

CPSC 3720

Lesson 6

User Stories

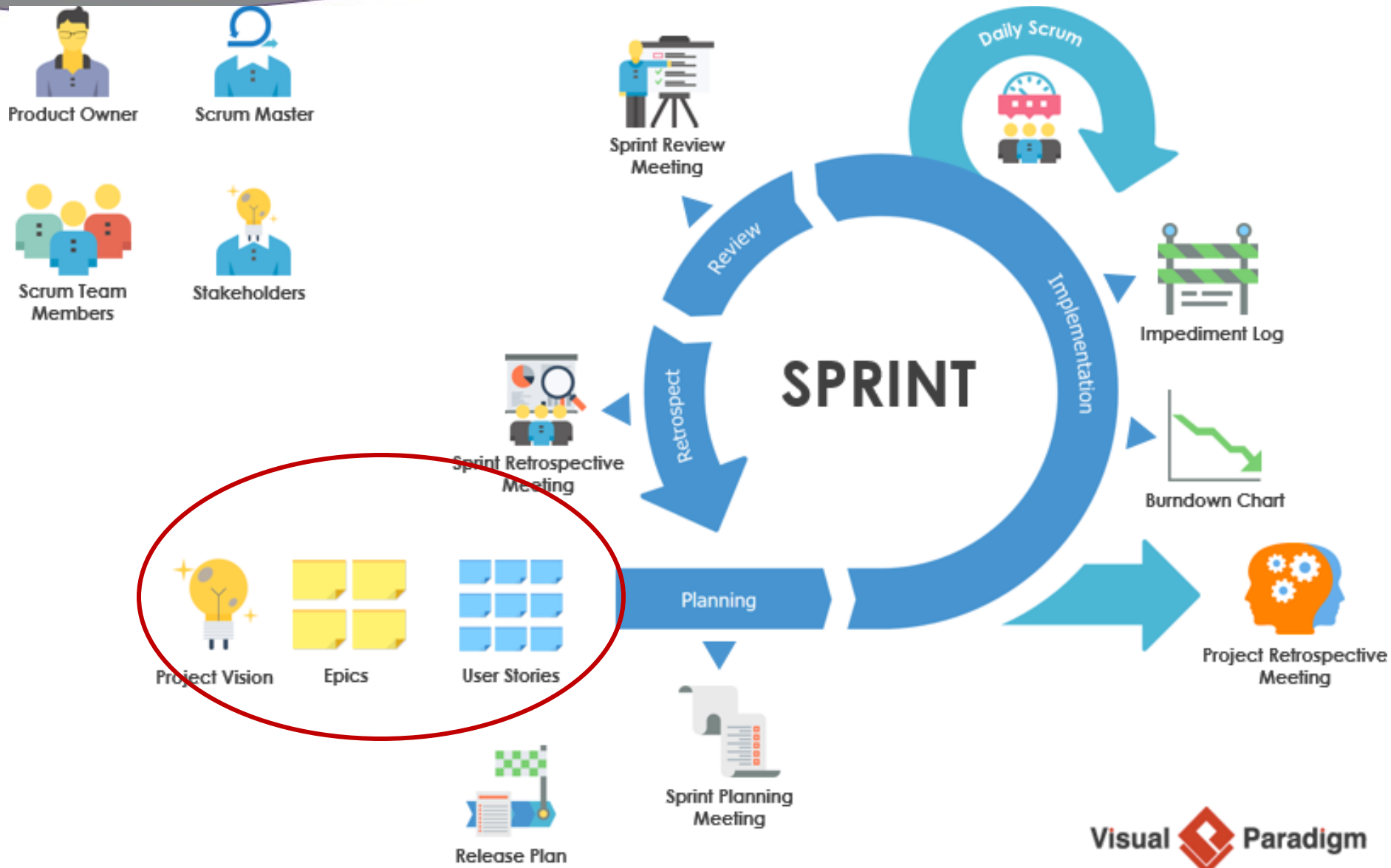
Part 2

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School of
COMPUTING

Scrum in 1 Picture



Today's Objectives

- Creating requirements with User Stories
 - *Why Create User Stories?*
 - *The Three C's*
 - *Users and User Roles*
 - Gathering Stories
 - INVEST to create great stories

Why User Stories?

