

# SDLC Example: RMO Tradeshow Project



UNIVERSITY  
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# Day 2 Activities

- **Core Process 3: Discover and Understand Details**
  - Do preliminary fact-finding to understand requirements
  - Develop a preliminary list of use cases and a use case diagram
  - Develop a preliminary list of classes and a class diagram



# Day 2 Activities

- **Fact finding and information gathering** for requirements
  - Determine exactly what the user needs the system to do
  - Various techniques:
    - Interviewing key users, observing work processes, reviewing documentation and existing systems, and even researching other solutions.
  - User involvement is the key
    - Manager of the Purchasing Department of RMO, purchasing agents.



# Day 2 Activities

- Identify **use cases** for *both* subsystems

Use Case	Description
Look up supplier	Using supplier name, find supplier information and contacts
Enter/update supplier information	Enter (new) or update (existing) supplier information
Look up contact	Using contact name, find contact information
Enter/update contact information	Enter (new) or update (existing) contact information
Look up product information	Using description or supplier name, look up product information
Enter/update product information	Enter (new) or update (existing) product information
Upload product image	Upload images of the merchandise product



# Day 2 Activities

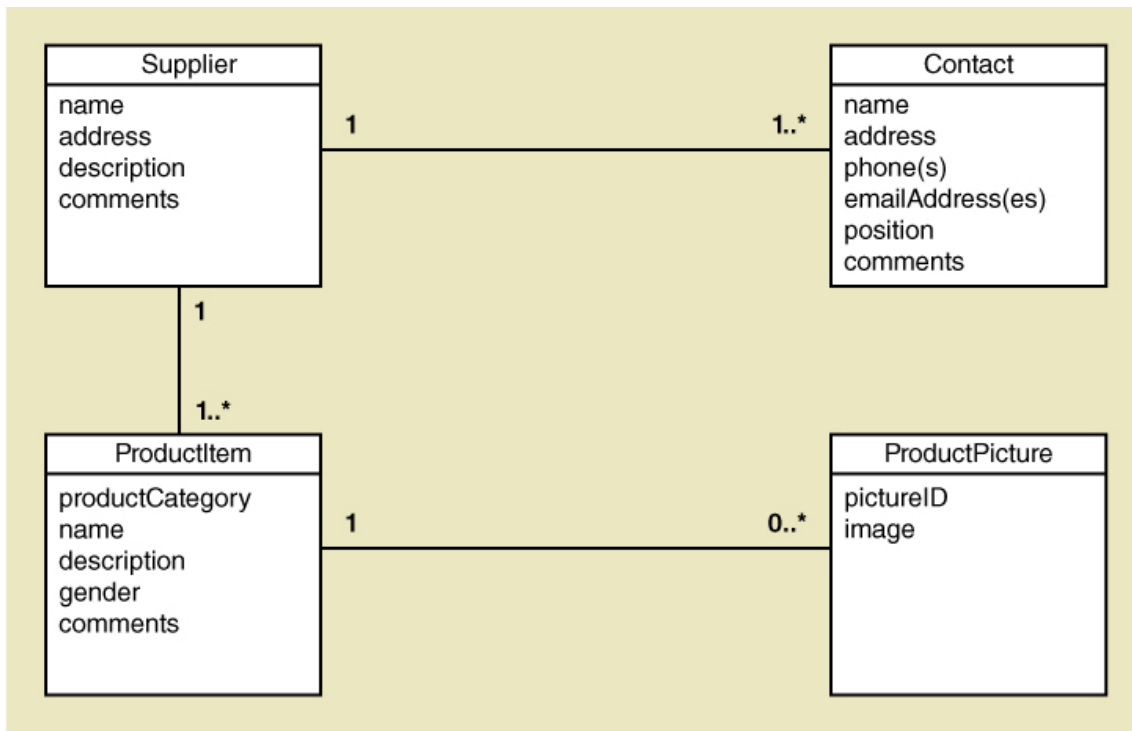
- Identify **Domain Classes** (Object Classes) for both subsystems

Object Classes	Attributes
Supplier	supplier name, address, description, comments
Contact	name, address, phone(s), e-mail address(es), position, comments
Product	category, name, description, gender, comments
ProductPicture	ID, image



# Day 2 Activities

- Build a preliminary  
**Domain Class  
Modeling Diagram**





# Day 3 Activities

- **Core Process 3: Discover and Understand Details**

- Do in-depth fact-finding to understand requirements
- Understand and document the detailed workflow of each use case
- Define the user experience with sketches of screens and reports needed for each use case.

