

Central car test administration system

A city council has a computerised record of all cars for which it has granted registration. Each car is recorded in the computer system, with its registration, the current owner's name and address, the car make and manufacture and the year of manufacture. Every car that is more than five years old must be subjected to a road-worthiness test. As well as passing this test, the car is tested every subsequent year, to ensure that it remains roadworthy. If the car fails this test, it can undergo a repeat test within 3 weeks. If it repeatedly fails, it is confiscated from the owner and destroyed.

The results of these tests are also stored on the system. For each test, the registration of the car being tested, the test date and test centre are kept, along with the name of the supervisor who signed off the test. The test itself consists of several parts. For example, there is a high criticality brake test. If the car fails a high criticality test, it fails the overall test. There are also medium and low criticality tests. For example, the state of the material covering the seats is tested, but a failure of this test does not make the car itself fail the test – i.e. the car is still roadworthy. The test parts are classified as high criticality, medium criticality or low criticality and there is a description stored about each test part, designating the pass / warning / fail criteria of each. Each test part is carried out on each car and signed off by one of the mechanics that are on the staff.

Every morning in the head office location, a clerical officer starts up the 'Send out letters' process and enters the day's date. The process looks up the cars in the central database and produces letters for any car that has either just turned five years old or is older than that and another year has elapsed.

Every morning in the test centre, the supervisor enters the availability of each of the mechanics on the staff (i.e. if someone is on holidays, or ill, or just has not turned up, they are marked as unavailable today) on that day. Each mechanic has a speciality area – for example, some are very quick at examining brakes, while others specialise in tyre checks. The supervisor allocates a set of mechanics to the various checks that each car must undergo.

When the car owner goes for the test, he / she brings the letter, which shows the date and test centre and the registration of the car to be tested. The owner submits this information to the office in the test centre, along with the keys of the car. The supervisor then allocates mechanics to the various test parts for the car, on the computer system. For example, Michael Maguire may check brakes on five cars, and John O'Brien may check paintwork, carpet condition, mirror adjustability and functionality of seat belts on all cars that are to be tested that day.

When the set of mechanics has been allocated to the car, the car goes into the garage and is tested. Each mechanic, once they have carried out their test part(s), enter the result of the test part to the computer system, giving their name, comments on the part and a pass / fail / warning grade (See figure 1).

When all of the part tests have been done, the car is driven out to the front of the test centre and the keys are returned to the supervisor. The supervisor then runs a process on the computer that generates the overall results of the test. If the car has failed the test and it is not the third test that it has failed this year, the supervisor runs a process to generate another appointment for the car in three weeks time. The supervisor returns the test results and the letter, if any to the car owner.

If the car has failed three tests, it is confiscated and the owner is given a letter outlining the causes of failure and stating that the car has been confiscated.

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Central Car Testing				
Test results for car: 87 D 24459		Registered to owner: Daragh Quinn		
Manufacturer: Volkswagen		Address: 28 Beaumont Rd.,		
Make: Jetta 1.6D		Beaumont, Dublin 9.		
Date: 11/3/2001				
Test centre: North City Test Centre.				
Test Type	Criticality	Undertaken by	Comments	Pass/Fail/Warning
Brakes	High	John O'Connor	Working well	Pass
Gearbox	High	John O'Connor	Aging but OK so far	Pass
Engine	High	Maurice Neal	Pistons need replacing	Fail
Lights	High	John O'Connor	Electrical fault in rear left	Fail
Mirrors	High	Ned O'Brien	All working and adjustable	Pass
Seat belts	High	Ned O'Brien	All working and adjustable	Pass
Door locks	Medium	Ned O'Brien	Back left permanently locked	Fail
Seat adjust	Medium	Ned O'Brien	Front passenger seat stuck	Warning
Outer trim	Low	Ned O'Brien	Rust on bottom of doors	Fail
Inner trim	Low	Ned O'Brien	Covers worn. No head rests	Fail
Results: FAIL Reason: This car has failed one or more high criticality tests.				
This is the first test that this car has failed this year. You have 2 more chances.				

Figure 1 Car test result sheet