- Stories are comprehensible
 - Developers and customers understand them
 - People can understand them better as stories
- Stories support iterative development
- Stories support participatory design
 - The users of the system become part of the team designing the behavior of the system

Why User Stories?

- **Myth:** If you write down the requirements the user gets what he wants
- **IEEE 830 Requirements Specification:**
 - The product shall have a gas engine
 - The product shall have four wheels
 - The product should have a rubber tire mounted to each wheel
 - The product shall have a steering wheel
 - The product shall have a steel body

What is this?

Why User Stories?

- **As a** homemaker, **I want** to mow my lawn quickly and easily, **so that** I can have a nice-looking yard and have time for my other chores
- **As a** homemaker, **I want** to be comfortable when I mow my lawn, **so that** I will not be sore afterwards



The Drawing Game

- **Follow the instructions I provided to you. Do your best to share the various colored pencils...**

The Three C's of User Stories

Card

- Stories are traditionally written on note cards.
- Cards may be annotated with estimates, notes, etc.

Conversation

- Details behind the story come out during conversation with customer

Confirmation

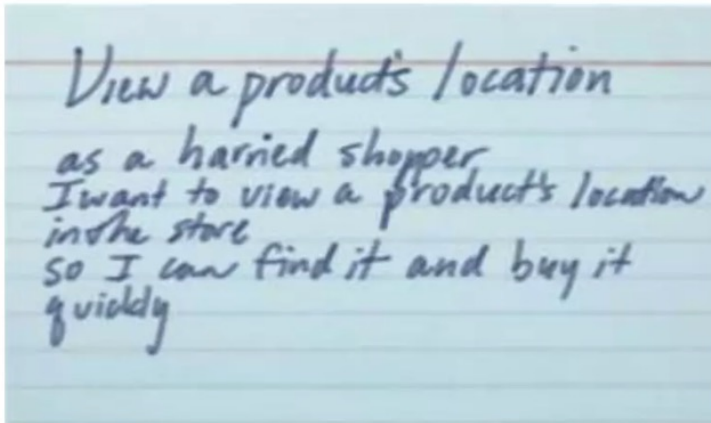
- Acceptance tests confirm the story was coded correctly

The Three C's of User Stories: Story Hierarchy

- **Product** – the largest chunk of value; usually a group of stories that are considered the **MVP** (minimum valuable product)
- **Epic** – a piece of value that is larger than a story but smaller than the whole product
- **User Story** – a small piece of value that can be implemented in at most a week or two; **broken down into tasks for each sprint**

The Three C's of User Stories

Start with a short title



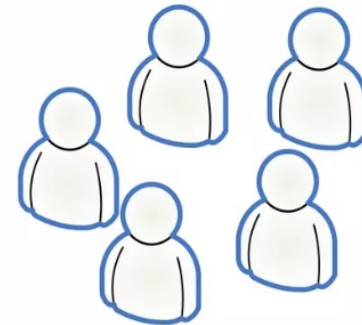
View a product's location
as a hurried shopper
I want to view a product's location
in the store
so I can find it and buy it
quickly

Add concise description

As a [role]

I want to [do something]

So that I can [reach a goal]



Create an acceptance criteria

Add anything else relevant from conversation
(notes, specifications, constraints, sketches)

The Three C's of User Stories: Card and Confirmation

As a frequent flyer
I can cancel a reservation
so that I don't get charged
for a trip that I am unable to
make.

