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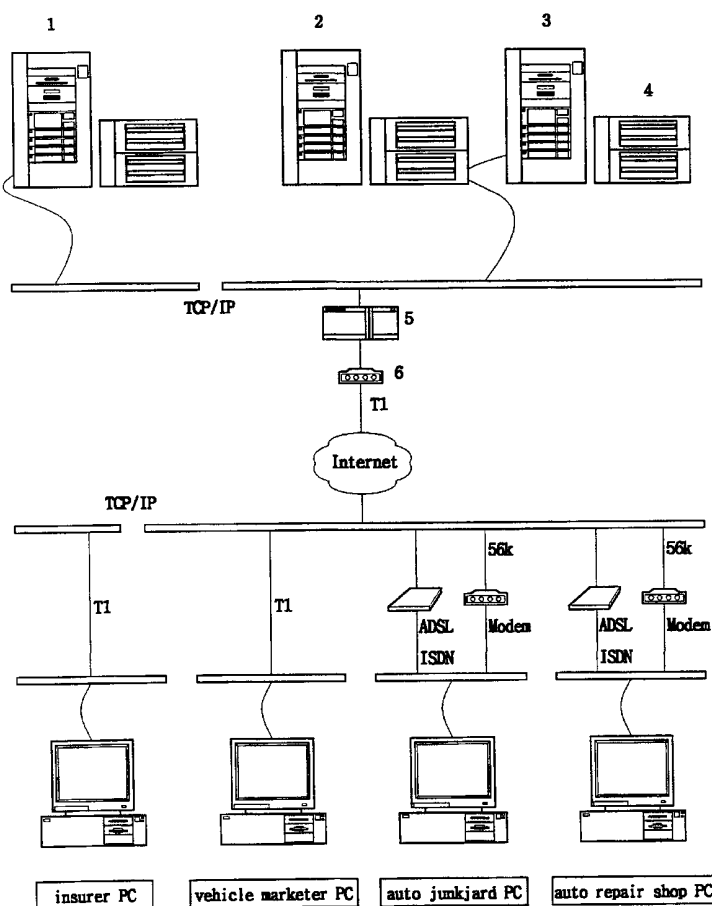
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- Published:  
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(54) Title: SYSTEM FOR CIRCULATION USED VEHICLE PARTS OVER INTERNET



(57) Abstract: A system for circulation used vehicle parts over the Internet, wherein a user can personally select on the Internet a desired one of various used parts suitable for a variety of new or used vehicles, including passenger cars, freight cars, motor omnibuses, special motor vehicles such as forklift trucks, old vehicles not on the market, foreign-made cars, etc., and purchase the selected vehicle part online, thereby actively increasing the reuse of used vehicle parts.



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**SYSTEM FOR CIRCULATION USED VEHICLE PARTS OVER INTERNET****Technical Field**

5

The present invention relates in general to a system for circulation used vehicle parts over the Internet, wherein a user can personally select on the Internet a desired one of various used parts suitable for a variety of new or used  
10 vehicles, including passenger cars, freight cars, motor omnibuses, special motor vehicles such as forklift trucks, old vehicles not on the market, foreign-made cars, etc., and purchase the selected vehicle part online, thereby actively increasing the reuse of used vehicle parts.

15

**Background Art**

It is estimated that the number of vehicles discarded yearly in, for example, Korea amounts to tens of thousands.  
20 It is the current reality that such vehicles are scrapped on an assembly basis en masse even though several ten kinds of parts thereof are reuseable.

In particular, it is actually difficult for owners of reuseable, used vehicle parts and purchasers desiring them to  
25 exchange information with each other, thereby causing the used vehicle parts to be discarded without being reused, resulting in severe waste of resources. Furthermore, the used vehicle parts must be processed in the form of iron

scraps and again manufactured into necessary parts, leading to severe environmental pollution.

Moreover, owners of rare vehicles or old vehicles not on the market have a more difficulty in purchasing desired parts than owners of general vehicles. As a result, such rare or old vehicles cannot help being unreasonably discarded before their normal lifetime has passed.

#### **Disclosure of the Invention**

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Therefore, the present invention has been made in view of the above problems, and it is an object of the present invention to provide a system for circulation used vehicle parts over the Internet, wherein a specialist inspects quality-certifiable, used parts of a variety of vehicles including passenger cars, motor omnibuses, freight cars, special motor vehicles, etc., collects information about the inspected, used vehicle parts, creates a database on the basis of the collected information and constructs a Web site with the created database, and a user registered as a member personally searches or inquires of the constructed Web site for or about data about a desired, used vehicle part and purchases the desired used vehicle part from an associated company or shop in real time, thereby enabling used parts of a variety of vehicles to be more effectively marketed.

### Brief Description of the Drawings

The above and other objects, features and other advantages of the present invention will be more clearly understood from the following detailed description taken in conjunction with the accompanying drawings, in which:

Fig. 1 is a schematic view of a system for circulation used vehicle parts over the Internet in accordance with the present invention;

10 Figs. 2a to 2c are flowcharts illustrating the operation of the system for circulation the used vehicle parts over the Internet in accordance with the present invention; and

15 Figs. 3a to 3c are views showing exemplary screen pictures illustrating the operation of the system for circulation the used vehicle parts over the Internet in accordance with the present invention.

