## **Use case template**

An adaptation of the standard Cockburn template will be used. The template and examples follow:

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| ID and name | 1 Login | | |
| Primary actor | Persoana | Secondary actors | Sistemul |
| Description | Persoana deschide aplicatia si se logheaza cu contul propriu. | | |
| Trigger | Persoana doreste sa se conecteze pe aplicatie. | | |
| Preconditions | Persoana are cont deja. | | |
| Postconditions | Se deschide fereastra specifica pentru o persoana. | | |
| Normal flow | 1.Seful se conecteaza  1. Seful introduce numele de utilizator si parola.  2. Sistemul verifica datele introduse si se deschide fereastra  pentru sef. | | |
| Alternative flows | 1.Angajatul se conecteaza  1. Angajatul introduce numele de utilizator si parola.  2. Angajatul verifica datele introduse si se deschide fereastra  pentru angajat.  3. Angajatul apare in lista de angajati prezenti a sefului. | | |
| Exceptions | 1. E1. Datele introduse de sef sunt gresite: 2. Se afiseaza un mesaj informativ in legatura cu acest aspect. 3. Seful poate sa introduca iar datele. 4. E2. Datele introduse de angajat sunt gresite: 5. Se afiseaza un mesaj informativ in legatura cu acest aspect. 6. Angajatul poate sa introduca iar datele. | | |

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| ID and name | 2 Trimitere sarcina | | |
| Primary actor | Sef | Secondary actors | Sistemul |
| Description | Seful trimite sarcini unuia sau mai multor angajati. | | |
| Trigger | Seful doreste sa trimita o sarcina. | | |
| Preconditions | 1. Seful este logat in cont. 2. Exista cel putin un angajat logat in cont. | | |
| Postconditions | Sarcina se salveaza in baza de date cu starea “PRIMITA”.  Sarcina apare in lista vizualizata de angajat in fereastra lui. | | |
| Normal flow | 1 Seful trimite o sarcina   1. Seful selecteaza un angajat din lista. 2. Completeaza descrierea sarcinii. 3. Trimite sarcina apasand un buton. 4. Sarcina apare in lista de sarcini a angajatului respectiv si in lista sefului. (se salveaza si in baza de date cu starea “PRIMITA”). | | |
| Alternative flows | 1 Seful trimite mai multe sarcini   1. Seful selecteaza mai multi angajati din lista. 2. Completeaza descrierea sarcinii. 3. Trimite sarcina apasand un buton. 4. Sarcina apare in lista de sarcini a angajatilor respectivi si in lista sefului (se salveaza si in baza de date cu starea “PRIMITA”). | | |
| Exceptions | E1. Seful nu completeaza descrierea sarcinii.   1. Sistemul afiseaza un mesaj informativ in legatura cu acest aspect. 2. Seful poate sa reia trimiterea sarcinii. | | |

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| ID and name | 3 Modificare sarcina | | |
| Primary actor | Sef | Secondary actors | Sistemul |
| Description | Seful modifica o sarcina | | |
| Trigger | Seful doreste sa modifice o sarcina. | | |
| Preconditions | 1. Seful este logat in cont. 2. Exista cel putin o sarcina in lista. | | |
| Postconditions | Sarcina este actualizata atat in lista sefului si a angajatului respectiv, cat si in baza de date, cu starea “ACTUALIZATA” | | |
| Normal flow | 1 Seful modifica o sarcina   1. Seful selecteaza o sarcina din lista. 2. Completeaza descrierea sarcinii. 3. Actualizeaza sarcina apasand un buton.   Sarcina este actualizata in lista de sarcini a angajatului respectiv si in lista sefului. (se salveaza si in baza de date cu starea “ACTUALIZATA”). | | |
| Alternative flows |  | | |
| Exceptions | E1. Seful nu completeaza descrierea noua a sarcinii.   1. Sistemul afiseaza un mesaj informativ in legatura cu acest aspect. 2. Seful poate sa reia actualizarea sarcinii. | | |

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| ID and name | 4 Stergere sarcina | | |
| Primary actor | Sef | Secondary actors | Sistemul |
| Description | Seful sterge una sau mai multe sarcini. | | |
| Trigger | Seful doreste sa stearga o sarcina. | | |
| Preconditions | 1. Seful este logat in cont. 2. Exista cel putin o sarcina in lista. | | |
| Postconditions | Sarcina se sterge din baza de date.  Sarcina dispare din lista vizualizata de angajat in fereastra lui si a sefului. | | |
| Normal flow | 1 Seful sterge o sarcina   1. Seful selecteaza o sarcina din lista. 2. Sterge sarcina apasand un buton. 3. Sarcina dispare din lista de sarcini a angajatului respectiv si din lista sefului. (se sterge din baza de date). | | |
| Alternative flows | 1 Seful sterge mai multe sarcini   1. Seful selecteaza una sau mai multe sarcini din lista. 2. Sterge sarcinile apasand un buton. 3. Sarcinile dispar din lista de sarcini a angajatilor respectivi si din lista sefului. (se sterg din baza de date). | | |
| Exceptions |  | | |

