자바 모바일 환경에서의 주유기 설계와 구현

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Design and Implementation of self style Lubricator system for Mobile Environment

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Abstract

The increase of vehicles stagnations leads to the increasing attention to the way customers pay and a large number of projects on electronic cash system. Tranport system is comprised of a number of advanced technologies, including information processing, communications, control, and electronics. Recently many research on a system which provides contact in order to protect driver's vehicle passage have been carried out. And some potential problems from that system are being reviewed by electronic cash system. In this papers, we suggest RF protocol developing technology using the concept of electronic cash. ATM electronic cash developing is consist of component of pre-developed coin throw, integration of component using its, and production of more requirement-satisfactory ITS solution. Result increase 15~40% pre-type vehicles stagnations. Especially, we expect this proposed concept would be well adapted to our national environments.

1. Introduction

Lubricator that call meter that pour oil to Auto Mobil is divided by various kinds Model by difference of spit out speed and nozzle's number, pump's kind, function etc. Get divided by general style lubricator, dispenser style lubricator, cloth proper form lubricators by representative classification and is fractionated by high and low, super high and bulk, simple system and dress and its ornaments etc. in each classification Specially, Asia area such as Japan and Korea uses much general style lubricator (motor pump embedded type) and appetite of USA, Europe etc.. tends to prefer dispenser style lubricator. usion lubricator that have more convenient and superior quality functionality to use to cause this consumer desire and purchase desire by new environment supply is required, existent lubricator is connoting problem is every moment in several aspects.

2. Composition and function of system

2.1 Design of system

Lubricator's composition is consisted of power part and CPU wealth and communication part, free set as display and is consisted of air separate, pulse, flow meter, solenoid valve and pump etc. at utensil. Is displaying lubricator external appearance in figure 1. Do power supply chapter for main board, 1" FIP display board, FIP lubricator, doing FIP so

that control processing ability is being quick and correct, and hereafter have enough confrontation ability to extension function's addition because fix direction by backup unit, LCD display board, LCD lubricator power supply, electronic air perception sensor, digital temperature sensor etc.
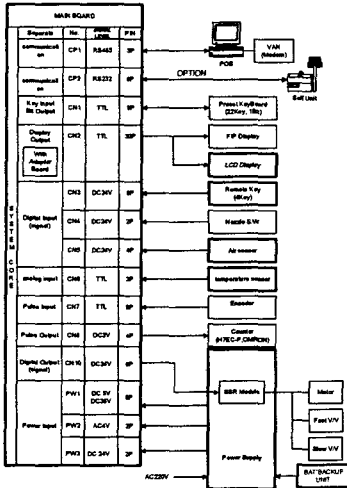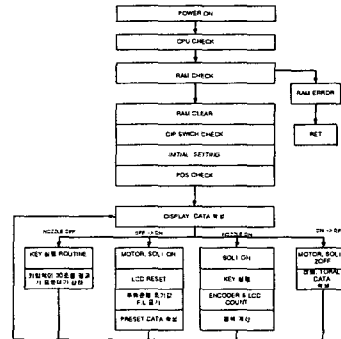

[Fig.1] Composition that propose in this research

Because keep just as it is do expression quantity for schedule time by built-in Battery at FIP type, lcd type power failure by indication contents preservation function at power failure, can solve attrition with gas station employee and customer and stability was lacking quantity, but do so that may insulate perfectly with interior system power supply using separate way become independent power supply of 24V and prove authoritativeness because using 5V interior power supply by outside i/o in existing control's case by stability increase by in-output signal power supply separation. Correct measuring is possible in some temperature because measure oil's temperature by digital semiconductor sensor by temperature compensation function by IC type temperature sensor attach, and compensate do flux coefficient automatically according to outside temperature.

Actually, because introducing wireless internet service, can connect wireless environment LAN or CDMA, much wireless service communication methods of B-WLL and so on or internet through communication appliances that connect internet through mobile phone and use necessary information with existing wire environment.

2.2 Composition of program processing

Programming processing has itself diagnostic function and do various enemy property and do last time oil supply amount inquiry function, one touch fixed sum fixed quantity oil supply and proper move oil supply function, off can have registration and alteration function, password function and unusualness stop function, system check and error state display function, communication with point of sales system, oil supply shortening high spit out function and know in figure 2.

