Technical Design Documentation

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1. Customer.Json

A. Customer.Json Example


```
{
  "Customers": {
    "Anonymous": {
      "Phone": "anonymous",
      "RewardPoints": 0,
      "FirstName": "anonymous",
      "LastName": "anonymous"
    },
    "404-444-5555": {
      "Phone": "404-444-5555",
      "RewardPoints": 95,
      "FirstName": "John",
      "LastName": "Doe"
    },
    "189-288-9877": {
      "Phone": "189-288-9877",
      "RewardPoints": 50,
      "FirstName": "Jerry",
      "LastName": "Smith",
      "Orders" : [
        {
          "DateTime": "2022-11-16 16:54:11",
          "Subtotal": 8.5,
          "Tax": 0.51,
          "Total": 9.01,
          "PointsEarned": 90,
          "PaymentMethod": "card",
          "PaymentMethodDetails": "5987",
          "Drinks": [
            {
              "Name": "Black Coffee",
              "BasePrice": 4,
              "TotalPrice": 3.50,
              "Customizations": "Small:-$1.00, Sugar:$0.50"
            },
            {
              "Name": "Green Tea",
              "BasePrice": 4,
              "TotalPrice": 5,
              "Customizations": "Large:$1.00, Less Ice:$0.00"
            }
          ]
        }
      ]
    },
    "201-653-8999" :{
      "Phone": "201-653-8999",
      "RewardPoints": 15,
      "FirstName": "Albert",
      "LastName": "Einstein",
```

```
    "Orders" : [
      {
        "DateTime": "2022-11-02 12:12:13",
        "Subtotal": 11.00,
        "Tax": 0.66,
        "Total": 11.66,
        "PointsEarned": 0,
        "PaymentMethod": "Reward Points",
        "PaymentMethodDetails": "RP",
        "Drinks": [
          {
            "Name": "Frappuccino",
            "BasePrice": 5,
            "TotalPrice": 6.50,
            "Customizations": "Large:$1.00, Additional Whipped Cream:$0.50"
          },
          {
            "Name": "Chai Latte",
            "BasePrice": 4,
            "TotalPrice": 4.50,
            "Customizations": "Medium:$0.00, Shot of Espresso:$0.50"
          }
        ]
      },
      {
        "DateTime": "2022-09-18 9:30:15",
        "Subtotal": 11.00,
        "Tax": 0.66,
        "Total": 11.66,
        "PointsEarned": 116,
        "PaymentMethod": "card",
        "PaymentMethodDetails": "2081",
        "Drinks": [
          {
            "Name": "Espresso",
            "BasePrice": 4,
            "TotalPrice": 6.50,
            "Customizations": "Large:$2.00, Sugar:$0.50"
          },
          {
            "Name": "Black Coffee",
            "BasePrice": 4.50,
            "TotalPrice": 4.50,
            "Customizations": "Medium:$0.00, Cold Brew:$0.00"
          }
        ]
      }
    ]
  }
}
```