### Best Mode for Carrying Out the Invention

20

Fig. 1 is a schematic view of a system for circulation used vehicle parts over the Internet in accordance with the present invention. As shown in this drawing, the used vehicle part circulation system of the present invention comprises a payment certification server 1, Web server 2, media server 3 and mail server 4 interconnected on the Internet via a transmission control protocol/Internet protocol (TCP/IP). A

vehicle insurer, auto repair shop, vehicle part shop, auto junkyard, vehicle marketer and the like are linked to the Web server 2 on the Internet via a router 5 and channel service unit (CSU) 6 over a local area network (LAN).

5           The auto repair shop, vehicle part shop, auto junkyard (scrapping vehicles and heavy equipment), vehicle marketer and the like create databases according to used vehicle parts by vehicle makers and by items and then register the created databases in the Web server 2, respectively. The Web server 2  
10 manages the registered databases in such a manner that it periodically or at any time receives data regarding specifications, prices, amounts, repair service charges and other information of used vehicle parts from the auto repair shop, vehicle part shop, auto junkyard, vehicle marketer and  
15 the like over a LAN or public switched telephone network (PSTN) (referred to hereinafter as a "communication network"), and updates the registered databases with the received data.

The Web server 2 includes large-capacity storage means for storing the databases with the updated contents. The  
20 large-capacity storage means may preferably be a disk or memory array. This storage means may also store mass multimedia information necessary to the operation of an associated Web site, provided from the media server 3, which information contains audio, video, animation contents, etc. In  
25 this regard, the present system is usefully applicable to a video-on-demand system.

The Web server 2 sends such various information on the

Web site, containing audio, video, animation contents, etc., to a personal computer (PC) of a user over the Internet. As a result, the user can order a desired used vehicle part from the Web server 2 online, as in exemplary pictures displayed on a screen of the computer, shown in Figs. 3a to 3c, while listening to voice and music.

A detailed description will hereinafter be given of the operation of the used vehicle part circulation system with the above-stated construction in accordance with the present invention with reference to flowcharts of Figs. 2a to 2c.

First, upon being accessed by a user, the Web server 2 determines whether the user is a registered member. If the user is determined to be a registered member, the Web server 2 authenticates the user as a member. Alternatively, in the case where the user is not a registered member, the Web server 2 sends picture data necessary to data entry for member registration to a PC of the user and then receives personal information, etc. entered by the user.

In this manner, the Web server 2 authenticates all users as members under the condition that they are previously registered as members. At this time, for member authentication, the Web sever 2 receives a credit card number or bank account number, a resident registration number, a password and etc. of each user.

The Web server 2 receives data necessary to member authentication, entered by the user, and transfers the received data to the payment certification server 1, which may

be, for example, financial telecommunications & clearings institute, over the communication network. Upon certifying the data transferred from the Web server 2, the payment certification server 1 transfers certification associated data  
5 containing an approval number back to the Web server 2.

Thereafter, the Web server 2 stores the certification associated data containing the approval number, transferred from the payment certification server 1, and authenticates the user as a member. If the user is authenticated as a member,  
10 then he or she selects a desired one of a variety of services, such as a shopping service, insurance service, repair service, ordering service, order cancel service, price refund service, part exchange service, etc., on the Web site. Then, the Web server 2 recognizes the service selected by the user and at  
15 once provides it to the user.

For example, assuming that the user selects the shopping service, as shown in Fig. 2a, the Web server 2 sends information about specifications, prices, etc. of used parts of a variety of vehicles including new cars, used cars, heavy  
20 equipment, etc. to the user's PC, and the user searches the information sent from the Web server 2 using a two-dimensional or three-dimensional browser in his or her PC.

On the other hand, if the payment certification server 1 fails to certify the data entered by the user, then it  
25 performs the user data certification process again in consideration of error occurrence possibility. At this time, upon certifying the user data, the payment certification

server 1 transfers certification associated data containing an approval number to the Web server 2. However, provided that the payment certification server 1 successively fails to certify the user data, then it transfers certification failure data to the Web server 2, which in turn interrupts the connection of the communication network to the user.

After the payment certification process is normally carried out, under the condition that the user connects his or her PC to the Web server 2, he or she searches the used vehicle part information sent from the Web server 2 for a desired used vehicle part necessary to auto repair and orders the searched used vehicle part from the Web server 2. Upon receiving the order from the user, the Web server 2 requests the payment certification server 1 to again perform the above-described payment certification process. If the payment certification server 1 normally completes the payment certification process, then the Web server 2 examines used vehicle part information, vehicle maker information, part quality information associated with the used vehicle part ordered by the user, selects goods most appropriate to the ordered part as a result of the examination and instructs a repair shop or marketer, which has the selected goods in stock and is present nearest the user's location, using the mail server 4 to deliver the selected goods to the user.

