# COMP366 –Software Systems Development
# Spring 2014/2015

# Project

**An On-Line Shoe Store**

In this assignment, you will (partially) design a system for on-line shoe sales with these general types of features:

- Web-based display of available shoes, their features, and prices
- Shoes can be ordered on-line via credit card payment and the status of the order can be retrieved
- Items, features, and prices can be updated
- Keeps track of items in stock

You will develop use cases for the system, and create class diagram(s), and create sequence diagram(s). (See page 2 for more details.)

The users of the system have the following roles:

- Customer: browses through available items, orders items, and makes inquiries
- Webmaster: updates the product presentation on the web.
- Shipping assistant: Retrieves orders, ships items, and updates order status.
- Store manager: retrieves information on which items need to be ordered and updates information when new items arrive; retrieves sales statistics

These will be the actors in your Use Case diagrams. The deliverables for this project are prose documents and diagrams. The diagrams can be drawn in pencil, or done with a computer program. The prose documents should be done in a word-processing program. (You will probably make many changes to both diagrams and documents as you work on this assignment.)

**Notice:** maximum of two students are allowed to participate in one group.

**Details**

**Part 1:** Draw a use case diagram for the system. Each of the actors mentioned on page 1 should appear in at least one of your use cases. You may use extension and inclusion wherever you think they are useful. Use multiple diagrams if you find that putting all the use cases on one diagram is too cluttered. You should be able to come up with at least 7 use cases.

**Part 2:** Write up 4 of the use cases from Part 1. Use the format shown at the end of this assignment. Your descriptions can be shorter than those in the example.

**Part 3:** Based on all of the use cases from Part 2, develop a class diagram for the **Shoe Store software**. Specify the most important attributes and operations; you should have at least 4 attributes and 8 operations.

**Part 4:** Pick **one** of the use cases from Part 2, and draw a sequence diagram for it. The diagram should show at least 3 objects and 5 interactions.

**Final note:** Obviously, a realistic detailed design of the system would have dozens of use cases and hundreds of diagrams. Your design is not expected to be complete, but it is expected to be coherent and consistent with itself. Do the class diagrams in Part 3 reflect the use cases in Parts 1 & 2? Does the sequence diagram in Part 4 reflect the use case it is based on? Are Parts 4 and 5 consistent with each other? After completing one part, you should go back over the previous parts, making any necessary changes so the whole design hangs together.

On-Line Shoe Store Specifications

The application consists of two parts – customers' part and administrative part. The entry point of the application is the store's home page. From the home page there is "Go Shopping" link for the Customers, and "Administrative" link for the Shipping Assistants, Store Manager, and Web Master. There is also "Previous Orders" link, which takes the customer to the View Orders page.

To enter the Administrative part of the system, the user is required to enter the user name and password. The Administrative part of the system consists of three subsystems:

1. The subsystem used by Shipping Assistant. Allows the Shipping Assistant to view all recent orders and update the status of processed orders. The Shipping Assistant can view all uncompleted orders and print them out for shipment. After the order is processed, the Shipping assistant can select the particular order, and update its status to Completed. Upon status change the e-mail message is sent to the customer automatically.

2. The subsystem used by Store Manager. Allows the Store Manager to view all available products and how many are in the stock. It also allows updating information when new items arrive, and retrieving sales statistics.

3. The subsystem used by Web master. Allows the Web Master to upload new pictures, to change the product description, to add new items, and to delete discontinued items. The Web Master can also change the system configurations, such as the shipment methods used, the payment methods, the use of gift certificates, etc.

The Customer's part of the system also consists of three parts:

1. The first part allows the Customer to browse through available items. From the store's home page the Customer clicks the "Shopping Link". This takes the Customer to the list of all available shoe brands. Upon choosing a brand, the Customer is taken to the page displaying all available products of selected brand. By selecting the product, the Customer can view a bigger picture of the product and the information about the product, including the available colors and sizes. The Customer can choose to continue shopping or to purchase the selected item.

2. If the Customer wants to purchase the item, he presses the Purchase Button. The Customer then is taken to the Login screen. If the Customer is already registered, he enters the user name and password. If it's a new Customer, he can go to Register Page and enter all the required information, such as the name, the address, the credit card number, and the e-mail. The Customer is also required to choose a unique user name and password for future identification. Upon finishing login the Customer is taken to Checkout screen, where he can review all the information one more time, including the selected product, and the payment and shipment information. If everything is correct the Customer is required to press Confirm Button. The order gets processed and the confirmation message is displayed on the screen. The confirmation e-mail is sent to the Customer at the same time.

3. The third part allows the Customer to make inquiries about his previous orders. From the store's home page the Customer selects "Previous Orders" link. This takes him to the login page. The Customer is required to enter his user name and password. The list of all previous orders is displayed on the screen. The Customers selects an order. The Order information, including the order's status is displayed for him.

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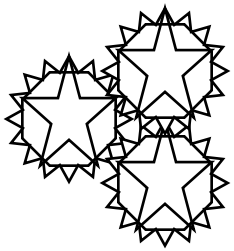
|---|---|
| Use case name | `ReportEmergency` |
| Participating actor | Initiated by `FieldOfficer`<br>Communicates with `Dispatcher` |
| Entry condition | 1. The `FieldOfficer` activates the "Report Emergency" function of her terminal. |
| Flow of events | 2. `FRIEND` (the system) responds by presenting a form to the officer.<br>3. The `FieldOfficer` fills the form by selecting the emergency level, type, location, and brief description of the situation. The `FieldOfficer` also describes possible responses to the emergency situation. Once the form is completed, the `FieldOfficer` submits the form, at which point the `Dispatcher` is notified.<br>4. The `Dispatcher` reviews the submitted information and creates an `Incident` in the database by invoking the `OpenIncident` use case. The `Dispatcher` selects a response and acknowledges the emergency report. |
| Exit condition | 5. The `FieldOfficer` receives the acknowledgment and the selected response. |
| Special requirements | The `FieldOfficer`'s report is acknowledged within 30 seconds. The selected response arrives no later than 30 seconds after it is sent by the `Dispatcher`. |



# Alternate HACS Use-Cases

**Use case:** **Distribute Assignments**
**Actors:** Instructor (initiator), Student
**Type:** Primary and essential
**Description:** The Instructor completes an assignment and submits it to the system. The instructor will also submit the delivery date, due date, and the class the assignment is assigned for. The system will at the due date mail the assignment to the student.
**Cross Ref.:** Requirements XX, YY, and ZZ
**Use-Cases:** *Configure HACS* must be done before any user (Instructor or Student) can use HACS