# Diocese of Joliet Room Scheduler Database Design

November 12, 2023

Here is a proposed design for the backend database for the Diocese of Joliet Room Scheduler application, Roomie. We decided on a design that favors simplifying the application code over minimizing storage requirements.

A diagram of a computer program

Description automatically generated with medium confidence

Here is code to build this database in MySQL:

-- Table: Organization

CREATE TABLE Organization (

Id int NOT NULL AUTO\_INCREMENT,

Name varchar(64) NOT NULL,

Description varchar(128) NULL,

CONSTRAINT Organization\_pk PRIMARY KEY (Id)

);

-- Table: Reservation

CREATE TABLE Reservation (

Id int NOT NULL AUTO\_INCREMENT,

User\_Id int NOT NULL,

Res\_Date date NOT NULL,

Beg\_Time time NOT NULL,

End\_Time time NOT NULL,

Purpose varchar(512) NULL,

Organization\_Id int NULL,

Attendee\_Count int NOT NULL,

Coffee\_YN char(1) NOT NULL DEFAULT 'N',

Soda\_YN char(1) NOT NULL DEFAULT 'N',

Water\_YN char(1) NOT NULL DEFAULT 'N',

Catering\_YN char(1) NOT NULL DEFAULT 'N',

Lapel\_Mic char(1) NOT NULL DEFAULT 'N',

Podium\_Mic char(1) NOT NULL DEFAULT 'N',

Handheld\_Mic char(1) NOT NULL DEFAULT 'N',

Conf\_Phone char(1) NOT NULL DEFAULT 'N',

Whiteboard\_YN char(1) NOT NULL DEFAULT 'N',

Easel\_YN char(1) NOT NULL DEFAULT 'N',

Special\_Notes varchar(512) NULL,

Lobby\_YN char(1) NOT NULL DEFAULT 'N',

Space\_Id int NOT NULL,

SpaceArrangement\_Id int NULL,

CONSTRAINT Reservation\_pk PRIMARY KEY (Id)

);

-- Table: Space

CREATE TABLE Space (

Id int NOT NULL AUTO\_INCREMENT,

Name varchar(128) NOT NULL,

Picture\_Name varchar(32) NULL,

Capacity int NOT NULL,

CONSTRAINT Space\_pk PRIMARY KEY (Id)

);

-- Table: SpaceArrangement

CREATE TABLE SpaceArrangement (

Id int NOT NULL AUTO\_INCREMENT,

Description varchar(128) NOT NULL,

Picture\_Name varchar(32) NOT NULL,

CONSTRAINT SpaceArrangement\_pk PRIMARY KEY (Id)

);

-- Table: User

CREATE TABLE User (

Id int NOT NULL AUTO\_INCREMENT,

Email varchar(64) NOT NULL,

Password char(60) NOT NULL,

First\_Name varchar(32) NOT NULL,

Last\_Name varchar(32) NOT NULL,

Phone varchar(10) NULL,

CONSTRAINT User\_pk PRIMARY KEY (Id)

);

-- Table: UserOrganization

CREATE TABLE UserOrganization (

Id int NOT NULL AUTO\_INCREMENT,

Organization\_Id int NOT NULL,

User\_Id int NOT NULL,

CONSTRAINT UserOrganization\_pk PRIMARY KEY (Id)

);

-- foreign keys

-- Reference: Reservation\_Organization (table: Reservation)

ALTER TABLE Reservation ADD CONSTRAINT Reservation\_Organization FOREIGN KEY Reservation\_Organization (Organization\_Id)

REFERENCES Organization (Id);

-- Reference: Reservation\_Space (table: Reservation)

ALTER TABLE Reservation ADD CONSTRAINT Reservation\_Space FOREIGN KEY Reservation\_Space (Space\_Id)

REFERENCES Space (Id);

-- Reference: Reservation\_SpaceArrangement (table: Reservation)

ALTER TABLE Reservation ADD CONSTRAINT Reservation\_SpaceArrangement FOREIGN KEY Reservation\_SpaceArrangement (SpaceArrangement\_Id)

REFERENCES SpaceArrangement (Id);

-- Reference: Reservation\_User (table: Reservation)

ALTER TABLE Reservation ADD CONSTRAINT Reservation\_User FOREIGN KEY Reservation\_User (User\_Id)

REFERENCES User (Id);

-- Reference: UserOrganization\_Organization (table: UserOrganization)

ALTER TABLE UserOrganization ADD CONSTRAINT UserOrganization\_Organization FOREIGN KEY UserOrganization\_Organization (Organization\_Id)

REFERENCES Organization (Id);

-- Reference: UserOrganization\_User (table: UserOrganization)

ALTER TABLE UserOrganization ADD CONSTRAINT UserOrganization\_User FOREIGN KEY UserOrganization\_User (User\_Id)

REFERENCES User (Id);