Flip side

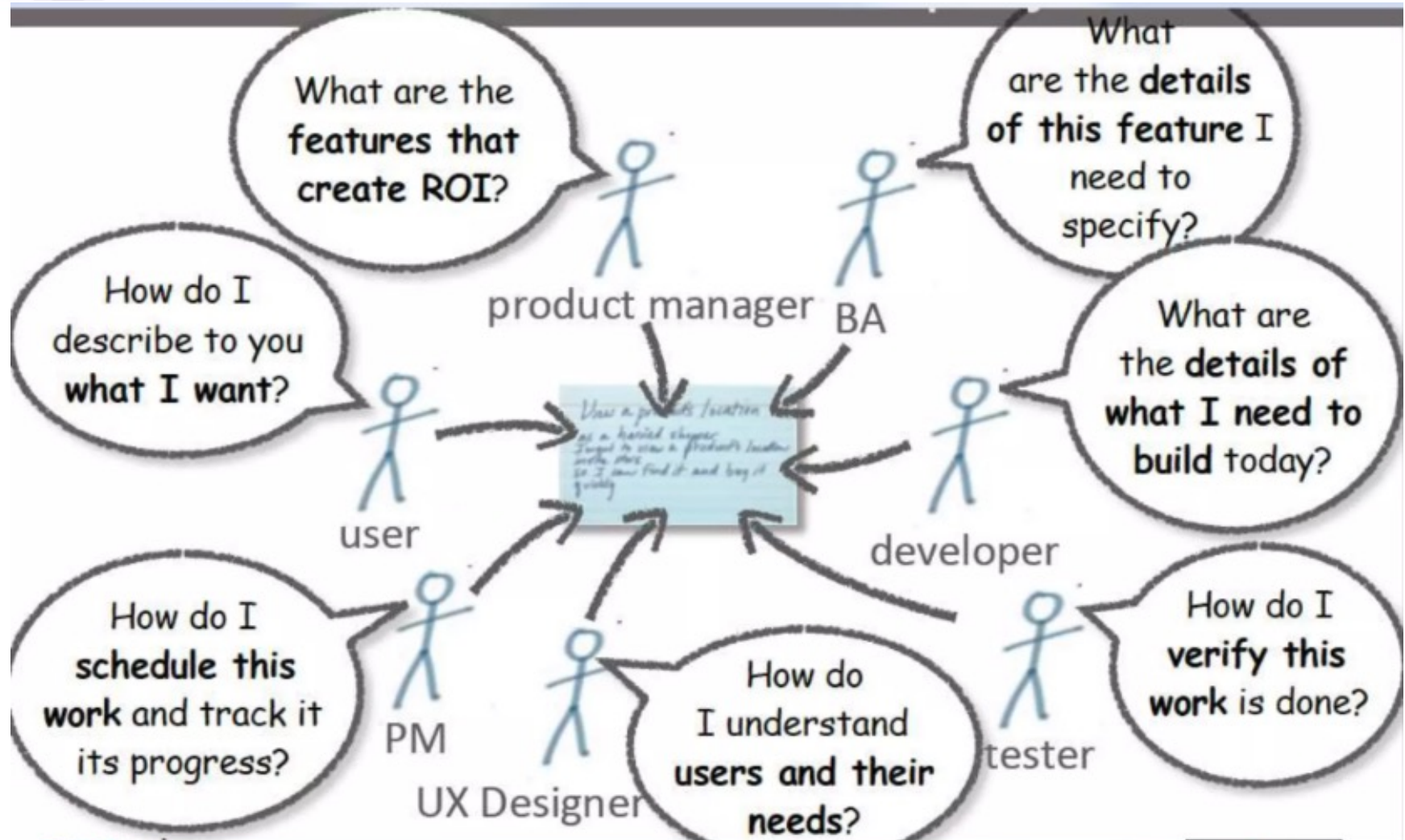


- * Verify that a premium member can cancel the same day without a fee
- * Verify that a non-premium member get charged 10% for a same-day cancelation
- * Verify that email confirmation is sent
- * Verify that the hotel is notified of any cancelation

The story should answer:

- **Who** – who the user story is for (As a User)
- **What** – the functionality that the user story implements (I want)
- **Why** – the reason the user needs the user story (so that)

The Three C's of User Stories: Conversation



Think about User “Roles”

- Users vary by
 - How they use the software
 - Their backgrounds
 - Their familiarity with software/computers
 - What they use the software for
- A **User Role** is a collection of defining attributes that characterize a population of users and their intended interactions with the system.

Advantages of using roles

Users become tangible

Start thinking of software as solving needs of real people.

