

CENSUS DUTY MANAGEMENT SYSTEM

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Abstract:**Introduction:**

What is Census ?

Population Census is the total process of collecting, compiling, analyzing or otherwise disseminating demographic, economic and social data pertaining, at a specific time, of all persons in a country or a well-defined part of a country. As such, the census provides snapshot of the country's population and housing at a given point of time.

Why Census?

The census provides information on size, distribution and socio-economic, demographic and other characteristics of the country's population. The data collected through the census are used for administration, planning and policy making as well as management and evaluation of various programmes by the government, NGOs, researchers, commercial and private enterprises, etc. Census data is also used for demarcation of constituencies and allocation of representation to parliament, State legislative Assemblies and the local bodies. Researchers and demographers use census data to analyze growth and trends of population and make projections. The census data is also important for business houses and industries for strengthening and planning their business for penetration into areas, which had hitherto remained, uncovered.

Concept:

This project aims to develop a Censes duty management system. Teachers are assigned with the particular locations. They have to visit the houses in the particular location and the teacher has to collect the details of the members in the house. This system can store the details of the census collected, locations, teachers, details of the duty location and allows teachers to enter the details of the house members and also allows the user to update the details of the house members.

Conclusion:

Developed a census duty management System application with the help of java swings And Postgres – SQL in which actors can access the Information according to their role and can add or modify the details. By using this we can get the details of the members in the specific localities.

This system can store the details of the census collected, locations, teachers, details of the duty location and allows teachers to enter the details of the house members and also allows the user to update the details of the house members.

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Chapter 1

Introduction:

A census is the procedure of systematically calculating, acquiring and recording information about the members of a given population. This term is used mostly in connection with national population and housing censuses; other common censuses include the census of agriculture, and other censuses such as the traditional culture, business, supplies, and traffic censuses. The United Nations defines the essential features of population and housing censuses as "individual enumeration, universality within a defined territory, simultaneity and defined periodicity", and recommends that population censuses be taken at least every ten years. United Nations recommendations also cover census topics to be collected, official definitions, classifications and other useful information to co-ordinate international practices.

