W04-1:
User Stories Pt. 1

Dr. Alex Adkins

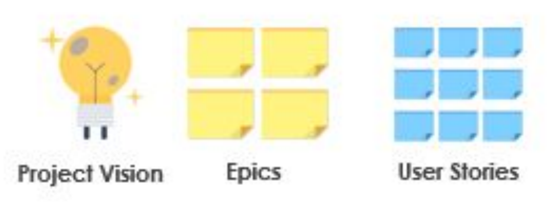
CPSC 3720: Software Engineering

Today’s Objectives

- Quiz 1:
  - 36 points
  - 20 minutes once you begin
- Creating Requirements with User Stories
  - Why Create User Stories?
  - The Three C’s
- Defining User Roles

Recall: Product Backlog and Sprint Backlog

- Product Backlog: Long term goals of the project
  - Strategic - the overarching project plan
  - Items can be vague until closer to implementation

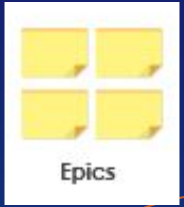


- Sprint Backlog: Short term goals of the sprint
  - Tactical - the actions to take to accomplish the plan
  - Items are refined and ready for execution

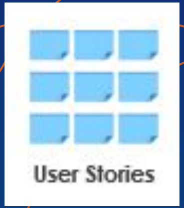
The Story Hierarchy

- Product: largest chunk of value
  - usually a group of stories that are considered the MVP
    - MVP: minimum viable product

- Epic: medium chunk of value
  - larger than a story
  - smaller than the entire project



- User Story: smallest piece of value
  - can be implemented in a week or two
  - broken into tasks for each sprint



The Story Hierarchy Examples

- Product: high level goal or deliverable
  - Example: An E-commerce website
- Epic: large features or functionalities
  - Examples: User Account Management, Product Search, Shopping Cart
- User Story: specific, actionable tasks
  - Derived from epics
  - Format: “As a user, I want …. so that I can …. “
  - Example:
    - Epic: User Account Management
    - User Stories:
      - “As an account holder, I want to be able to login to my account.”
      - “As an account holder, I want to be able to change my password.”

Backlogs & the Story

- Product Backlog: Long term goals of the project
  - Contains:
    - Epics
    - User Stories
      - Derived from Epics
      - May be developed later

- Sprint Backlog: Short term goals of the sprint
  - Contains:
    - Current Epic(s)
    - Current User Stories
    - Actionable Tasks
      - Derived from current Epic(s)/User Story(ies)

What are User Stories?

User Stories:

- short simple descriptions of a features
- told from the perspective of the person who desires the new capability
  - usually a user or customer of the system

User Story Template:

As a <type of user/user role>, I want <some goal> so that <some reason>

WHO **WHAT** **WHY**

Why User Stories?

- Stores are more 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?
What are you imagining?

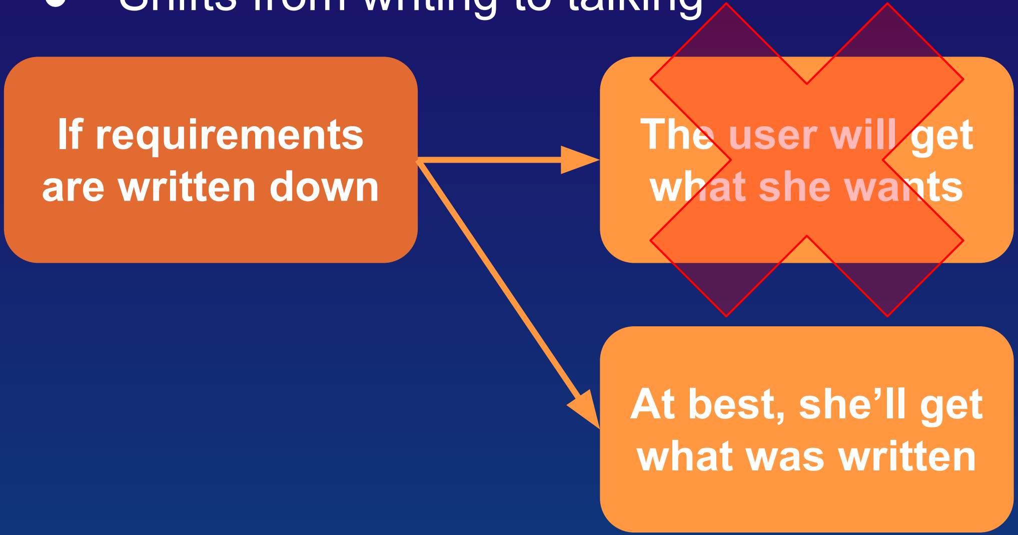
Why User Stories

- 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

Why User Stories?

