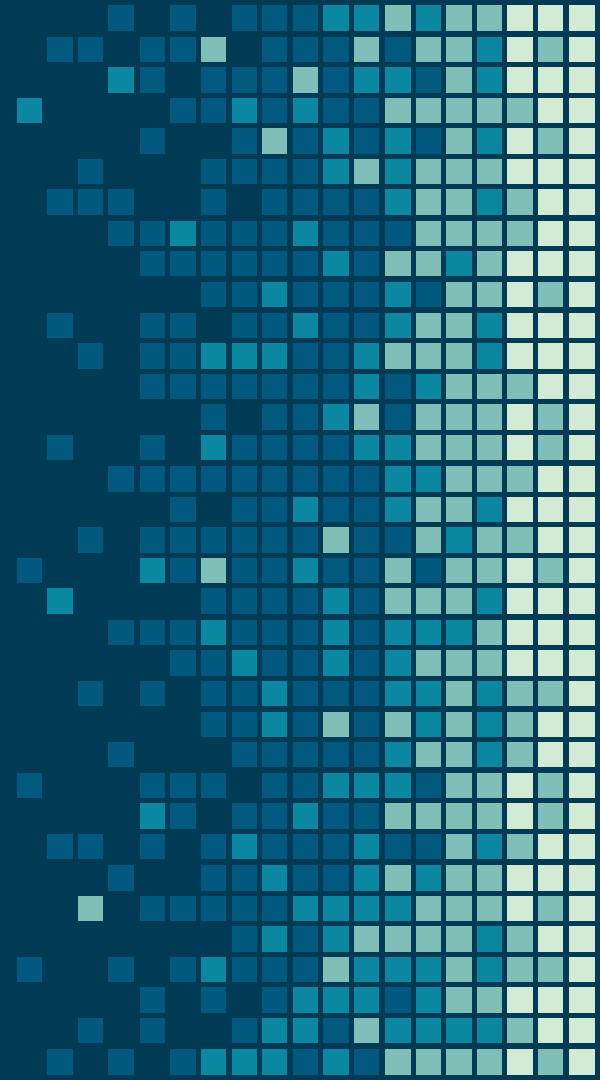


MIS3506

Digital Design & Innovation Studio

9: Creating a Use Case

Amy Lavin/ Steve Sclarow



Professional Achievement Points

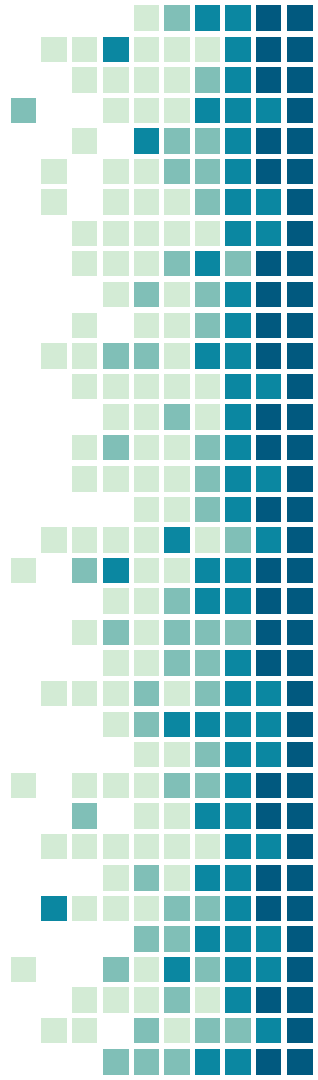
This is your friendly reminder...