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| ID and name | 5 Acceptare sarcina | | |
| Primary actor | Angajat | Secondary actors | Sistemul |
| Description | Un angajat accepta una sau mai multe sarcini. | | |
| Trigger | Un angajat doreste sa accepte sarcini. | | |
| Preconditions | 1. Angajatul este logat in cont. 2. Exista cel putin o sarcina in lista. | | |
| Postconditions | Sarcina se actualizeaza atat in liste, cat si in baza de date cu statusul “IN DESFASURARE” | | |
| Normal flow | 1 Angajatul accepta o sarcina   1. Angajatul selecteaza o sarcina 2. Apasa un buton si sarcina are statusul actualizat la “IN DESFASURARE” | | |
| Alternative flows | 1 Angajatul accepta mai multe sarcini   1. Angajatul selecteaza mai multe sarcini   Apasa un buton si sarcinile au statusul actualizat la “IN DESFASURARE” | | |
| Exceptions | 1 Sarcina este deja “IN DESFASURARE”   1. Sistemul afiseaza un mesaj si angajatul poate sa realizeze alta activitate | | |

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| ID and name | 6 Finalizare sarcina | | |
| Primary actor | Angajat | Secondary actors | Sistemul |
| Description | Un angajat finalizeaza una sau mai multe sarcini. | | |
| Trigger | Un angajat doreste sa finalizeze sarcini. | | |
| Preconditions | 1. Angajatul este logat in cont. 2. Exista cel putin o sarcina in lista. | | |
| Postconditions | Sarcina se actualizeaza atat in liste, cat si in baza de date cu statusul “FINALIZATA” | | |
| Normal flow | 1 Angajatul finalizeaza o sarcina   1. Angajatul selecteaza o sarcina 2. Apasa un buton si sarcina are statusul actualizat la “FINALIZATA” | | |
| Alternative flows | 1 Angajatul finalizeaza mai multe sarcini   1. Angajatul selecteaza mai multe sarcini   Apasa un buton si sarcinile au statusul actualizat la “FINALIZATA” | | |
| Exceptions | 1 Sarcina este deja “FINALIZATA”   1. Sistemul afiseaza un mesaj si angajatul poate sa realizeze alta activitate | | |

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| ID and name | 7 Logout | | |
| Primary actor | Angajat | Secondary actors | Sistemul |
| Description | Un angajat se delogheaza. | | |
| Trigger | Un angajat doreste sa se delogheze. | | |
| Preconditions | Angajatul este logat in cont. | | |
| Postconditions | 1. Angajatul dispare din lista angajatilor care apare in fereastra sefului 2. Daca statusul sarcinilor este “IN DESFASURARE”, acesta se actualizeaza automat in baza de date si in lista sefului ca fiind “NEREALIZATA” | | |
| Normal flow | 1 Angajatul se delogheaza   1. Angajatul inchide pur si simplu fereastra | | |
| Alternative flows |  | | |
| Exceptions |  | | |

Descriptions of template fields:

* **ID and name:** Title should be descriptive and should usually begin with a verb, e.g. order, calculate, input, etc. ID can have any format but must be unique among all use cases.
* **Primary actor:** Person that wishes to accomplish a goal through the use of the system. Only a single primary actor per use case.
* **Secondary actors:** Actors that have an interest in the completion of the goal but that do not directly interact with the system.
* **Description:** Concise description of the purpose of the use case.
* **Trigger:** Condition internal or external to the system that prompts the use case to start.
* **Preconditions:** Conditions that must be true before the use case starts. Each should be labeled with an ID unique to the use case.
* **Postconditions:** Conditions that must be true after the use case ends normally. Each should be labeled with an ID unique to the use case.
* **Normal flow:** Detailed step-by-step description of the logical flow of the use case. It should describe an explicit two way interaction, with the system prompting for input and the actor responding accordingly. Each step should be numbered.
* **Alternative flows:** Flows that achieve the same goal as the normal flow but are expected to be less common or lower priority.
* **Exceptions:** Conditions that result in the normal flow ending prematurely due to an unrecoverable condition in the system. The condition that causes the flow should be clearly stated, as should be any other decisions that the actor must make in this situation.

