THE UNIVERSITY OF WESTERN AUSTRALIA

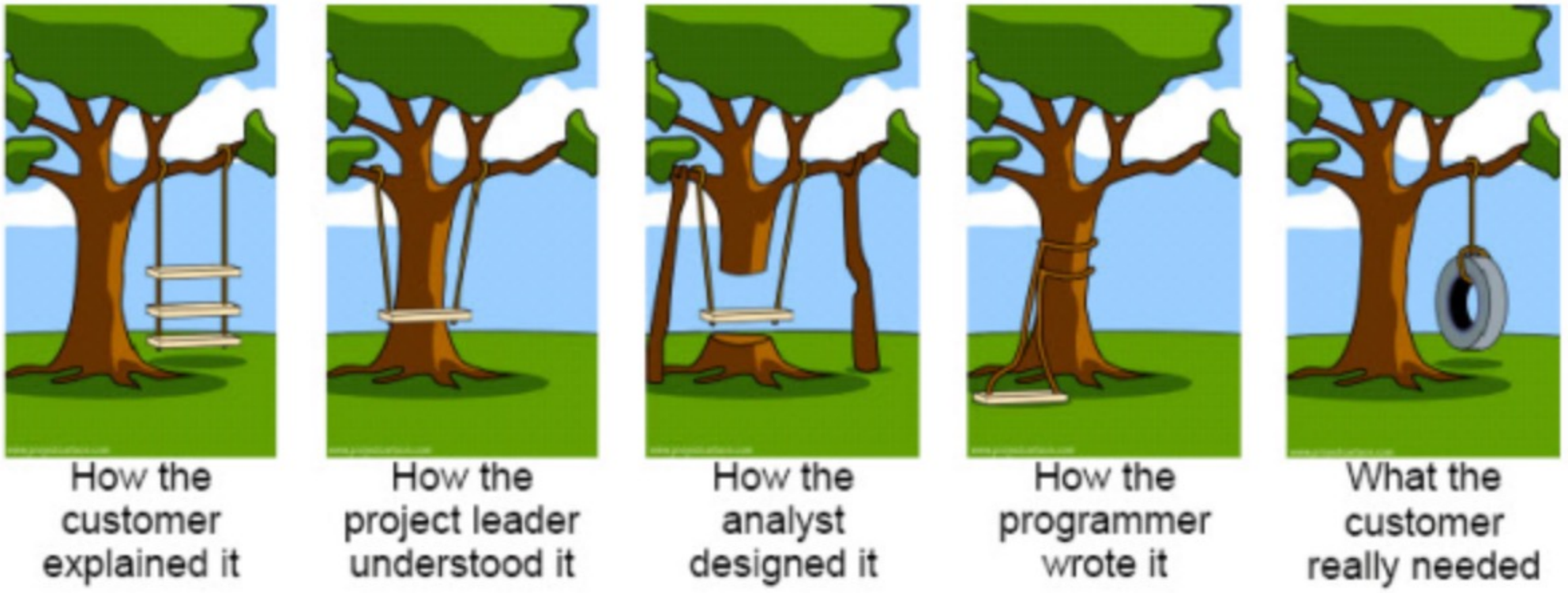
User Stories

Software Requirements and Design
CITS4401
Lecture 2

Software Requirements

- **People** design software
- Stakeholders
- User stories
- Volere snow cards

https://www.stellman-greene.com/2009/05/03/requirements-101-user-stories-vs-use-cases/


How the customer explained it
How the project leader understood it
How the analyst designed it
How the programmer wrote it
What the customer really needed

1. People

"That people design software is obvious and …

often ignored"

Cockburn, Agile SW Development Chapter 2

So … software engineering involves working effectively with other people as well as solving technical computing problems.

Stakeholders

stakeholder

an individual, group, or organization who may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome of a project

EXAMPLE: end users, end user organizations, supporters, developers, producers, trainers, maintainers, disposers, acquirers, supplier organizations and regulatory bodies, interested parties, decision-makers

Note: Some stakeholders can have interests that oppose each other or oppose the system.