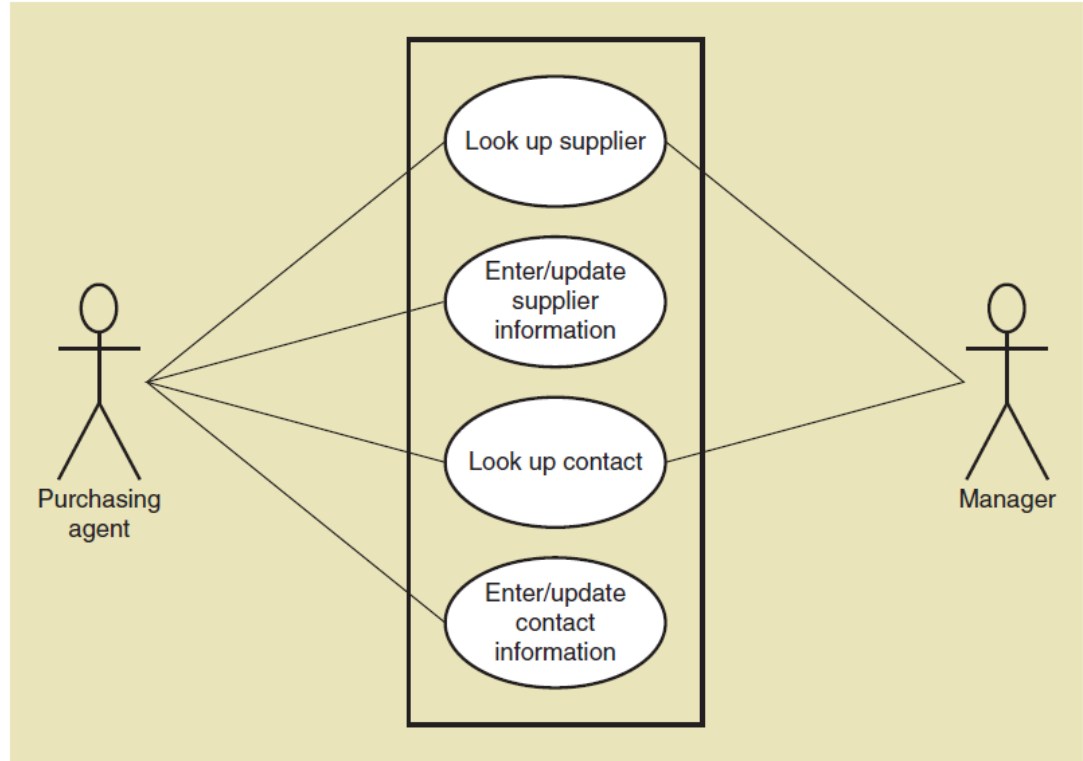
- ❖ **Use cases pertaining to the Supplier Information Subsystem**

- *Look up supplier, Enter/update supplier information, Look up contact information, Enter/update contact information*