- Shifts from writing to talking



If requirements are written down

~~The user will get what she wants~~

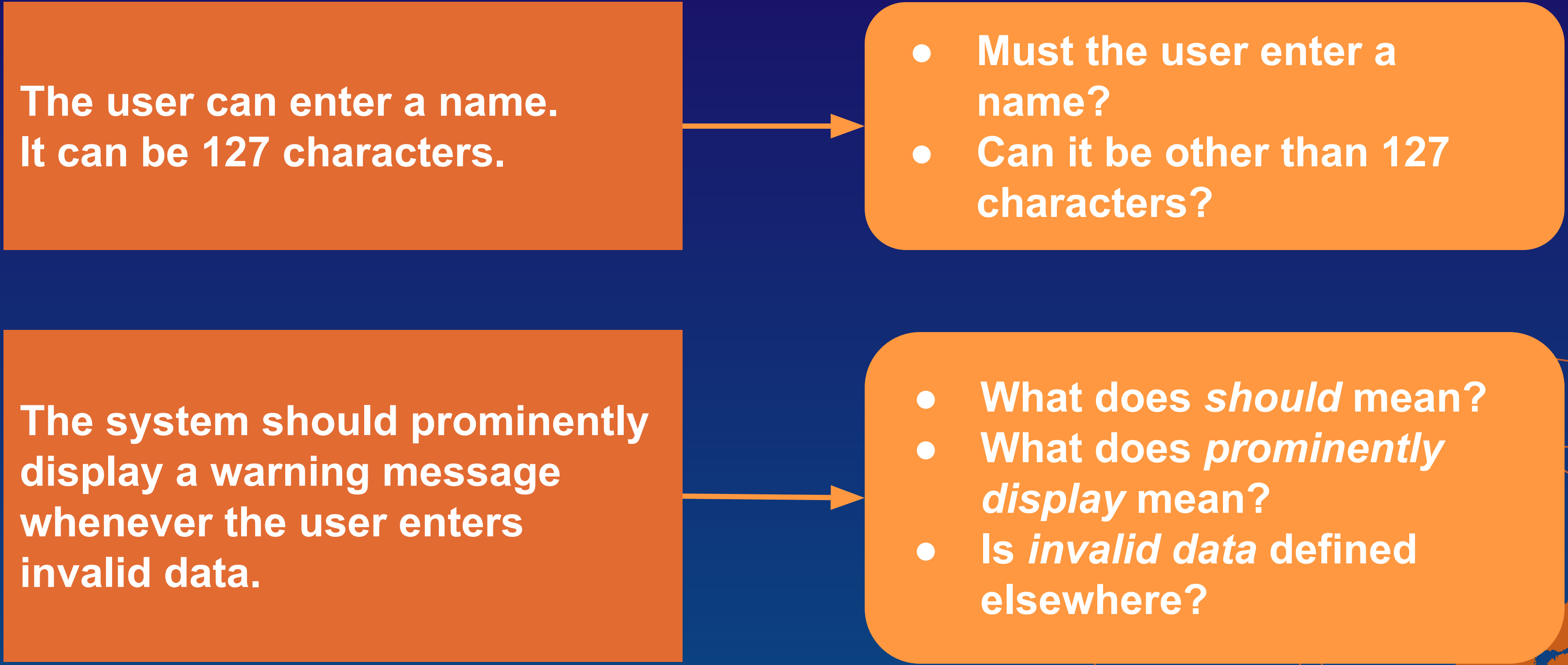
At best, she'll get what was written

- "You built what I asked for, but not what I need!"