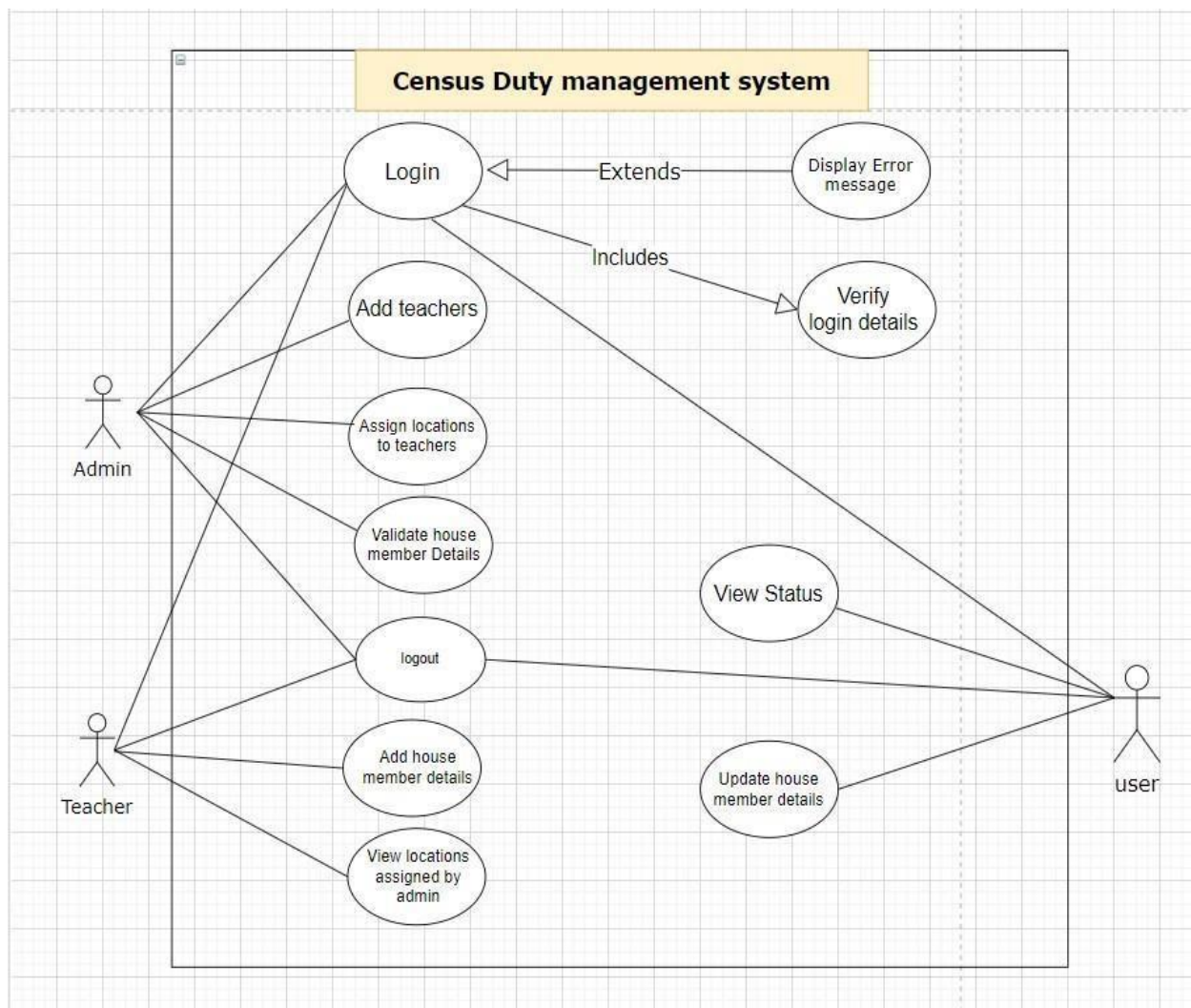
A census can be contrasted with sampling in which information is obtained only from a subset of a population; typically main population estimates are updated by such intercensal estimates. Modern census data are commonly used for research, business marketing, and planning, and as a baseline for designing sample surveys by providing a sampling frame such as an address register. Census counts are necessary to adjust samples to be representative of a population by weighting them as is common in opinion polling. Similarly, stratification requires knowledge of the relative sizes of different population strata, which can be derived from census enumerations. In some countries, the census provides the official counts used to apportion the number of elected representatives to regions. In many cases, a carefully chosen random sample can provide more accurate information than attempts to get a population census.

Problem Statement:

Teachers at government schools are assigned census duty during their vacation period. A teacher is assigned census duty to a set of locations. A location is assigned to a teacher. A location has many houses. A house is present in a particular location. A Teacher is identified by his/her school id, name, and designation. A location is identified by an id, name, city, and district. A house is identified by a number, name, name of owner of the house, number of members in the house. Design a database system for duty tracking to maintain all the data conveniently and efficiently.

Chapter 2

Use case Diagram:



Description:

Use Case :	Login
Actor :	Admin, Teacher, User
Inputs :	User-ID, Password
Outputs :	Verify the inputs. If the credentials are wrong error message will be displayed.
Description :	If correct credentials are entered then the actors can access the data accordingly .

Use Case :	Add Teachers
Actor :	Admin
Description :	Since Admin is the head he (or) she will add the details of teachers to the data.

Use Case :	Assign Location to teachers
Actor :	Admin
Description :	Since Admin is the head he (or) she will assign particular location for each teacher. In a way that no two teachers are assigned for same location.

Use Case :	View House member details
Actor :	Admin
Description :	Since Admin is the head he (or) she will view the details of the house members gathered by teachers.

Use Case :	View locations assigned by the admin
Actor :	Teacher

Description :	Teacher will view the location assigned by the admin. So that the teacher can visit the houses assigned in the particular location.
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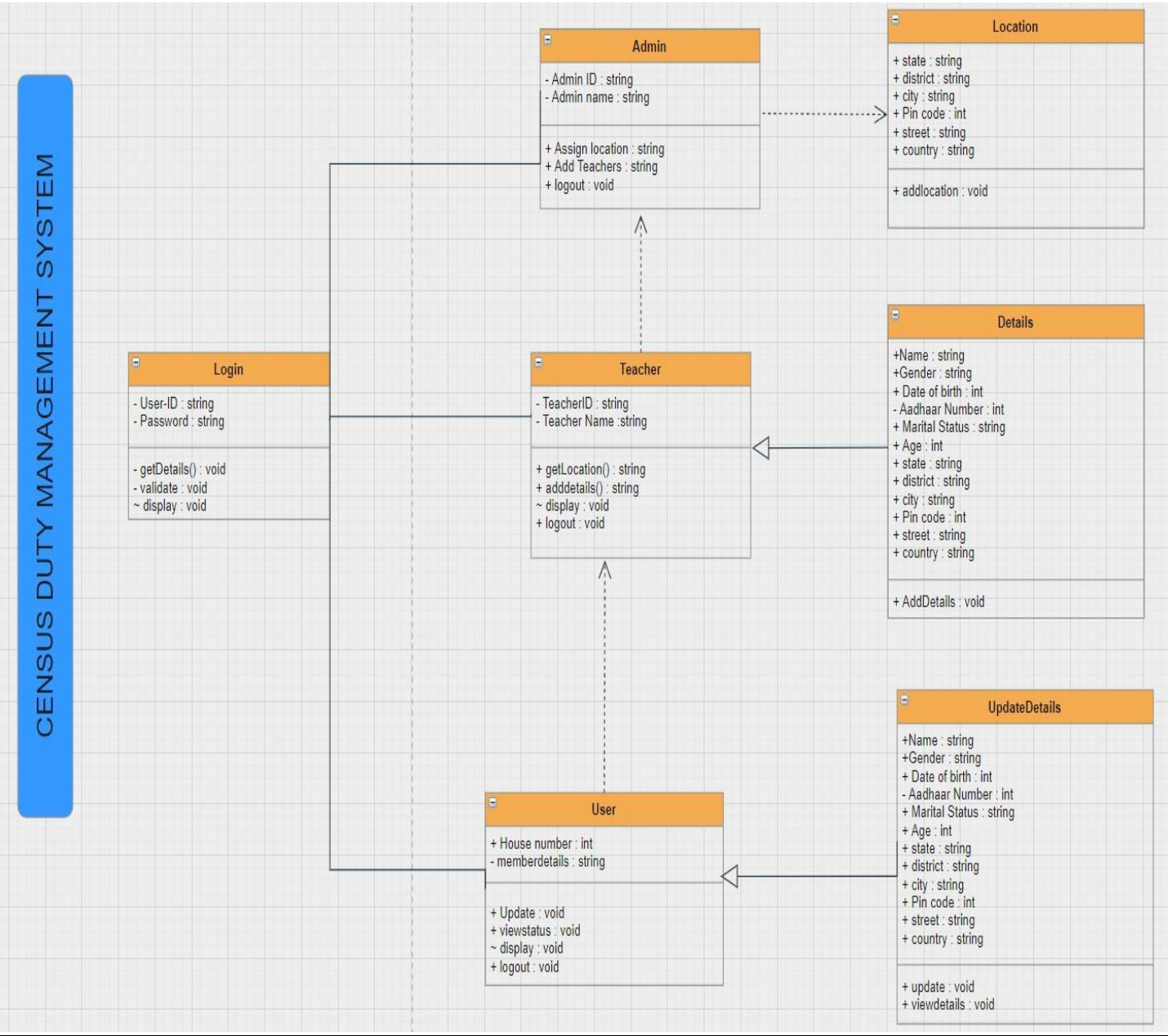
Use Case :	Add house member details
Actor :	Teacher
Description :	Teacher will visit the houses assigned in the particular location and gather the details of house members and record the data.

Use Case :	Update house member details
Actor :	User
Description :	User can the update the details of the house members.

Use Case :	View status
Actor :	User
Description :	User can view the status of the given house member details.