You must have 400 points by the end of this class or you
will get an Incomplete

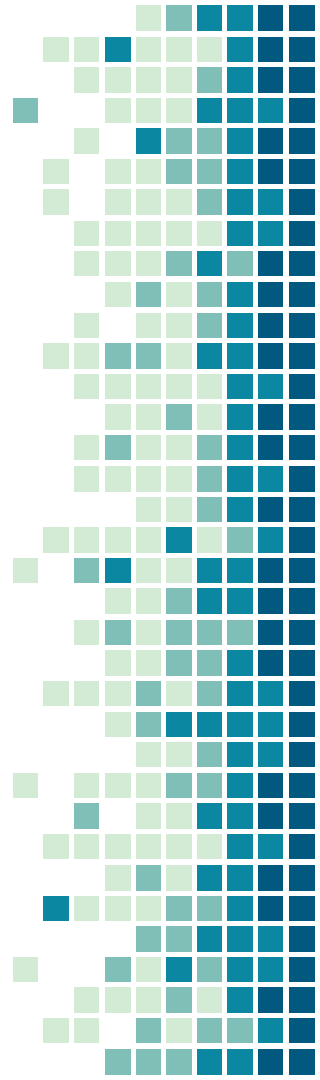


Schedule:

- Today
 - Prototyping and Use Cases
- Week 10 – class #1
 - Use Cases for your Scenario
 - Use Case Diagrams
 - Your 1st prototype



**Team Meetings—if I haven't
seen you or we don't have a
meeting scheduled—get in
touch ASAP.**

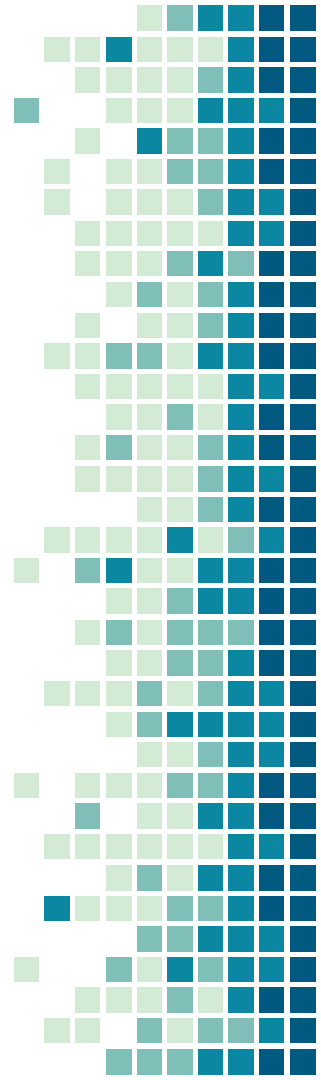


Your
PROTOTYPE/ SOLUTION
needs to be your focus
NOW.





What is a
PROTOTYPE?





Ask

Watch

Learn

Try

Quick and Dirty Prototyping

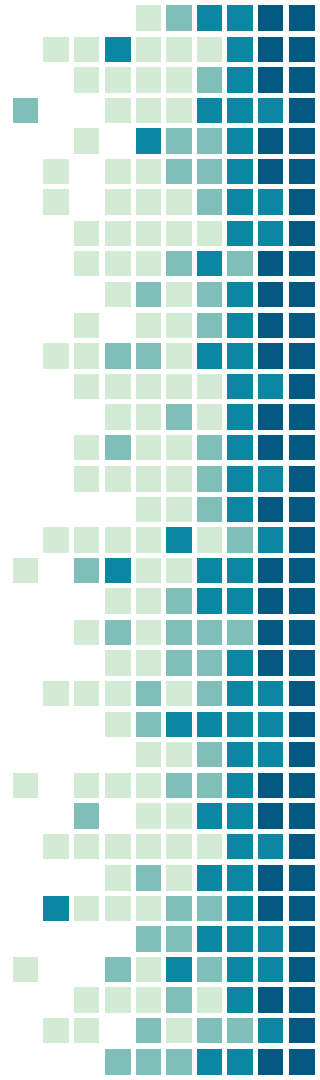
HOW: Using any materials available, quickly assemble possible forms or interactions for evaluation.

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.

