



## Context

UBir is an online rental platform for Individual and Paid Passenger Transport in Uncharacterized Vehicles (TVDE), exclusively for the academic community of the University of Beira Interior (UBI). UBir does not own any vehicles but acts as an intermediary for TVDE rentals, offering a 5% discount compared to other platforms for UBI community members (students, staff, and faculty). UBir operates solely within the municipality of Covilhã (the discounts are subsidized by alumni who support this initiative, and operational costs are funded by UBI and the Municipality of Covilhã). Additionally, UBir also allows the transport of purchased goods from local hypermarkets, acting as an intermediary with partnered platforms.

Although it involves other tasks/activities, at this moment, the following are to be modeled:

## Access to Services (Account Creation/Validation)

To access the services, users must log into the UBir platform and input their 'Minha UBI' credentials (email and password). The platform will communicate via EDI with UBI to verify the existence of a personal account.

If the personal account does not exist or is deactivated, the user can be directed (if they wish) to a registration form to request account creation/reactivation by providing identification/authentication details and any required documentation. This request will be forwarded by UBir to UBI for validation. Within 24 hours, UBI will either create a personal account (if data/documentation is validated) allowing access to UBir or notify the user that the request was rejected, stating the reason. Both outcomes will be communicated to the user via the email provided.

Each account will have a profile defined by UBI, namely: "Permanent" (for regular students, regardless of study cycle, faculty/researchers, and UBI staff), or "Temporary" (for exchange students or conference participants).

If the personal account exists and is active, the user will be able to access the service selection.

## Navigation on the UBir Platform

Though "Permanent" profiles have access to both TVDE rental services and goods transport services, "Temporary Profiles" can only access TVDE rental services. Permanent profile users must, therefore, select the type of service, while temporary profile directly access TVDE rental services.

### TVDE Rental Services

For TVDE rentals, users can choose between two categories: 5-seat light cars (electric or combustion) and 9-seat light cars (combustion only).

UBir first searches for available vehicles on partnered TVDE platforms via EDI (Electronic Data Interchange). If no vehicles are available, a message informs users to try again later, but if vehicles are available, UBir lists available vehicles, estimated pickup times, and vehicle details.

UBir checks if a vehicle operates on multiple TVDE platforms and selects the platform with the lowest fare. Users see only 95% of the cost compared to other TVDE platforms.

After vehicle confirmation by the user, UBir tries to make its reservation. If the reservation is successful, users may proceed with payment selection. If there is a failed reservation, users are notified and must select another vehicle. UBir then performs another availability search and updates the list.

## Goods Transport Services from Partner Hypermarkets

To use this service, users must be registered on the commercial platform of the hypermarket where they are shopping. For purchases equal to or over €150, a “UBir service code” is automatically generated during checkout (for partnered stores in Covilhã).

As only registered UBir users with a permanent profile can access this service. These users select the goods transport service on UBir and input the “UBir service code.” UBir communicates with the hypermarket’s platform to determine the purchase volume and selects the appropriate vehicle (scooter/motorcycle or light car).

If no vehicles are available, users are informed to try again later. If vehicles are available, UBir selects the one with the shortest pickup and delivery time.

UBir checks whether the selected vehicle for transport operates with multiple TVDE platforms and, if so, identifies which of these platforms offers the lowest fare. The user is then shown only 95% of the cost of the fastest service for their review and approval.

If the user selects the option to “confirm transport,” UBir sends a reservation request for the vehicle through the platform with the best fare. If the reservation request is successful, the user is redirected to the payment method selection. If the reservation request fails, the process is terminated, and the user is notified that it was not possible to confirm the transport and that they should try again later.

## Payment for Contracted Services

After confirming the selection of the desired service, UBir requests the user to make the indicated payment either via PayPal or MBWay, activating the appropriate options and informing them of a 5-minute time limit for completing the transaction.

If the user does not complete the payment within the time limit, UBir cancels the reservations made with the TVDE platforms and notifies the user that the payment process has expired. The user will need to restart the service selection process if they still wish to proceed. If the payment is successful, UBir invalidates the “UBir service code” to prevent it from being reused and sends a thank-you message to the user. Afterward, the user is allowed to use the UBir GPS application. The modeling of this GPS application will be managed by another team, so only a subprocess labeled “Use GPS Application” should be included in the Level 0 diagram, without any associated detailed diagram.

The TVDE platform informs UBir when the transport service is complete. This information is utilized by the “Use GPS Application” subprocess to send a final thank-you message to the user and simultaneously initiate the payment for the service to the TVDE platform.

## Payments from UBir to TVDE Platforms

Upon receiving confirmation that the transport has been completed, UBir makes a bank transfer covering the full standard fare charged by the TVDE platform that provided the service (meaning that even though a UBir user pays only 95% of the transport cost, UBir pays the TVDE platform the full amount).

The service is considered complete only when the final thank-you message has been sent to the user and the payment from UBir to the TVDE platform has been finalized.

# Request:

Using BPMN representation elements and the Bizagi Modeler software (used in class), create a business process diagram. Submit the **report via email to francisco.antunes@ubi.pt in PDF format along with the .bpm file produced by Bizagi**, by the specified deadline. The filenames must be associated with the group number, as shown in the example: Grupo\_01.pdf and Grupo\_01.bpm

The report's cover page must include: the group number assigned during registration; the number and name of each group member (listed in ascending order).

**The diagram should include a division of the business processes into the following milestones:**

1. Transport (for both passenger and goods).
2. Payment.

**The diagram should display all relevant Level 0 processes and provide detailed Level 1 diagrams for the following processes:**

1. Renting TVDE.
2. Renting Goods Transportation.
3. Receiving Payments.

**UBir processes should be grouped into:**

1. Logistics/Commercial Processes.
2. Financial Processes.

For clarification on interpreting the situation to be modeled, feel free to email me.