40431: Modelação e Análise de Sistemas

Modelação com casos de utilização: o básico

TP03a

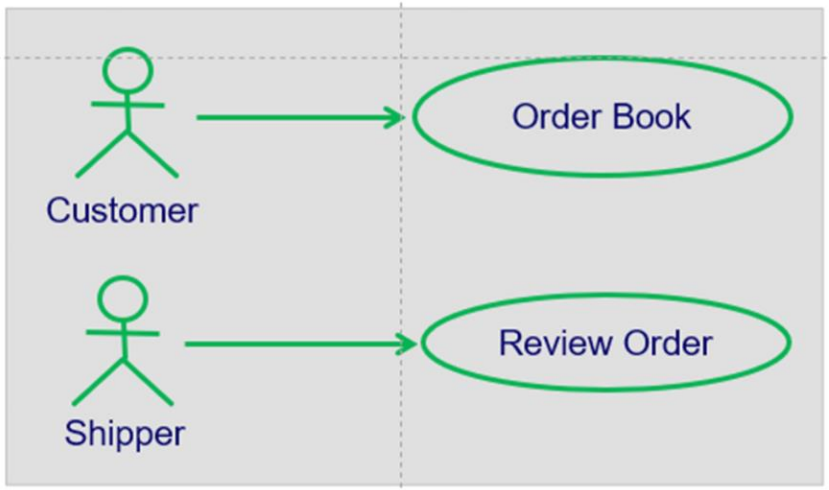
→ Gravada em video-aula

universidade de aveiro
departamento de eletrónica,
telecomunicações e informática
deti

OpenUP recommended practices

Use Case Driven Development

- This practice describes how to capture requirements with a combination of use cases and system-wide requirements, and then drive development and testing from those use cases.



Which main elicitation approaches exist?

What is the goal the user wants to achieve?

vs.

What capability should the product/system possess?

Contas Cartões Crédito Poupança e À sua Medida

Eu quero...

