TALLINN UNIVERSITY OF TECHNOLOGY

School of Information Technologies

Car Wash

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1 Introduction

The goal of this project is to create car hand wash/detail service for European market. New car registrations in Europe are in uptrend, which also raises demand for new car washes. As of now most of the car washes are either self service or In-Bay ones. Self service is a quick way to rinse the car, but in reality car will not get cleaned properly, on the other side there is Bay-In car wash which are way too harsh, especially for cars with softer paint and will damage it in long run.

This car wash service would offer clients quick and safe way to get their cars clean(done by professionals). Costs would be lower than many ohter car wash services out there due to specially selected products which have the best value to performace ratios. In price it would be approximately 25% cheaper for the same basic car wash package than competition offers.

Another benefit against competition is using only biodegradable chemicals, which most of other car washes fail to cover(could be used as marketing point).

Biggest barrier to starting car wash service is acquiring respective location for it due to continuous raise in real estate prices and its need to be in semi remote area because of noise pollution. Equipment will also be one of the biggest complications when creating a car wash service due to its high price when it comes to professional equipment.

2 Scope of work

Car wash has one employee(could be expanded to service two or more cars at once). Car wash is operatable yeararound due to its being in closed conditions(weather does not have impact on its work).

Clients can reserve their preferred services in web. When selecting a service they will select time and date for it and addition to that also their car mark and model which will be serviced.

Payment can be done via paypal or bank transfer. Payment has to be made before starting selected service on a vehicle.

Price list will be according to car size(bigger the size, bigger the price). Price list is general, all services will be on the same list. Dynamically it is possible to add new services or remove them.

Interior cleaning price will raise addition to car size when car has leather seats or leather details. In beginning there will be four services to select from.

Interior cleaning package(Vacuum cleaning of the interior and trunk, Wiping of all the interior and trunk surfaces, Cleaning front glasses from inside the car, Cleaning floor mats)

Premium Interior cleaning package(Vacuum cleaning of the interior and the trunk, Wet wiping of all the interior and trunk surfaces, Cleaning of plastic elements of trunk and interior with "Meguiars" all purpose cleaner, Floor mats cleaning, Cleaning all the glasses from inside and outside the car)
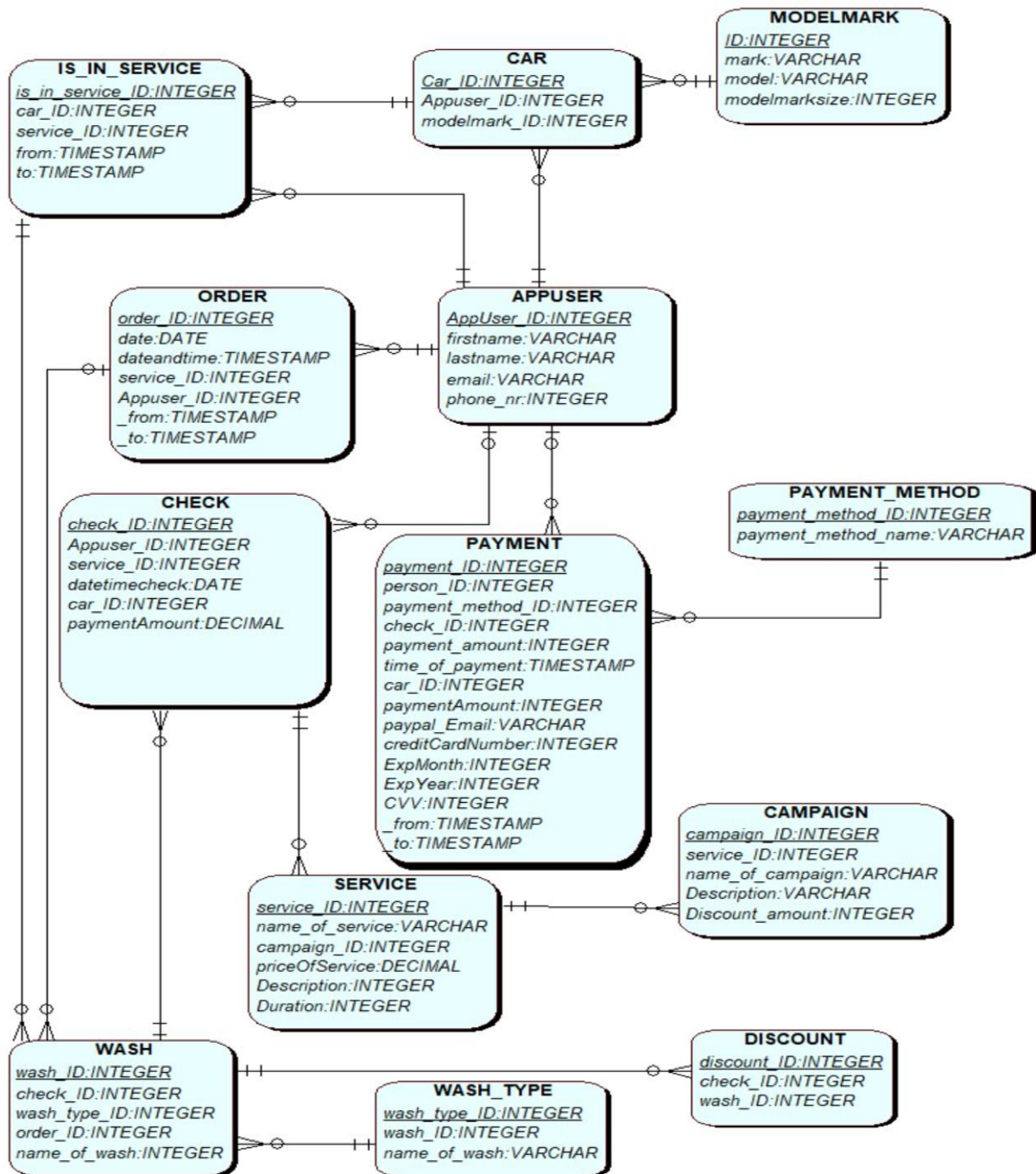
Standard exterior wash(Snowfoam pre wash, Shampoo wash, Drying with microfiber cloth including door sills)

