Lab 3 - Review Old Code - Jose Manuel Morales Patty

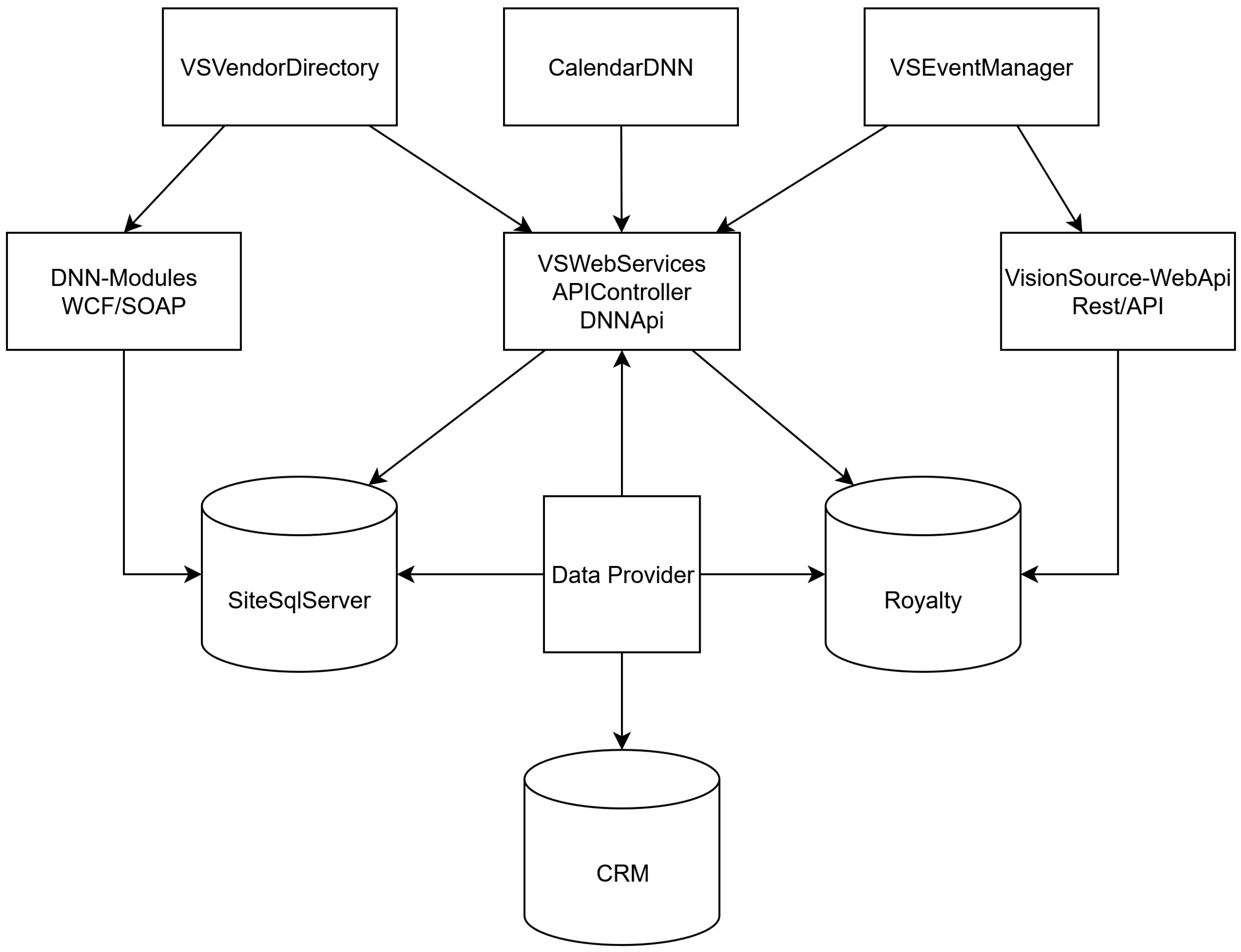
Identify the main characteristic of using this code and how it works on the website

After detailed analysis, these are the main characteristics of VisionSource:

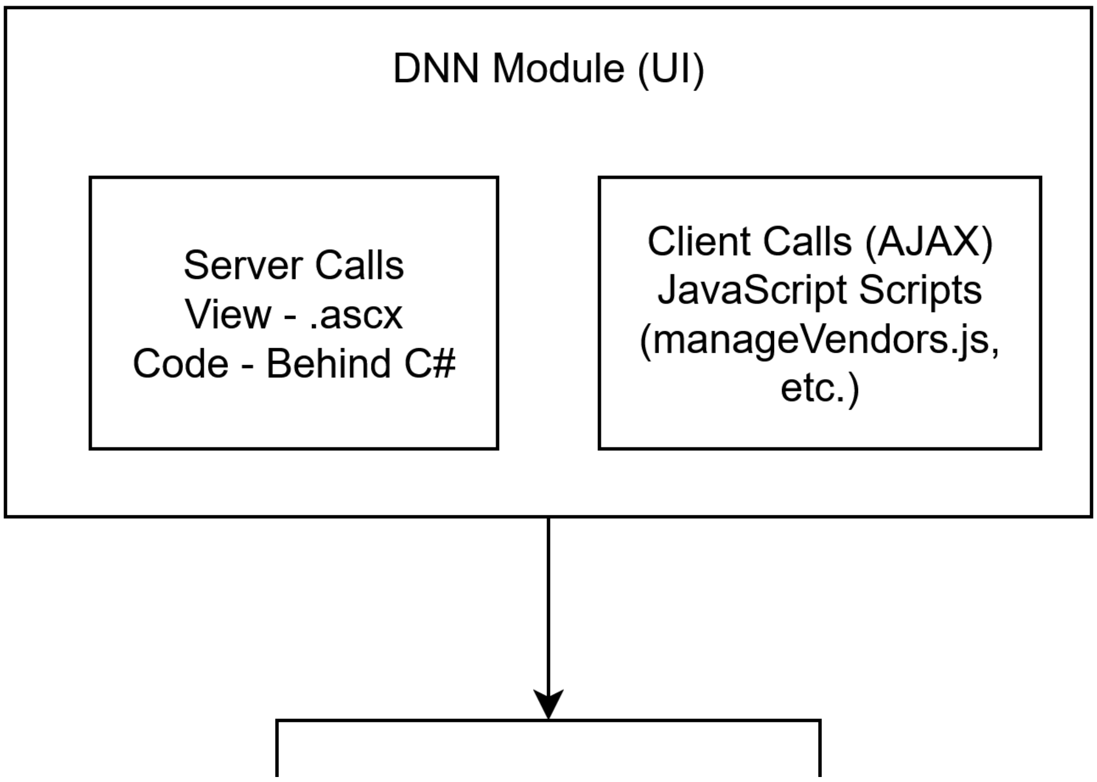
1. **Multi-Tiered DNN-Based Architecture**:
   - **Presentation Layer**: Built on DotNetNuke (DNN) CMS using `.ascx` web controls
   - **Server-Side Logic**: Extensive C# code-behind for server rendering and state management
   - **Client-Side Interactions**: JavaScript/jQuery handling AJAX calls for dynamic content
2. **Dual Communication Patterns**:
   - **Legacy Services**: WCF/SOAP endpoints (`Service.svc`) for backward compatibility
   - **Modern APIs**: REST/WebAPI endpoints for newer features and mobile support
   - Both accessed through controllers exposed by DNN modules
3. **Multi-Repository Structure**:
   - **insight-dnn**: Contains DNN modules and UI components
   - **VisionSource.API**: Houses external-facing microservices
   - **data-provider**: Core data access components
   - **dnn-modules**: WCF service implementations
4. **Business Logic Organization**:
   - **Provider Pattern**: Static data access classes (e.g., `VendorDirectoryProvider`)
   - **Manager Pattern**: Business logic orchestration (e.g., `FlexEventMgr`)
   - Controllers choose whether to route through Managers or directly to Providers
5. **CQRS-Inspired Data Access**:
   - Command/Query separation for data operations
   - Direct stored procedure execution without ORMs
6. **Multi-Database Architecture**:
   - 10+ specialized databases (Royalty, VisionSource, CRM, etc.)
   - Database selection based on module/function (e.g., vendors → Royalty, events → VisionSource)
   - Cross-database operations coordinated through providers
7. **Microservice Integration**:
   - External API endpoints via REST services
   - Internal communication through both REST and WCF
   - Shared data provider layer across service types

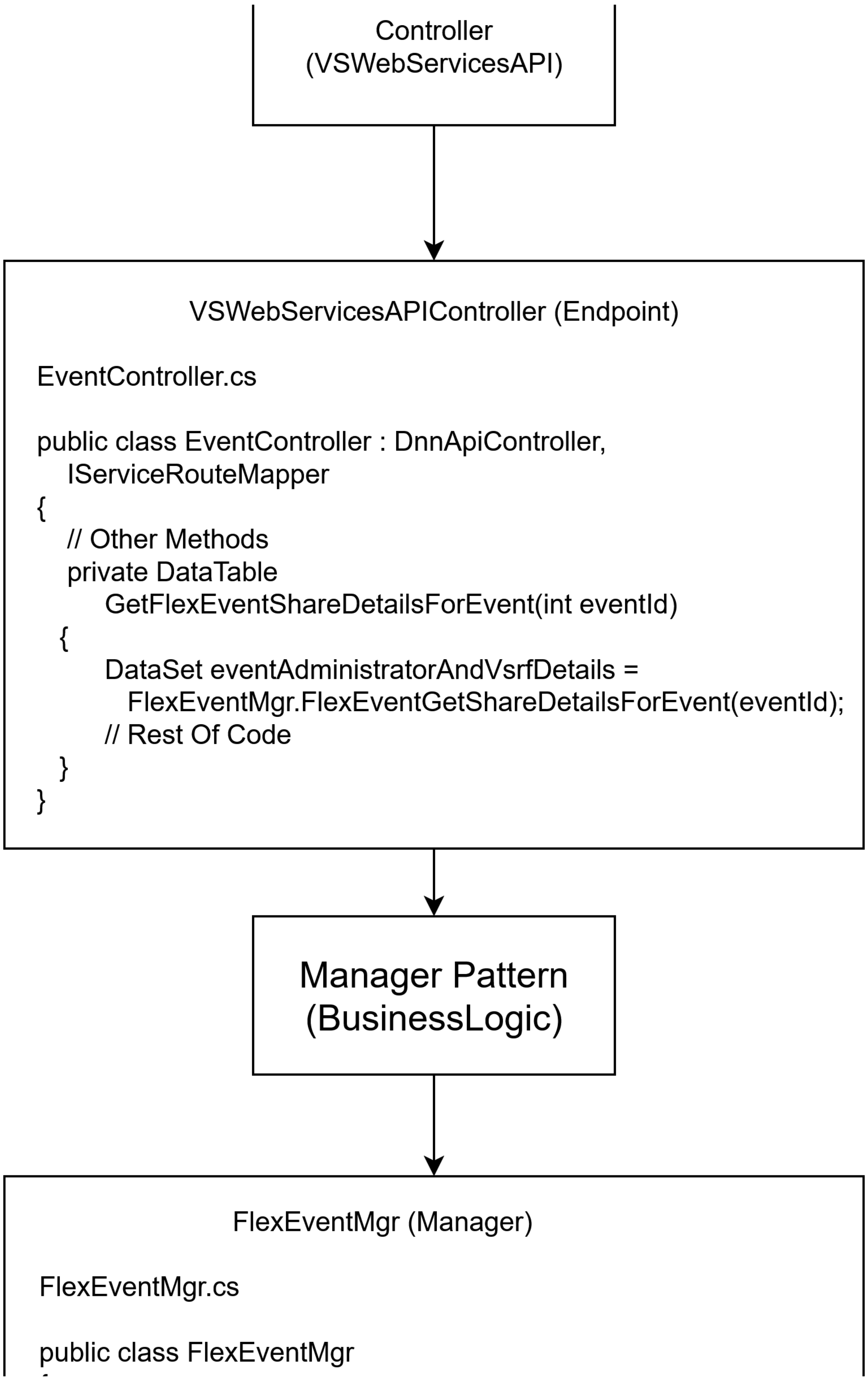
Do a quick diagram of the flow (UI, Endpoint, DB, Sproc)

Flow Diagram (UI, Endpoint, DB, Sproc)