In other words, the user sends an order related message containing information about an item ordered, the number and price thereof, a delivery destination address, etc. to the Web



server 2 over the communication network, and the Web server 2 searches registered vehicle part shops for that having a used vehicle part of the ordered item in stock and being present nearest the user's location and sends ordering information to  
5 the searched vehicle part shop. Upon receiving the ordering information, the selected vehicle part shop (this is always standing by ready to accept an order) recognizes in real time that the related vehicle part has been ordered and at once delivers goods of the number desired by the user to the  
10 address designated by the user.

In addition, the used vehicle part circulation system of the present invention provides a vehicle related insurance information service to the user for his or her convenience. If this vehicle related insurance information service is selected  
15 by the user, as shown in Fig. 2b, the Web server 2 receives a variety of video and audio signals associated with the selected service from the media server 3 and sends the received video and audio signals to the user's PC. However, in this vehicle related insurance information service, the Web  
20 server 2 cannot process insurance information by itself due to a legal restriction. In this connection, the user gains access to a Web site of an insurer by clicking on a portion of the Web site of the Web server 2 linked to the Web site of the insurer, and then obtains desired information from the Web  
25 site of the insurer. If the user desires to insure himself or herself, he or she draws up an insurance application sheet on the Web site of the insurer and sends information about the

drawn-up insurance application sheet to the insurer. If the user does not desire to insure himself or herself or after sending the information about the drawn-up insurance application sheet to the insurer, he or she returns to the Web site of the Web server 2 by clicking on a portion of the Web site of the insurer linked to the Web site of the Web server 2.

In the case where a repair information service is selected by the user, the Web server 2 provides a variety of repair information to the user such that he or she searches the repair information for desired information. If the user makes an application for a repair service, then the Web server 2 receives repair service application related data from the user, sends the received data to a repair shop nearest the user's location and links the user to the nearest repair shop. As a result, according to offered conditions, the user can receive a home-visit repair service from the nearest repair shop or personally visit it for auto repair.

On the other hand, in the case where the user desires to cancel a given order owing to unavoidable circumstances, as shown in Fig. 2c, he or she can cancel it on the computer screen. Upon receiving order cancel contents from the user, the Web server 2 takes a speedy measure suited to a given condition. For example, if goods ordered have not been delivered yet to the user, the Web server 2 deletes a series of data related to the goods order and certification data and then notifies the user of the result of order cancellation.

Provided that the user cancels a given order after

payment, the Web server 2 first checks whether goods ordered have been delivered to the user. If the ordered goods have not been delivered yet to the user, the Web server 2 returns paid money to the user in a general manner.

5           In the case where the user requests the returning of paid money, the Web server 2 first checks whether goods ordered have been delivered to the user. If the ordered goods have not been delivered yet to the user, the Web server 2 returns the paid money to the user, deletes a series of data related to  
10 the goods order and certification data and then notifies the user of the result of order cancellation. Provided that the user requests the exchange of goods ordered, the Web server 2 first checks whether the ordered goods have been delivered to the user. If the ordered goods have not been delivered yet to  
15 the user, the Web server 2 modifies order related data and sends the modified data to an associated shop so that the exchanged goods can be delivered to the user.

          In addition, the used vehicle part circulation system of the present invention can provide an Internet mail service or  
20 homepage service using the Web server 2, media server 3 and other management functions, in a similar manner to general Web sites.

          Figs. 3a to 3c show exemplary screen pictures illustrating the used vehicle part circulation transactions  
25 according to the present invention being conducted on the Internet. If a user registered as a member selects and enters a name of a desired used vehicle part on the Web pictures of

Figs. 3a and 3b, registered information about the selected vehicle part is displayed on the screen, so that, with reference to the displayed information, the user can order the selected vehicle part online and pay the price thereof online.

5

### **Industrial Applicability**

As apparent from the above description, the present invention provides a system for circulation used vehicle parts over the Internet, wherein a user can personally select on the Internet a desired one of various used parts suitable for a variety of new or used vehicles, including passenger cars, freight cars, motor omnibuses, special motor vehicles such as forklift trucks, old vehicles not on the market, foreign-made cars, etc., and purchase the selected vehicle part online, thereby actively increasing the reuse of used vehicle parts. Therefore, the lifetime of used vehicles can be lengthened, leading to a significant reduction in the amount of waste matters resulting from vehicle scrapping, and in turn in environmental pollution. Furthermore, the present system can block illegal circulation of used vehicle parts of unreliable quality, thereby protecting precious human lives and properties.

Although the preferred embodiments of the present invention have been disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as disclosed in the accompanying claims.

25

**Claims:**

1. A system for circulation used vehicle parts over the Internet, comprising a payment certification server, a Web server, a media server and a mail server interconnected on the Internet via a transmission control protocol/Internet protocol, and at least one vehicle insurer, at least one auto repair shop, at least one vehicle part shop, at least one auto junkyard and at least one vehicle marketer linked to said Web server on the Internet via a router and a channel service unit over a local area network, wherein said Web server is configured to perform a user authentication process, an ordering process and a delivery process for the purchase of used vehicle parts by users on the basis of data from said auto repair shop, vehicle part shop, auto junkyard and vehicle marketer.