Premium exterior wash(Snowfoam pre wash, Shampoo wash, Liquid wax, Cleaning floor mats, Drying with pressured air, tire dressing)

In addition to interior and external washes, it is possible to add numerous other services: Engine bay detailing, cars undercarriage decontamination and protection against corrosion, car polishing(multiple stages), changing tires.

Admins have access to all orders(past, future-orders), they can also create new campaigns, delete and edit. Also services can be configured dynamically and CRUD applies to them also. When editing a service a new campaign can be added, the database and UI will update dynamically when new campaign is added, showing discount and applying it to the current price.

In future it would be nice to add separate section for car protection(ceramic coatings, waxes, interior coatings, black trim restoring etc.). Also first a service has to be selected to be able to pick any of the extra protection packages.

IS_IN_SERVICE
_is_in_service_ID:INTEGER_
car_ID:INTEGER
service_ID:INTEGER
from:TIMESTAMP
to:TIMESTAMP

CAR
_Car_ID:INTEGER_
Appuser_ID:INTEGER
modelmark_ID:INTEGER

MODELMARK
ID:INTEGER
mark:VARCHAR
model:VARCHAR
modelmarksize:INTEGER

ORDER
_order_ID:INTEGER_
date:DATE
dateandtime:TIMESTAMP
service_ID:INTEGER
Appuser_ID:INTEGER
_from:TIMESTAMP
_to:TIMESTAMP

APPUSER
_AppUser_ID:INTEGER_
firstname:VARCHAR
lastname:VARCHAR
email:VARCHAR
phone_nr:INTEGER

PAYMENT_METHOD
_payment_method_ID:INTEGER_
payment_method_name:VARCHAR

CHECK
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Appuser_ID:INTEGER
service_ID:INTEGER
datetimecheck:DATE
car_ID:INTEGER
paymentAmount:DECIMAL

PAYMENT
_payment_ID:INTEGER_
person_ID:INTEGER
payment_method_ID:INTEGER
check_ID:INTEGER
payment_amount:INTEGER
time_of_payment:TIMESTAMP
car_ID:INTEGER
paymentAmount:INTEGER
paypal_Email:VARCHAR
creditCardNumber:INTEGER
ExpMonth:INTEGER
ExpYear:INTEGER
CVV:INTEGER
_from:TIMESTAMP
_to:TIMESTAMP

CAMPAIGN
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service_ID:INTEGER
name_of_campaign:VARCHAR
Description:VARCHAR
Discount_amount:INTEGER

SERVICE
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name_of_service:VARCHAR
campaign_ID:INTEGER
priceOfService:DECIMAL
Description:INTEGER
Duration:INTEGER

WASH
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check_ID:INTEGER
wash_type_ID:INTEGER
order_ID:INTEGER
name_of_wash:INTEGER

WASH_TYPE
_wash_type_ID:INTEGER_
wash_ID:INTEGER
name_of_wash:VARCHAR

DISCOUNT
_discount_ID:INTEGER_
check_ID:INTEGER
wash_ID:INTEGER

Sources:

https://tradingeconomics.com/euro-area/car-registrations

https://www.carwash.org/for-operators/industry-information