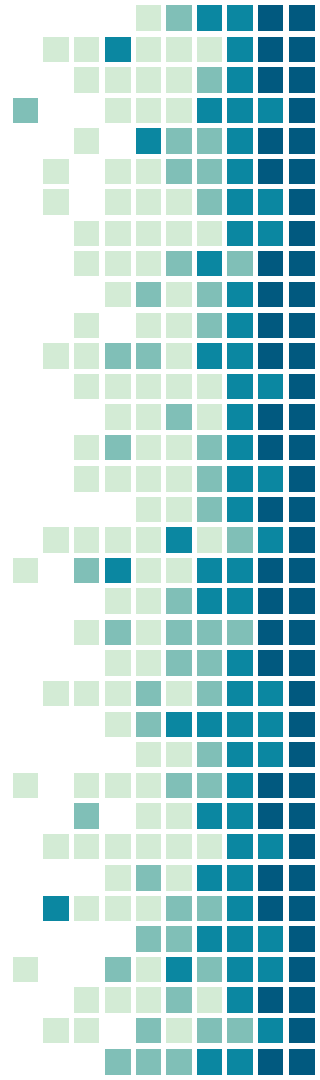
IDEO

www.ideo.com





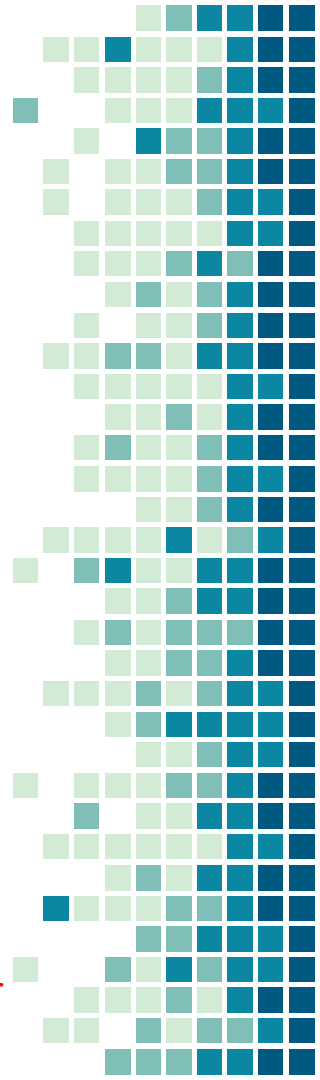
What does a
PROTOTYPE do?



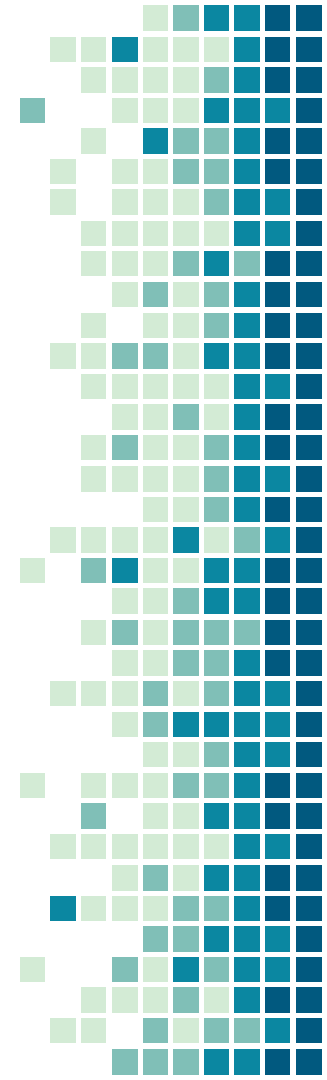
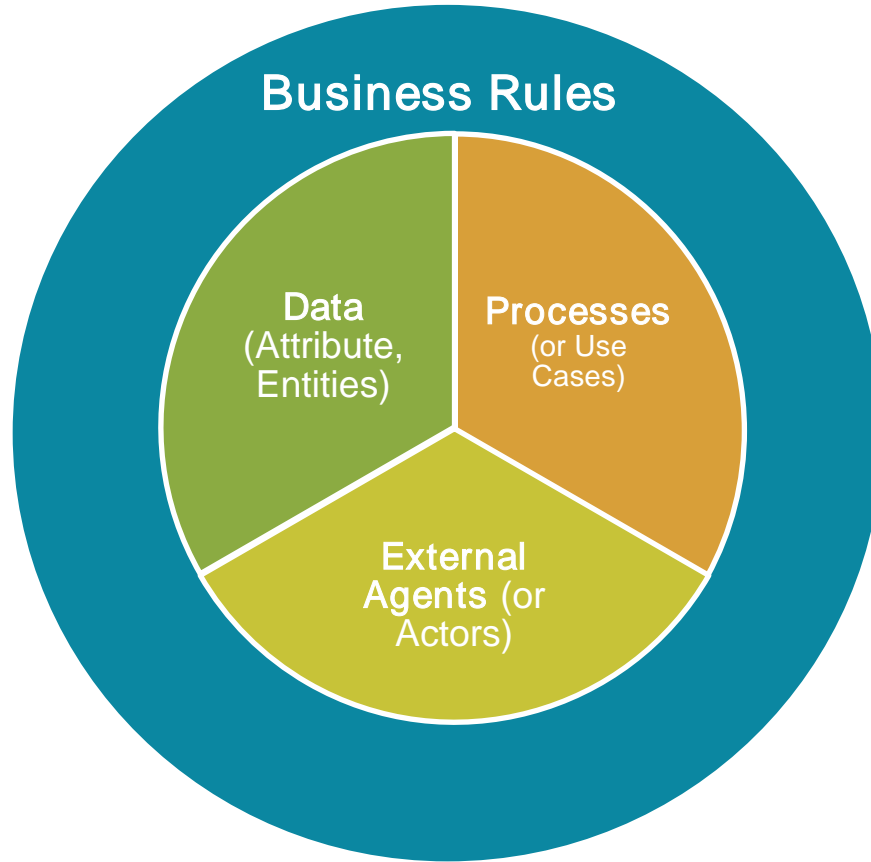
PROTOTYPES

