

MDA-EFSM Events:

Activate()
Start()
PayCredit()
PayCash()
PayDebit()
Reject()
Cancel()
Approved()
StartPump()
Pump()
StopPump()
SelectGas(int g)
CorrectPin()
IncorrectPin(int max)

MDA-EFSM Actions:

| | |
|------------------|--|
| StorePrices | // stores price(s) for the gas from the temporary data store |
| PayMsg | // displays a type of payment method |
| StoreCash | // stores cash from the temporary data store |
| DisplayMenu | // display a menu with a list of selections |
| RejectMsg | // displays credit card not approved message |
| SetPrice(int g) | // set the price for the gas identified by g identifier as in SelectGas(int g) |
| SetInitialValues | // set <i>G</i> (or <i>L</i>) and <i>total</i> to 0; |
| PumpGasUnit | // disposes unit of gas and counts # of units disposed |
| GasPumpedMsg | // displays the amount of disposed gas |
| PrintReceipt | // print a receipt |
| CancelMsg | // displays a cancellation message |
| ReturnCash | // returns the remaining cash |
| WrongPinMsg | // displays incorrect pin message |
| StorePin | // stores the pin from the temporary data store |
| EnterPinMsg | // displays a message to enter pin |
| InitializeData | // set the value of <i>price</i> to 0 for GP-2; do nothing for GP-1 |
| EjectCard() | // card is ejected |
| SetW(int w) | // set value for cash flag |

Operations of the Input Processor (GasPump-2)

```
Activate(float a, float b) {  
    if ((a>0)&&(b>0)&&(c>0)) {  
        d->temp_a=a;  
        d->temp_b=b;  
        d->temp_c=c;  
        m->Activate()  
    }  
}  
  
Start() {  
    m->Start();  
}  
  
PayCredit() {  
    m->PayCredit();  
}  
  
Reject() {  
    m->Reject();  
}  
  
PayDebit(string p) {  
    d->temp_p=p;  
    m->PayDebit();  
}  
  
Pin(string x) {  
    if (d->pin==x) m->CorrectPin()  
    else m->InCorrectPin(1);  
}  
  
Cancel() {  
    m->Cancel();  
}
```

```
Approved() {  
    m->Approved();  
}  
  
Diesel() {  
    m->SelectGas(3)  
}  
  
Regular() {  
    m->SelectGas(1)  
}  
  
Super() {  
    m->SelectGas(2)  
}  
  
StartPump() {  
    if (d->price>0) m->StartPump();  
}  
  
PumpGallon() {  
    m->Pump();  
}  
  
StopPump() {  
    m->StopPump();  
}  
  
FullTank() {  
    m->StopPump();  
}
```

Notice:

pin: contains the pin in the data store

m: is a pointer to the MDA-EFSM object

d: is a pointer to the Data Store object

SelectGas(g): Regular: g=1; Super: g=2; Diesel: g=3

Operations of the Input Processor

(GasPump-1)

```
Activate(int a) {
    if (a>0) {
        d->temp_a=a;
        m->Activate()
    }
}

Start() {
    m->Start();
}

PayCash(float c) {
    if (c>0) {
        d->temp_c=c;
        m->PayCash()
    }
}

PayCredit() {
    m->PayCredit();
}

Reject() {
    m->Reject();
}

Approved() {
    m-> Approved();
}

Cancel() {
    m->Cancel();
}

StartPump() {
    m->StartPump();
}
```

```
PumpLiter() {
    if (d->w==1) m->Pump()
    else if (d->cash>0)&&(d->cash < d->price*(d->L+1))
        m->StopPump();
    else m->Pump()
}
```

```
StopPump() {
    m->StopPump();
}
```

Notice:

cash: contains the value of cash deposited

price: contains the price of the selected gas

L: contains the number of liters already pumped

w: cash flag (cash: w=0; otherwise: w=1)

cash, *L*, *price*, *w* are in the data store

m: is a pointer to the MDA-EFSM object

d: is a pointer to the Data Store object