2. The system as set forth in Claim 1, wherein said Web server is further configured to provide a vehicle related insurance information service to the users in association with said vehicle insurer.

3. The system as set forth in Claim 1, wherein said Web server is further configured to provide a repair service and an order cancel service to the users.

4. The system as set forth in Claim 1, wherein said Web server is further configured to provide an order cancel

service, a price refund service and a part exchange service to the users.

Fig.1

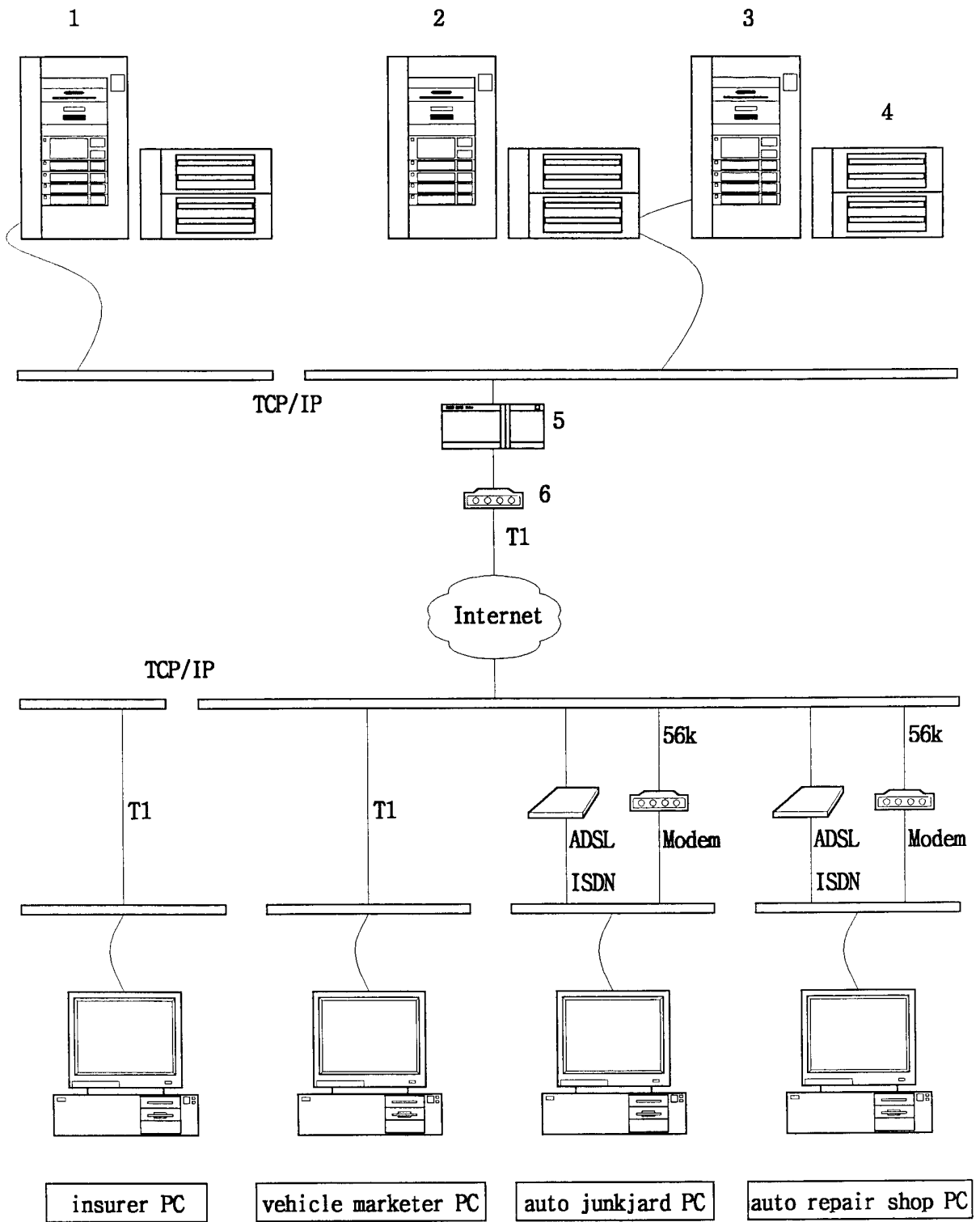
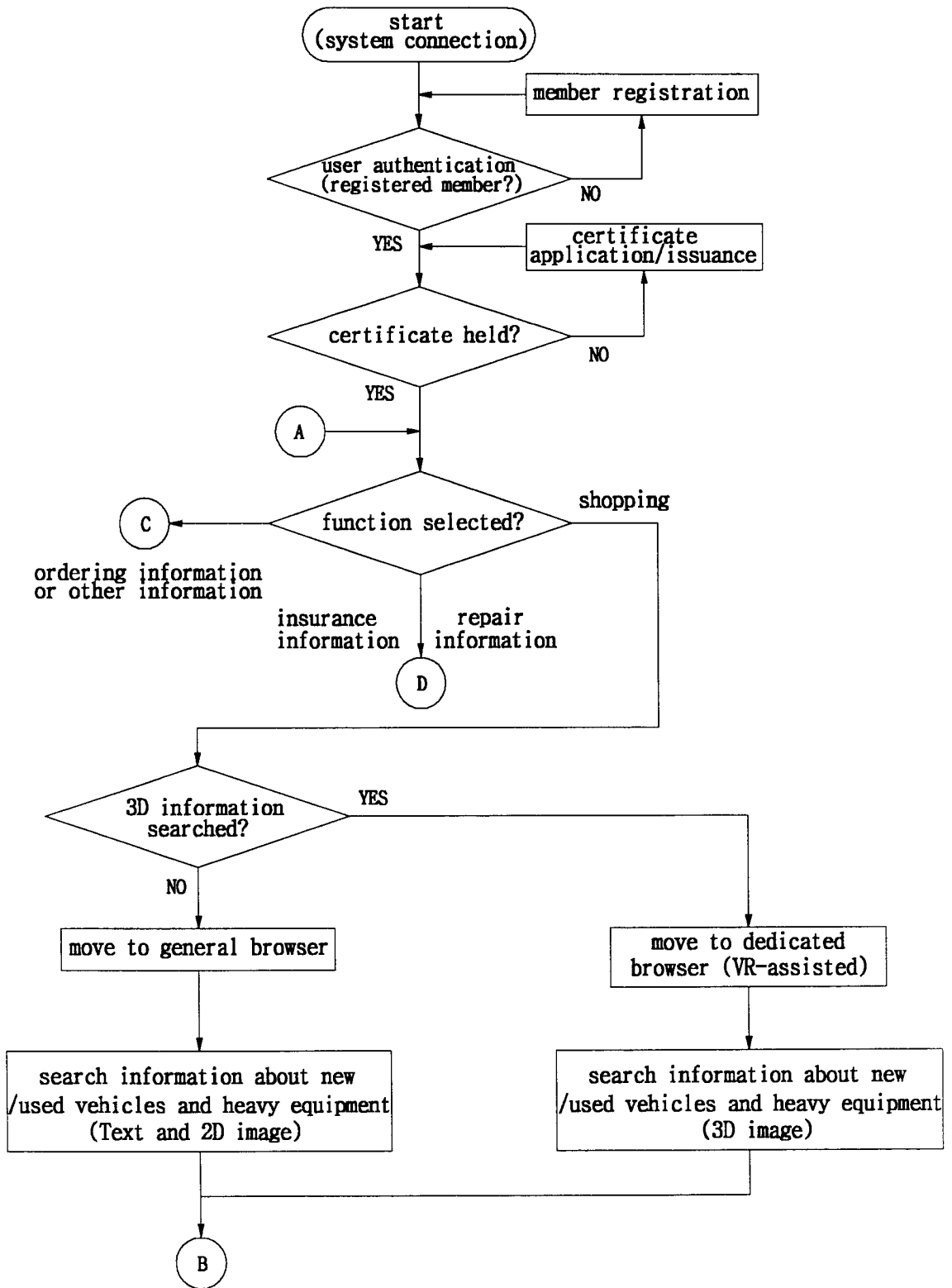




