UNIVERSIDAD DE LAS FUERZAS ARMADAS – "ESPE"

CLASS NAME: OBJECT ORIENTED PROGRAMMING

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NRC: 14575

HOMEWORK #4

TOPIC: PROJECT FUNDING AND OBJECT MODELING

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DATE: 19/11/2023

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GROUP #5: "NullPointerException"

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Potential Objects and Classes

1.   System
2.   Electoral packages
3.   Ecuadorian
4.   Citizens
5.   Montgar
6.   Constituencies
7.   CNE
8.   Cne
9.   Mixto
10.   Género
11.   Information
12.   Storage
13.   Vote
14.   Shipping
15.   DPEX

Classes and objects.

Objects	Classes
"cne"	DPEX
"Mixto"	Packages
"Género"	Storage
	User
	Constituency
	Consular Office
	Shipping
	PackageType
	Vote
	Voter
	Country

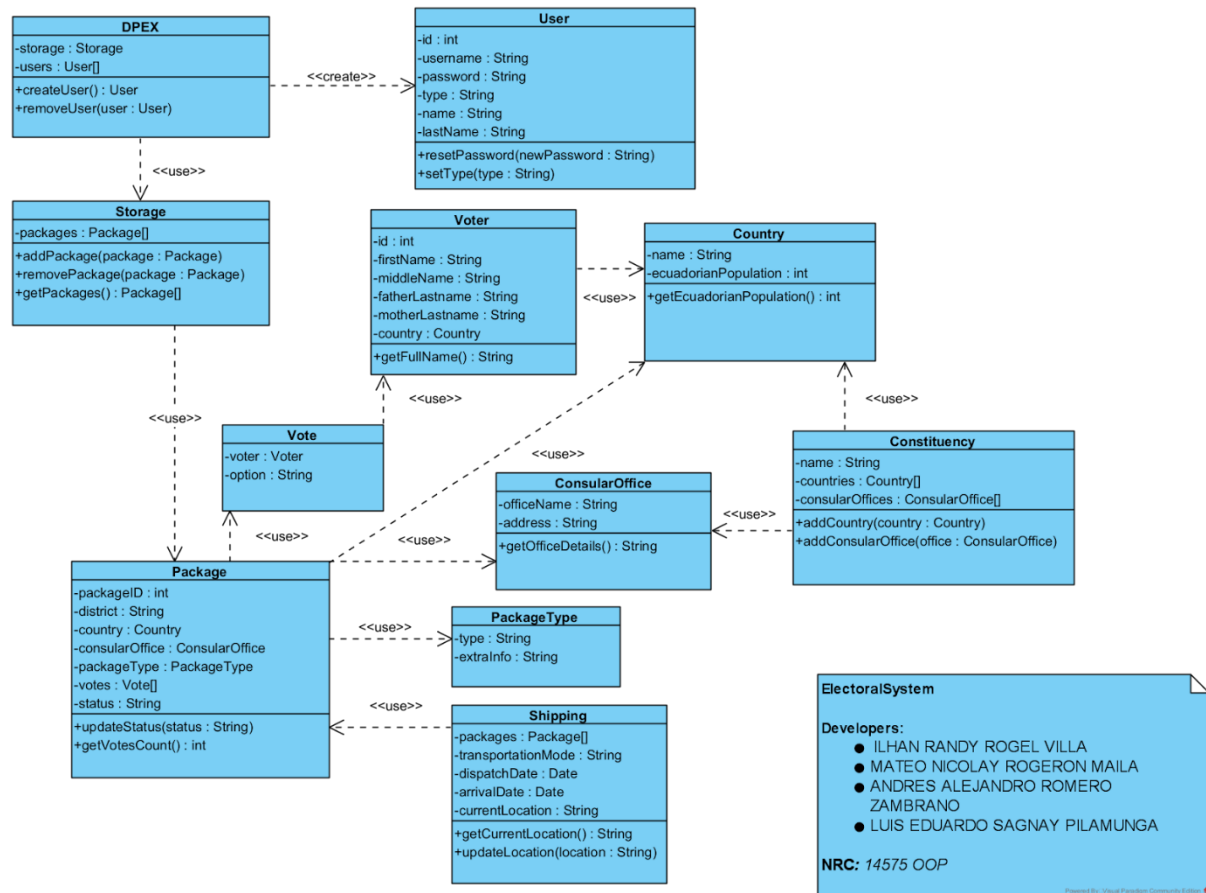*Table 1. Final Classes and Objects*

UML Diagram

Figure 1. Classes diagram

Code

```java
public class DPEX{
    private Storage storage;
    private User[] users;

    public User createUser();
    public void removeUser(User user);
}
```

```java
public class Storage{
    private Package[] packages;

    public void addPackage(Package package);
    public void removePackage(Package package);
    public Package[] getPackages();
}
```

```java
public class Package{
    private int packageId;
    private String distric;
    private Country contry;
    private ConsularOffice consularOffice;
    private PackageType packageType;
    private Vote[] votes;
    private String status;

    public void updateStatus(String status);
    public int getVotesCount();
}
```

```java
public class User{
    private int id;
    private String username;
    private String password;
    private String type;
    private String name;
    private String lastName;
}
```

```java
public class Vote{
    private Voter voter;
    private String option;
}
```

```java
public class Voter{
    private int id;
    private String firstName;
    private String middleName;
    private String fatherLastName;
    private String motherLastName;
    private Country country;

    public String getFullName();
}
```

```java
public class ConsularOffice{
    private String officeName;
    private String address;

    public String getOfficeDetails();
}
```

```java
public class PackageType{
    private String type;
    private String extraInfo;
}
```

```java
public class Shipping{
    private Package[] packages;
    private String transportationMode;
    private Date dispatchDate;
    private Date arrivalDate;
    private String currentLocation;

    public String getCurrentLocation();
    public void updateLocation(String location);
}
```

```java
public class Country{
    private String name;
    private int ecuadorianPopulation;

    public int getEcuadorianPopulation();
}
```

```java
public class Constituency{
    private String name;
    private Country[] countries;
    private ConsularOffice[] consularOffices;

    public void addCountry(Country country);
    public void addConsularOffice(ConsularOffice office);
}
```

Document: Homework 5 NullPointerException
GitHub Repo: View code

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