[Fig.2] main routine

Ten key processes amount of money, liter setting, various data inputs displaying input extent (0 900,000). Also, shortcut can do amount of money that use frequency is much, liter setting.

```
ck = PassWDChecking();
    if(ck == OK){
        한국어 조회    DisplayDotFip(P.it,DotPointSetLit,TotF_..t);
        DisplayDotString(DotPointSetLit,TotF_lit);
        DisplayFip(Pdem,' oIL');
    
    key_val = GET_KEY();
```

```
        판매금액 조회...
   if(key_val == JUCKSAN){
                 DisplayDotString(DotPointSetWon,TotF_won);
                 DisplayFip(Pdan,'  CASH ');
        }
        key_val = GET_KEY();
                판매횟수 조회...
   if(key_val = JUCKSAN){
                 DisplayDotString(0,TotF_cnt);
                 DisplayFip(Pdan,'  SALE ');
        }
        key_val = GET_KEY();
            판매횟수 조회...
     Mode_fg = 0;
}

.[]............................................        처  리
void TodayView(){
   .  및   제....
BYTE ck;
   ck = PassWDChecking();
   if(ck == OK){
   판매장 조회...DisplayDotFip(Pist,DotPointSetLit,ToF_lit);
                 DisplayDotString(DotPointSetLit,ToF_lit);
                 DisplayFip(Pdan,'  DolL');
        key_val = GET_KEY();
            판매금액 조회...
   if(key_val == ILGAE){
                 DisplayDotString(DotPointSetWon,ToF_won);
                 DisplayFip(Pdan,' DCASH');
        }
        key_val = GET_KEY();
           판매횟수 조회...
   if(key_val = ILGAE){
                 DisplayDotString(0,ToF_cnt);
                 DisplayFip(Pdan,' DSALE');
        }
        key_val = GET_KEY();
          종회 확인...
     if(key_val == ESC){
                 ToF_won = 0.0;
                 ToF_lit = 0.0;
                 ToF_cnt = 0;
        }
} // End of IF..
```

[Fig.3] monitor ring program

Is processing that figure 5 (a) is sale amount of money inquiry, sale withdrawal inquiry, visit value sales inquiry processing route and figure (b) is amount of money, quantity, unit cost as receipt processing program as tester of printer function, process back mutually. figure (c) can process 4800, 9600, 19200, 38400 bps as communication processing. Wireless service can fall into wireless lan environment and wireless internet environment greatly. Speak form that connect to wireless service using bluetooth or wireless lan, B-wll etc..

2.3 Composition of program processing

Wireless internet is mobile's time, while connect through information machine of mobile phone's various wireless internet service, PDA, pocket PC and so on having advantage that overcome restriction that is public promise enemy equally, but it is shortcoming that much manufacturing drugs are transfer cavity and speed.

[Fig.4] wireless service processing

Is displaying general wireless internet figure 6 (a) mobile exchange networks and (b) is processing that use brew and picture (c) is displaying firewall that is used in wireless internet. (d) Brew is displaying processing route by application solution. (e) is displaying certifier processing root. Security technology and products to offer information boho service in environment allow fetters in most encryption technology.

3. An experiment and special quality ancient temple

Is F.I.P that figure 7 is displaying main processor board for main function processing and a expresses cost price, fare, unit cost in figure 8 and b displays liquid display and c is Display that display oil amount processing and d is main control board. By next time, e is power and f is touch pad board and g are control board and h is power.[4]

[Fig.5] characteristic test and certification processing

Though is expressing various experiment prices and characteristic wave style plain in figure 8, picture (a)

is displaying serial bit stream and (b) is displaying upper low rank side signal and crt monitoring. (c) is displaying temperature cycle fixed waveform and (d) value and (e) that do constant temperature oven characteristic test is displaying encoder special quality waveform and picture (f) is displaying improved noise characteristic wave style. (g) expresses value that measure digital oscilloscope, picture (h) filtering waveform (i) impulse waveform (j) mobile phone menu and so on that appear testing certification that use KT multipak appear .figure(k) is displaying kookmin zoomcard certification processing using K.merce. First, elect and install whole components in twin before characteristic test if examine special quality experiment procedure..
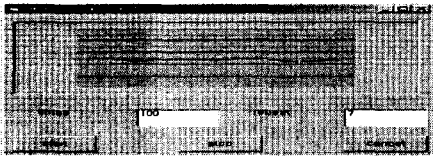
[Fig.6] protocol speed detection
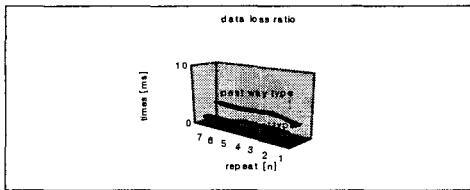
[Fig.7] existing control system and comparison of way that propose
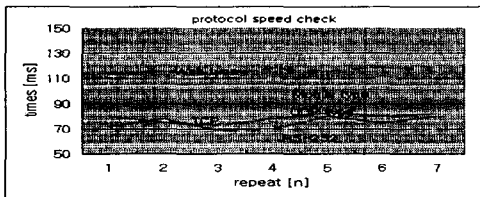
[Fig.8] comparison existing communication method

4. Conclusion

TFT Color LCD Display employs display unit and processes by voice that gouge among way and manufacturing that switch does input by touch screen, user's manufacturing is simple and convenient by financial institution's ATM level degree and did so that control processing ability may be quick and correct, and hereafter get into enough correspondence to addition of extension function employing do main board's subject fishing ground because selecting high speed 32bit RISC CPU. Existing lubricator controller and function disaster caused by tigers and is being fungible and have perfection compatibility functionally with main Board can keep sterilization just as it is do indication during schedule time by built-in battery to when can keep indication contents and cut off the electricity when done existing main board's principal parts supplemented in reply because is possible and analyze various problems such as data loss, blizzard CPU reset phenomenon, SSR, trigger badness that happen in part existing lubricator supplementing existing lubricator controller's problem and awareness of indication contents cuts off the electric .

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