Source: from 3.3943 SO/IEC 2017 SE vocabulary

Users

User

person who interacts with a system, product or service

EXAMPLES: operators, recipients of the results of operating the system or software; a bank customer who visits a branch, receives a paper statement, or carries out telephone banking using a call center

Source: from 3.3943 SO/IEC 2017 SE vocabulary

Customers = “the people that pay”

Customer

organization or person that receives a product or service

EXAMPLE: consumer, client, end-user, retailer, receiver or product or service from an internal process, an organization within the same company as the developing organization (e.g., System Management), a company or entity external to the developing company, a higher-level project, or some combination of these

Note: A customer can be internal or external to the organization. Customers are a subset of stakeholders.

Source: from 3.970 SO/IEC 2017 SE vocabulary

Actors

Actor

in UML, someone or something outside the system that interacts with the system

Note: It can be of interest to specify which actor initiates that action.

Source: from 3.80 SO/IEC 2017 SE vocabulary

User Stories

User stories are often written early in the SW development process.

The idea is to capture “raw” user needs

The **purpose** of a user story is articulate how a piece of work will deliver a particular value back to the customer.

User stories provide value back to the customer **and other stakeholders.**

Benefits of User Stories

Stories keep the focus on the user. A To Do list keeps the team focused on tasks that need checked off, but a collection of stories keeps the team focused on solving problems for real users.

Stories enable collaboration. With the end goal defined, the team can work together to decide how best to serve the user and meet that goal.

Stories drive creative solutions. Stories encourage the team to think critically and creatively about how to best solve for an end goal.

Stories create momentum. With each passing story the development team enjoys a small challenges and a small win, driving momentum.

Refs: https://www.atlassian.com/agile/project-management/user-stories
https://www.mountaingoatsoftware.com/agile/user-stories

User Story Format

User stories are often structured as:

As a [role]
I want [functionality]
So that [business value]

As Max, I want to invite my friends, so we can enjoy this service together.

As Sascha, I want to organize my work, so I can feel more in control.

As a manager, I want to be able to understand my colleagues progress, so I can better report our success and failures.

User stories weakness

Beware: “I want” is almost always followed by a presumed solution: “I want to access my account from my mobile”; etc

These are solutions, and give little indication whether or not they solve the real business problem.

(Bad) example:

As a bank customer

I want online access to my account

So that I can see my balance 24/7

The “So that” is justifying the online solution, but being able to see your bank balance 24/7 does not solve any real business problem, either for the customer or the bank.

Business stories

As an [external customer or other external entity]
I can [achieve a business goal]
So that [value to the external customer / entity / business]

(Better) Example:

As a bank customer
I can have frequent and convenient connection with my account and its activity
So that I can feel confident that I always know my financial position.

Source: The user story considered harmful, James Robertson & Suzanne Robertson http://www.volere.org/

How to write good User Stories

- **User stories** are about needs
- When you write a user story, what you're describing is a "raw" user need.
- It's something that the user **needs to do** in her day-to-day job.
- Even if you never build any software for her, then that need will still exist!
- With an agile approach **Testers** are involved to assist review of User Stories to ensure they are "reasonable/testable". Testers (vs developers) typically better represent real users. Testers think and act like users….developers act like developers.