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



Core Requirement Components



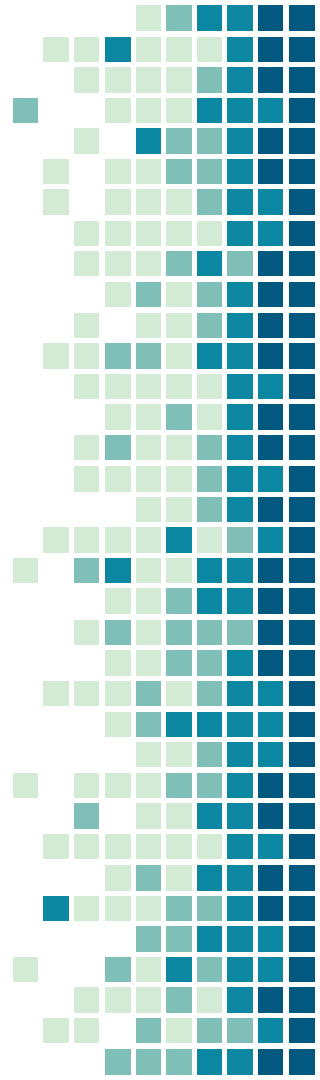
Prototype as Specification

Core Requirements

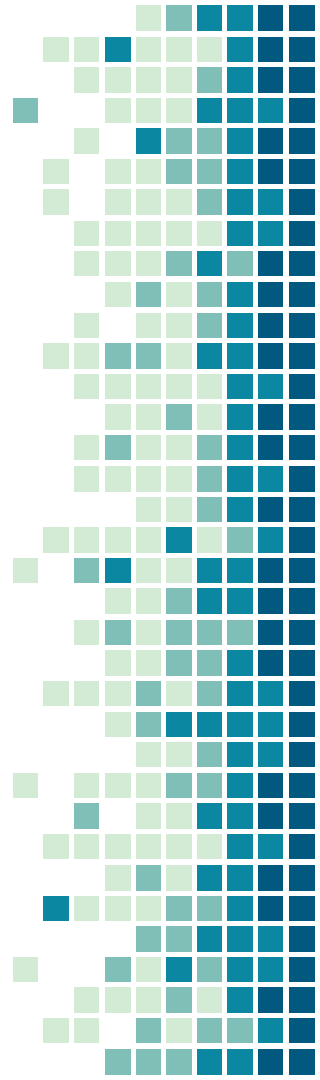
- **Actors (People)**
- **Process**
- **Data**
- **Business Rules**

