Week 7: Assignment

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**ERD**

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**Overview of System**

The volunteer schema consists of five main tables, volunteer contact information, volunteer emergency contact, volunteer schedule, volunteer jobs, and volunteer notes. Then, the volunteer schema has three supporting tables, volunteer job type lookup, volunteer type lookup, and the organization table. The volunteer contact information table connects to the person table via foreign key constraint. Creating this connection allows for a person to be inserted without having to duplicate the data if they are in the system for other charity functions.

The volunteer contact information serves as the central function of the volunteer schema. It has the volunteer emergency contact, volunteer schedule, and volunteer notes tables attached via foreign key constraints. When inserting a new volunteer, the information will be inserted into the person, volunteer contact information, volunteer notes, and volunteer emergency contact tables using the volunteer driver stored procedure. The volunteer schedule table serves as the central function of the scheduling for the volunteers. This table has the volunteer jobs and organization tables attached through the foreign key constraint. As a new scheduled event is requested for a volunteer, the volunteer schedule stored procedure driver will insert information into the volunteer schedule, volunteer jobs, and organization tables. Last but not least, the two look up tables volunteer job type and volunteer type are used for referencing the IDs located in the volunteer jobs and volunteer contact information tables respectively.

**Testing of the System**

During the testing phases of the development the database, I implemented a couple ways to test. For each deliverable, functionality and error handling / transaction tests were conducted. When creating the stored procedures and functions, I tested that they were able to produce the results. This may mean running separate select statements to several tables to see if the data has been inputted. In addition, I would input faulty data to see if error handling has been triggered. This could be the wrong datatype or a person already existing in the database. After running the tests, I would document my proof that the testing has been completed when creating or making changes to any saved SQL script.

**Known Bugs**

One known bug that has been observed in the database, is the fact that executing the driver stored procedures caused the database to produce a different series of incrementing the IDs in a table. This has been specifically observed in the Person table where the PersonID has jumped up into the 1000s. As of right now, I do not know what the cause is and I will have to conduct further investigation. However, I have not seen that happen with the other tables. Which may mean there is something in the dbo.pInsertPerson stored procedure that is causing the issue.

**Lessons Learned**

If I were to start over and conduct the project differently, I would break the volunteer contact information table into two tables. One table would contain the address and ID of the volunteer and the other one would contain the phone numbers and email information. Then, I would make the phone numbers and email table a child to the original table, while the original volunteer contact information stays the central part of the schema. Breaking it down would make the volunteer contact information table less congested and allow phone numbers to be reported as the user requests them. Another thing I could have done differently, is recreate a stored procedure for inserting a person. A new stored procedure may have prevented the bug I have mentioned in the previous section. Overall, reflecting on what could have been better will make the next project execution run smoother.

**Stored Procedures**

**Input – dbo.pDeleteVolunteerContactInformation**

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**Results**

**Graphical user interface, application

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**Test –** Inputted a different datatype and it errored out.

**Graphical user interface, text, application, email

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**Input – dbo.pDeleteVolunteerEmergencyContact**

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**Results**

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Description automatically generated**

**Test** – Inputted the wrong datatype and received an error.

**Text, application

Description automatically generated**

**Input – dbo.pDeleteVolunteerJobs**

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**Graphical user interface, text, application, email

Description automatically generated**

**Results**

**Text

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**Test –** Inputted the wrong datatype and received an error.

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**Input – dbo.pDeleteVolunteerNotes**

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**Table

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**Results**

**Table

Description automatically generated**

**Test –** Inputted the wrong datatype and received an error.

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**Input – dbo.pDeleteVolunteerSchedule**

**Table

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**Graphical user interface, text, application

Description automatically generated**

**Results**

**Table

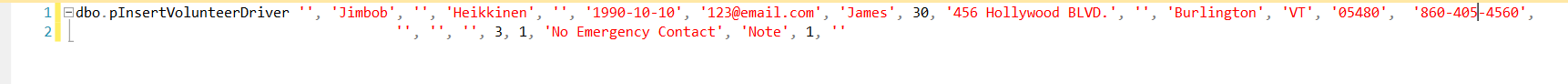
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**Test –** Inputted the wrong datatype and received an error.

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**Input – dbo.pInsertVolunteerDriver**

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**Results**

**Table

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**Test –** Inputted the user again to test if the SP detects the person’s existence in the person table and it errored out.

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**Input – dbo.pInsertVolunteerContactInformation**

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**Results**

**Table

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**Test –** Inputted a PersonID that didn’t exist and it errored out.

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