Polling System

Guide (Database)

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Polling System Database User Guide

The purpose of this guide is to present the administrators of this database with a general overview of it and its purposes. With this information you will be able to edit and update the data found within the database.

Information that is collected from the voters who are participating in the poll is stored in the Voter table. This data includes ID, first name, last name, phone number, and address. The table of VoterUserInfo is where the created usernames and passwords for the voters are created and stored. The user's voting choice is also stored within this table. Finally, the user's voter ID is stored in the UsersWhoVoted table, so as not to have repeat voters.

Admin users have information similar to those of the voters, and it is all stored in the AdminUser table, with the admin username/password being created from said information.

Finally, there is a table for Candidates, and the information they provided to the organization. It also contains information about the number of votes the candidate has gotten from the voters.

The database also comes with the ability to report various information from the tables using transactional statements. These include:

- Displaying the two candidates with the highest votes.
- The candidate with the least number of votes.
- The voting record of all candidates.
- The winning candidate's first and last name.

With these transactions, seeing the current relevant information about the database is easy to do, with all relevant information to the poll being readily accessible.

SQL Script

```sql
USE [PollingSystem];

CREATE TABLE AdminUser (
    admin_id VARCHAR(255) PRIMARY KEY,
    admin_lastname VARCHAR(100),
admin_firstname VARCHAR(100),
admin_phonenumber VARCHAR(100),
admin_address VARCHAR(100),
);

CREATE TABLE AdminUserInfo (
    admin_id VARCHAR(255),
    admin_username VARCHAR(100),
admin_password VARCHAR(100),
FOREIGN KEY (admin_id) REFERENCES AdminUser (admin_id)
);

CREATE TABLE Voter (
    voter_id INT PRIMARY KEY,
    voter_firstname VARCHAR(100),
voter_lastname VARCHAR(100),
voter_phonenumber VARCHAR(100),
voter_address VARCHAR(100),
);

CREATE TABLE VoterUserInfo (
    user_id INT,
    user_username VARCHAR(100),
```

```sql
    user_password VARCHAR(100),

user_vote_choice VARCHAR(100),

FOREIGN KEY (user_id) REFERENCES Voter (voter_id)

);

CREATE TABLE Candidate (

    candidate_id INT PRIMARY KEY,

    candidate_lastname VARCHAR(100),

candidate_firstname VARCHAR(100),

    voting_record INT

);

CREATE TABLE UsersWhoVoted (

    voted_id INT,

    voted_choice int,

FOREIGN KEY (voted_id) REFERENCES Voter (voter_id),

FOREIGN KEY (voted_choice) REFERENCES Candidate (candidate_id)

);




/* Insert values into the tables*/




INSERT INTO AdminUser (admin_id, admin_lastname, admin_firstname, admin_phonenumber, admin_address)

VALUES ('admin1', 'Doe', 'John', '1234567890', '1234 Elm Street'),

    ('admin2', 'Smith', 'Jane', '9876543210', '5678 Oak Avenue');
```

```sql
INSERT INTO AdminUserInfo (admin_id, admin_username, admin_password)
VALUES ('admin1', 'johndoe', 'password1'),
    ('admin2', 'janesmith', 'password2');


INSERT INTO Voter (voter_id, voter_firstname, voter_lastname, voter_phonenumber, voter_address)
VALUES (1, 'Alice', 'Johnson', '9022214531', '7890 Maple Lane'),
    (2, 'Bob', 'Williams', '9020841521', '5678 Birch Avenue'),
    (3, 'Charlie', 'Brown', '9023316664', '1234 Cedar Street');


INSERT INTO VoterUserInfo (user_id, user_username, user_password, user_vote_choice)
VALUES (1, 'alicej', 'password1', 1),
    (2, 'bobw', 'password2', 2),
    (3, 'charlieb', 'password3', 2);


INSERT INTO Candidate (candidate_id, candidate_lastname, candidate_firstname, voting_record)
VALUES (1, 'Smith', 'John', 1),
    (2, 'Johnson', 'Jane', 2);


INSERT INTO UsersWhoVoted (voted_id, voted_choice)
VALUES (1, 1),
    (2, 2),
    (3, 2);



BEGIN TRANSACTION
/*Update the login credentials for valid user*/
```

```sql
USE [PollingSystem];

GO

UPDATE VoterUserInfo

SET user_username = 'TestUsername', user_password = 'TestPassword'

WHERE user_id = 1;

GO


/*Delete specific user from the database*/

USE [PollingSystem];

GO

DELETE FROM Voter

WHERE voter_id = 2;

DELETE FROM VoterUserInfo

WHERE user_id = 2;

DELETE FROM UsersWhoVoted

WHERE voted_id = 2;

GO


/*To clear all the data records without deleting the schema (database design)*/

/*

USE [PollingSystem];

GO

DELETE FROM AdminUser;

DELETE FROM AdminUserInfo;

DELETE FROM Candidate;

DELETE FROM UsersWhoVoted;

DELETE FROM Voter
```

```sql
DELETE FROM VoterUserInfo

GO

*/


/*Candidates with the top 2 highest voting record*/

SELECT TOP 2 candidate_id, candidate_lastname, candidate_firstname, voting_record

FROM Candidate

ORDER BY voting_record DESC;


/*Candidate with the least voting record:*/

SELECT TOP 1 candidate_id, candidate_lastname, candidate_firstname, voting_record

FROM Candidate

ORDER BY voting_record ASC;


/*Candidate who got votes between 5 to 15*/

SELECT candidate_id, candidate_lastname, candidate_firstname, voting_record

FROM Candidate

WHERE voting_record BETWEEN 5 AND 15;


/*Voting record for each registered candidate*/

SELECT TOP 2 candidate_id, candidate_lastname, candidate_firstname, voting_record

FROM Candidate


/*Winner candidate name*/

SELECT TOP 1 candidate_lastname, candidate_firstname

FROM Candidate

ORDER BY voting_record DESC;
```

COMMIT TRANSACTION