JM Prototype

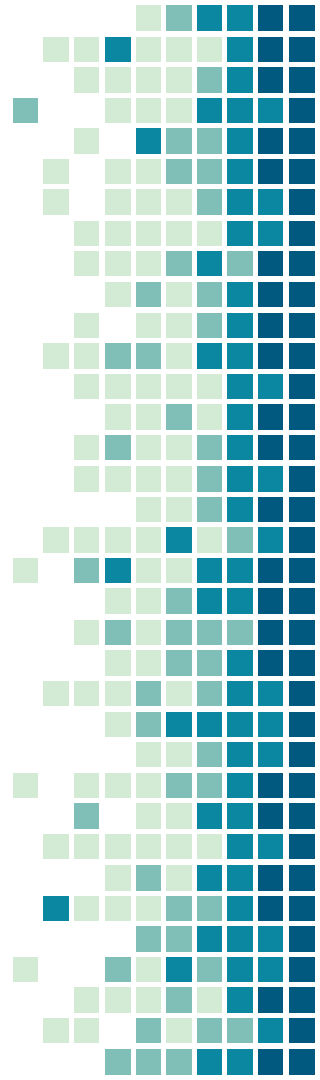
- **Persona** (One or more actors that you consider important enough to show)
- **Process** (A selection of actions that a persona does using the “system”)
- **Data Master** (The fields you need to handle for the scenario to be successful)
- **Business Rules & Events** (Logic executing the business rules for your scenario to be a success)



Use Case Diagrams & Use Cases

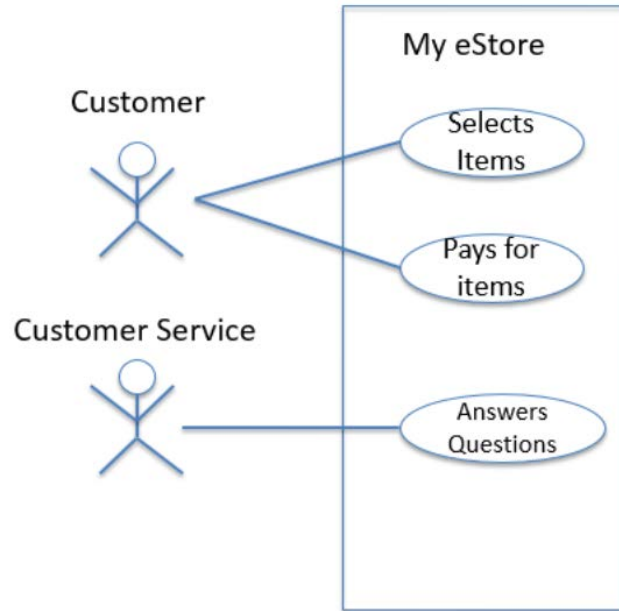


Understanding **HOW**
people **will** do their
work using your
solution



What
actions will
your users
perform
using your
solution?

