Specification – first draft (my understanding of system)

AUTHENTICATION

- 2 types of users (System Administrator and Day-to-Day Users)
- System Administrator
  - Elevated authentication (super user)
  - Setup and administer new and existing system users
  - All user passwords will be allocated by super-user
  - Add / edit / delete system users and change passwords
  - Query to get a list of active users and their details
    - Add / edit / delete directly from this list

- Both types of users
  - Identified by their employee (surname / first name / Unique 5-digit ID number)
  - Records of all users will be stored in the system
  - Login using ID number and password
  - Can use all modules when logging in. They include:
    - Customer Account / Vehicle Records / Diagnostic and Repair Bookings / Parts Record / Specialist Repairs

- Others requirements
  - Garage customers are not users of the system

CUSTOMER ACCOUNT

- 2 types of customers (Business and Private individuals)
- Owns 1 or more VEHICLES
  - 1 to MANY relationships from CUSTOMER ACCOUNT to VEHICLE RECORDS
- Must store (full name – first name & surname / address / postcode / phone / email)
- 1 or more bookings made by customer
  - 1 to MANY relationships from CUSTOMER ACCOUNT to DIAGNOSTIC AND REPAIR BOOKING
  - Note: Booking made against 1 vehicle at a time
- 1 or more bills for completed non-warranty "Diagnosis and Repair"
- DIAGNOSIS AND REPAIR BOOKING
  - Each will have a bill (total cost) for customer to settle
  - System determines (Settled = Paid / Outstanding = Unpaid)
  - Note: No settlement needed for vehicles with warranty
- User can query system to get list of all customer and their contact details
  - Add / edit / delete from this list
- For each customer, access list of
  - Past and future bookings / vehicles and parts used per vehicle etc
- When deleting customer account **ask** for confirmation beforehand
- At least 10 customer account must be created and integrated with data from other modules
- User able to search customer by
  - Partial or full surname and first name **or**
  - Vehicle registration number (number plate)

VEHICLE RECORD

- 3 types of vehicles
  - Car / Van / Truck
- Vehicle can be either under (Warranty / Not-warranty)
  - If warranty
    - Warranty company pays and not customer
- Warranty (details recorded against vehicle)
  - Name / address of warranty company
  - Expiry date of warranty
- Vehicle details
  - Registration number / model / make / engine size / fuel type / colour / MOT renewal date
- Also record
  - Date of last service
  - Current mileage
- Associated with each vehicle (RELATIONSHIP with CUSTOMER ACCOUNT and/or PARTS RECORD)
  - List of parts used
  - Past and future booking dates
  - Total cost per booking
    - Warranty and non-warranty
  - Note: List **must** tally with "Customer Account"
- A list of 20 standard vehicle template
  - Useful for quick selection for when a new vehicle is being booked in (model/ make/ engine size/ fuel type)
- Each vehicle
  - User able to access list of (past and future booking dates / vehicles and parts used per vehicle etc)
- When deleting vehicle **ask** for confirmation beforehand
- At least 15 vehicle records must be created and integrated with data from other modules
- Search for vehicle based on
  - Partial or full registration number (plate number) **or**
  - Manufacturer

DIAGNOSIS AND REPAIR BOOKING

- Diagnosis is finding a reported fault in vehicle / Repair is fixing of the fault
- Fixing includes:
  - Repair of vehicle part **or**
  - Ordering and installing of a new or working part
- Repair
  - Done by 1 mechanic (employee)
  - Repair hour spent is recorded
  - Mechanic has fixed hourly costing rate
  - Repair booking is of variable time duration
- Garage opening hours
  - Monday to Friday 9am – 5:30pm / Saturday 9am – 12pm / closed on Sunday, public and bank holidays
- Only future appointments can be booked (allows only future dates)
- Record current mileage of vehicle during diagnosis and repair booking
- Query system to get list of bookings with:
  - Customer details / vehicle details / next booking date
  - Add / edit / delete from this list
- When deleting booking **ask** for confirmation beforehand
- Booking **must** be easily view and edit. List can be viewed and edited on:
  - Hourly / daily / monthly basis
  - At least 10 past booking and 10 future bookings must be created and integrated with data from other modules
- Search for booking by:
  - Partial or full Vehicle Registration Number **or**
  - Vehicle manufacturer **or**
  - Customer surname and first name

PARTS RECORD

- If needed, vehicle may require a new replacement part to affect the repair
- Repair involves (0, 1 or more parts)
- Each part has:
  - Name / a description / relevant ID number
- System tracks stock level of parts currently available in the garage. Assume:
  - Limited list of 10 distinct parts that can be installed on any vehicle (i.e. of whatever model and type)
- System tracks
  - Part withdrawals for repairs
  - Part additions for new stock items
- Also records
  - Date part was installed
  - Date warranty item runs out
    - Warranty is 1 year from installation date
  - Individual cost of part
    - Cost used to calculate bill for customer
- Query system to get
  - List of parts used to repair a vehicle
  - Vehicle details
  - Customer details
  - Add / edit / delete parts from this list
- For each vehicle, system must access:
  - List of past and future booking dates
  - Customer name
  - Type of booking
- When deleting a booking **ask** for confirmation beforehand
- At least 20 stock items must be created and integrated with data from other modules
  - At least 5 new stock deliveries
  - At least 10 stock withdrawals to repair vehicle
- Search for parts used by:

SPECIALIST REPAIRS

- Some repairs have to be sub-contracted to Specialist Repair Centres (SPC's) by:
  - Sending vehicle SPC
  - Sending part to be repaired or re-conditioned to SPC
- Specialist repair can be done as part of a single "Diagnosis and Repair booking"
- For Part at SPC, it has the following recorded:
  - Name / a description / relevant ID number
- For Vehicle at SPC, it has the following recorded:
  - Vehicle details
- Garage uses 10 SPC's, exclusively. Records include:
  - Expected delivery date for vehicle or part sent to SPC
  - Expected return date
- For each SPC, record:
  - Name / address / phone / email
- System Administrator user role **only** (i.e. day to day users are not allowed to make these changes)
  - Add / edit / delete SPC's
- System creates summary list of:
  - Number of parts
  - Vehicles at SPC's outstanding (i.e. not yet returned)
- Record
  - Individual cost of parts and vehicle repairs sent to SPC's
  - Used to calculate customer's bill
- Ensure cost of SPC repairs and cost of regular repair and diagnosis are included on the same bill to calculate customers bill
- Query system to get list of:
  - Specialist repairs used on vehicle along with vehicle
  - Specialist Repair details
  - Add / edit / delete parts directly from this list
- For each specialist repairer,
  - Show list of vehicles and customer details for vehicle sent to them
- When deleting a booking **ask** confirmation beforehand
- At least 10 past specialist repair bookings and at least 10 future specialist repair booking must be created
  - Also, Integrate with data from other modules
- Search for specialist repair by: