

Model::Main

### Credit Card Processing System

```
classDiagram
    class UserAccount {
        +user_name
        +account_number
        +password
        +add()
        +update()
    }
    class CreditCard {
        +Transaction_Id
        +Card_no
        +Valid
        +Verify()
        +Store_Details()
    }
    class TransactionDetails {
        +Invoice
        +History
        +Date
        +Transaction Status
        +GetDetails()
    }
    class Validity {
        +Expiry_date
        +Renewal()
    }
    class Customer {
        +Name
        +Phone
        +Address
        +UpdateDetails()
    }
    class Admin {
        +Phone
        +Address
    }
    class Applies {
        +Application_name
        +Identity_no
    }
    class Account {
        +Acc_no
        +Acc_type
        +debit()
        +credit()
    }
    class Application {
        +Application_Id
        +Application_for
        +application_date
        +submit()
    }
    class TransactionStatus {
        <<enumeration>>
        Pending
        Confirmed
        Cancelled
        Refund
    }
    UserAccount <|-- Customer
    UserAccount <|-- Admin
    Admin ..|> Details
    class Details {
        +ph_no
        +address
        +name
        +setDetails()
        +updateaDetails()
    }
    CreditCard "0..*" -- "1" Customer : +contains
    CreditCard *-- Validity
    Customer "1" -- "1" Applies : +owns
    Customer "1" -- "*" Account : +owns
    Customer "1" -- "*" Application : +apply
    Applies .. Application
    TransactionStatus -- TransactionDetails
```

The diagram illustrates the structure of a Credit Card Processing System. It features several classes and their relationships:

- User Account** (Base Class):
  - Attributes: `+user_name`, `+account_number`, `+password`
  - Operations: `+add()`, `+update()`
- Customer** (Inherits from User Account):
  - Attributes: `+Name`, `+Phone`, `+Address`
  - Operation: `+UpdateDetails()`
- Admin** (Inherits from User Account):
  - Attributes: `+Phone`, `+Address`
- Details** (Generalization of Admin):
  - Attributes: `+ph_no`, `+address`, `+name`
  - Operations: `+setDetails()`, `+updateaDetails()`
- Credit Card**:
  - Attributes: `+Transaction_Id`, `+Card_no`, `+Valid`
  - Operations: `+Verify()`, `+Store_Details()`
- Transaction Details**:
  - Attributes: `+Invoice`, `+History`, `+Date`, `+Transaction Status`
  - Operation: `+GetDetails()`
- Validity**:
  - Attributes: `+Expiry_date`
  - Operation: `+Renewal()`
- Applies**:
  - Attributes: `+Application_name`, `+Identity_no`
- Account**:
  - Attributes: `+Acc_no`, `+Acc_type`
  - Operations: `+debit()`, `+credit()`
- Application**:
  - Attributes: `+Application_Id`, `+Application_for`, `+application_date`
  - Operation: `+submit()`
- Transaction Status** (Enumeration):
  - Values: `Pending`, `Confirmed`, `Cancelled`, `Refund`

**Relationships:**

- Customer** (1) **contains** **Credit Card** (0..\*)
- Credit Card** **owns** **Validity** (1 to many)
- Customer** (1) **owns** **Applies** (1 to 1)
- Customer** (1) **owns** **Account** (\*)
- Customer** (1) **applies** **Application** (\*)
- Applies** **applies** **Application** (dashed line)
- Transaction Status** (enumeration) **is associated with** **Transaction Details**

