MIS 3506

Digital Design and Innovation Studio

9: CREATING A USE CASE

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Schedule:

Today: prototyping and use cases

Thursday 10/27: Exam #2
(without content from week 8 or Use Cases on 10/25)
- process mapping
- data
- rules
Schedule: team meetings – if I haven’t seen you or we don’t have a meeting scheduled – get in touch ASAP.
Your **PROTOTYP**E/SOLUTION needs to be your focus **NOW**
What is a PROTOTYPE
Quick and Dirty Prototyping

HOW: Using any materials available, quickly assemble possible forms or interactions for evaluation.

WHY: This is a good way to communicate a concept to the team and evaluate how to refine the design.

IDEO team members designing a shopping device quickly prototyped various concepts to evaluate qualities like weight, size, and orientation.
What does a prototype do?
PROTOTYPES

1. Provide a partial and preliminary version as a mock up of software/solution

2. Inexpensively demonstrate how a solution will work – functionality/navigation/interfaces

3. Make abstract concepts more concrete and requirements tangible

4. Provide shared work product upon which technical and businesspeople can collaborate

Adapted from Memory Jogger
# Prototype As Specification

## Core Requirements
- **Actors (People)**
- **Process**
- **Data**
- **Business Rules**

## JIM Prototype
- **Persona** (One or more actors that you consider important enough to show)
- **Scenario & Use Cases** (A selection of actions that a persona does using the “system”)
- **Data Master** (The fields you need to handle for the scenario to be successful)
- **Business Rules & Events** (Logic executing the business rules for your scenario to be a success)
Use Case Diagrams and Use Cases
Understanding **HOW** people **will** do their work using your solution
What actions will your users perform using your solution?

The Use Case Diagram

Customer

Customer Service

My eStore

- Selects Items
- Pays for items
- Answers Questions
Use Case Diagram Exercise

As a team:

1. Who are all the actors that would use your solution? 5 minutes
2. What are all the actions that they would do using your solution? 10 minutes
3. Draw a preliminary use case diagram for your solution 15 minutes
Use cases are a description of how an actor accomplishes a goal using your solution.

Adapted from Memory Jogger (p150)
So, what’s in a use case?

• High-level identifying data
• A summary of what the use case achieves
• Detailed steps the actor will need to take
• Exception steps that may be needed as a result of errors
• Variations that describe alternative paths through the use case
## Feature Name
(Example: ATM Transaction)

### 1.1 Feature Process Flow / Use Case Model

#### 1.2 Use Cases

<table>
<thead>
<tr>
<th>Use Case ID</th>
<th>Use Case Name</th>
<th>Last Updated By</th>
<th>Last Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Add a unique numeric identifier to the Use Case</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Name a short name for the Use Case</td>
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</tbody>
</table>

**Actors:**
- Use Case is a subset of the functionality of the software system being specified who interacts with the system and performs use cases to accomplish tasks. Different actors often correspond to different user classes, or roles, identified from the customer community that will use the product. Name the actor that will initiate this use case (primary) and any other actors who will participate in completing the use case (secondary).

**Description:**
(Provide a brief description of the reason for the existence of this use case.)

**Trigger:**
(Identify the event or sequence of events that causes the use case to begin, or it could be the first step in the normal flow.)

**Preconditions:**
(Identify conditions that must exist, or any conditions that must be true, before the use case can be started. Number each pre-condition.)
1. Customer has active deposit account with ATM privileges
2. Customer has an authorized ATM card.

**Postconditions:**
(Describe the state of the system at the conclusion of the use case execution. Should include any error conditions that must happen even if the actor’s goal is not achieved.)
1. Customer receives cash
2. Customer account balance is reduced by the amount of the withdrawal and transaction fees.

**Normal Flow:**
(Provide a detailed description of the user actions and system responses that will take place during execution of the use case under normal, expected conditions. This dialog sequence will ultimately lead to accomplishing the goal stated in the use case name and description.)
1. Customer enters PIN
2. System prompts customer to enter language performance English or Spanish
3. System validates customer is in the bank network
4. System prompts customer to select transaction type
5. Customer selects withdraw money from account
6. System prompts customer to enter withdrawal amount
7. System ejects ATM card

**Exceptions:**
(Describe any anticipated error conditions that could occur during execution of the use case, and define how the system is to respond to those conditions.
- Exceptions to the Withdrawal Case Transaction)
1a. In step 2 of the normal flow, if the customer enters invalid PIN
1b. Transaction is approved
2. Message to customer to re-enter PIN
3. Customer enters correct PIN
4. Use Case resumes on step 3 of normal flow

**Variations:**
(Alternative Flow 1 – No Network)
1. System rejects branches from the main flow to handle special conditions (also known as extensions). For each alternative flow, choose the branching step number of the normal flow and then number the branches that are required.
2. Alternative flows in the
Use Case Exercise

As a team:

1. Pick one of the **simpler** Use Cases on your diagram.
2. Write a brief description of the case focusing on what the actor is trying to **accomplish** and how he/she gets it done.
3. List the **steps** in the primary path, test them.
4. Are there any **alternative** paths?
5. What **errors** might occur, how would you handle these exceptions.

You have 30 minutes.
Next Week, Bring:

1. An improved Use Case Diagram for your solution
2. Use cases for all the interactions you wish to include in your scenario (i.e. what you will show your client)
3. Your first working prototype
Project Team Work Time