# Day 3 Activities

- Build a **Use Case Diagram** for the *Supplier Information System*

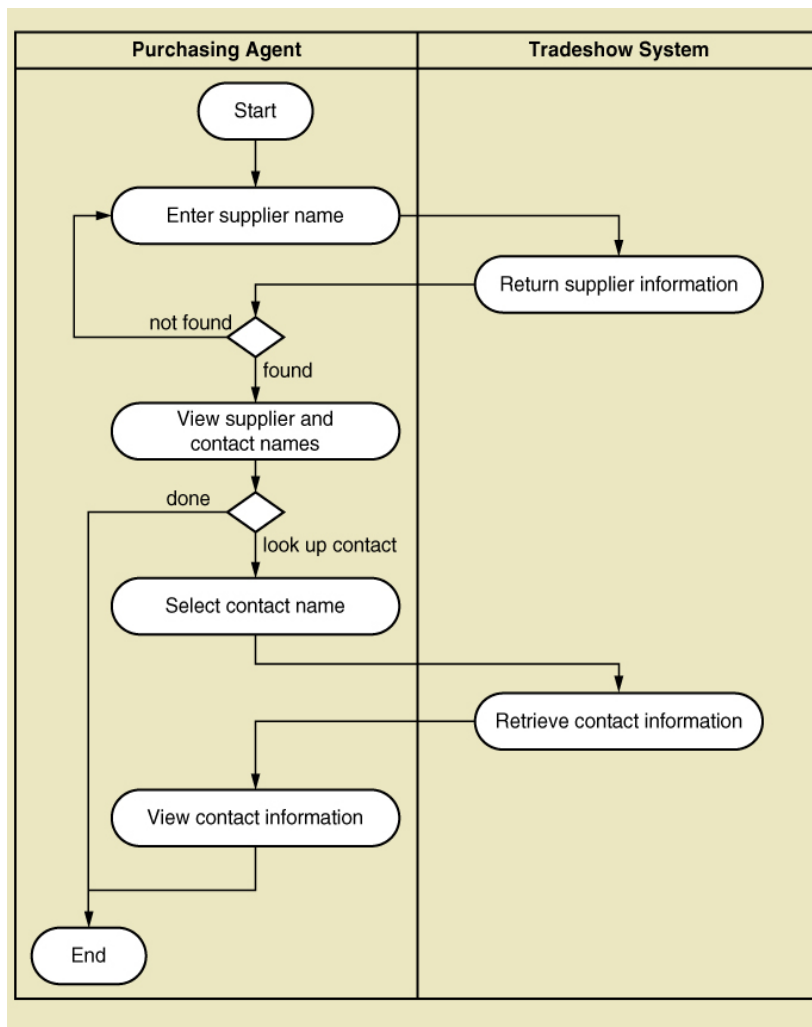






# Day 3 Activities

- Build an **Activity Diagram** (Workflow) for each use case
- The *Look up supplier* use case





# Day 3 Activities

- Draft a Screen Layout for each use case
- The *Look up supplier* use case

Logo

Web Search

GO

RMO Database Search

Supplier Name

Product Category

Product

Country

Contact Name

GO

Search Results

Supplier Name	Contact Name	Contact Position



# Day 4 Activities

- **Core Process 4: Design System Components**
  - Design the database (schema)
  - Design the system's high level structure
    - Browser, Windows, or Smart phone
    - Architectural configuration (components)
    - Design class diagram
    - Subsystem architectural design



