Sevent

1.1 General description

Sevent is a car renting company operating near 50 cars in Bremen, Germany. Sevent decides to implement Dynamics 365 to track following activities:

- Register car reservations received through website, email and phone
- Track car rentals
- Track car handover and return
- Create cases for damage tracking and car accidents registration

1.2 Employees

Sevent have next employees:

- Jono Sevent – CEO of the company
- Frank Muller – Reservation manager
- Stefan Goldkhuler – Reservation manager
- Dennis Turm – Service manager
- Leo Stulz – Service manager

1.3 General data structure

Dynamics 365 should be able to store next data:

- Car class
    - Class code – text
    - Class description – text
    - Price - currency
- Car
    - VIN number
    - Car class
    - Car manufacturer – option set (BMW, Volkswagen, Audi, Mercedes-Benz)
    - Car model – text field

    - Production date
    - Purchase date
- Rent
    - Car class
    - Car
    - Customer
    - Reserved pickup - date/time
    - Reserved handover - date/time
    - Pickup location (option set – Airport, City center, Office)
    - Return location (option set – Airport, City center, Office)
    - Actual pickup - date/time
    - Actual return - date/time
    - Pickup report
    - Return report
    - Status
        - Created (Active)
        - Confirmed (Active)
        - Renting (Active)
        - Returned (Inactive)
        - Canceled (Inactive)
    - Price (currency)
    - Paid (two options - yes/no)
- Car transfer report
    - Car
    - Type (Pickup, Return)
    - Date
    - Damages (two options – yes, no)
    - Damage description

Forms and views should contain all fields of respective entities.

2.1 Data import

To start working in the system, client needs next data to be imported (or created):

- Car classes
- Cars
- Contacts (customers)

2.2 Utility to generate sample data

Customer needs sample data to test the system and reports. Utility should generate 40 000 Rents with next criteria:

- Reserved pickup date/time should be somewhere between 1.1.2019 and 31.12.2020
- Reserved handover date/time should be 1-30 days after Reserved pickup date/time
- Car class should be selected randomly
- Car should be selected randomly with respect to Car class
- Customer, Pickup location, Return location should be picked up randomly
- Status should be picked up randomly with probabilities:
  - Created (0.05)
  - Confirmed (0.05)
  - Renting (0.05)
  - Returned (0.75)
  - Canceled (0.1)
- If next statuses are chosen than:
  - For Renting – create Pickup report
  - For Returned – create Pickup and Return reports and fill respective lookups
- Next rules should apply to created Pickup/Returns:
  - Date should be equal pickup/return date respectively
  - Damage should be set to yes in 5% of cases

- Damage description should be set to “damage” in the case

- If Status = Confirmed, Paid should be set to yes with probability 0.9
- If Status = Renting, Paid should be set to yes with probability 0.999
- If Status = Returned, Paid should be set to yes with probability 0.9998

2.3 Charts and Dashboards

Create Dashboard with next items:

- Pie chart of Returned vs Canceled rents (by Price field) in this month (field ModifiedOn)
- Column chart with amount of created rents by month (field CreatedOn)
- Column chart with total Price of rents month (field ModifiedOn)
- View of Confirmed/Renting/Returned rents with Paid != yes
- View of rents in status Renting and Reserved handover date/time today

3.1 Car rent creation

Frank and Stefan should have ability to create Rent entity. Next logic should apply:

- Price field should be not editable by user
- Status transition should work as follows
  - Created/Confirmed/Renting can be used during creation
  - Created -> Confirmed, Renting, Canceled
  - Confirmed -> Renting, Canceled
  - Renting -> Returned
- When user change status to either Confirmed/Renting/Returned – **Car** field should become obligatory
- **Car** field should be filtered based on **Car class** field
- If **Car class** field is empty – **Car** field should be disabled
- **Reserved return date/time** cannot be earlier than **Reserved pickup date/time**
- **Reserved pickup date/time** cannot be earlier than current date

- In case user selects **Status** = **Renting** and **Paid** is not true than show notification “Car rent is not yet paid. Car cannot be rented”
- Price should be calculated automatically based on next formula:
    - Car class.Price * Difference in Days (End date/time – Start date/time) + 100 (if pickup location is not office) + 100 (if return location is not office)
- Dynamics 365 should prevent creation of more than 10 rents in status Renting per one owner

3.2 Car handover and return

If **Pickup report** (or **Return report**) fields are empty – user can click **Create pickup** (**Create return**) on the toolbar. When user clicks respective button – quick create form pops up and after filling it – record is saved in respective field. **Type** field is populated automatically. **Date** field is populated automatically.

After **Pickup report** (or **Return report**) field is saved – **Actual pickup date/time** (or **Actual return date/time**) should be populated with current date/time.

If user selects **Damage** = **yes**, **Damage description** field should become required.