Use Case:	Logout
Actor:	Admin, Teacher, User
Description:	They can logout from the system

Class Diagram:



Front End and Backend Tools used:

Front end tools:

Java Swing Components:

- ii. JButton
- iii. JComboBox
- iv. JTextField
- v. JButton
- vi. JLabel
- vii. JTable
- viii. JScrollBar
- ix. JFrame
- x. JTabbedPane
- xi. JPanel
- xii. JIcon
- xiii. JInputDialogBox
- xiv. JOptionPane

Back end tools:

- i. JDBC connection
- ii. Postgres SQL (Server)
- iii. Database

Chapter 3

Results:



The image shows the login interface of the Census Duty Management System. The background features a blurred Indian national flag. At the top, the system name is displayed in large, bold, black letters, flanked by the State Emblem of India on both sides. The emblem includes the motto 'Satyameva Jayate' in Devanagari script. In the center, a light gray box contains the 'Sign In' form. This form includes input fields for 'Username' and 'Password', a 'Show Password' checkbox, and 'LOGIN' and 'RESET' buttons.

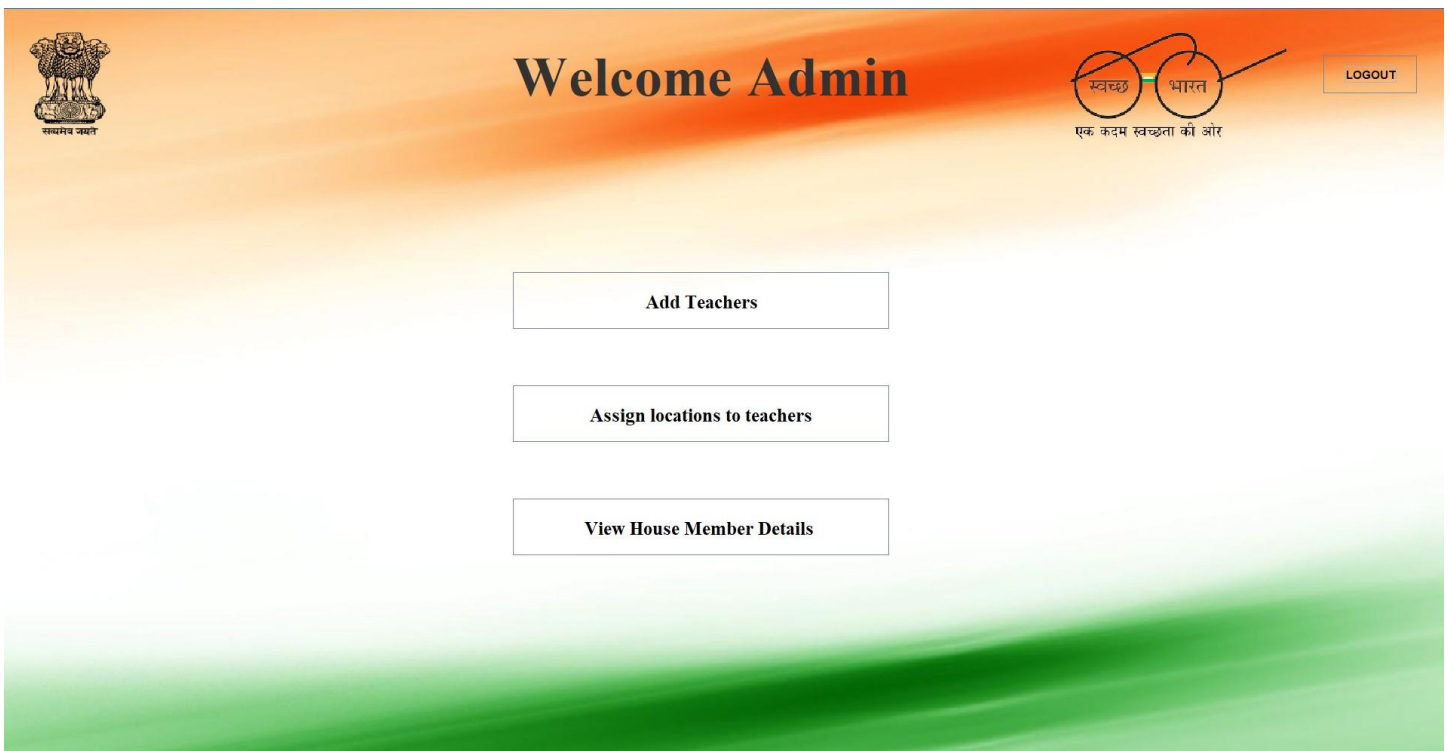
CENSUS DUTY MANAGEMENT SYSTEM

Sign In

Username:

Password:

☐ Show Password



The image shows the admin dashboard of the Census Duty Management System. The background is the same blurred Indian national flag. The header area contains the State Emblem of India on the left, the text 'Welcome Admin' in the center, and a 'LOGOUT' button on the right. Below the header, there are three rectangular buttons arranged vertically: 'Add Teachers', 'Assign locations to teachers', and 'View House Member Details'. On the right side of the dashboard, there is a logo for 'Swachh Bharat' (Clean India) featuring a pair of glasses with the words 'स्वच्छ' (Swachh) and 'भारत' (Bharat) on the lenses, and the tagline 'एक कदम स्वच्छता की ओर' (One step towards cleanliness) below it.

Welcome Admin

Add Teachers

Assign locations to teachers

View House Member Details

स्वच्छ भारत
एक कदम स्वच्छता की ओर



Welcome Teacher



LOGOUT

[View Location Assigned by Admin](#)

[Add House Member Details](#)



Welcome User



LOGOUT

[Add / Update house member](#)

[View Status](#)

AddUpdate

←

House.No

Name

Gender

Male

Date of Birth

DD-MM-YYYY

Age

Aadhaar.No

Marital Status

Single

Country

India

State

Andhra Pradesh

District

City

Street

Pincode

Add Details

House_no	Name	Gender	DOB	Age	Aadhar	MaritalStatus	Street	City	District	State	Country	Pincode
H_01	PAVAN KUMAR	Male	06-04-2003	18	762765458788	Single	Darga	Nellore	SPSR NELLORE	AP	India	524240
H_01	PAVAN KUMAR	Male	06-04-2003	18	5656	Single	Darga	Nellore	SPSR NELLORE	AP	India	524240
H_01	pavan	Male	06-04-2003	18	565656565656	unmarried	Darga street	SPSR Nellore	Nellore	Andhra Pradesh	India	524240
H_01	PAVAN KUMAR	Male	06-04-2003	18	656	Single	Darga	Nellore	SPSR NELLORE	AP	India	524240

Chapter 4

Conclusion:

Developed a census duty management System application with the help of java swings And Postgres – SQL in which actors can access the Information according to their role and can add or modify the details. By using this we can get the details of the members in the specific localities.

This system can store the details of the census collected, locations, teachers, details of the duty location and allows teachers to enter the details of the house members and also allows the user to update the details of the house members.

Future Works:

- i. This application can be connected to any other application that works based on the census data.
- ii. We can develop this application to country level.
- iii. We can add some other functionalities regarding the data.
- iv. We can add security firewalls to the application to secure the data.

References:

[Java Tutorial \(w3schools.com\)](http://www.w3schools.com)

<https://docs.oracle.com/javase/tutorial/uiswing/components/pane.html>

[Java Swing Tutorial - javatpoint](#)

[YouTube](#)

Appendix 1

Important Links:

[Download \(pgadmin.org\)](http://pgadmin.org)

[PostgreSQL JDBC Download](#)

[Enabling Open Innovation & Collaboration | The Eclipse Foundation](#)

Important Code For JDBC Connection:

```
import java.sql.Connection;

public class ConnectDB {
    static Connection conn = null;

    public static Connection getConnection() {
        if (conn != null) return conn;
        String database = "jdbc:postgresql://localhost:5432/YOURDATABASENAME";
        String Username = "postgres";
        String password = "YOURPASSWORD";
        return getConnection(database, Username, password);
    }

    private static Connection getConnection(String databaseName, String UserName, String password) {
        try {
            Class.forName("org.postgresql.Driver");
            conn = DriverManager.getConnection(databaseName,UserName,password);
        }

        catch (Exception e) {
            e.printStackTrace();
        }

        System.out.println("Opened database successfully");
        return conn;
    }
}
```