Fig.2a



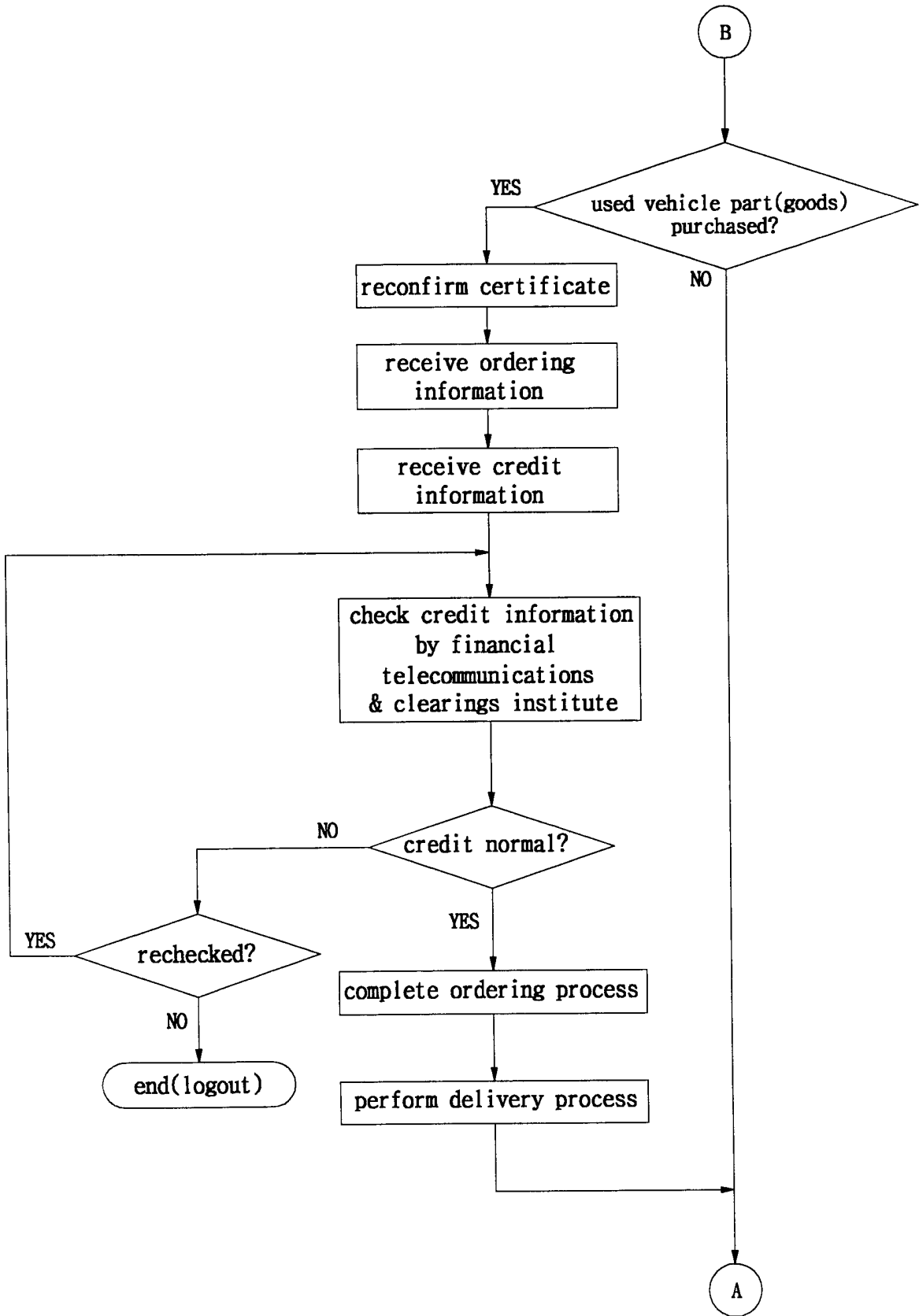


Fig.2b

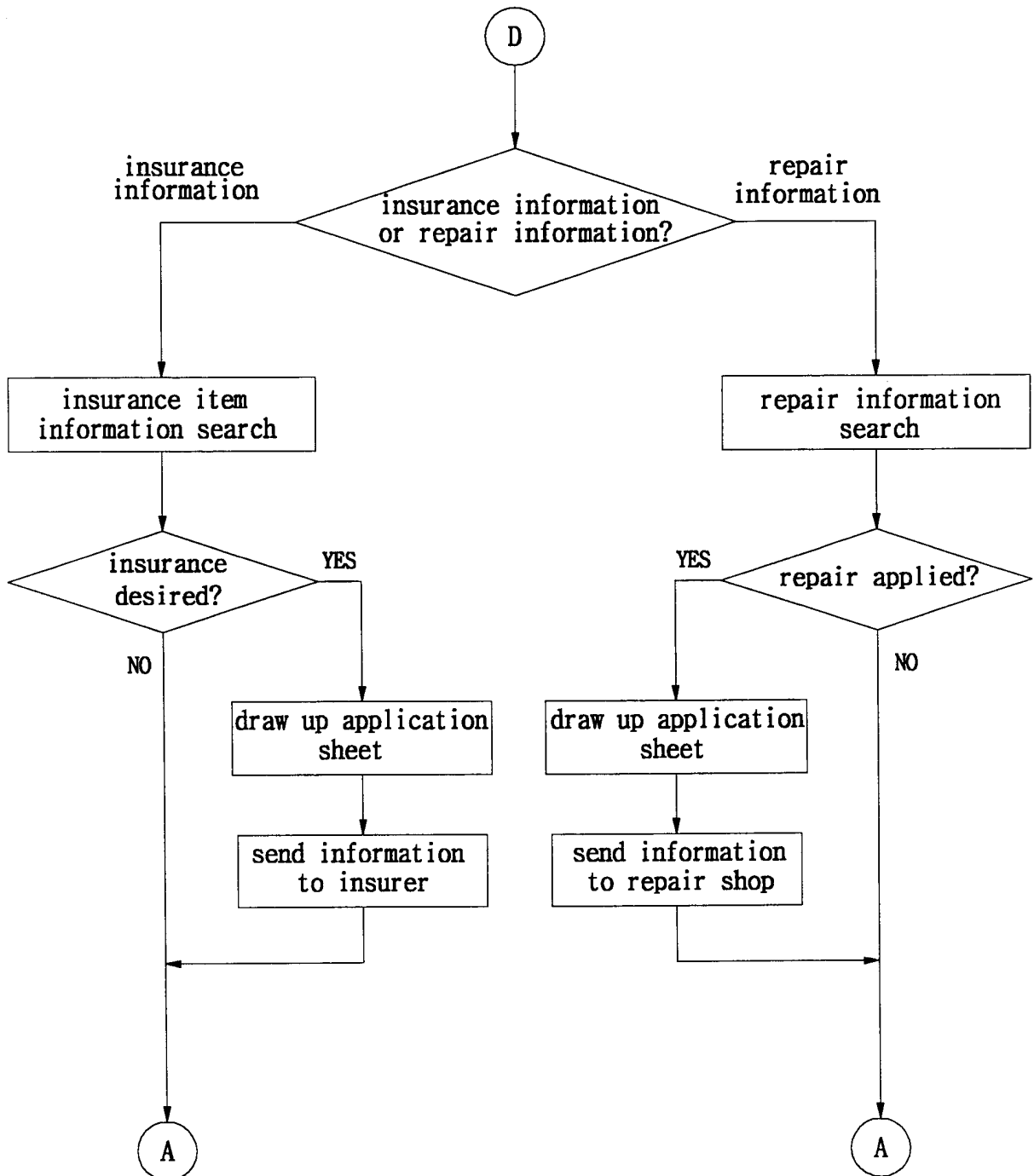


Fig.2c