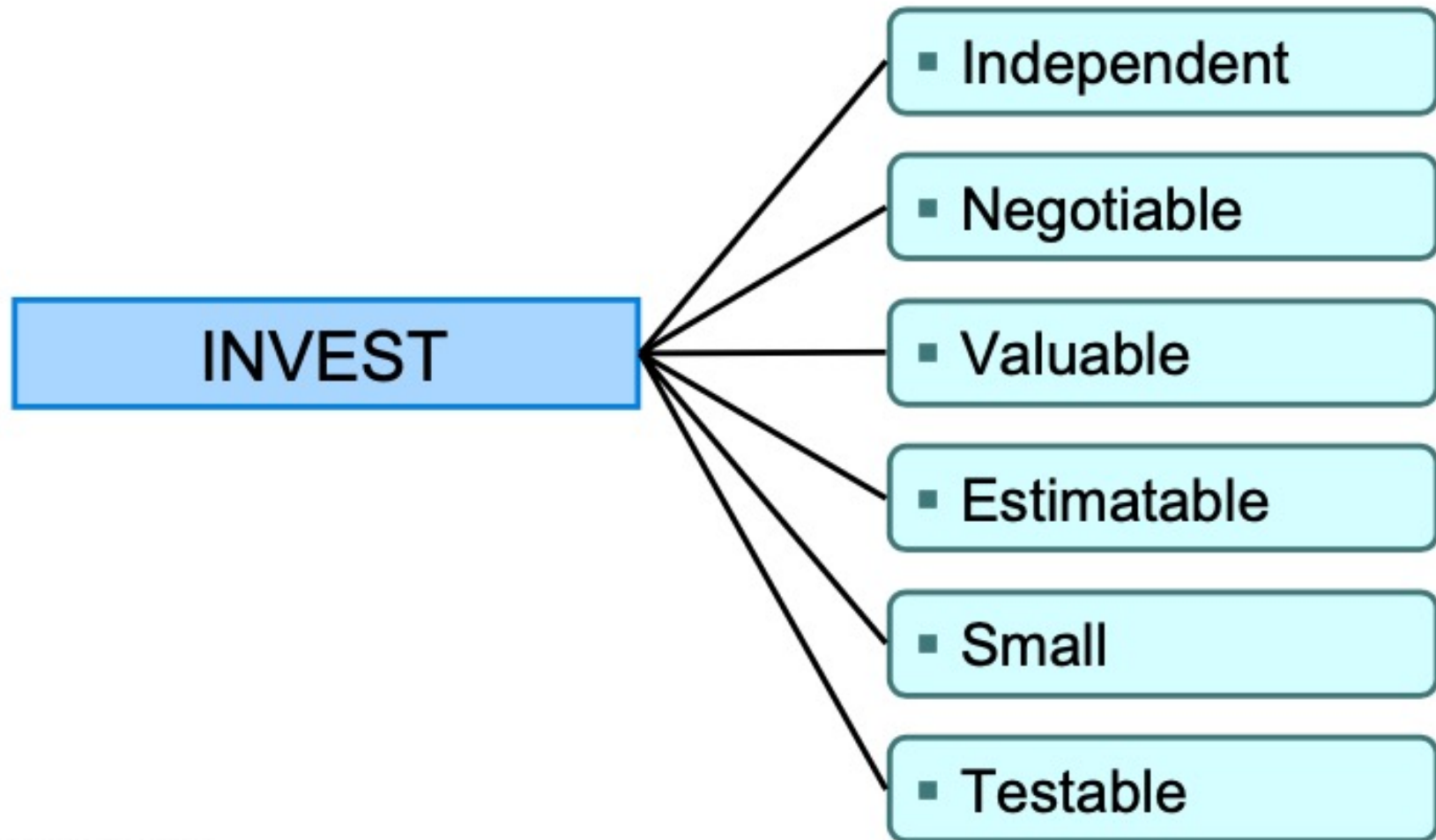
Avoid saying “the user”

Instead we talk about “a frequent flier” or “a repeat traveler”

Incorporate roles into stories

“As a <role>, I want <story> so that <benefit>.”

What makes a good user story?



Thanks to Bill Wake for the acronym. See www.xp123.com.

INVEST: Independent

■ Avoid introducing dependencies

- Leads to difficulty prioritizing and planning

A company can pay
for a job posting with
a Visa card.

?

A company can pay
for a job posting with
an AmEx card.

A company
for a job po ?
a MasterCard.

?

- The first of these stories will take 3 days to develop
 - It doesn't matter which is first
- The others will take 1 day

INVEST: Independent – cont'd

Combine the stories

- A customer can pay with a credit card.

