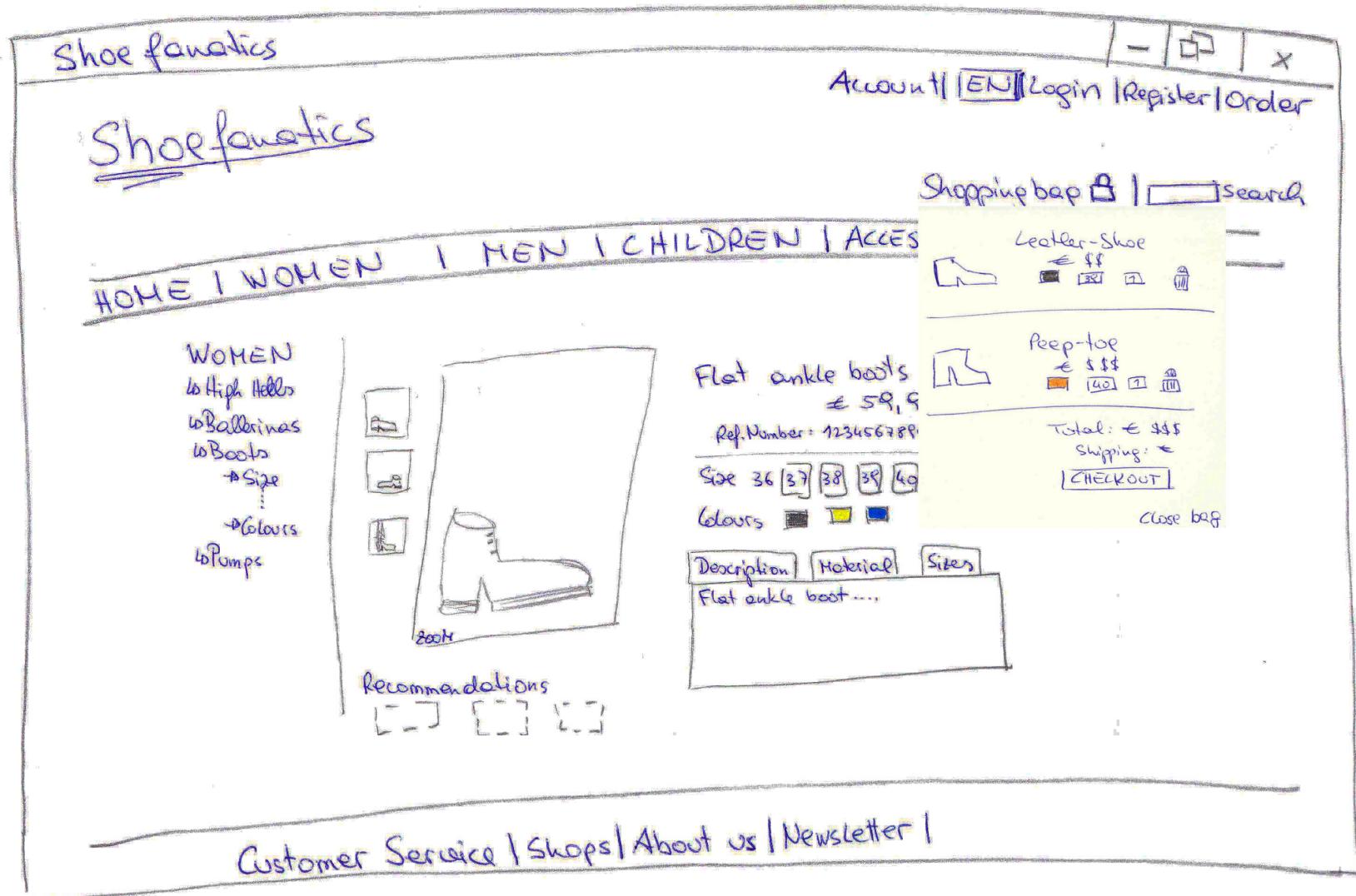
Account | EN | Login | Register | Order

Shopping bag | Search

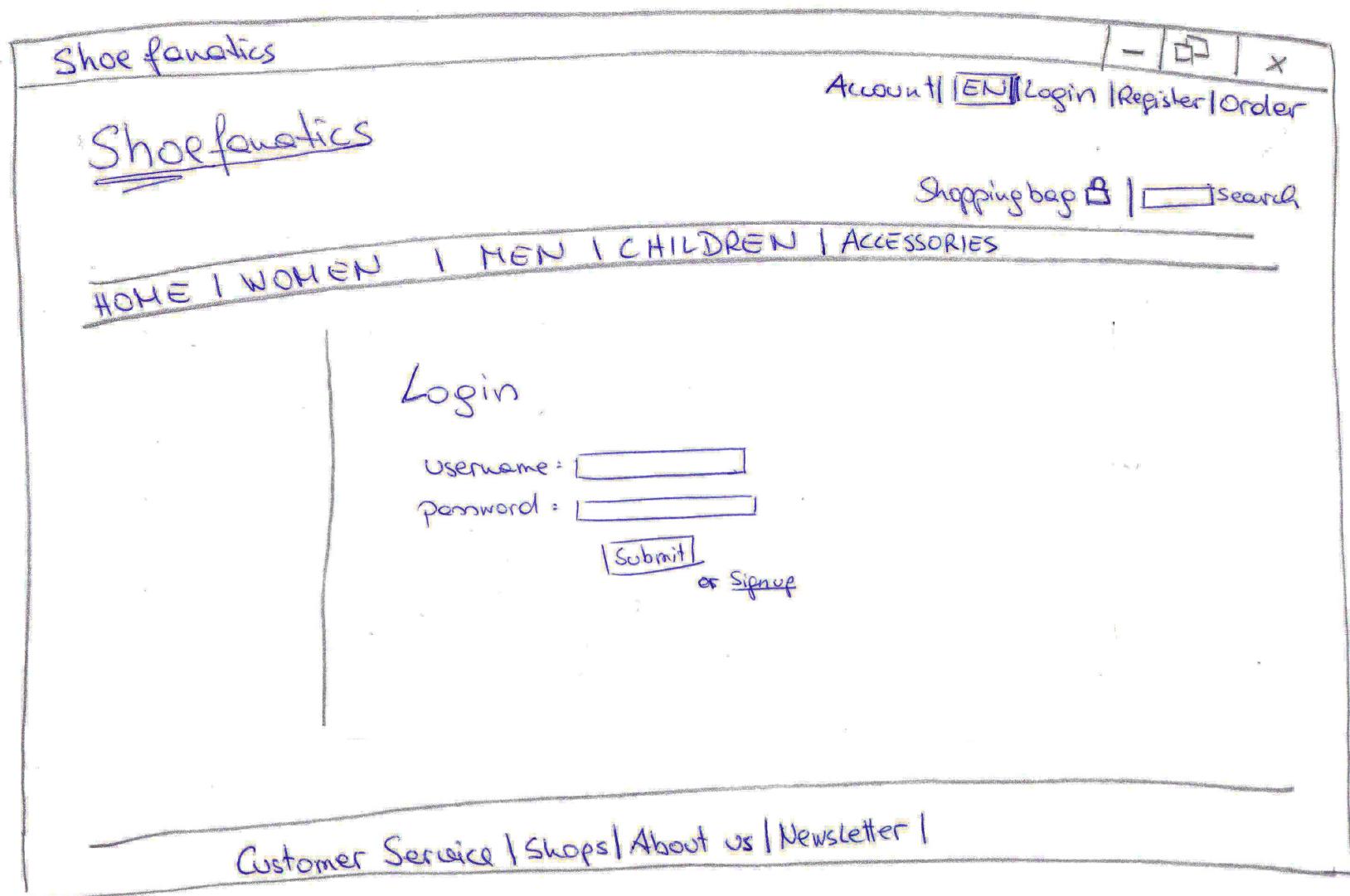
Startpage



Startpage



Startpage