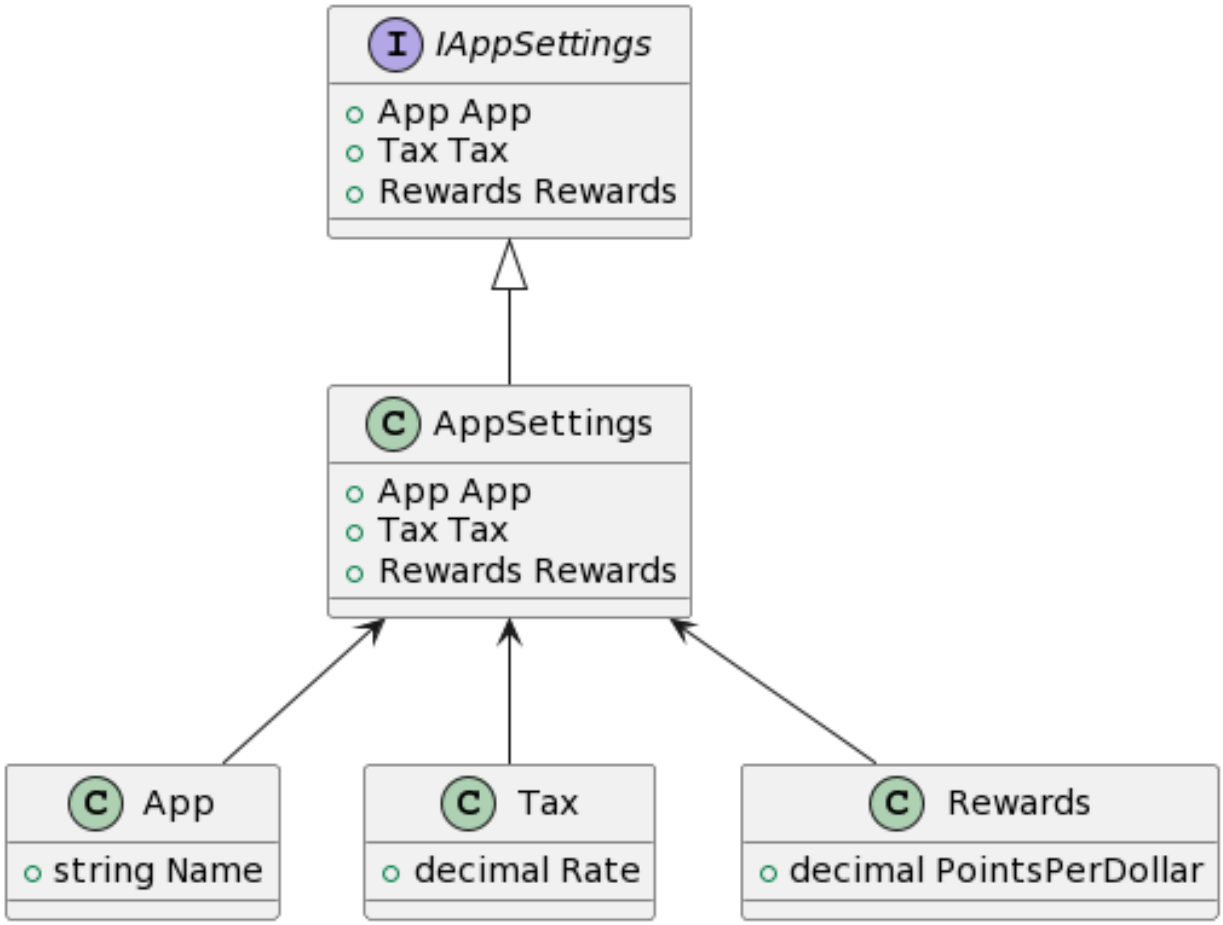
B. Customer.Json File Data Description

Field	Path	Data Type	Description
Customers	Customers	String	A user who is registered as a customer in the application.
Anonymous	Customers.Anonymous	String	A user who is anonymous, meaning they have chosen not to register.
Phone	Customers.Anonymous.Phone	String	Anonymous's phone number, or just "anonymous".
RewardPoints	Customers.Anonymous.RewardPoints	Integer	Reward points have a value of 0 for anonymous no matter what.
Customer_ID	Customers.[key]	String	ID of customer. Key can contain the phone number of a registered customer or either be "Anonymous". An example of a number is "404-444-5555".
Phone	Customers.[key].Phone	String	Customer's phone number.
RewardPoints	Customers.[key].RewardPoints	Integer	Reward points utilized by both customers and anonymous users.
FirstName	Customers.[key].FirstName	String	First name of a customer registered in the application.
LastName	Customer.[key].LastName	String	Last name of a customer registered in the application.
Orders	Customers.[key].Orders	String	Order(s) placed by a customer.
DateTime	Customers.[key].Orders.[0].DateTime	String	Date and time an order was placed.