# Day 4 Activities

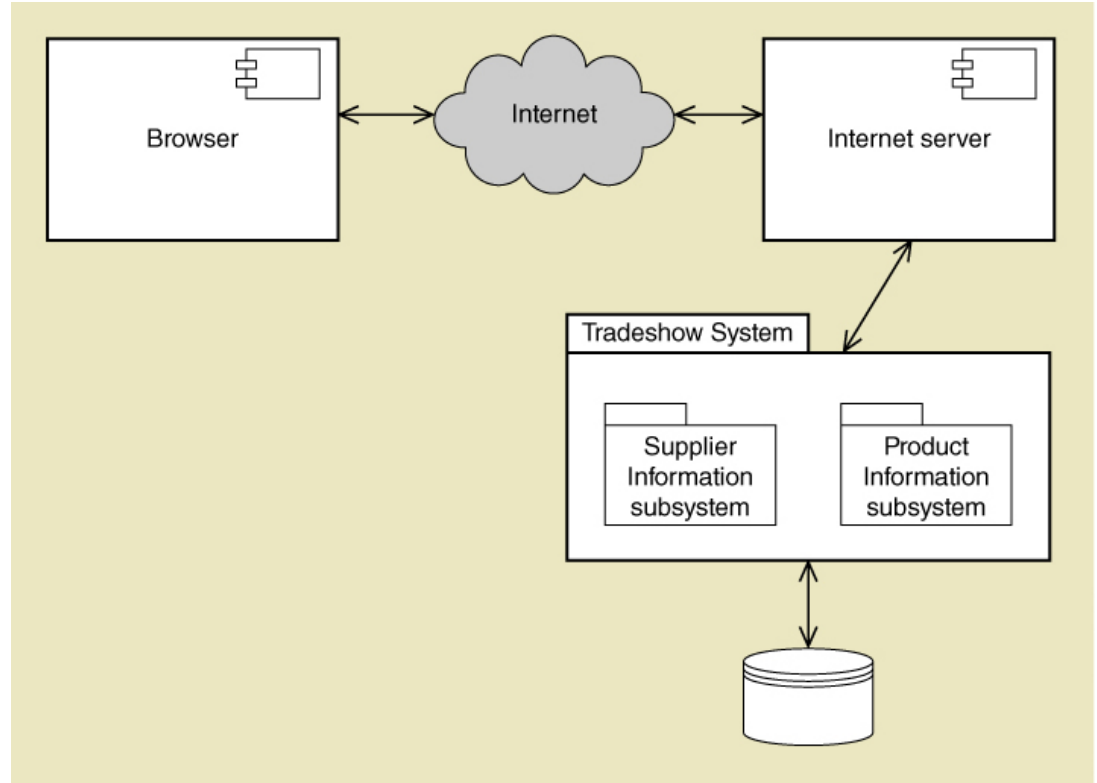
- Design a Database Schema

Table Name	Attributes
Supplier	SupplierID: integer {key} Name: string {index} Address1: string Address1: string City: string State-province: string Postal-code: string Country: string SupplierWebURL: string Comments: string
Contact	ContactID: integer {key} SupplierID: integer {foreign key} Name: string {index} Title: string WorkAddress1: string WorkAddress2: string WorkCity: string WorkState: string WorkPostal-code: string WorkCountry: string WorkPhone: string MobilePhone: string EmailAddress1: string EmailAddress2: string Comments: string



# Day 4 Activities

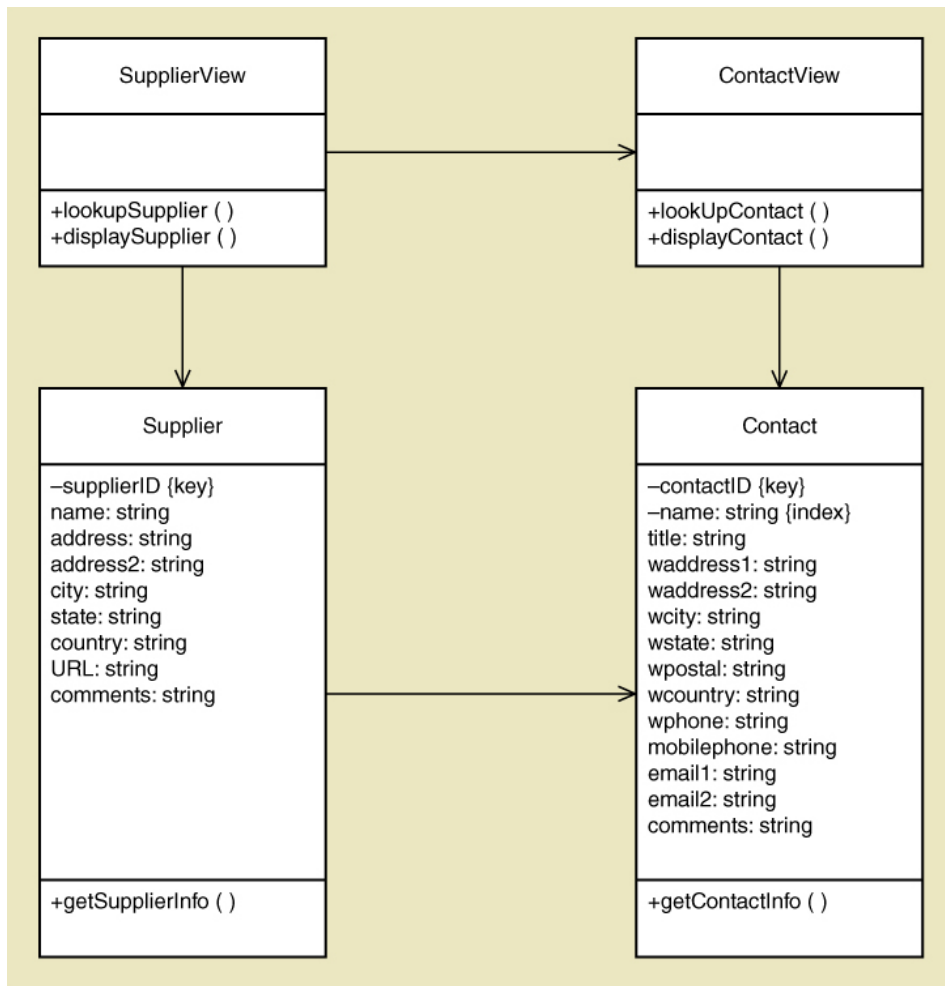
- Design an **Architectural Configuration Diagram**