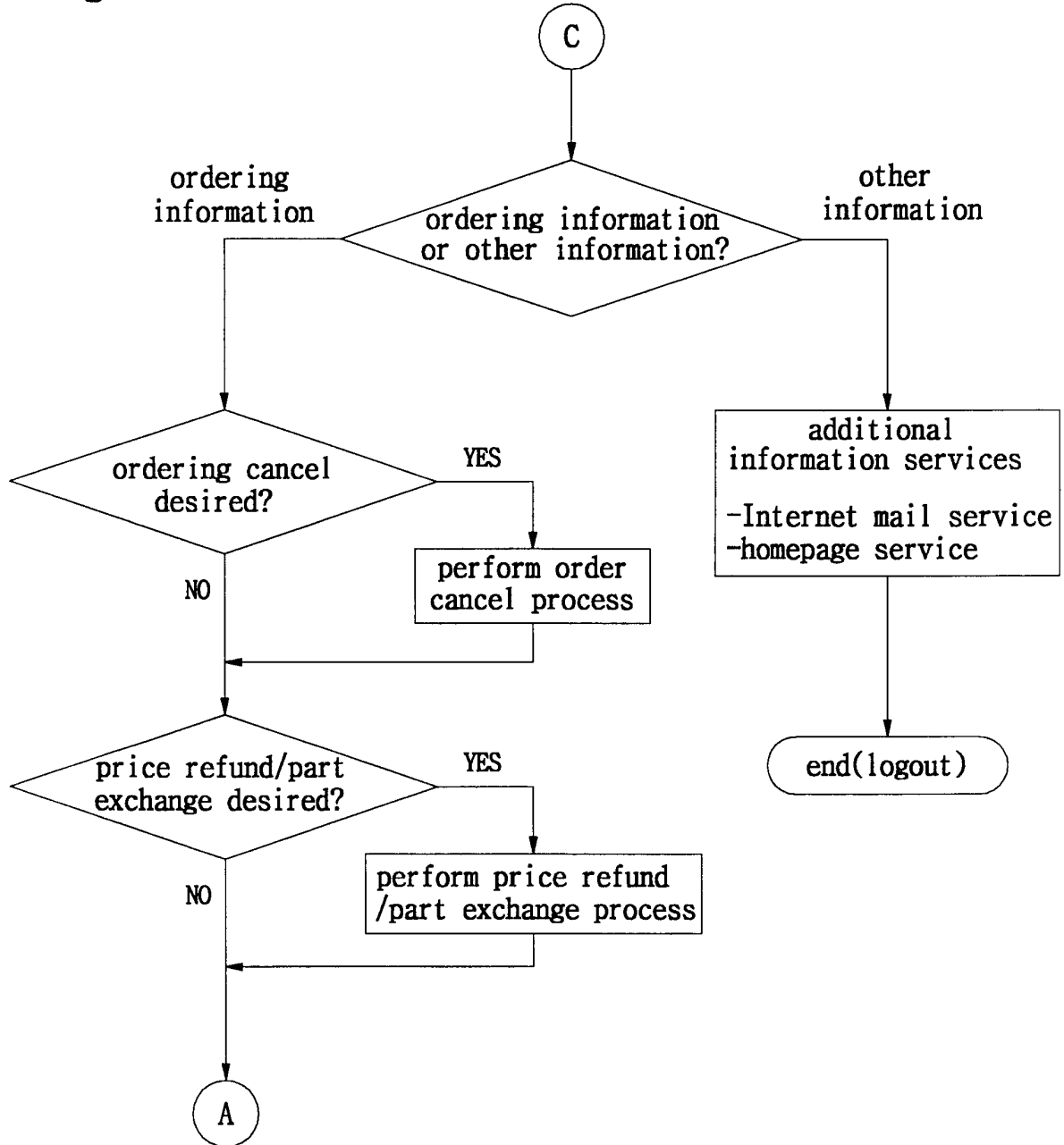
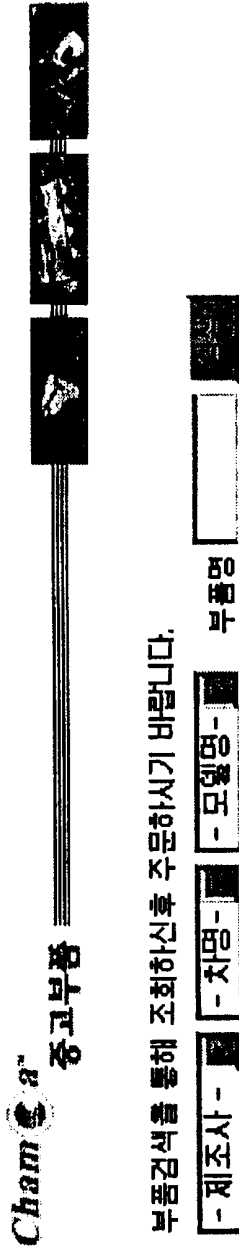


Fig.3a




부품검색을 통해 조회하신후 주문하시기 바랍니다.