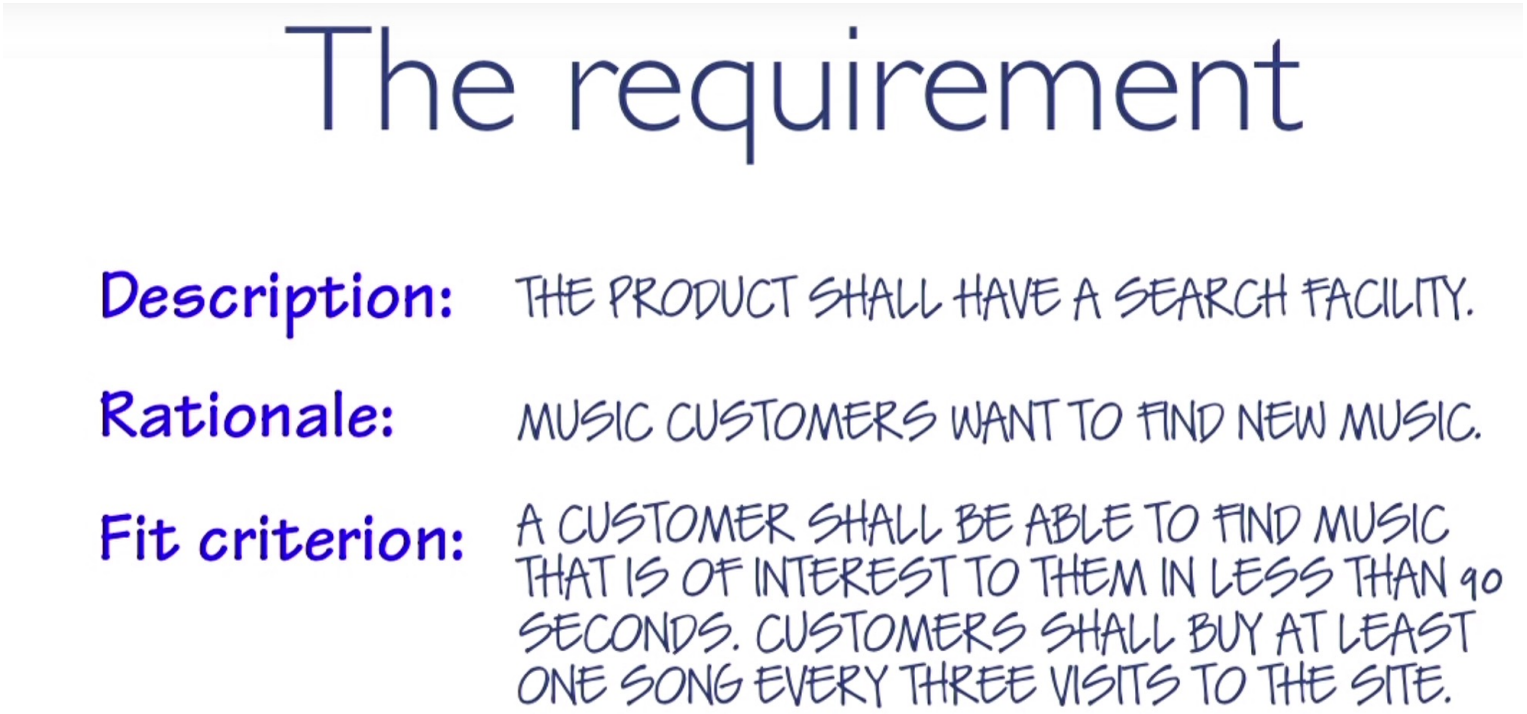
Source: https://www.stellman-greene.com/2009/05/03/requirements-101-user-stories-vs-use-cases/

Quality Attributes of User Stories

- **User stories are easy for users to read.**
- When you write a user story, what you're concentrating on is writing something that anyone can understand, in the language of the users.
- We all know that developers have a lot more patience for talking about details of the software they're building than users do, which is why user stories have to be brief.
- A user story needs to express a complete thought in just a couple of sentences.
- That's also why it's good to put them on index cards: somehow, that makes it clearer that it's self-contained and independent of the other user stories.

The snow card (volere.org)

https://www.volere.org/the-perfectly-formed-requirement/ (video)



Snow Card Template

Requirement #: Requirement Type: Event/BUC/PUC #:

Description:

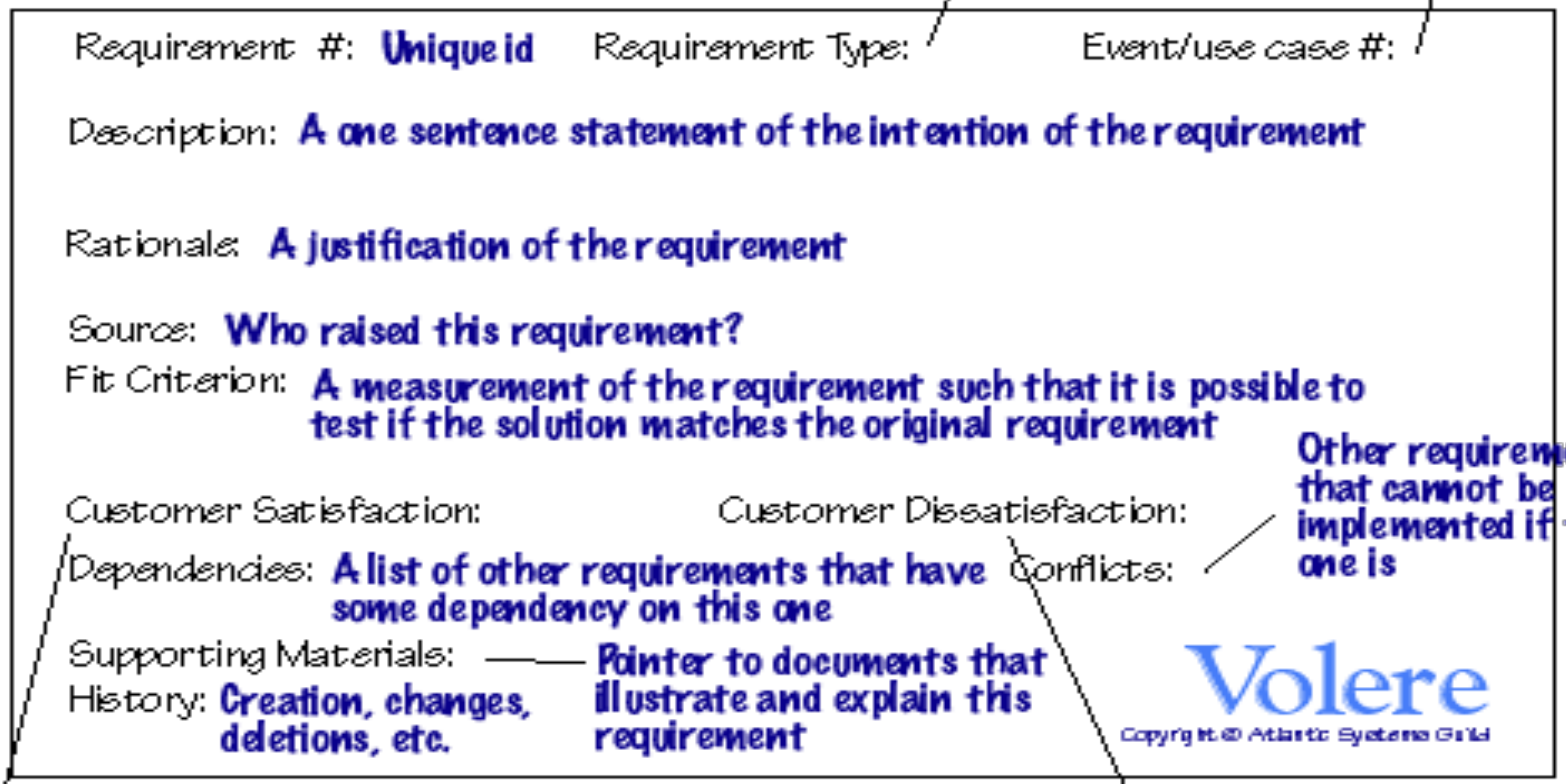
Rationale:

Originator:
Fit Criterion:

Customer Satisfaction: Customer Dissatisfaction:
Priority: Conflicts:
Supporting Materials:
History:

Volere

Snow Card Fields



The type from the template

List of events / use cases that need this requirement

Other requirements that cannot be implemented if this one is

Pointer to documents that illustrate and explain this requirement

Degree of stakeholder happiness if this requirement is successfully implemented.
Scale from 1 = uninterested to 5 = extremely pleased.

Measure of stakeholder unhappiness if this requirement is not part of the final product.
Scale from 1 = hardly matters to 5 = extremely displeased.

You don't need to fill all the fields at once!

Warning – don't get confused

Use case

an abstraction that describes all possible scenarios involving the described functionality

focus is on completeness

The Unified Modelling Language has use case diagram and use case

We will be studying these later in the unit, but for now focus on user stories

Is there are standard format?

- There are many different formats that you can follow.