Motivation + Scenario

Ser cliente da Caixa

Comprar uma casa

Comprar um Carro

Viajar

Preparar o Futuro dos meus Filhos

Poupar para o Futuro

Preparar a minha Reforma

Proteger a minha Família

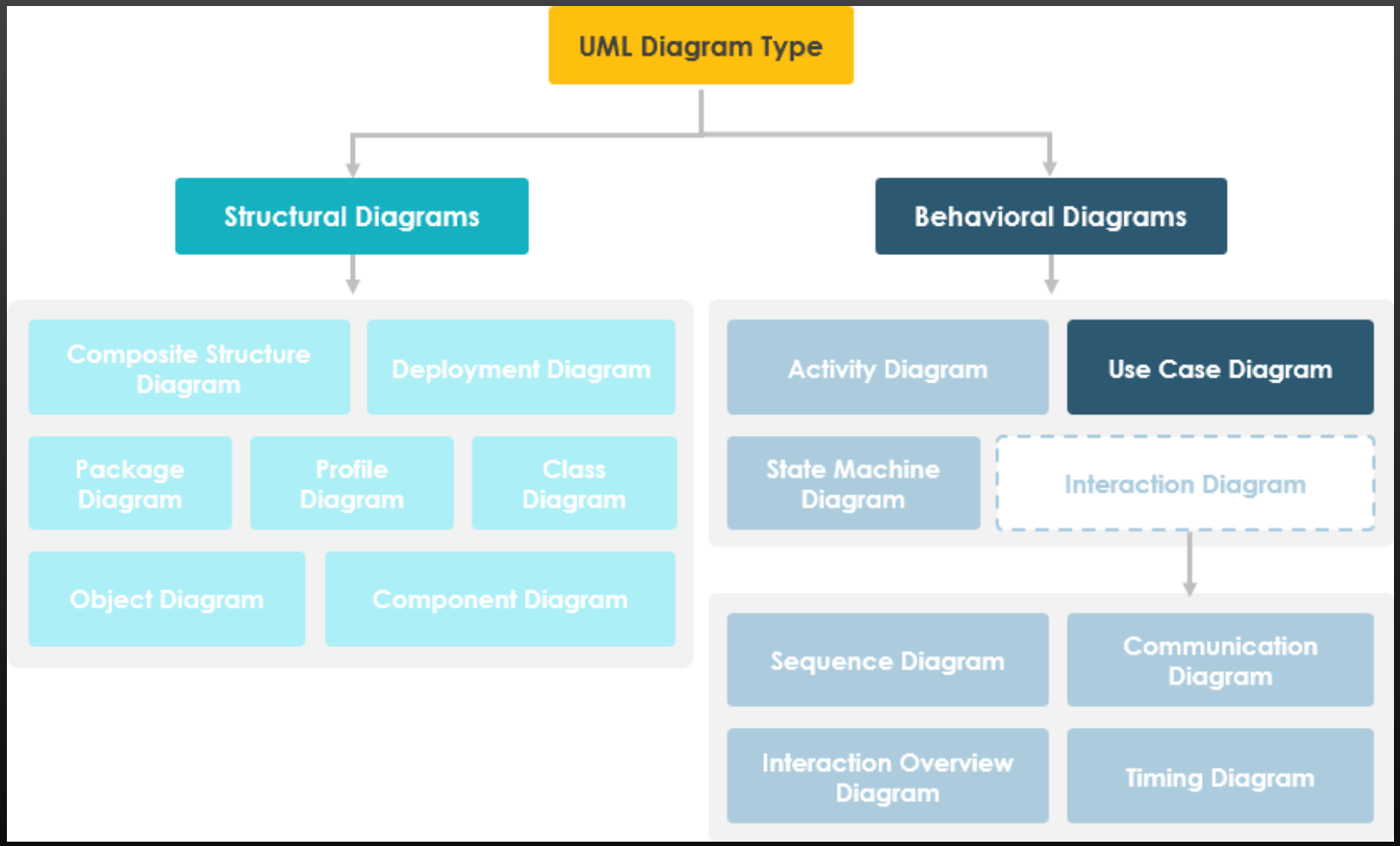
- Consulta de Saldos e Movimentos de Contas e Cartões de Crédito;
- Consulta de Posição Integrada;
- Transferências para beneficiários, contas BPI ou contas de outros Bancos (zona SEPA);
- Pagamentos de Serviços, Estado e Telemóveis;
- Criação e gestão de beneficiários de transferências e de pagamentos predefinidos;
- Constituição, reforço e mobilização de contas poupança objetivo;
- Cartões: pedido de alteração de Limites de Crédito, alteração de opção de pagamento e pagamento de Saldo ou Reforço;
- Consulta de catálogo e aquisição de Produtos Prestígio;
- Acesso a contactos, localização e serviços de Balcões, Centros de Investimento e Centros de Empresas;
- Login com código de 4 dígitos ou com impressão digital.

Quais as motivações para ir usar o Spotify?

Vou ali ao Spotify para...

- → Ouvir um podcast
- → Criar uma playlist
- → Pesquisar um artista
- → Seguir o que os meus amigos estão a ouvir

UML support



https://www.visual-paradigm.com/guide/uml-unified-modeling-language/what-is-use-case-diagram/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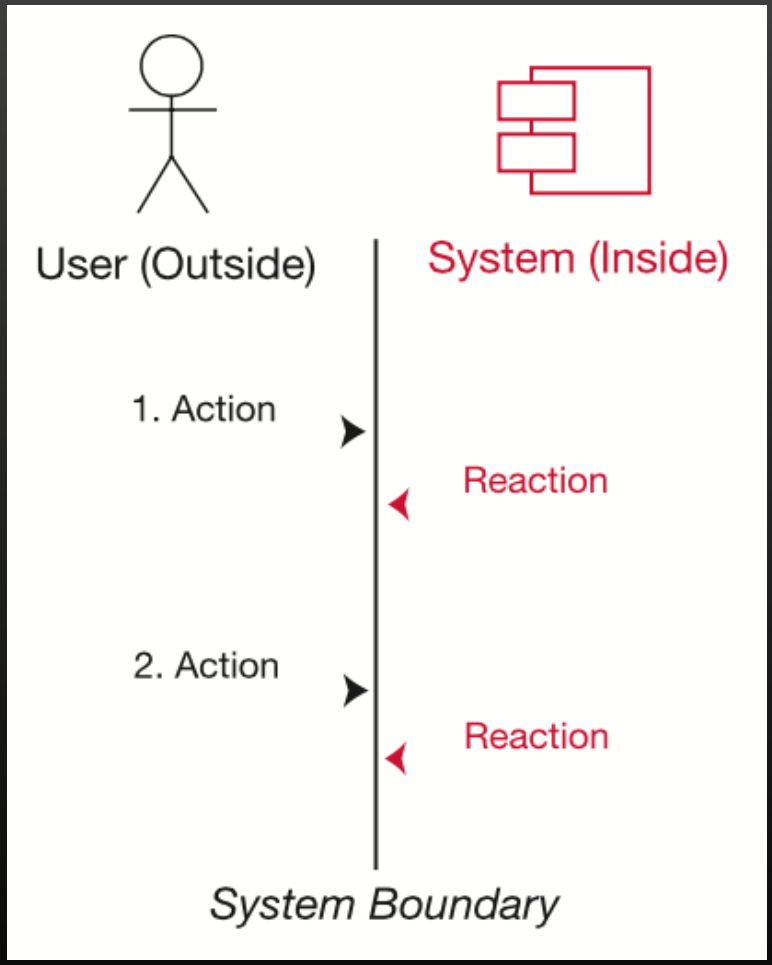
The use case captures a dialog between the actor(s) and the system

CaU: Pay at checkout

1. Customer arrives at POS checkout with goods to purchase.
2. Cashier starts a new sale.
3. Cashier enters item identifier.
4. System records sale line item and presents item description, price, and running total. Price is calculated from a set of price rules.
   Cashier repeats steps 3-4 until indicates done.
5. System presents total with taxes calculated.
6. Cashier tells Customer the total and asks for payment.
7. Customer pays and System handles payment.
8. System logs completed sale and sends sale and payment information to the external Accounting system (for accounting and commissions) and Inventory system (to update inventory).
9. System presents receipt.
10. Customer leaves with receipt and goods (if any)



The use case details describe an interaction

HOW TO WRITE A USE CASE: THE THREE MAGIC QUESTIONS

Well, OK, this whole chapter describes how to write a use case. But when writing use cases, you need to keep asking the following three fundamental questions:[1]

1. What happens?

   (This gets your "sunny-day scenario" started.)

2. And then what happens?

   (Keep asking this question until your "sunny-day scenario" is complete.)

3. What else might happen?

   (Keep asking this one until you've identified all the "rainy-day scenarios" you can think of, and described the related behavior.)

"Request a Chemical" use case specification

ID and Name:	UC-4 Request a Chemical		
Created By:	Lori	Date Created:	8/22/13
Primary Actor:	Requester	Secondary Actors:	Buyer, Chemical Stockroom, Training Database
Description:	The Requester specifies the desired chemical to request by entering its name or chemical ID number or by importing its structure from a chemical drawing tool. The system either offers the Requester a container of the chemical from the chemical stockroom or lets the Requester order one from a vendor.		
Trigger:	Requester indicates that he wants to request a chemical.		
Preconditions:	PRE-1. User's identity has been authenticated. PRE-2. User is authorized to request chemicals. PRE-3. Chemical inventory database is online.		
Postconditions:	POST-1. Request is stored in the CTS. POST-2. Request was sent to the Chemical Stockroom or to a Buyer.		
Normal Flow:	**4.0 Request a Chemical from the Chemical Stockroom** 1. Requester specifies the desired chemical. 2. System lists containers of the desired chemical that are in the chemical stockroom, if any. 3. System gives Requester the option to View Container History for any container. 4. Requester selects a specific container or asks to place a vendor order (see 4.1). 5. Requester enters other information to complete the request. 6. System stores the request and notifies the Chemical Stockroom.		
Alternative Flows:	**4.1 Request a Chemical from a Vendor** 1. Requester searches vendor catalogs for the chemical (see 4.1.E1). 2. System displays a list of vendors for the chemical with available container sizes, grades, and prices. 3. Requester selects a vendor, container size, grade, and number of containers. 4. Requester enters other information to complete the request. 5. System stores the request and notifies the Buyer.		
Exceptions:	**4.1.E1 Chemical Is Not Commercially Available** 1. System displays message: No vendors for that chemical. 2. System asks Requester if he wants to request another chemical (3a) or to exit (4a).		

