**Credit Card Application**

A java application which can verify the type of the card given the records of the credit card. The input record file type can be CSV, XML, JSON. The application retrieves the records of credit card which has card numbers, expiry date and cardholder name and returns the type of credit card type along with error for each record into a file of the same input type.

The application implements strategy and factory method design patterns.

1. Factory method

Factory method creational design pattern is used to invoke the class based on the card type. The parent class Card is used to create object of the sub classes (American Express, Visa, MasterCard, Discover) based on the card number.

Below is the class diagram for factory method design pattern.

Timeline

Factory method design pattern 

1. Strategy method

Strategy method behavioral design pattern is used to read the records of the input file based on the type of the file at runtime. The implementation for reading the records and processing the records is different for each input file type. So, based on the input file type at runtime corresponding class object is created.

Below is the class diagram for strategy method design pattern.

Diagram

Description automatically generated