- Lets have a look at some examples

1. ProductPlan

User Story

Title:	Priority:	Estimate:
User Story: As a [description of user], I want [functionality] so that [benefit].		
Acceptance Criteria: Given [how things begin] When [action taken] Then [outcome of taking action]		

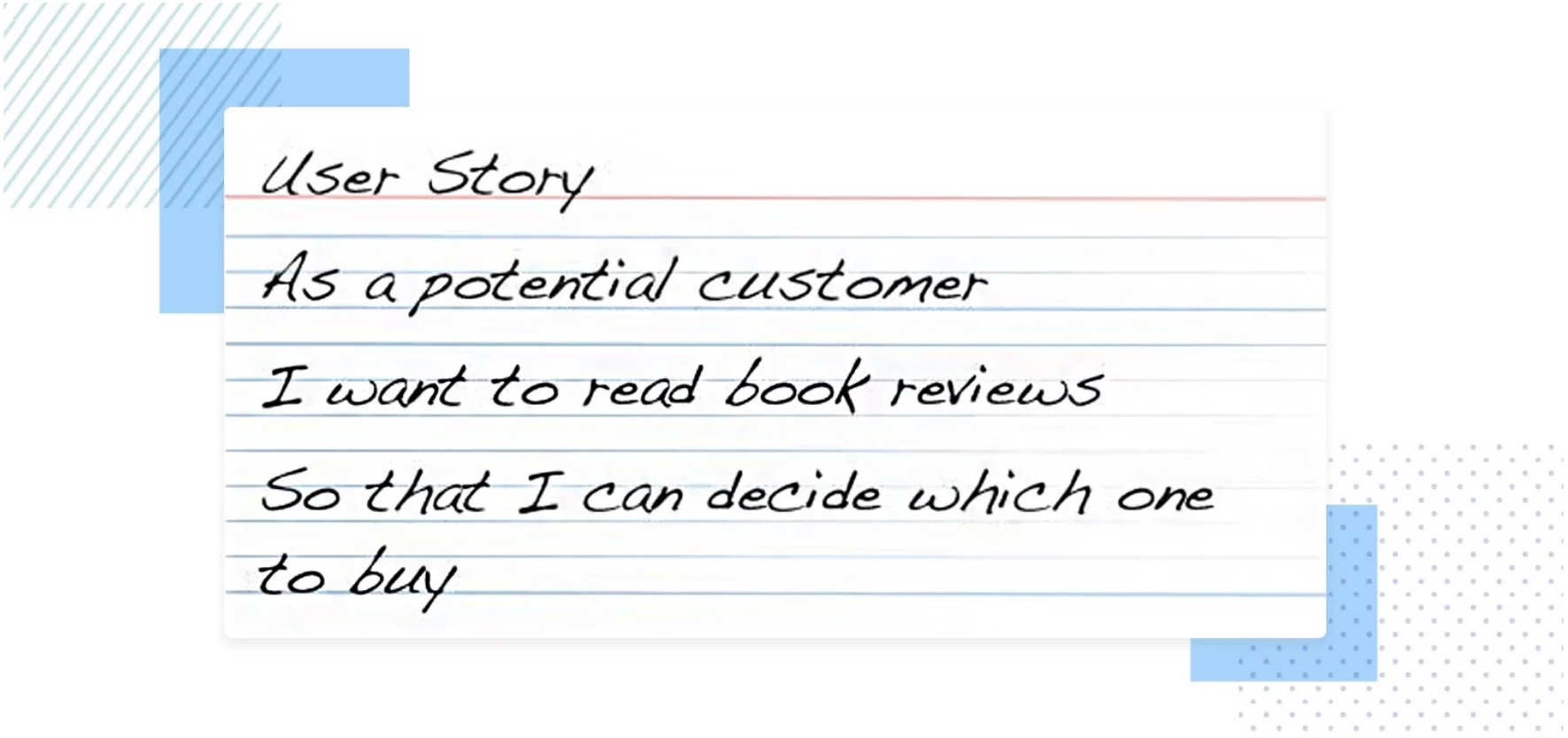
ProductPlan

2. Epic User Story

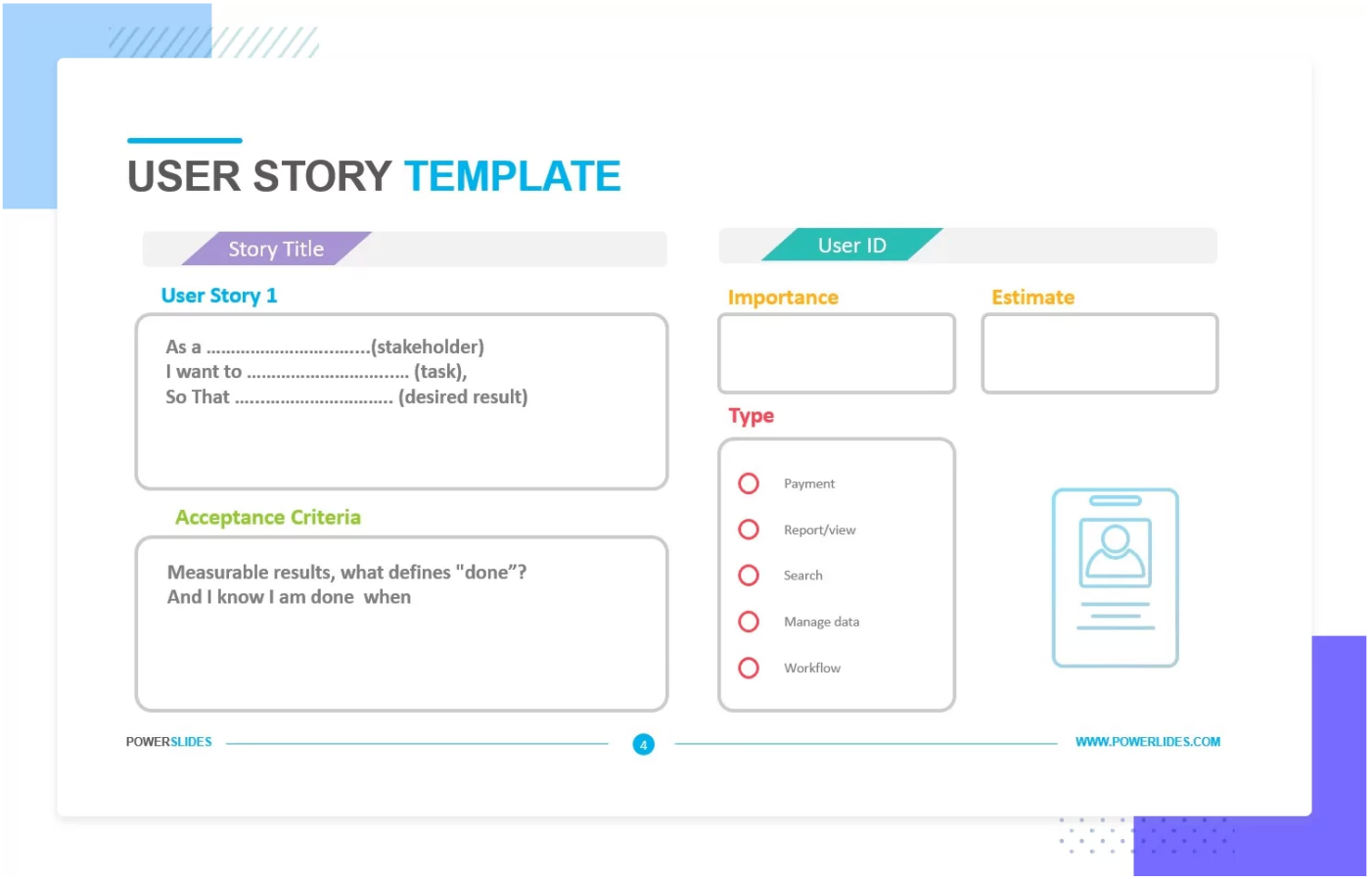
Epic	User stories		Acceptance criteria
Epic 1:	User story 1	**As a** [type of user], **I want to** [perform some task] **so that I can** [achieve some goal].	**Given that** [some context], **when** [some action is carried out], **then** [a set of observable outcomes should occur].
	User story 2		
	User story 3		
Epic 2:	User story 1		
	User story 2		
	User story 3		
Epic 3:	User story 1		
	User story 2		
	User story 3		

Excel user story template

3. Index Card


User Story
As a potential customer
I want to read book reviews
So that I can decide which one
to buy

4. Powerslides



Summary (1)