Startpage

Shoe fanatics

Shoe fanatics

- | | X

Account | EN | Login | Register | Order

Shopping bag | search

HOME | WOMEN | MEN | CHILDREN | ACCESSORIES

Sign up

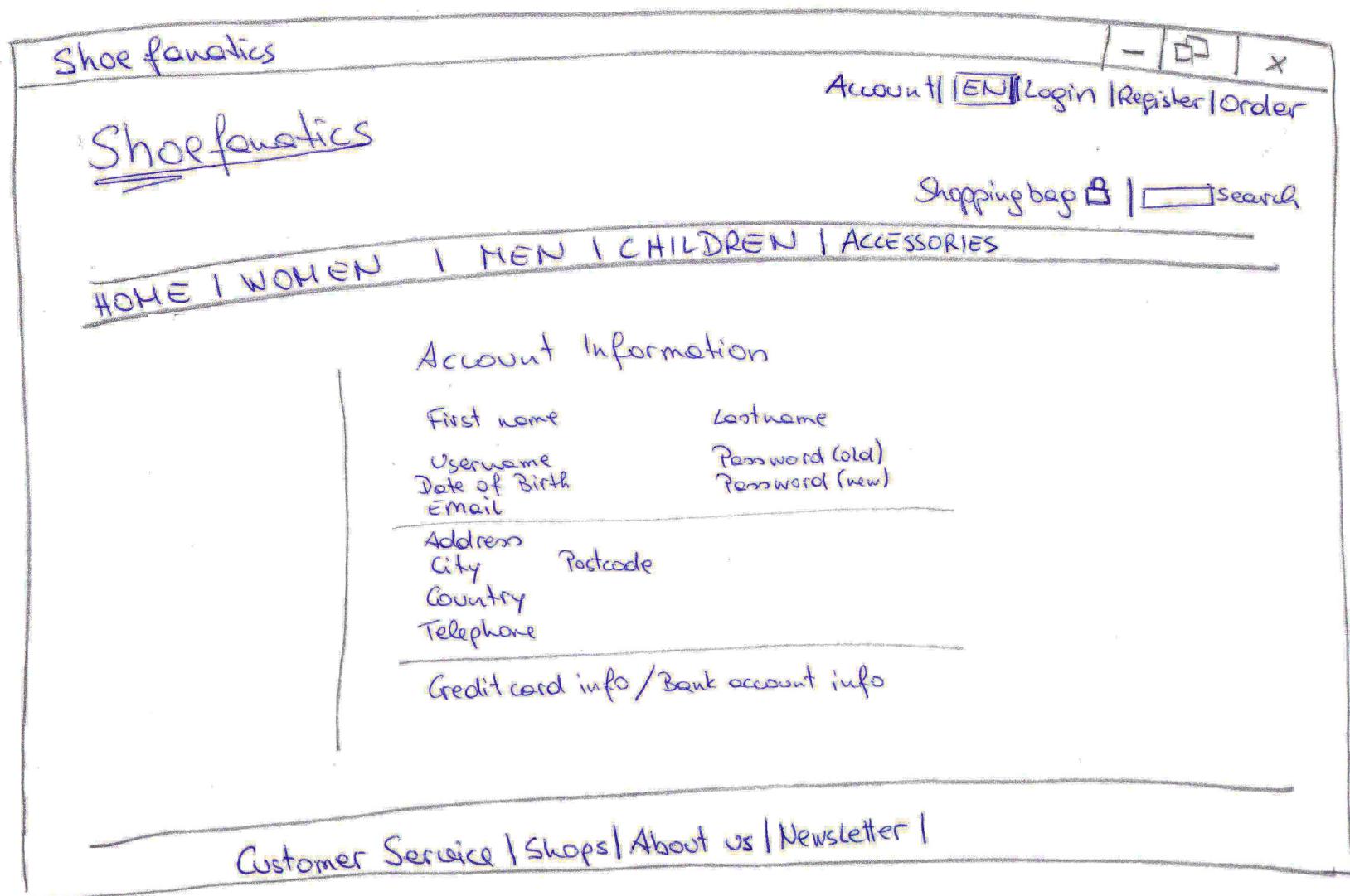
First name
Last name
User name
Password
Retype Password
E-mail
Address
City
Post Code
Country
Telephone
Date of Birth DD.MM.YYYY
Bank information