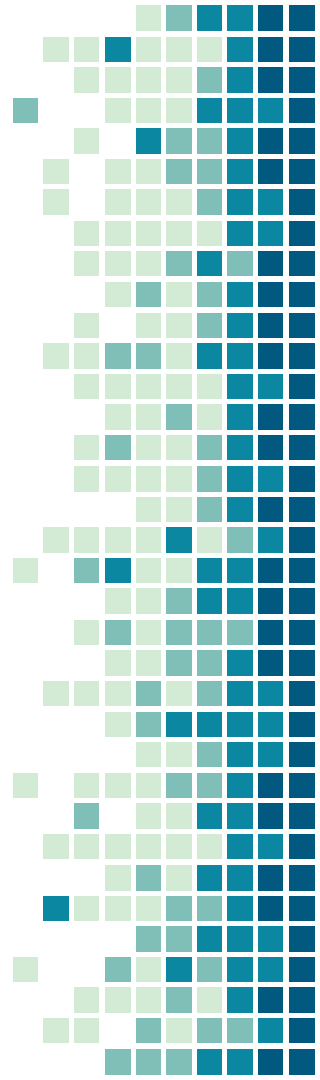
The Use Case Diagram



Use Case Diagram Exercise

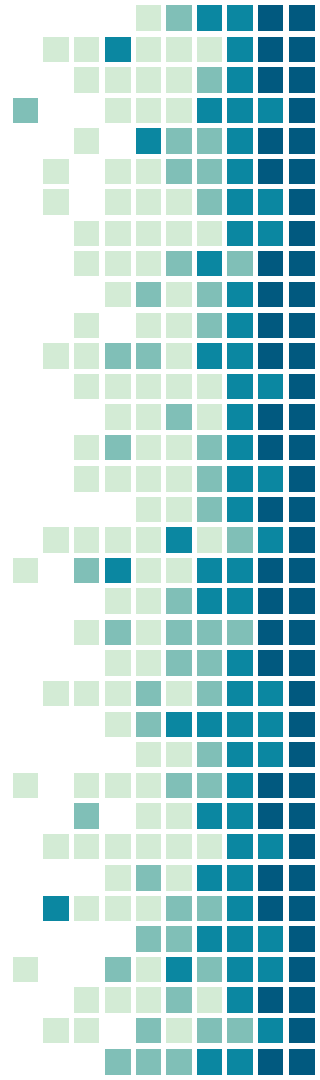
As a team...

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



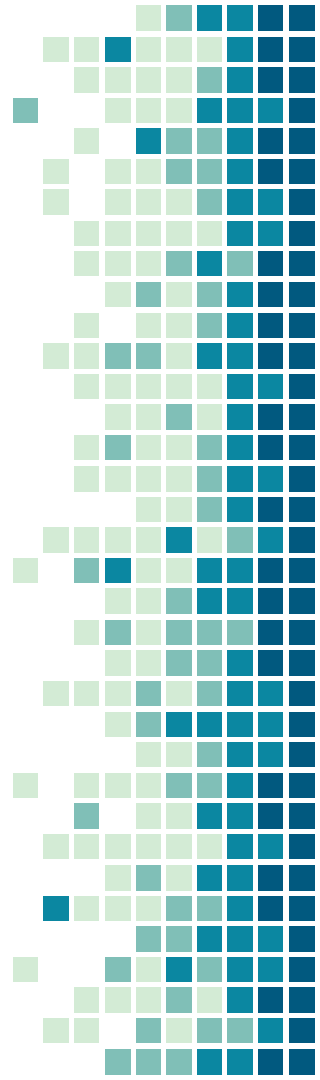
Use Cases are a
description of how an
actor accomplishes a
goal using your solution.

Adapted from Memory Jogger (p. 150)



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



Use Case Template

1 Feature Name (Example: ATM Transaction)

1.1 Feature Process Flow / Use Case Model

1.2 Use Case(s)

Use Case ID:	Enter a unique numeric identifier for the use case. U-1, U-2, U-3
Use Case Name:	Enter a short name for the use case. Withdraw Cash
Created By:	Last Updated By:
Date Created:	Last Revision Date:
Actors:	An actor is a person or other entity external to the software system being specified who interacts with the system and performs use cases for acceptance tests. 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 be entering the 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 and outcome of this use case. Identify the event that initiates the use case. This could be an external customer event or system event that causes the use case to begin, or it could be the first step in the normal flow.
Trigger:	
Preconditions:	Are any actions that must take place, or any conditions that must be true, before the use case can be started. Number each precondition. <ol style="list-style-type: none"> Customer has active deposit account with ATM privileges Customer has an activated ATM card
Postconditions:	Describe the state of the system at the conclusion of the use case execution. Should include both modular guarantees (what must happen even if this use case goal is not achieved) and the business guarantees (what happens when the actor's goal is achieved. Number each postcondition. <ol style="list-style-type: none"> Customer receives cash Customer account balance is reduced by the amount of the withdrawal and transaction fees
Normal Flow:	Provide a concise description of the user actions and system responses that will take place during execution of the use case under normal, expected conditions. This diagram sequence will ultimately lead to accomplishing the goal stated in the use case name and description. <ol style="list-style-type: none"> Customer inserts ATM card Customer enters PIN System prompts customer to enter language preference (English or Spanish) System validates if customer is in the bank network System prompts user to select transaction type Customer selects Withdrawal From Checking System prompts user to enter withdrawal amount System prints ATM card
Variations: (Alternative Flow 1 – Not in Itinerary)	Identify and legitimate branching from the normal flow to handle special conditions that occur as alternatives. For each alternative flow reference the branching step number of the normal flow and the alternative flow that will be used for this intention to be executed. Alt. 1: Alternative Flow 1