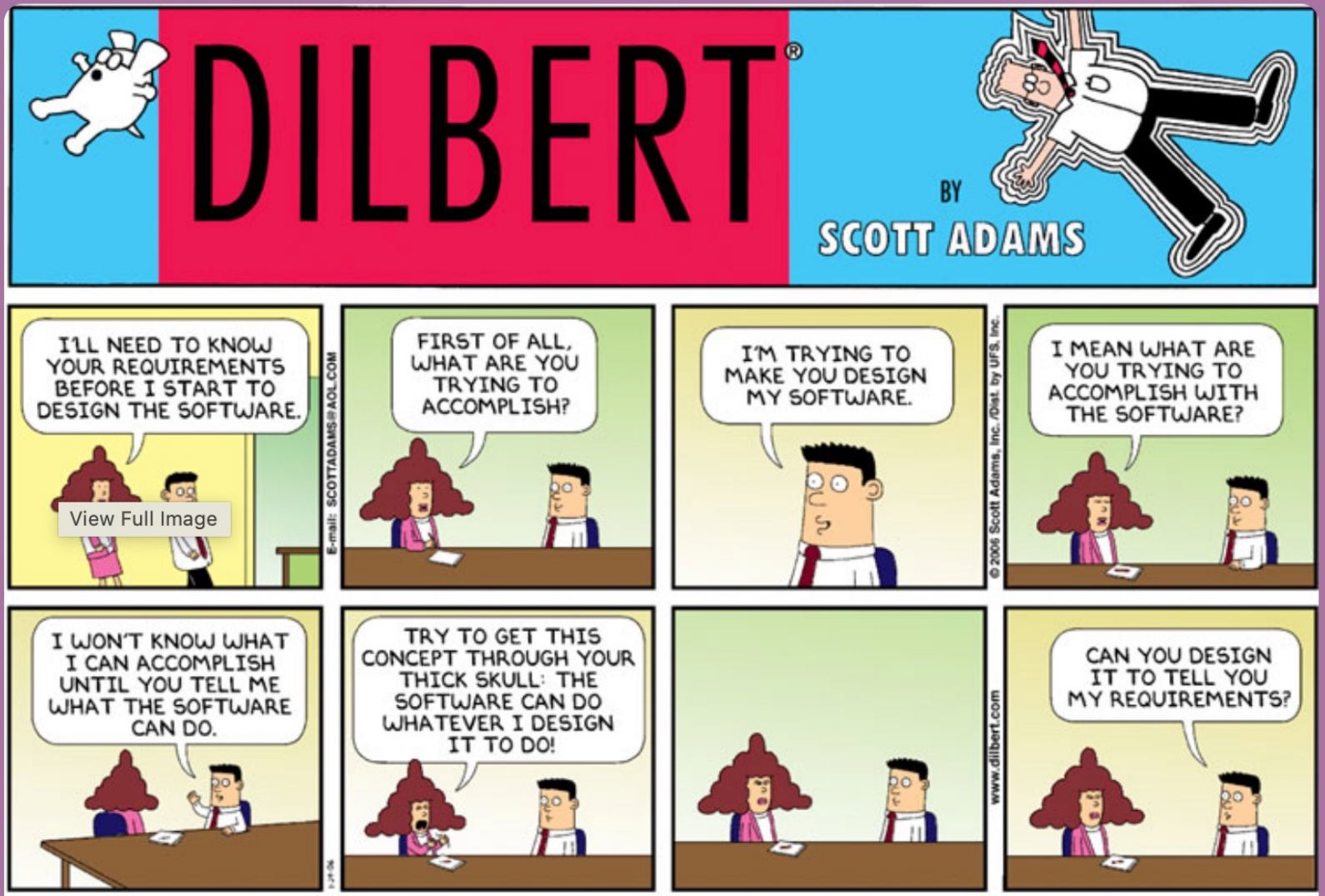
- Software Engineering is a **people-focussed** activity
- **Stakeholders** are anyone with a stake in the system
- Stakeholders can be individual, group, or organization who may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome of a project

Summary (2)

- A **user story** expresses one very specific need that a user has. It's usually written out as a couple of sentences. User stories are about needs (for doing a day-to-day job). These needs exist independently of any software.

- Do user stories replace requirements? No…both help reduce uncertainty

- Volere Snow cards are a useful tool for capturing requirements, including user stories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