I Agree to the Terms & Conditions

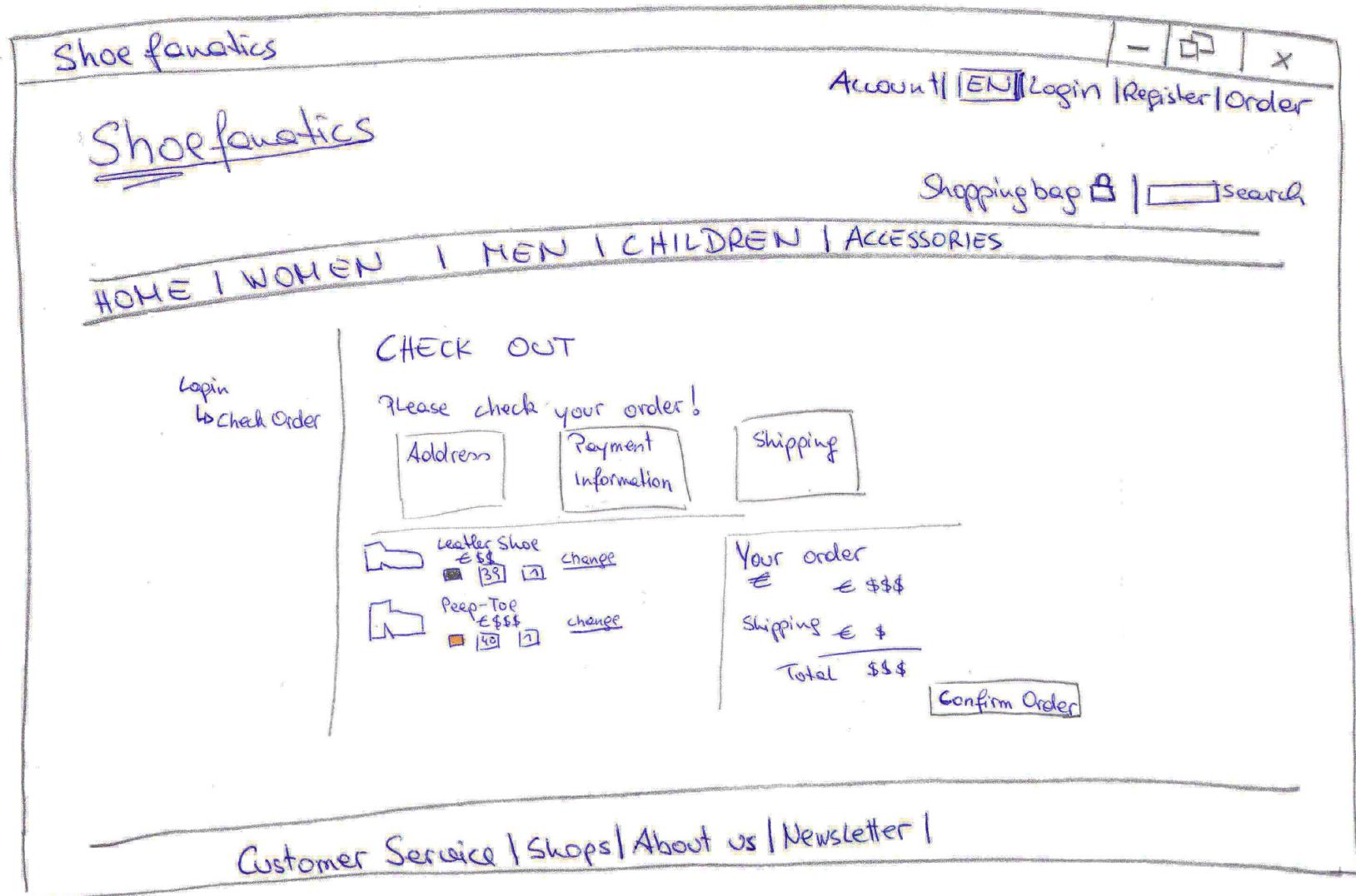
CREATE

Customer Service | Shops | About us | Newsletter |

Startpage



Startpage



7. Project Management

The most difficult part is that we are not actually working for a client who could be either satisfied or not, but for ourselves and we will always be satisfied with our work.

It was easy to divide the parts but got no time to work on it because of the other projects going on. Next time I will start to do the projects earlier.

It was not difficult to estimate the workload but in the end the real working hours very more than the estimated ones. We were a great team and I think we could do the same for the next project. The difficulty was maybe that it was quite much for a short time and that it was hard to find working hours because of our different time tables.

Working hours: in average we needed per person about 15h