❶ 고객이 원하시는 상품이 없다면 구매의뢰하시기 바랍니다.  
 ❷ 주문하실때에는 해당부품의 차명과 모델명을 정확히 확인하여 주시기 바랍니다.

현대	그레이스 6번	역술	동력전달장치	서울특별시
현대	포터 125 카고트럭	역술	동력전달장치	서울특별시
기아	포텐샤 20	역술	동력전달장치	서울특별시
기아	포텐샤 22 AT	역술	동력전달장치	서울특별시
기아	포텐샤 3.0 AT	역술	동력전달장치	서울특별시
현대	역셀 1.3	리어역술	동력전달장치	경기도
현대	소나타2 2.0	리어역술	동력전달장치	서울특별시
현대	스타렉스 SV 6인승 번	역술하우징	동력전달장치	경기도
대우	프리스 20	역술하우징	동력전달장치	경기도
현대	소나타2 2.0	트랜스미션-자동	동력전달장치	서울특별시

[1] [2] [3] [4] [5] [다음5개]

Fig.3b

Cham  **중고부품**

부품검색을 통해 조회하신후 주문하시기 바랍니다.

- 제조사 -   
  - 치명 -   
  - 모델명 -   
  부품명   
  트랜스   
  검색

트랜스미션 시동			
순번	차명	지역	금액
1	프린스 2.0	서울	150,000원
2	포텐샤 2.0	서울	200,000원
3	포텐샤 2.2 AT	서울	200,000원
4	뉴그랜저 2.5D	서울	300,000원
5	뉴그랜저 2.0D	서울	300,000원
6	뉴그랜저 3.0	서울	400,000원
7	소나타2 2.0	서울	150,000원
8	무쏘 (표준)	경기	원

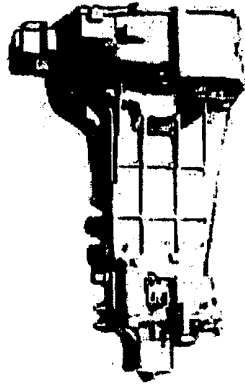
트랜스미션 시동

Fig.3c

Cham a<sup>™</sup> **상품상세정보**

Shopping 상품 : 자동차부품 > 현대 > 뉴그린저 2.00 > 트랜스미션-자동

- 지역 : 서울
- 상품코드 : 10006
- 판매가 : 300,000원
- 적용차량 : 뉴그린저 2.00
- Maker : 현대
- 수량 : 1 개



위 사진은 대표사진입니다.

- ▶ 제품상대 : 최상
- ▶ 배송비용 : 별도
- ▶ 년 식 : 1999년식
- ▶ 기어방식 : AT

- 주문하신 상품이 부품일 경우 차명과 모델명을 다시 한번 확인하여 주문하시기 바랍니다
- 주문하시고자 하는 수량을 정하신 후 '장바구니담기' 버튼을 클릭하세요.
- 상품의 재고가 부족하거나 구매가 불가능한 상품일 경우에는 추가 안내를 드립니다.
- '바로주문' 버튼을 클릭하시면 곧 바로 주문결제 화면으로 이어집니다.
- 다량 구매를 원하실 경우 고객센터번호 02-749-0852 (代)로 직접 문의하여 주시기 바랍니다.

# INTERNATIONAL SEARCH REPORT

international application No.

PCT/KR01/00268

**A. CLASSIFICATION OF SUBJECT MATTER**

**IPC7 G06F 17/60**

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

KIPONET, PAJ

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US.6029146 A (Crossmar, Inc.) 22 FEBRUARY 2000 see Abstract	1-4
A	US, 6026379 (VeriFone, Inc.) 15 FEBRUARY 2000 see Abstract	1-4
A	EP.0779587 (N K KIKAKU KK) 18 JUNE 1997 see claim 1	1-4
A	JP.11219389 (HITACHI LTD) 10 AUGUST 1999 see Abstract	1-4

Further documents are listed in the continuation of Box C.

See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

09 JULY 2001 (09.07.2001)

Date of mailing of the international search report

10 JULY 2001 (10.07.2001)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office  
Government Complex-Daejeon, Dunsan-dong, Seo-gu, Daejeon  
Metropolitan City 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

CHO, Ji Hun

Telephone No. 82-42-481-5993





**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

PCT/KR01/00268

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP.0779587 A	18 JUNE 1997	EP.0779587 JP, 9167185 US,5890137	18 JUNE 1997 24 JUNE 1997 30 MARCH 1999
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