How the customer explained it

What the customer really needed

Examples of Ambiguous Requirements



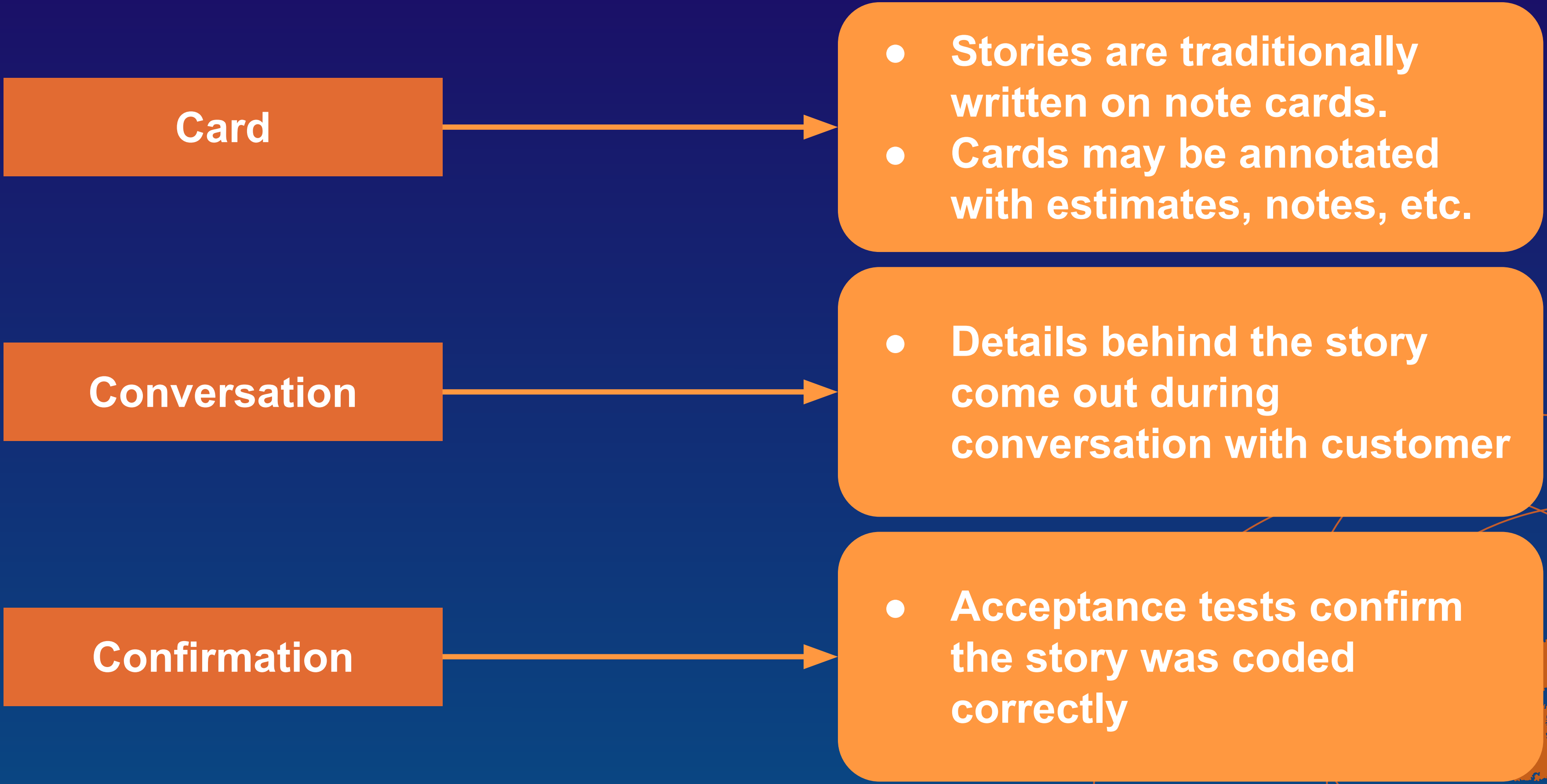
The user can enter a name.
It can be 127 characters.

- **Must the user enter a name?**
- **Can it be other than 127 characters?**

The system should prominently display a warning message whenever the user enters invalid data.

- **What does *should* mean?**
- **What does *prominently display* mean?**
- **Is *invalid data* defined elsewhere?**

