

3.2 System Features

3.2.1 Task Schedule Function

3.2.1.1 Purpose

This is the core function of our system. This function provides the ability for users to book a car repair or maintenance service online avoiding waiting and storing their cars overnight. For managers and employees, they can check their jobs easily. The job scheduler can plan everything in order which can greatly improve the effectiveness.

3.2.1.2 Associated functional requirements

3.2.1.2.1 Make appointments:

Customers with accounts can make appointments online. In a time slot, there are no more than ten appointments. For walk-in customers without an appointment, if they don't want to wait and prefer a service within one hour, a convenience fee will be charged. Otherwise, they can make an appointment in the next 24 hours with a smaller amount of convenience fee or an appointment after 24 hours with no extra fees. Also, the scheduler doesn't allow booking on time slot within next hour. All appointments have to be made with an online account including walk-in customers. For online customers, they could only make an appointment before 24 hours or more.

3.2.1.2.2 Appointments Editing

Customers can only reschedule but could not cancel an appointment. If they reschedule it to a within 24 hours of their operation, extra fees will be charged. If they want to cancel it, they need to contact a manager to edit the schedule.

3.2.1.2.3 Notice Sending

The system will send a certification the customer after they make an appointment, and it will send the reminder again one hour before the time of appointment. The notifications are through email, text, or phone call (customers can choose a preference). After a customer finishes car maintenance (e.g. oil change, tire change) via the internet scheduling system, an extra notice will be sent automatically when the next maintenance is due.

3.2.2 Employee and manager

3.2.2.1 Purpose

All managers and employees have their account to log in to the system as well. The accounts for managers and employees are different. Employees who are all mechanics, using their account to check the works scheduled for them; and manager's account is for managing the whole system, which means that it has higher permission. We will talk about them specifically down below.

3.2.2.2 Associated functional requirements

3.2.2.2.1 Managers

A manager can check the whole schedule. There are different time slots in a schedule, and a manager can see whether the time slot is occupied. If it is, then he can check the further specific information by clicking the slot. A manager can check the information of the customer made this appointment, name of mechanics work on it, and what kind of job is it.

While a customer schedules an appointment online, the time slots he chose will be occupied automatically. But as a manager, he can also set empty time slots into occupied manually while there is a customer wants to make an appointment in another way like phone calls or emails.

Also, a manager can reschedule and cancel an appointment manually. While an existing appointment is changed, a notification email will be sent to the customer who made this appointment automatically by our system. Also before the change is made, a window will pop up to ask the manager whether it's necessary to send an email or make a phone call to the customer with the contact information of this customer.

A customer with his account can send messages to managers, and managers can also reply the messages directly via the system. Managers can also post the messages publicly on the website, but before it, the messages can only be checked by receivers and senders. Managers can also use this functions to publish other information about job opportunities and advertisements.

3.2.2.2.2 Mechanics

Mechanics can only check his schedule which means that in his schedule, he can only see the time slots he needs to work, what kind of work is it, and who he is going to work with. A mechanic's schedule will not show the status of other workers.

When a job is scheduled for a mechanic, he has to accept it before doing the job to convince that he knows the job. An appointment will be valid only after the all workers doing this job have accepted. If a worker doesn't want to accept, he must tell a manager and let the manager change the schedule for him since only a manager can do schedule changes.

While a job takes more time than expected mechanics can sign it after the scheduled time. After that, a message will send to both the customer

and managers. And an extra appointment will be signed for the remained work, and it has the highest priority.

3.2.3 Catalogue

3.2.3.1 Purpose

The catalog of the website shows the types of products and services that customers can purchase. By clicking the button, customers can jump to the page of the specific item or service they want. The catalog can help customers to find the products or services they want quickly and efficiently.

3.2.3.2 Associated functional requirements

3.2.3.2.1 Sorting System

The website lists all products and services available in the order of which one is more popular. Customers can also sort the products and services they want. By choosing the vehicle made and model, all parts and services suitable for the cars will be listed. Customers can sort the brands they prefer.

3.2.3.2.2 Payment & bonus system

Same as service scheduling, a customer must pay for the products online via their account. The whole payment system will use a trustable third party online payment system for privacy and security. Also, bonus award points will be applied for consumption over 10\$. Award points can be earned through any purchase (include products, service, and warranty, etc.) Every \$10 can earn 10 points (round-down police, \$10 =10 points, \$15 = 10 points, \$20 = 20 points). Customers will receive 20 points for registering their account. Points can be used as money for products. 100 points exchange for \$1 and can be used unlimited. The specification of award points will be shown on an individual page. The award points earned will be displayed on the account manager page, and if click on it, the page will branch to the Rule Page.

