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Escuela Técnica Superior
de Ingeniería Informática
Departamento de Lenguajes
y Sistemas Informáticos

Customer Requirements Documentation: User Stories

*Software Engineering and Databases Group
Department of Computer Languages and Systems
University of Seville
October 2015*

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Customer Requirements Documentation: User Stories

- Learning objectives
 - Know the **user stories** technique.
 - Write **customer requirements** correctly using user stories.
 - Develop **acceptance or system tests** from user stories or product requirements.

1. User stories

2. Story maps


3. Acceptance and system tests



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Customer Requirements Documentation: User Stories

• User stories

– Agile methods proposal for the specification of customer requirements.

– They are written from the user **viewpoint** using his **vocabulary**.


– Mike Cohn’s template is mostly used:

Title

As a [role] optional

I want [service]

so that [reason] optional




Mike Cohn, one of the creators of Scrum and owner of Mountain Goat Software, agile methods consultant.

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Customer Requirements Documentation: User Stories

• User stories


– Examples:

Books on sale

As a customer,

I want to see a list of books on sale,

so that I can buy the interesting ones at a good price.




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Customer Requirements Documentation: User Stories

• User stories

– Examples:



Products about to expire

As a warehouse manager,

I want to receive a message on my phone

when there are products expiring in less than 48 hours,


so that I put them on sale instead of throw them away.



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• User stories


– Examples:

Top suppliers

As a **purchasing manager**,

I want to know which suppliers offer a given product cheaper,


so that I can make better purchasing decisions.



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• User stories


– Examples:

Buy tickets

As a **customer**,

I want to buy concert tickets online,

so that I don't waste my time in queues at the ticket office




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Customer Requirements Documentation: User Stories

- Level of detail (objectives)
 - Not all user stories are at the same level of **detail**, e.g.:

Manage warehouse

As a **warehouse manager**,

I want to **properly manage the warehouse**,

So that I can **help my company operations**

← Epic story (objective)
high level, little detail

↑ Add detail

Checking product stock

Controlling product receipts

Controlling product shipments

As a **warehouse manager**,


I want to **know what product shipments take place**,

So that I **know the actual product stock and who has shipped products**.

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Customer Requirements Documentation: User Stories

- User story mappings
 - Sometimes, epic stories (objectives) contain only a name and are used to **hierarchically** organize the rest of stories.

objectives

VENTAS	PRODUCTOS	DEVOLUCIONES	PROVEEDORES
<div>Conocer las garantías dadas</div> <div>Estudiar la rentabilidad de mi negocio</div> <div>Analizar este producto vendido en una lista</div> <div>Sumar todos los productos de la lista</div> <div>Consultar la lista</div>	<div>Confiar de los productos que dispongo</div> <div>Consultar la lista de los productos que dispongo</div> <div>Actualizar un lista cuando adquiere un nuevo producto</div> <div>Actualizar la lista cuando vendo un producto</div> <div>Recibir el dinero cuando me lo pagan</div> <div>Ver la diferencia del dinero invertido y el dinero ganado</div>	<div>Consultar las necesidades de compra de productos</div> <div>Ordenar de reposición</div> <div>Consultar la lista de los productos actuales del stock</div> <div>Recepcionar si hay para mercancía o no</div> <div>Seleccionar aquellos que tienen un tiempo determinado sin venderse</div> <div>Recepcionar su precio y lanzar ofertas</div>	<div>Eliminar artículos que más se devuelven</div> <div>Recepcionar los artículos que más han sido devueltos</div> <div>Eliminar artículos de mi lista de pedidos a proveedores si cambian por similares</div> <div>Ver a los proveedores que más productos se les compra</div> <div>Crear una lista de productos agrupados por su tipo</div> <div>Consultar la fecha de productos vendidos</div> <div>Consultar la fecha de venta del producto</div> <div>Garantizar el producto si la cantidad del stock actual es inferior a la fijada</div> <div>Analizar cuando la cantidad de productos es inferior a la fijada</div> <div>Actualizar lista cuando vendamos un artículo</div> <div>Consultar la lista de productos disponibles con la de productos en stock</div> <div>Consultar la fecha de garantía vigente o no</div> <div>Lanzar aviso si la cantidad del stock actual es inferior a la fijada</div>

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Customer Requirements Documentation: User Stories

- User story mappings
 - They are usually colored differently and are visually organized as **user story mappings**.

VENTAS		PRODUCTOS		DEVOLUCIONES		PROVEEDORES	
Consultar las garantías dadas	Estimar la rentabilidad de un negocio	Consultar de los productos que se han comprado	Consultar las necesidades de compra de productos	Eliminar artículos que más se devuelven	Descartar al proveedor que más se devuelven	Facilitar los descuentos de los productos	Actualizar la garantía en caso de pérdida del ticket
Actualizar cada producto vendido en una lista	Consultar la lista de los productos que se han comprado	Actualizar un lista cuando adquiere un nuevo producto	Consultar la lista de los productos actuales en el stock	Revisar los artículos que más han sido devueltos	Verificar proveedores que más productos se les compra	Creación de lista de productos agrupados por su tipo	Consultar lista de productos vendidos
Sumar todos los productos de la lista	Recalcular el capital invertido en ese momento	Actualizar la lista cuando vende un producto	Razonar si hay poca mercancía o no	Identificar aquellos que tienen un tiempo determinado sin venderse	Elaborar los de mi lista de pedidos a proveedores o cambiarlos por pedidos	Negociar posibles mejores descuentos con ellos	Consultar la lista de productos disponibles con la de productos vendidos
Consultar lista	Ver las diferencias del dinero invertido y el dinero ganado			Reducir su precio y lanzar ofertas			Lanzar el ticket al producto tiene la garantía inferior a la figura

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Customer Requirements Documentation: User Stories

- User story mappings
 - Example of a “physical” story mapping.

Source: www.AgileProductDesign.com

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• User story mappings

– Example of a “physical” story mapping.



Sources: <http://scrummaster.no/> and <http://www.usabilitycounts.com/>

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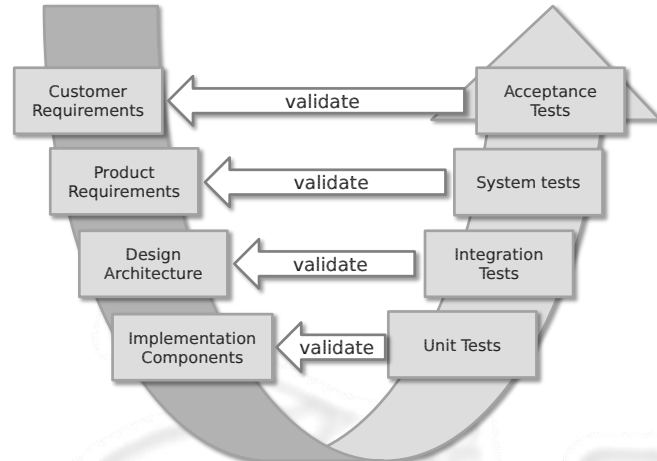
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• Acceptance and System Tests



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- Acceptance and System Tests
 - They not only describe how to **validate** that the developed system fulfills requirements.
 - They also add more **detail** to requirements, especially user stories, without obscuring their description.
 - Ideally, they should be **programmed** and automatically executed.
 - They should be associated with one or more requirements (**traceability**).

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Customer Requirements Documentation: User Stories

- Acceptance Tests
 - Example (user story):

Products about to expire

As a **warehouse manager**,

I want to **receive a message on my phone** when there are **products expiring in less than 48 hours**,

so that I **put them on sale instead of throw them away**.


Acceptance tests

 - A message is received on the phone when there are products expiring within 48 hours or less.
 - A message is not received if there are no products expiring within 48 hours or less.
 - The manager receives a message, requests to forward it in an hour, and gets it back in one hour.
 - The manager receives a message, requests not to forward it anymore, and it is not received again within the next 24 hours.

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Customer Requirements Documentation: User Stories

• System Tests

– Examples (information requirement):

Information about customers

The system shall store the information corresponding to **customers**.
More specifically: ID, name, address, telephone numbers (fixed and/or mobile) and email.


System tests

- A new customer is registered, the list of customers is requested, and the new customer appears in it.
- Data of a customer are modified, the list of customers is requested, and the customer appears in it with modified data.
- A customer is deleted, the list of customers is requested, and the customer appears as deleted.
- A new customer is tried to be registered with an ID already present and an error message is issued.
- New customers registrations or updates are not allowed if some data is not specified.

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• System Tests

– Examples (business rule):

Maximum simultaneous loans

The system shall satisfy the following business rule: a library member cannot have more than three book loans simultaneously.

System Tests

- Three loans of the same non-penalized member are registered and no error message is issued.
- A fourth simultaneous loan of the same non-penalized member is tried to be registered and a not allowed loan message error is issued because the maximum number of simultaneous loans is exceeded.


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- Comments, suggestions, ...



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