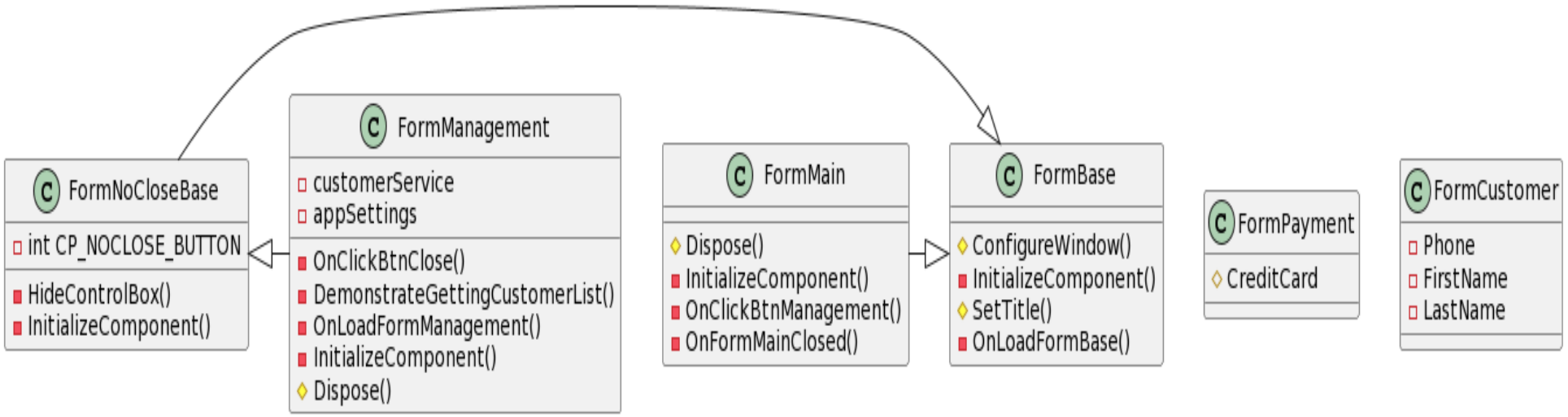
SubTotal	Customers.[key].Orders.[0].SubTotal	Decimal	Total before tax is added to order cost.
Tax	Customers.[key].Orders.[0].Tax	Decimal	Tax amount on an order.
Total	Customers.[key].Orders.[0].Total	Decimal	Total cost of an order.
PointsEarned	Customers.[key].Orders.[0].PointsEarned	Integer	Points earned by a customer.
PaymentMethod	Customers.[key].Orders.[0].PaymentMethod	String	Payment method used by a customer.
PaymentMethodDetails	Customers.[key].Orders.[0].PaymentMethodDetails	String	Details for a payment method.
Drinks	Customers.[key].Orders.[0].Drinks	String	Drinks from order.
Name	Customers.[key].Orders.[0].Drinks.[0].Name	String	Name on order.
BasePrice	Customers.[key].Orders.[0].Drinks.[0].BasePrice	Decimal	Order’s base price.
TotalPrice	Customers.[key].Orders.[0].Drinks.[0].TotalPrice	Decimal	Order’s total price.
Customizations	Customers.[key].Orders.[0].Drinks.[0].Customizations	String	Drink customization options.