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

Examples: Travel Reservation System

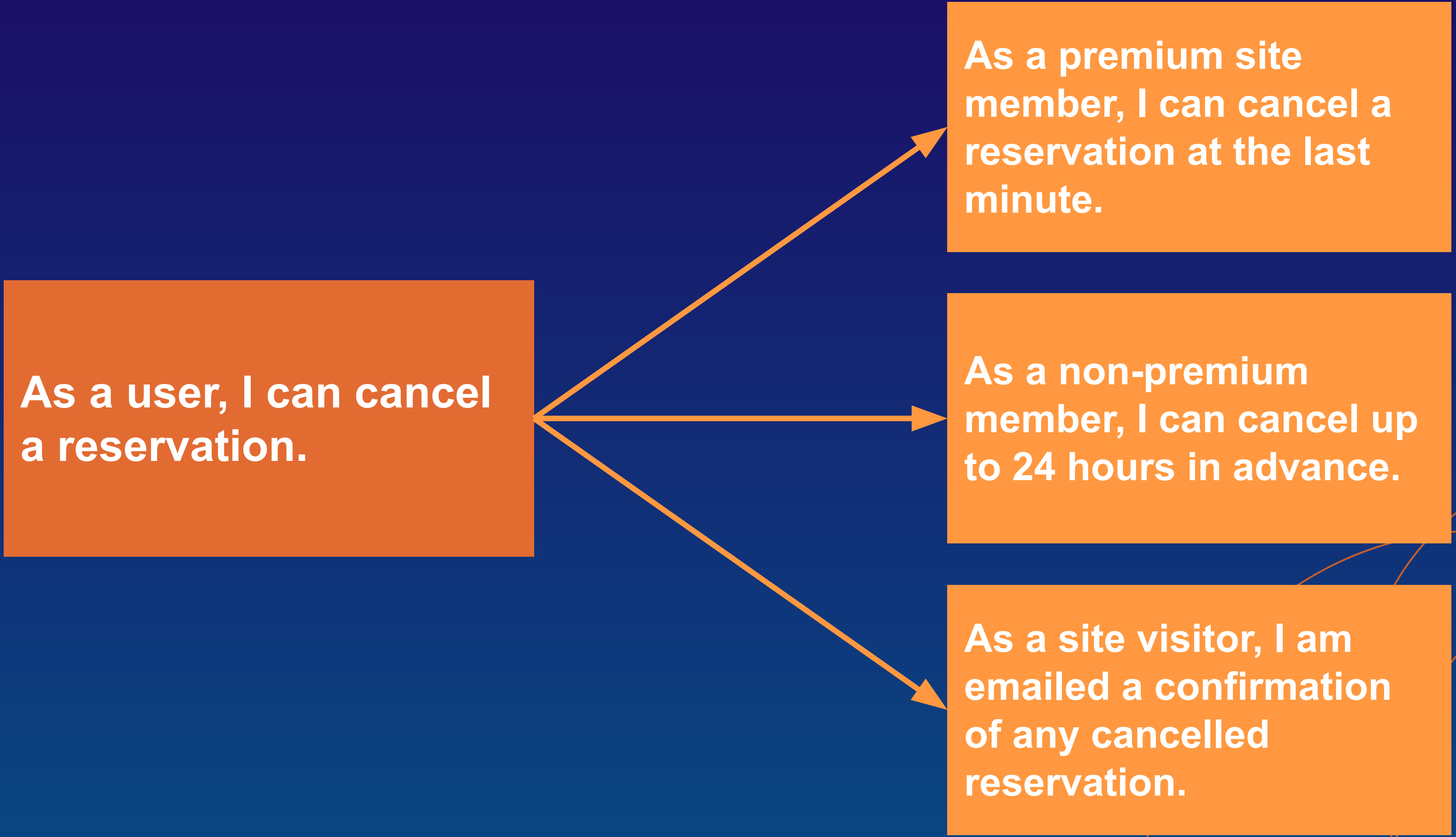
As a user, I can reserve a hotel room.

As a vacation planner, I can see photos of the hotels.

As a user, I can cancel a reservation.

As a user, I can restrict searches so that I only see hotels with available rooms.

Details as Sub-Stories



As a user, I can cancel a reservation.

As a premium site member, I can cancel a reservation at the last minute.

As a non-premium member, I can cancel up to 24 hours in advance.

As a site visitor, I am emailed a confirmation of any cancelled reservation.