Data Flow Using Manager Pattern



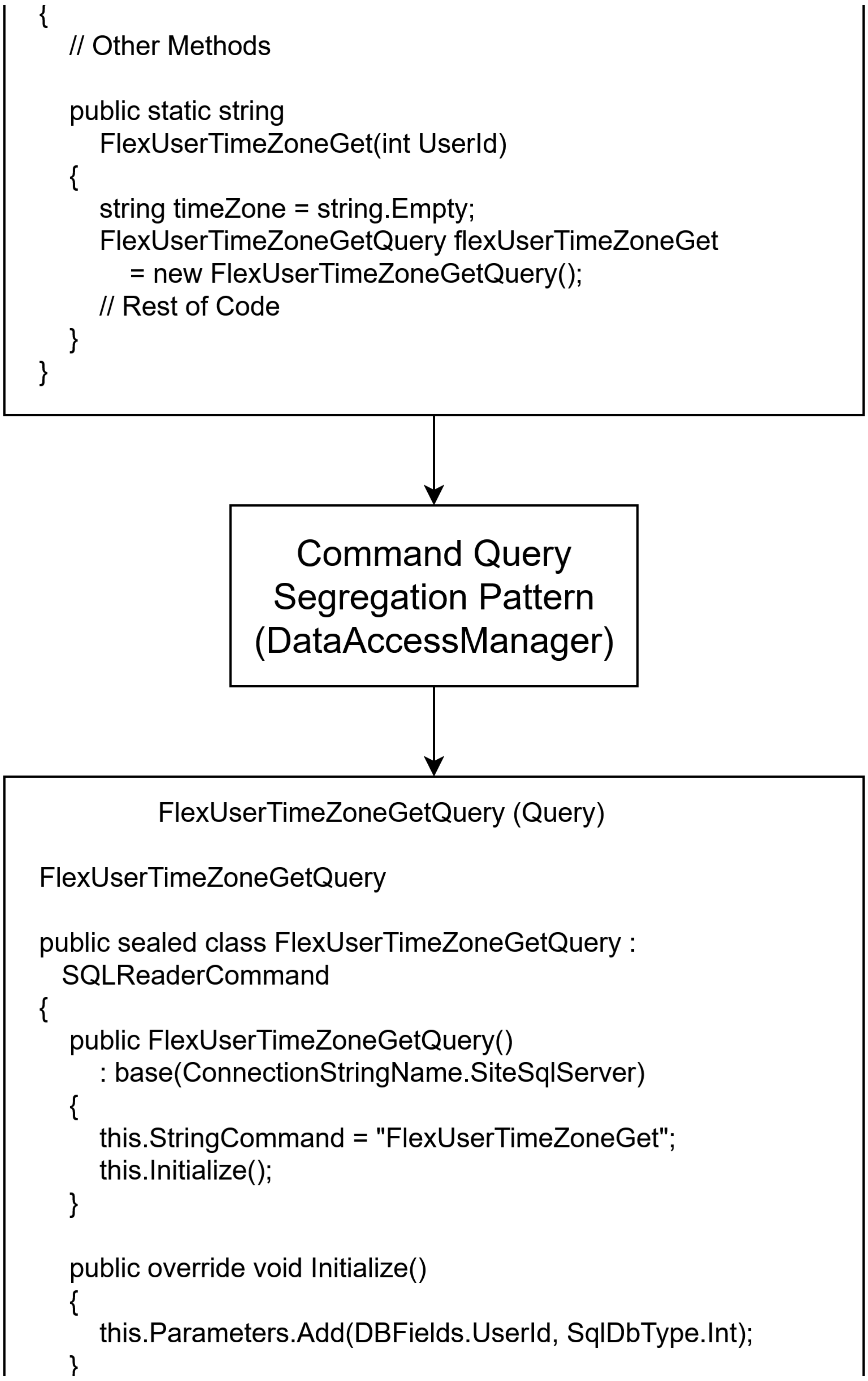


EventController.cs

```
public class EventController : DnnApiController,
   IServiceRouteMapper
{
   // Other Methods
   private DataTable
       GetFlexEventShareDetailsForEvent(int eventId)
  {
       DataSet eventAdministratorAndVsrfDetails =
         FlexEventMgr.FlexEventGetShareDetailsForEvent(eventId);
       // Rest Of Code
  }
}
```

FlexEventMgr.cs

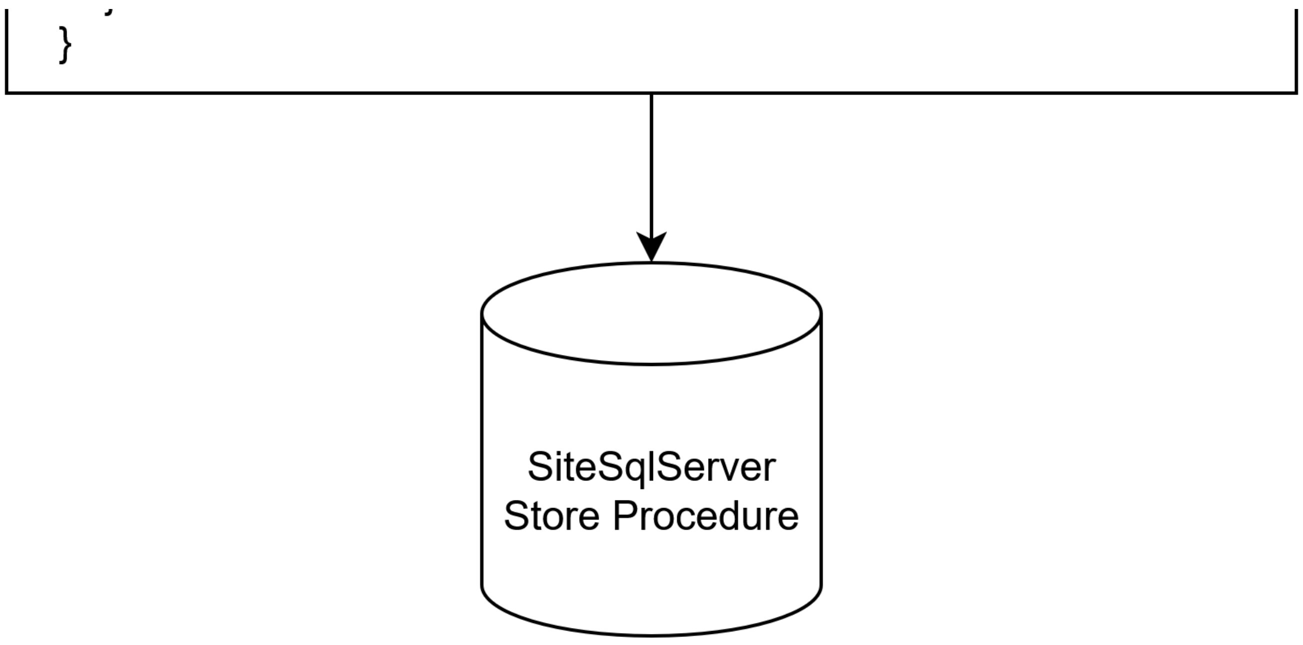
```
public class FlexEventMgr
```



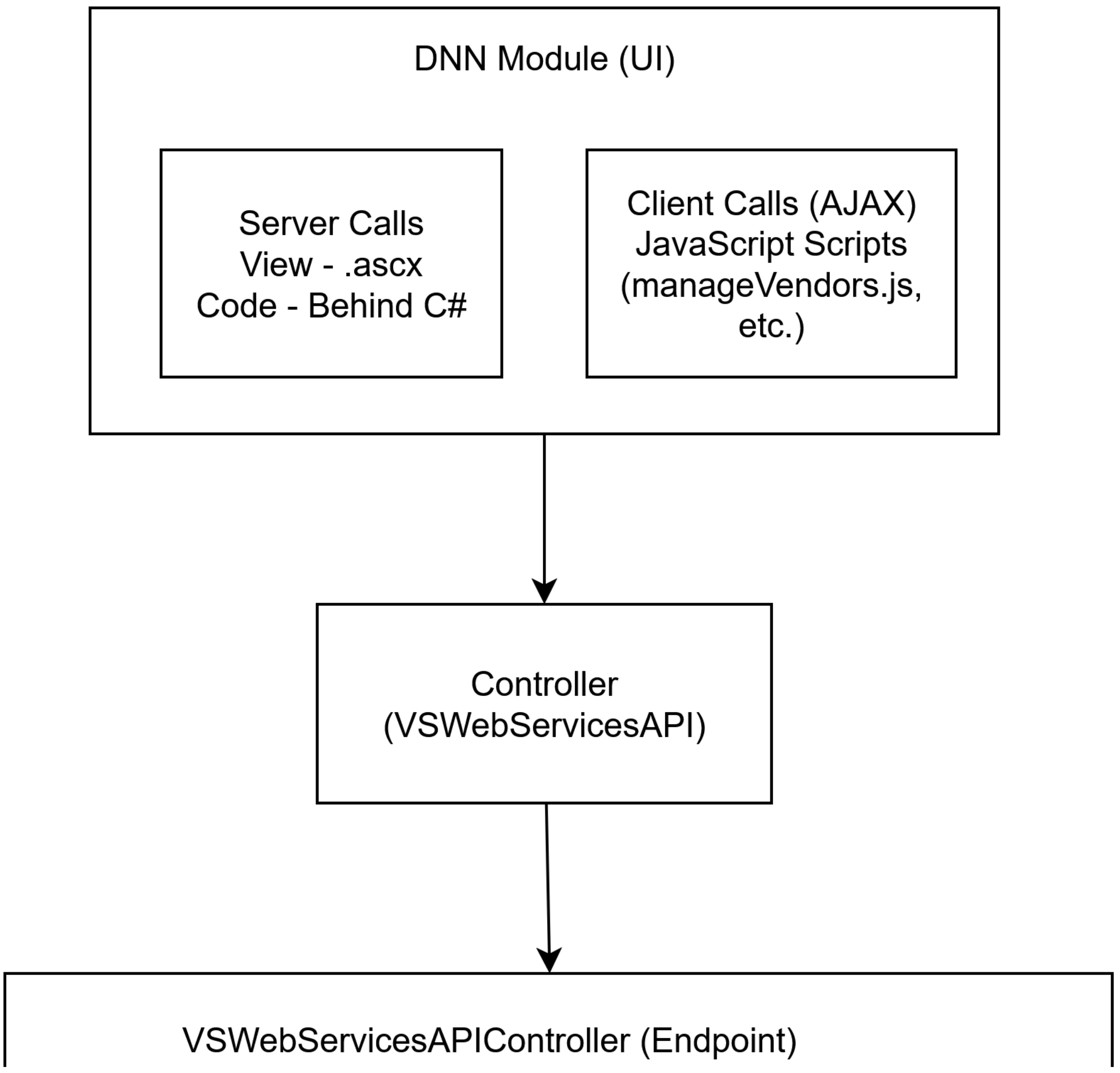
```
{
    // Other Methods

    public static string
        FlexUserTimeZoneGet(int UserId)
    {
        string timeZone = string.Empty;
        FlexUserTimeZoneGetQuery flexUserTimeZoneGet
            = new FlexUserTimeZoneGetQuery();
        // Rest of Code
    }
}
```

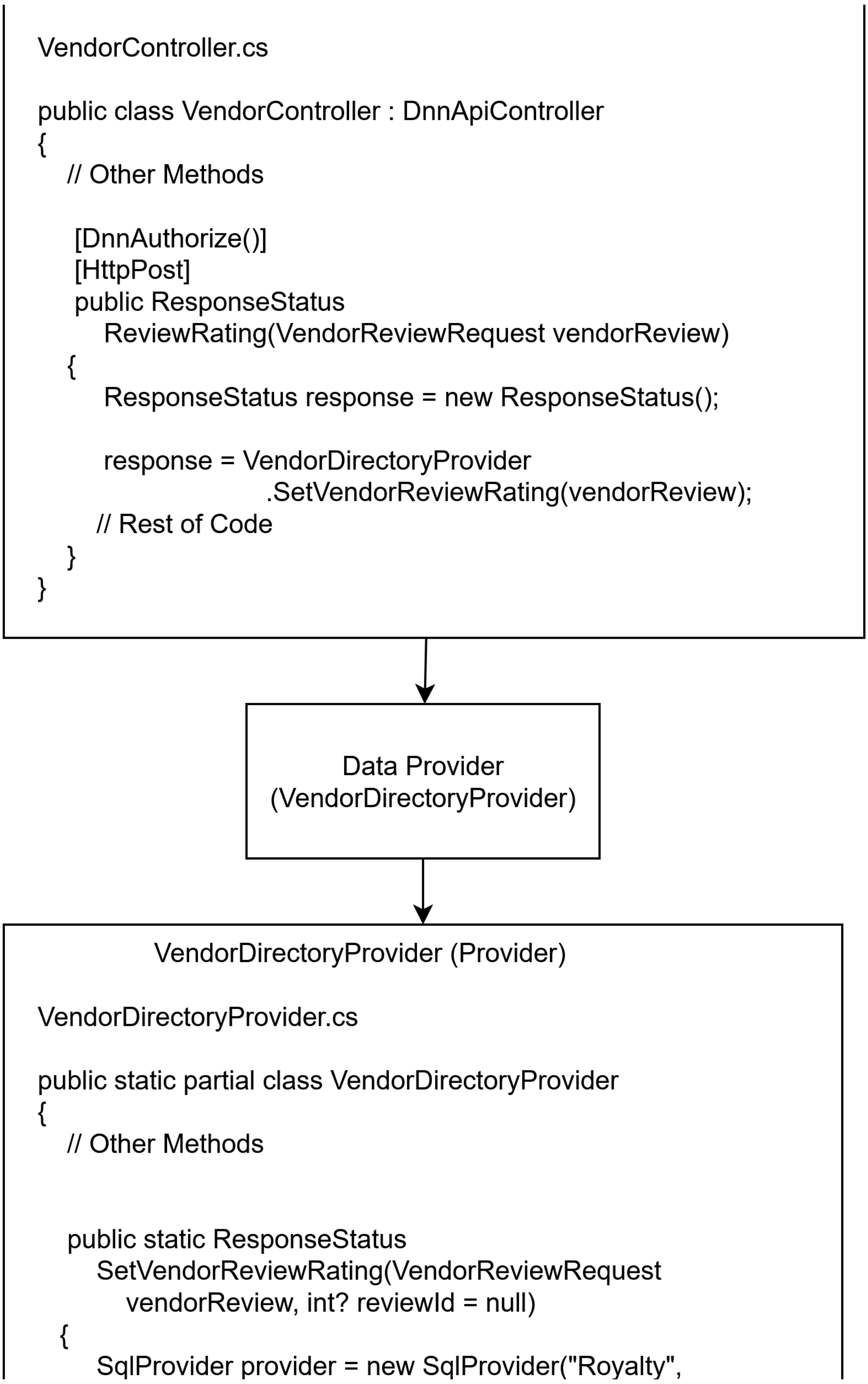
Command Query Segregation Pattern (DataAccessManager)
FlexUserTimeZoneGetQuery (Query)

```
FlexUserTimeZoneGetQuery

public sealed class FlexUserTimeZoneGetQuery :
   SQLReaderCommand
{
    public FlexUserTimeZoneGetQuery()
        : base(ConnectionStringName.SiteSqlServer)
    {
        this.StringCommand = "FlexUserTimeZoneGet";
        this.Initialize();
    }

    public override void Initialize()
    {
        this.Parameters.Add(DBFields.UserId, SqlDbType.Int);
    }
```



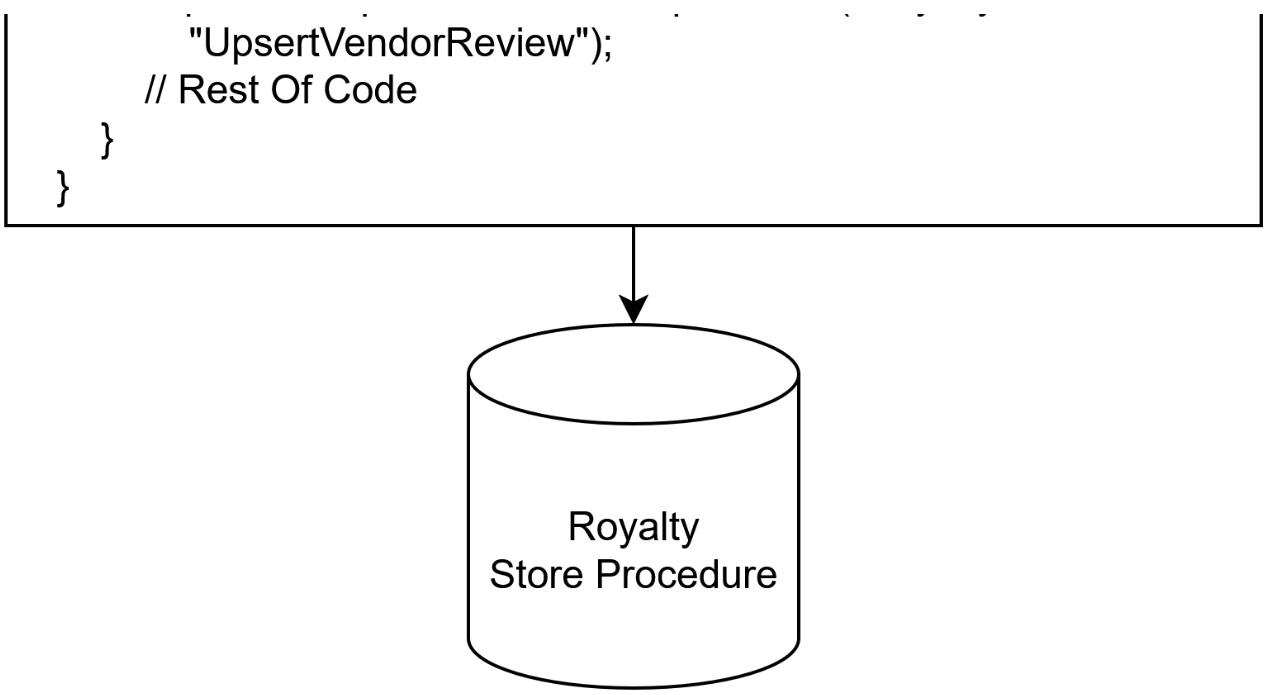
Data Flow Using Provider Pattern





```
VendorController.cs

public class VendorController : DnnApiController
{
   // Other Methods

    [DnnAuthorize()]
    [HttpPost]
    public ResponseStatus
       ReviewRating(VendorReviewRequest vendorReview)
   {
       ResponseStatus response = new ResponseStatus();

       response = VendorDirectoryProvider
                        .SetVendorReviewRating(vendorReview);
      // Rest of Code
   }
}
```

```
               VendorDirectoryProvider (Provider)

VendorDirectoryProvider.cs

public static partial class VendorDirectoryProvider
{
   // Other Methods


   public static ResponseStatus
      SetVendorReviewRating(VendorReviewRequest
         vendorReview, int? reviewId = null)
  {
      SqlProvider provider = new SqlProvider("Royalty",
```