3.2.3.2.3 Further service

After purchasing the parts, customers can further book a service via the scheduling system to let mechanics put the parts directly on their cars. Customers can also choose pick-up in store or shipping. Notices will be sent to customers if their orders are ready to pick up or shipped. The system will send a message can track their package after the items are shipped.

3.2.3.2.4 Warranty

The company offer warranties to customers that they will finish work in time, or the customer can get compensation.

3.2.4 Customer Interface

3.2.4.1 Purpose of feature

Customer interface can help a customer to get service. It is a clean, easy-to-navigate interface for any user. Customers can sign in through this interface and make appointments, check their accounts, edit personal information, ask questions, etc. We try to focus on brevity and personality of this interface. Customers can get what they want easily is our ultimate goal.

3.2.4.2 Associated functional requirements

3.2.4.2.1 Initial Screen

The initial screen contains many kinds of stuff. There are sign-up and log-in button at the upper right corner. On the top, there is a space can let the company show what they want to display, it can be a simple slogan with some images or a staff photo.

There are some product display and service description. The customer can click what product they want to put it in their shopping basket (only for the registered user, the shopping basket will show in the registered user interface). They can also get on the catalog page (See the Catalogue part). There is a link under the service description, they can get in the schedule page and make appointments, any user get in this page should be guest and they can just make an appointment without logging in. (still need to provide personal information: full name, contact info, and car information: car model, brand, and license plate.)

After product display and service description, we have recruitment information for those people who want to join our company. The manager can post any information on this space. There is a link to this part. It will lead to another page show the team information of this company including a profile of every mechanics and the manager.

For the bottom part, we have a message board, customers can ask questions and give advice. And other users can reply it. A manager should deal with it, and he can reply, delete, and decide which message can be shown on the message board.

For this page, manager has the highest permission. He can edit everything on this page including what product he wants to show, and image, even the color. There will be an edit interface just for a manager.

3.2.4.2.2 Account

Once customer click sign up button, there will be a little window. Customers need to type in their full name, phone or Email, username, and password. They can log in with phone, Email or username. For the

employees and manager, they just need to use ID and password to log in, and the system would determine which interface they will get in.

As a guest, if he made an appointment or buy something, the system would give them a temporary account based on their information, if they need an account, they just need click sign up the system would ask "Do you want to use your guest information?" If yes, the account will be created.

3.2.4.2.3 Registered User Interface

After logging in, customers will get on a user page. On this page, there will be a message symbol on the upper right quarter (with the username). It is a message box. If the symbol is shaking, that's mean the customer has some unread notifications (including changing oil, annual tire change, appointment delay, etc.)

Notifications also can be sent by Email, text, or by phone. Customers can choose which they prefer. There is a timer at the upper left quarter, to remind the customer when is the next appointment. There is a shopping basket symbol beside the message symbol. Click it and there will be a window to show the products that customers put in and customers can make payment on this window. They can pay with money or points.

There are three buttons on a big bar. They are account setting, appointment, and account balance, each button leads to a new page. For the account setting, users can change their personal information and car information. And they can change their password after passing the validation (by Email, text or phone). Customers can also set notification here; they can choose which way the notification would be sent. Some customers may have brands they prefer; they can choose one or more brands on this page, there are some selection columns.

For the account balance page, users can check their account balance including money and points. There are two transaction tables to show the purchase record. And there is a button to let customer exchange point for money. On the bottom, there is a link that can lead the customer to the points rule (see Payment part).

The appointment button will lead users to schedule interface (More schedule descriptions are in Schedule part). For customers, they can make appointments via scheduling system. After scheduling, there will be a little window let users write more information, then the system would send a confirmation to the customer. On this page, customers can reschedule it, and they will be deducted points if they do so. When the

appointment is done, the customer will get a message to tell them to evaluate the mechanic from one star to five stars. And customers can leave comment if they want

The middle of the interface shows the details of the appointment: date, mechanics, car, estimated the duration and finished time. Under the appointment details, there are some products recommend; it would base on the customer favor brand. Customers can pick what they want and put it in the shopping basket.

On the bottom, there is also a message board. However, this message board is just for the one user and the manager. The user can ask any question to managers, and the other users cannot see it.