Use case:	Brief description:
Create new assigment	The Teaching Staff creates a new Activity of type Assignment, directly inserting it in the page layout. The assignment must define a title and a time period for submissions and can be configured to work with individual or group submissions. The assignment is listed in the student view and on the specified date (or immediately, if none is given) accepts submissions from registered students.

Use case:	Add new assigment
Brief description:	The Faculty creates assignments for students, directly inserting it in the course page. The assignment defines a time period for submissions and can be configured to work with individual or group submissions. The assignment is listed in the student view and on the specified date (or immediately, if none is given) accepts submissions from students.
Basic flow:	1. Log-in using corporate IdP. 2. Select desired course. 3. Turn editing mode on. 4. Add Assignment activity in the page layout. 5. Configure Assignment activity. 6. Commit changes.
Alternative flows:	Step 1: IdP unavailable. Step 4/5: Instead of a new, empty assignment, the user may reuse an existing one.
Open issues:	Step 3/4. The course is closed. Are changes allowed to past courses? Step 5. The browser does not accept the rich text editor. Default to plain text?

→ More info...

How to discover the Use Cases?

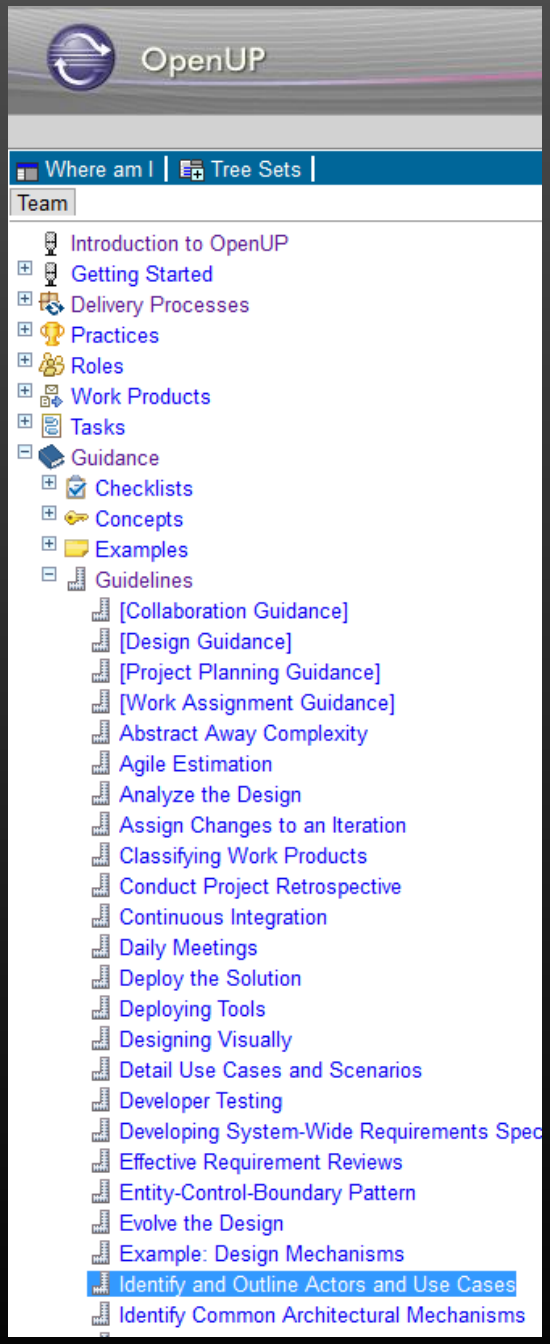
Identify the system boundary

Identify the actors who somehow interact with the system

For each actor, identify the objectives/motivations to use the system

Define UC that satisfies the objectives of the actors

Give names that reflect the motivation of the actor



Guideline: Identify and Outline Actors and Use Cases