Name the most common databases and endpoint for each module

Most Common Databases and Their Roles

Looking at the codebase, the three most commonly used databases in the VisionSource ecosystem are:

1. **SiteSqlServer**
   - Serves as the primary DNN (DotNetNuke) platform database
2. **CRM**
   - Represents the CRM Database
3. **Royalty**
   - Represents the Royalty Database

Key Event Management Endpoints

Calendar Management

- `GET events/{eventId}/share` - Returns users with whom a meeting is shared
- `GET CalendarAllEvents` - Retrieves calendar events with extensive filtering options
- `GET EventAttendeesByEventId` - Gets attendee list for a specific event

Guest List Operations

- `GET GetGuestsInList` - Retrieves guests in a specific list
- `GET AddGuest` - Adds a guest to a list
- `GET DeleteGuestInList` - Removes a guest from a list

Event Sharing

- `GET AddUserSharedMeeting` - Shares a meeting with specified users
- `GET DeleteUserSharedMeeting` - Removes users from a shared meeting

Vendor Listing & Search

- `GET GetVendors` - Retrieves filtered vendor directory with support for multiple filter types:
- `GET GetMyVendorsBook` - Retrieves bookmarked vendors for the current user:

Vendor Reviews & Ratings

- `POST ReviewRating` - Submits a review for a vendor, triggering notifications and VS Live posts:
- `POST ReplyReview` - Allows vendors to respond to reviews on their listing:
- `DELETE DeleteReview` - Removes a vendor review (admin function):

Vendor Management

- `POST AddNewVendor` - Creates a new vendor record and associated DNN user account:
- `GET GetUsers` - Search for DNN users (for associating with vendors):

Did you have any problem during the review? Do you find some bugs or issues? Do you have some suggestions?

During the review, I encountered some suggestions that could be improved in the VisionSource codebase.

1. Extend Repository Documentation:
   - Create comprehensive wikis in each repository
   - Document system architecture, data flows, and integration points
   - Add detailed comments for complex business logic
2. Implement Custom Exception Types:

```
// Instead of generic exceptions:
catch (Exception ex)
{
    LogProvider.Instance().Write($"Exception in SendVendorUpdateEmail:
{ex.Message}\n{ex.StackTrace}");
    throw new VendorEmailException($"Failed to send update email for vendor
{vendorId}", ex);
}
```

3. Use Interface-Based Design:

```
// Instead of static provider:
public interface IVendorDirectoryProvider
{
    Task<SubmitResponse> SendVendorUpdateEmail(int vendorId, string
companyName);
```

```
    // Other methods...
}

public class VendorDirectoryProvider : IVendorDirectoryProvider
{
    private readonly IEmailService _emailService;
    private readonly IConfiguration _configuration;

    public VendorDirectoryProvider(IEmailService emailService,
IConfiguration configuration)
    {
        _emailService = emailService;
        _configuration = configuration;
    }

    public async Task<SubmitResponse> SendVendorUpdateEmail(int vendorId,
string companyName)
    {
        // Implementation with dependencies injected
    }
}
```

4. Replace String Literals with Constants/Enums:

```
// Instead of:
SqlProvider provider = new SqlProvider("VSBackOffice",
"spCheckLatestUpdates");

// Use:
public static class DatabaseNames
{
    public const string VSBackOffice = "VSBackOffice";
    public const string Royalty = "Royalty";
    // Other database names
}

public static class VendorProcedures
{
    public const string CheckLatestUpdates = "spCheckLatestUpdates";
    public const string GetVendorDirectory = "spGetVendorDirectory";
    // Other procedures
}

SqlProvider provider = new SqlProvider(DatabaseNames.VSBackOffice,
VendorProcedures.CheckLatestUpdates);
```

5. Reorganize File Structure to "Screaming Architecture":

   - Current structure:

```
/Business
  VendorDirectoryProvider.cs
  EventManager.cs
/Definition
  /VendorDirectory
      VendorDirectory.cs
/Schema
  ...
```

- Suggested structure:

```
/Features
  /VendorDirectory
      /Business
        VendorDirectoryProvider.cs
      /Definition
        VendorDirectory.cs
      /Schema
        ...
  /EventManager
      /Business
        EventManagerProvider.cs
      /Definition
        ...
```

6. Add Comprehensive Integration Tests:
   - Create tests that verify correct stored procedure calls
   - Mock external dependencies like SendGrid
   - Test error handling paths