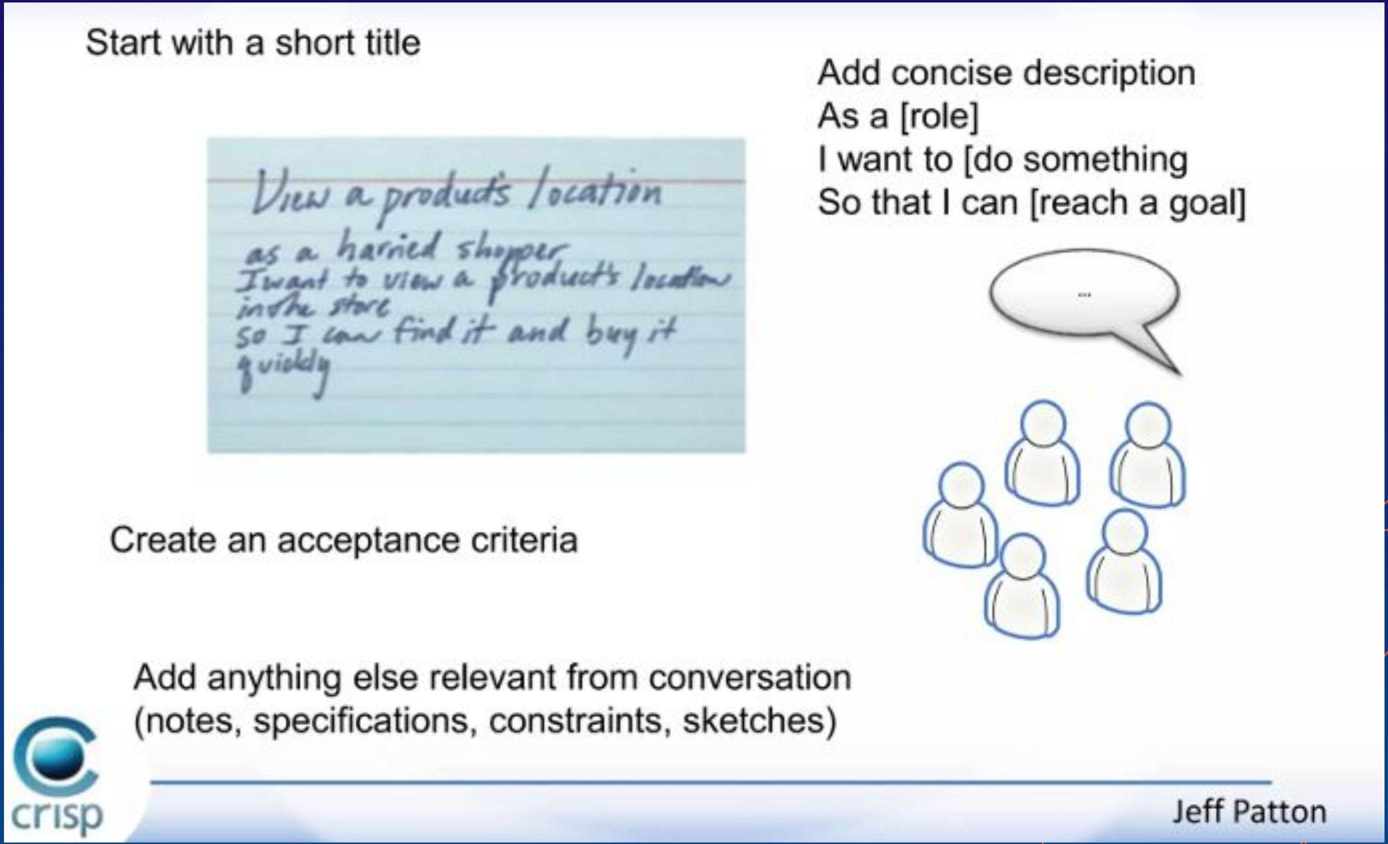
Details as Acceptance Tests/Criteria

- Acceptance Tests/Criteria: List of conditions that must be met to consider a user story complete

As a user, I can cancel a reservation.

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

Writing User Stories



Start with a short title

View a product's location

as a harried 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]