	<p>Withdraw Cash Exception:</p> <p>4a. In step 4 of the normal flow, if the customer is not in the bank network</p> <ol style="list-style-type: none"> System will prompt customer to accept network fee Customer accepts Use Case resumes on step 5 <p>4b. In step 4 of the normal flow, if the customer is not in the bank network</p> <ol style="list-style-type: none"> System will prompt customer to accept network fee Customer declines Transaction is terminated Use Case resumes on step 5 of normal flow <p><i>Note: Insert a new row for each distinctive alternative flow.</i></p>
Exceptions:	<p>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.</p> <p>Alt. 2: Exception to the Withdraw Case transaction</p> <p>2a. In step 2 of the normal flow, if the customer enters an invalid PIN</p> <ol style="list-style-type: none"> Transaction is disapproved Message to customer to re-enter PIN Customer enters correct PIN Use Case resumes on step 3 of normal flow

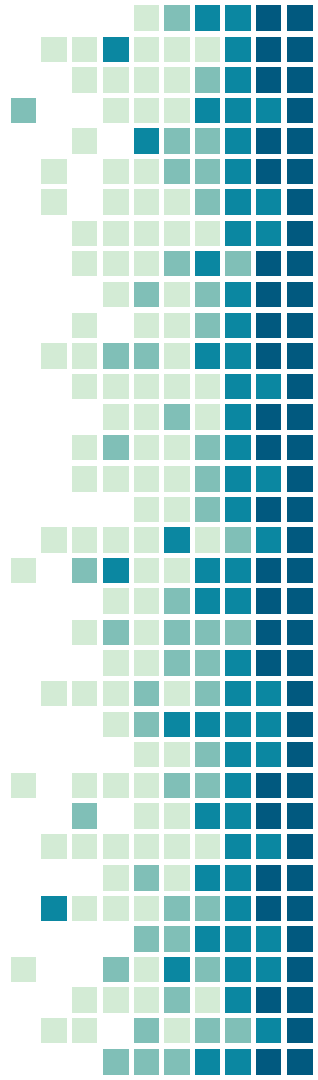


Use Case Exercise

As a team...

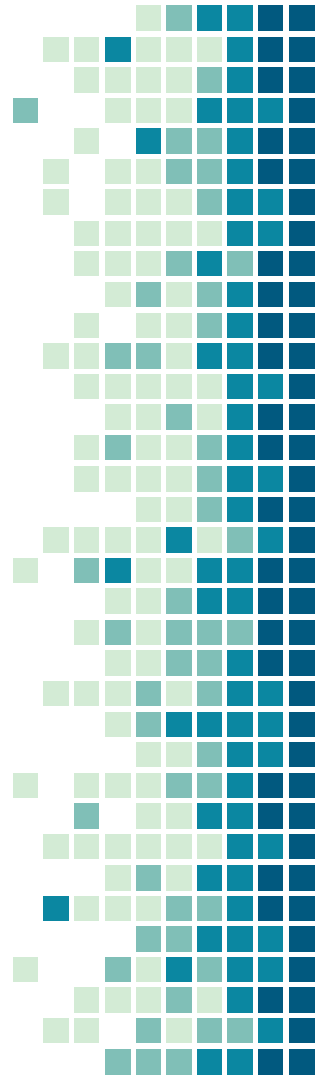
1. Pick one of the **simpler** Use Cases on your diagram.
2. Write a brief description of the case focusing on what the actor is trying to **accomplish** and how he/ she gets it done
3. List the **steps** in the primary path, test them.
4. Are there any **alternative** paths?
5. What **errors** might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

You have 30 minutes.



Tuesday, 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