2. UML Diagrams

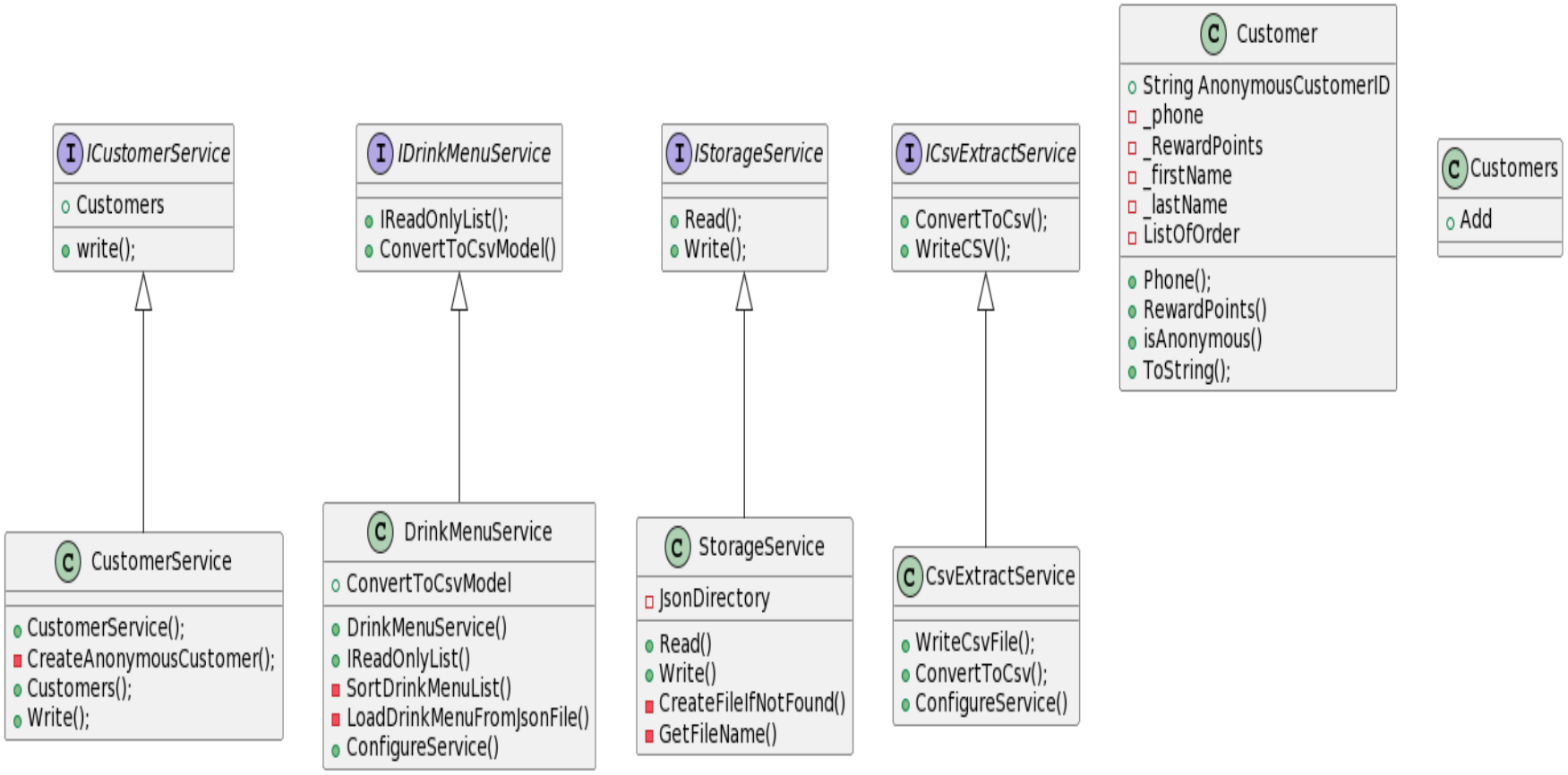
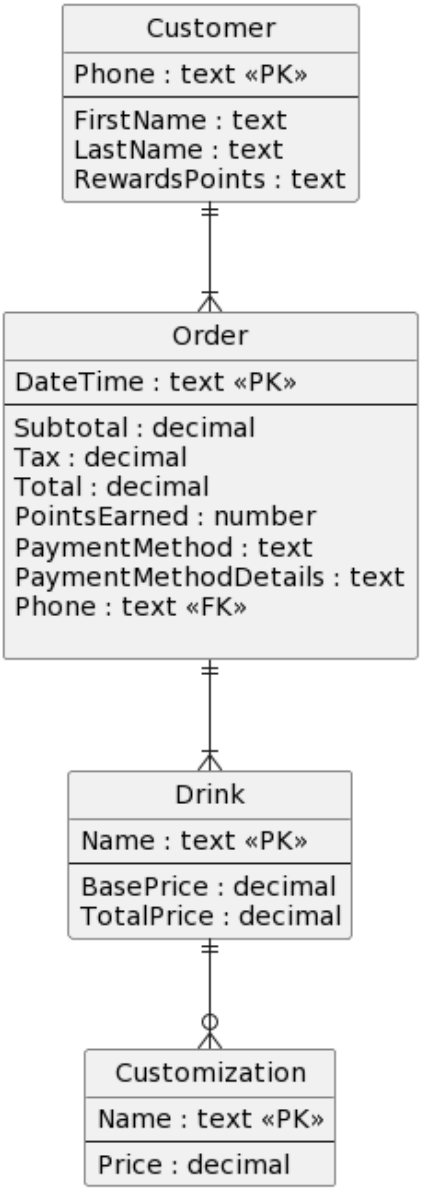
A. Configuration



B. Forms


FormNoCloseBase
int CP_NOCLOSE_BUTTON
HideControlBox()
InitializeComponent()
FormManagement
customerService
appSettings
OnClickBtnClose()
DemonstrateGettingCustomerList()
OnLoadFormManagement()
InitializeComponent()
Dispose()
FormMain
Dispose()
InitializeComponent()
OnClickBtnManagement()
OnFormMainClosed()
FormBase
ConfigureWindow()
InitializeComponent()
SetTitle()
OnLoadFormBase()
FormPayment
CreditCard
FormCustomer
Phone
FirstName
LastName

C. Services


ICustomerService
Customers
write();
IDrinkMenuService
IReadOnlyList();
ConvertToCsvModel()
IStorageService
Read();
Write();
ICsvExtractService
ConvertToCsv();
WriteCSV();
Customer
String AnonymousCustomerID
_phone
_RewardPoints
_firstName
_lastName
ListOfOrder
Phone();
RewardPoints()
isAnonymous()
ToString();
Customers
Add
CustomerService
CustomerService();
CreateAnonymousCustomer();
Customers();
Write();
DrinkMenuService
ConvertToCsvModel
DrinkMenuService()
IReadOnlyList()
SortDrinkMenuList()
LoadDrinkMenuFromJsonFile()
ConfigureService()
StorageService
JsonDirectory
Read()
Write()
CreateFileIfNotFound()
GetFileName()
CsvExtractService
WriteCsvFile();
ConvertToCsv();
ConfigureService()

3. ERD Diagrams