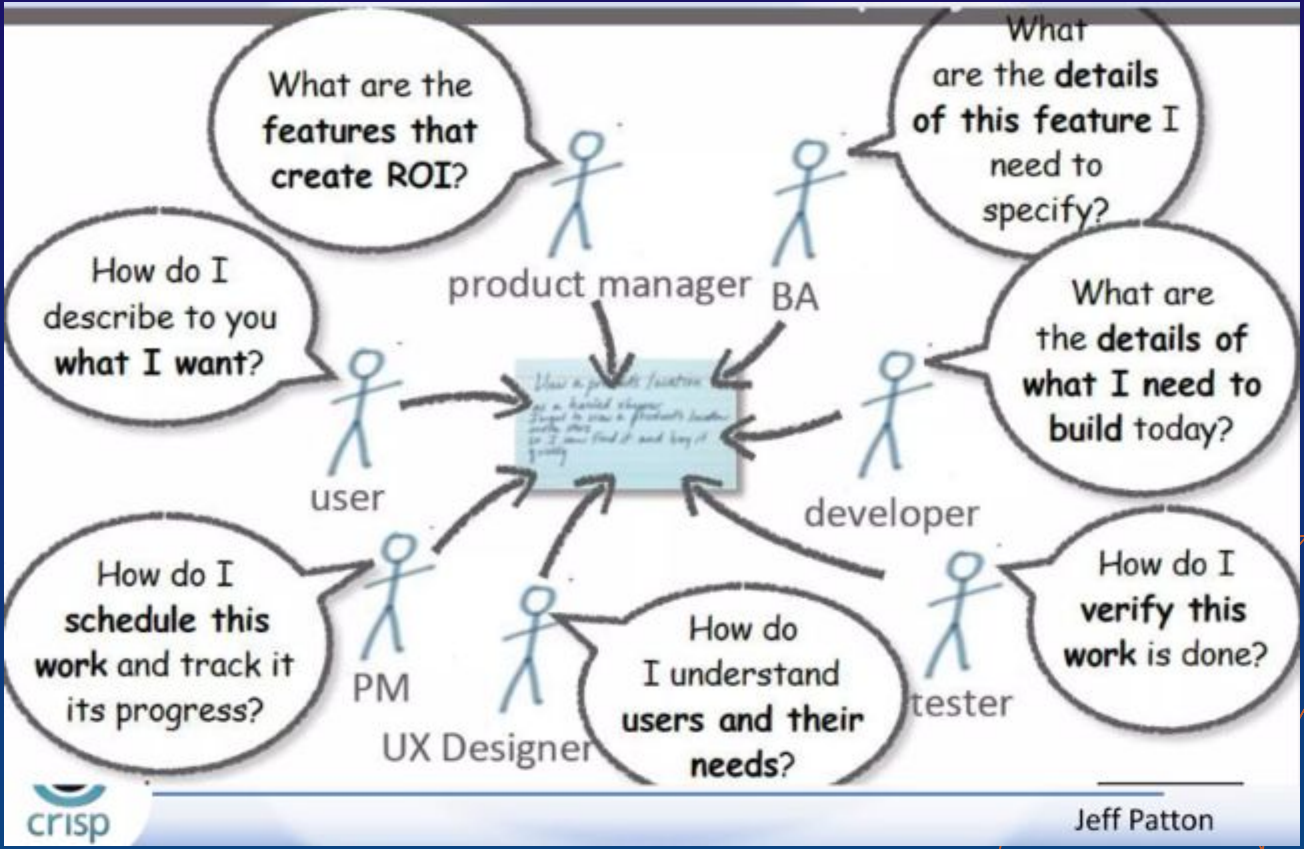
Create an acceptance criteria

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

crisp

Jeff Patton

Writing User Stories: Conversation


What are the features that create ROI?
product manager
What are the details of this feature I need to specify?
BA
How do I describe to you what I want?
user
What are the details of what I need to build today?
developer
How do I schedule this work and track it its progress?
PM
UX Designer
How do I understand users and their needs?
tester
How do I verify this work is done?
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The User & User Roles

The “User”

- Many projects mistakenly assume there’s only one user which will lead to missing stories

Brainstorm

At your tables
2 minutes

- You are tasked with creating a Travel Website
- Who are the users?

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.
  - Source: *Software for Use* by Constantine and Lockwood (1999)