## Examples

For a hypothetical *Cafeteria Ordering System*[[1]](#footnote-1):

|  |  |  |  |
| --- | --- | --- | --- |
| **ID and name** | UC-1: Order a Meal | | |
| **Primary actor** | Patron | **Secondary actors** | Cafeteria Inventory System |
| **Description** | A Patron accesses the Cafeteria Ordering System from either the corporate intranet or external Internet, views the menu for a specific date, selects food items, and places an order for a meal to be picked up in the cafeteria or delivered to a specified location within a specified 15-minute time window. | | |
| **Trigger** | A Patron indicates that he wants to order a meal. | | |
| **Preconditions** | PRE-1. Patron is logged into COS.  PRE-2. Patron is registered for meal payments by payroll deduction. | | |
| **Postconditions** | POST-1. Meal order is stored in COS with a status of “Accepted.”  POST-2. Inventory of available food items is updated to reflect items in this order.  POST-3. Remaining delivery capacity for the requested time window is updated. | | |
| **Normal flow** | **1.0 Order a Single Meal**   1. Patron asks to view menu for a specific date. (see 1.0.E1, 1.0.E2) 2. COS displays menu of available food items and the daily special. 3. Patron selects one or more food items from menu. (see 1.1) 4. Patron indicates that meal order is complete. (see 1.2) 5. COS displays ordered menu items, individual prices, and total price, including taxes and delivery charge. 6. Patron either confirms meal order (continue normal flow) or requests to modify meal order (return to step 2). 7. COS displays available delivery times for the delivery date. 8. Patron selects a delivery time and specifies the delivery location. 9. Patron specifies payment method. 10. COS confirms acceptance of the order. 11. COS sends Patron an email message confirming order details, price, and delivery instructions. 12. COS stores order, sends food item information to Cafeteria Inventory System, and updates available delivery times. | | |
| **Alternative flows** | **1.1 Order multiple identical meals**   1. Patron requests a specified number of identical meals. (see 1.1.E1) 2. Return to step 4 of normal flow.   **1.2 Order multiple meals**   1. Patron asks to order another meal. 2. Return to step 1 of normal flow. | | |
| **Exceptions** | **1.0.E1 Requested date is today and current time is after today’s order cutoff time**  1. COS informs Patron that it’s too late to place an order for today.  2a. If Patron cancels the meal ordering process, then COS terminates use case.  2b. Else if Patron requests another date, then COS restarts use case.  **1.0.E2 No delivery times left**  1. COS informs Patron that no delivery times are available for the meal date.  2a. If Patron cancels the meal ordering process, then COS terminates use case.  2b. Else if Patron requests to pick the order up at the cafeteria, then continue with normal flow, but skip steps 7 and 8.  **1.1.E1 Insufficient inventory to fulfill multiple meal order**  1. COS informs Patron of the maximum number of identical meals he can order, based on current available inventory.  2a. If Patron modifies number of meals ordered, then return to step 4 of normal flow.  2b. Else if Patron cancels the meal ordering process, then COS terminates use case. | | |

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| **ID and name** | UC-5 Register for Payroll Deduction | | |
| **Primary actor** | Patron | **Secondary actors** | Payroll System |
| **Description** | Cafeteria patrons who use the COS and have meals delivered must be registered for payroll deduction. For noncash purchases made through the COS, the cafeteria will issue a payment request to the Payroll System, which will deduct the meal costs from the next scheduled employee payday direct deposit. | | |
| **Trigger** | Patron requests to register for payroll deduction, or Patron says yes when COS asks if he wants to register. | | |
| **Preconditions** | PRE-1. Patron is logged into COS. | | |
| **Postconditions** | POST-1. Patron is registered for payroll deduction. | | |
| **Normal flow** | **5.0 Register for Payroll Deduction**   1. COS asks Payroll System if Patron is eligible to register for payroll deduction. 2. Payroll System confirms that Patron is eligible to register for payroll deduction. 3. COS asks Patron to confirm his desire to register for payroll deduction. 4. If so, COS asks Payroll System to establish payroll deduction for Patron. 5. Payroll System confirms that payroll deduction is established. 6. COS informs Patron that payroll deduction is established. | | |
| **Alternative flows** | None | | |
| **Exceptions** | 5.0.E1 Patron is not a full time employee.  5.0.E2 Patron is already enrolled for payroll deduction. | | |

## Extra step: Traceability

For this extra step, you will add traceability information for each use case by adding a new field to the template:

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| --- | --- |
| Method-level traces | <fully.qualified.ClassName>#<methodName>  ... |

Any method that implements the functionality described in the normal flow, alternative flow or exceptions should be included in this field. This means that the method that is initially executed and any methods of any classes that the work is delegated to should be included.

Examples for previous use cases:

UC-1:

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| Method-level traces | my.company.ordering.MenuWidget#dateClicked  my.company.ordering.MenuWidget#completeOrder  my.company.ordering.InventoryInterface#checkInventory  ... |

UC-5:

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| --- | --- |
| Method-level traces | my.company.payroll.PayrollInterface#checkEligibility  my.company.payroll.RegistrationForm#confirm  ... |

1. Examples adapted from Wiegers, K. E. & Beatty, J. (2013) Software requirements . 3rd ed. Redmond, WA: Microsoft Press. [↑](#footnote-ref-1)