Split across a different dimension

- A customer can pay with one type of credit card.
- A customer can pay with two other types of credit cards.

Write two estimates and move on

- 3 days if first; 1 otherwise

INVEST: Negotiable

- Stories are not contracts – need flexibility so that we can adjust what gets implemented
- Too much detail can give an impression of completeness or precision

Do you think this story is negotiable?

Print dialog allows the user to edit the printer list. The user can add or remove printers from the printer list. The user can add printers either by auto-search or manually specifying the printer DNS name or IP address. An advanced search option also allows the user to restrict his search within specified IP addresses and subnet range.

■ Stories must be valuable to either:

Users

- As a user, I can search for a job by title and salary range.

Purchasers

- Throughout the project, the team will produce documentation suitable for an ISO 9001 audit.
- The development team will produce the software in accordance with CMM level 3.
- All configuration information is read from a central location.

- Should be rewritten to show the benefit

All connections to the database are through a connection pool.



Up to 50 users should be able to use the application with a five-user database license.

All error handling and logging is done through a set of common classes.



All errors are presented to the user and logged in a consistent manner.

INVEST: Estimatable

- Because stories are used in planning
- A story may not be estimatable if:

Developers lack domain knowledge

- As a new user, I am given a diabetic screening.

Developers lack technical knowledge

- As a site visitor, I can elect to see all text in a larger font.

The story is too big

- As a user, I can find a job.

- Large stories (epics) are
 - hard to estimate
 - hard to plan
 - They don't fit well into single iterations
- Compound story
 - An epic that comprises multiple shorter stories
- Complex story
 - A story that is inherently large and cannot easily be disaggregated into constituent stories

INVEST: Small- Compound Stories

■ Often hide a great number of assumptions

As a user, I can post my resume.

- A resume includes separate sections for education, prior jobs, salary history, publications, etc.
- Users can mark resumes as inactive
- Users can have multiple resumes
- Users can edit resumes
- Users can delete resumes

INVEST: Small- Compound Stories

Split along operational boundaries (CRUD)

- As a user, I can create resumes, which include education, prior jobs, salary history, publications, presentations, community service, and an objective.
- As a user, I can edit a resume.
- As a user, I can delete a resume.
- As a user, I can have multiple resumes.
- As a user, I can activate and inactivate resumes.

INVEST: Small- Compound Stories

Split along data boundaries

- As a user, I can add and edit educational information on a resume.
- As a user, I can add and edit prior jobs on a resume.
- As a user, I can add and edit salary history on a resume.
- As a user, I can delete a resume.
- As a user, I can have multiple resumes.
- As a user, I can activate and inactivate resumes.

INVEST: Testable

- Tests demonstrate that a story meets the customer's expectations
- Strive for 90+% automation

A user must find the software easy to use.

As a novice user, I am able to complete common workflows without training.

A user must never have to wait long for a screen to appear.

New screens appear within 2 seconds in 95% of all cases.

Let's Practice – ATM



Automated Teller Machine

Deposit money

Withdrawal Cash

Check account
balances

Let's Practice

You have the following Epic:

As an ATM User, I can deposit cash, so that I can have increased funds in the bank.

What are some stories you can derive from this Epic?

Each table work as a team to come up with at least 3 stories for this Epic on the post-it notes on your table using the format:

As a _____, I want to _____, so that _____

On another note, add some Acceptance criteria for the Story.

10 minutes and then will ask tables to share.

Assignment due end of day tomorrow!

Come up with stories for the ATM withdrawal Epic using the template included in the Canvas post (make a copy to your local drive and submit completed version – link or file).

ATM Deposit Example is included as a separate tab on the spreadsheet for reference.

UPCOMING

- **Project Survey Link competed by this Friday at end of day**
- Project Team Requests by end of day Friday via email (**NO EXCEPTIONS**)
- Project Kickoff next week
- QUIZ 2 on **Tuesday Feb 6** - will cover lessons 5-7; closed-note; 26 pts

Sources

Much of the presentation content was developed using slides and information provided and permitted for this use by Mountain Goat Software: www.mountaingoatsoftware.com.

The company (and founder Mike Cohn) are great sources for Agile best practices.