# Day 4 Activities

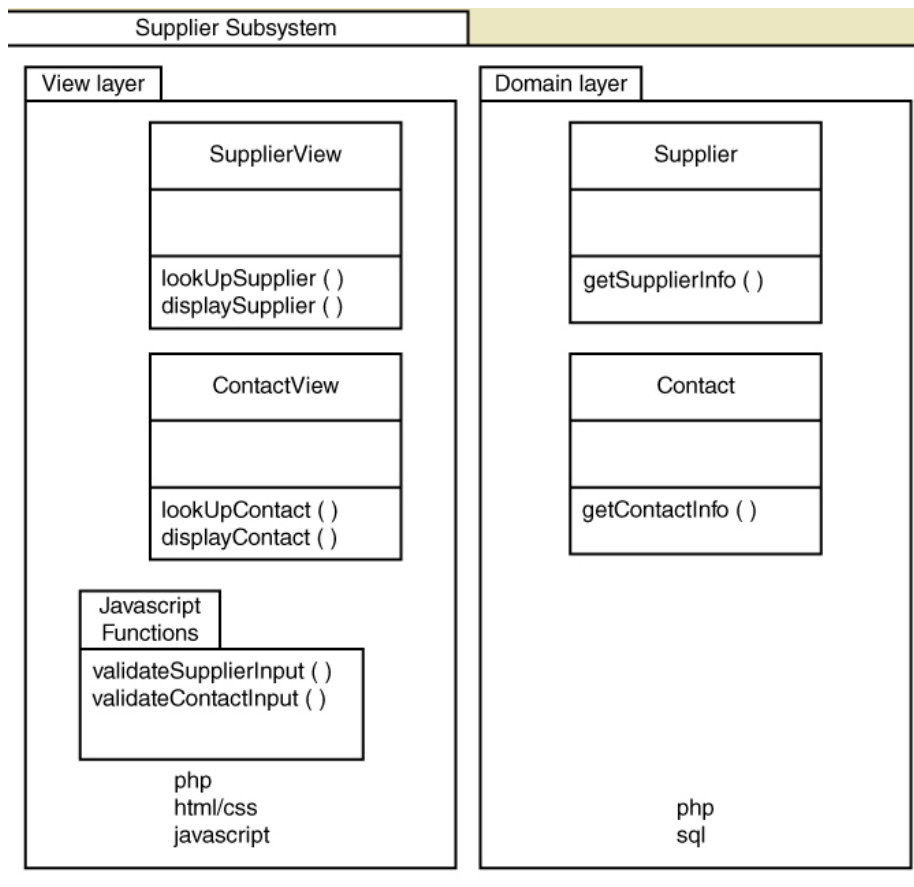
- Design a preliminary **Design Class Diagram**
- Includes View Layer classes and Domain Layer classes





# Day 4 Activities

- Subsystem an Architectural Design Diagram





# Day 5 Activities

- Core Process 4: Design System Components
  - Continue with design details
  - Proceed use case by use case
- Core Process 5: Build, Test, and Integrate System Components
  - Continue programming (build)
  - Build use case by use case
  - Perform unit and integration tests

*Code example for one class  
“SupplierView” (in PHP):*

```
<?php
class SupplierView
{
    private Supplier $theSupplier;

    function __construct()
    {
        $this->theSupplier = new Supplier();
    }

    function lookupSupplier()
    {
        include('lookupSupplier.inc.html');
    }

    function displaySupplier()
    {
        include('displaySupplierTop.inc.html');
        extract($_REQUEST); // get Form data
        //Call Supplier class to retrieve the data
        $results = $theSupplier->getSupplierInfo($supplier, $category,
                                                $product, $country, $contact);

        foreach ($results as $resultItem){
            ?>
                <tr>
                    <td style="border:1px solid black">
                        <?php echo $resultItem->supplierName?></td>
                    <td style="border:1px solid black">
                        <?php echo $resultItem->contactName?></td>
                    <td style="border:1px solid black">
                        <?php echo $resultItem->contactPosition?></td>
                </tr>
            <?php }
            include('displaySupplierFoot.inc.html');
        }
    }
?>
```





# Day 6 Activities

- **Core Process 6:** Complete System Testing and Deploy the System
  - Perform system functional testing
  - Perform user acceptance testing
  - Possibly deploy part of system



# First Iteration Recap and Next Iteration

- This sample project was a 6 day iteration of small project
  - Most iterations are longer (2 to 4 weeks)
  - This project might be 2 iterations
  - Most projects have many more iterations
  - End users need to be involved, particularly in days 1, 2, 3 and 6.
  - Days 4 and 5 involved design and programming concurrently.
- The second iteration will focus on the Product Information Subsystem
  - Follows a similar development process of the first iteration
  - Two subsystems are integrated in the last step of Iteration 2



# Summary

- ❑ Walk through one iteration in the SDCL for Tradeshow system
- ❑ Illustrate the key activities and the outputs of those activities
  
- Future modules will elaborate the first three core processes (i.e. the systems analysis and design parts)