Travel Site Users

Mary

Frequent flyer who never knows where she'll be

Laura

Wants to schedule her family's annual vacation

Jim

Frequent flyer who flies every week but always to the same place

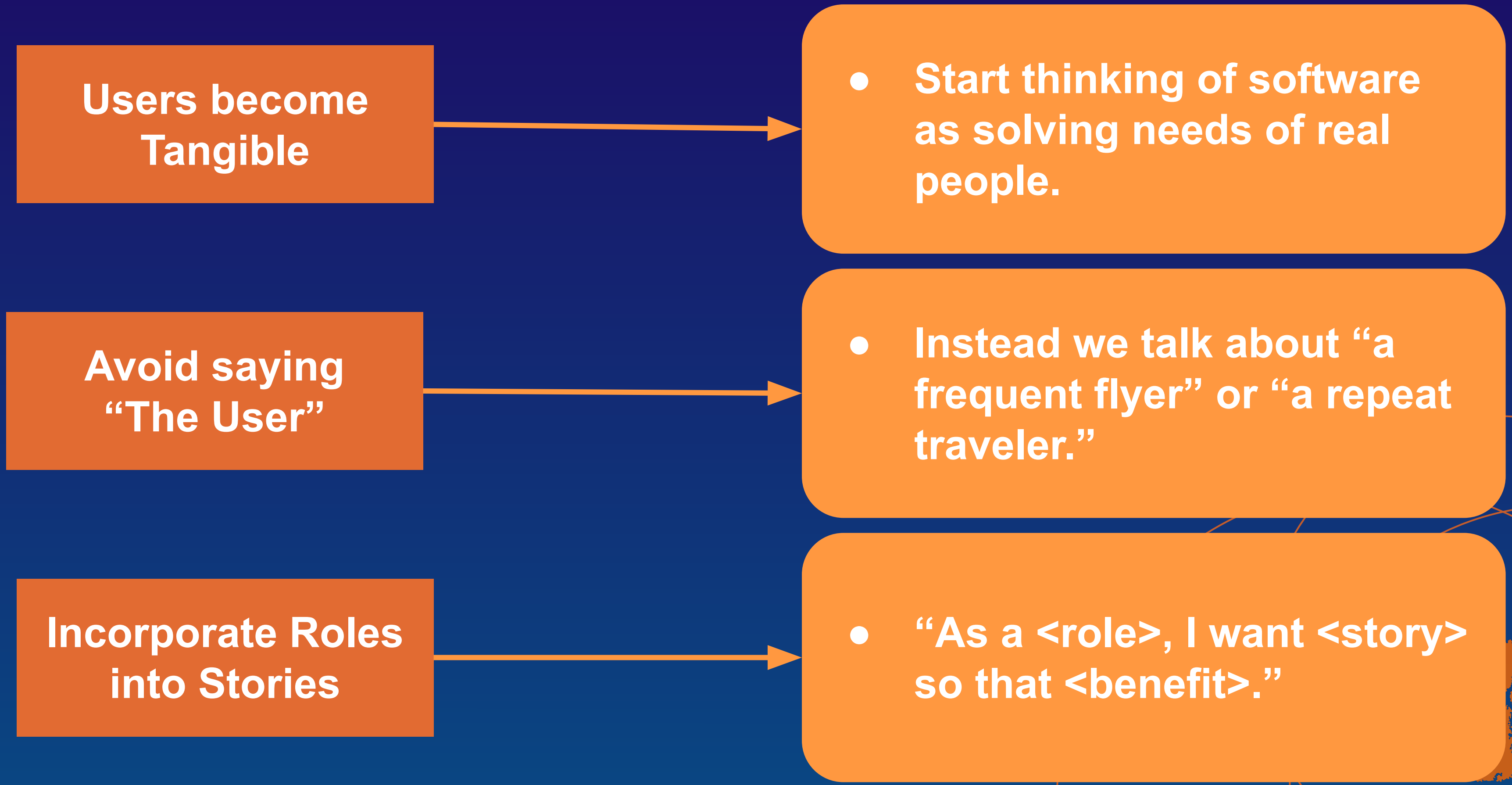
Howard

Mary's assistant; books her reservations

Dominic

Hotel chain Vice President; wants to monitor reservations

Advantages of using Users/Roles



Users become Tangible

- Start thinking of software as solving needs of real people.

Avoid saying “The User”

- Instead we talk about “a frequent flyer” or “a repeat traveler.”

Incorporate Roles into Stories

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

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Brainstorm

At your table…
(5 minutes)

We’ve been hired to build **TigerChow.com**, a new Clemson online food delivery service.

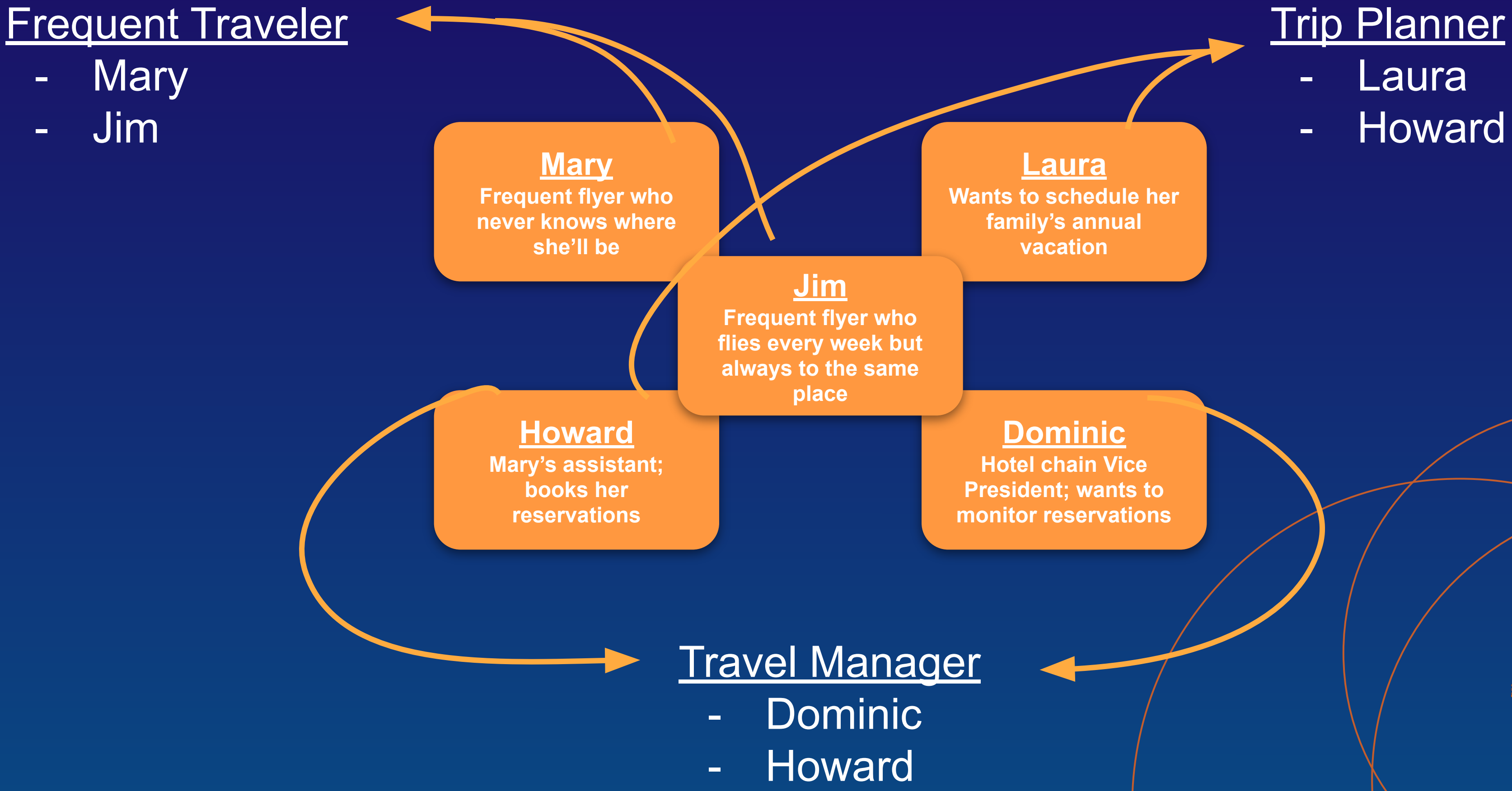
TigerChow should be available via the web and mobile devices.

- Who are the users that will interact this website and mobile app?

User Roles: Modeling Steps

- ☑ Brainstorm an initial set of users
- ❑ Organize the set
  - ❑ Analyze and group together those roles that are similar or overlapping
- ❑ Consolidate roles
  - ❑ Combine roles or replace with a new more generic role
  - ❑ Eliminate roles that are unimportant to the success of the product
- ❑ Refine Roles
  - ❑ Review roles to clarify and refine

Consolidating Roles



Frequent Traveler
- Mary
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Trip Planner
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Hotel chain Vice President; wants to monitor reservations

Travel Manager
- Dominic
- Howard

Homework

- TigerChow Logo (Extra Credit)
  - Submit a logo for our TigerChow project for a point of extra credit!
  - We'll choose the logo in class Thursday! Winner will get additional extra credit!

- Project Skill Survey
  - Will be used to determine project groups
  - Any teammate requests? Email them to me before Saturday!
    - Max: 1 teammate request
  - Due Friday night

- TigerChow User Roles
  - User the users we brainstormed today as a basis to organize them into roles you see as most logical
  - Provide titles and at least 1-2 Key Features
  - Due Sunday night

Upcoming

- We will be drawing on Thursday!
- If you have colored pencils/crayons, please bring them.

Sources

- Mountain Goat Software