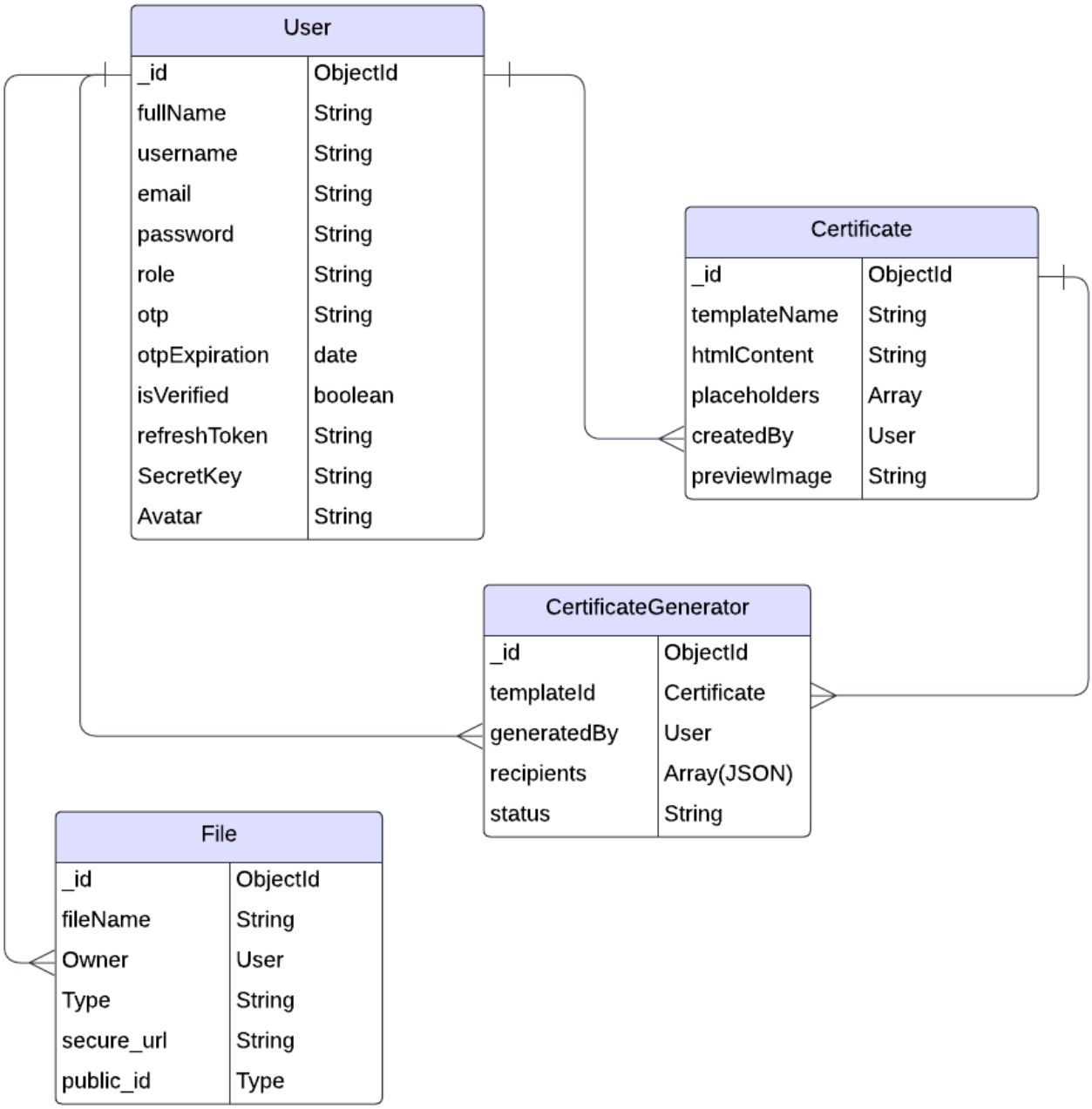
Visual Representation



Schemas

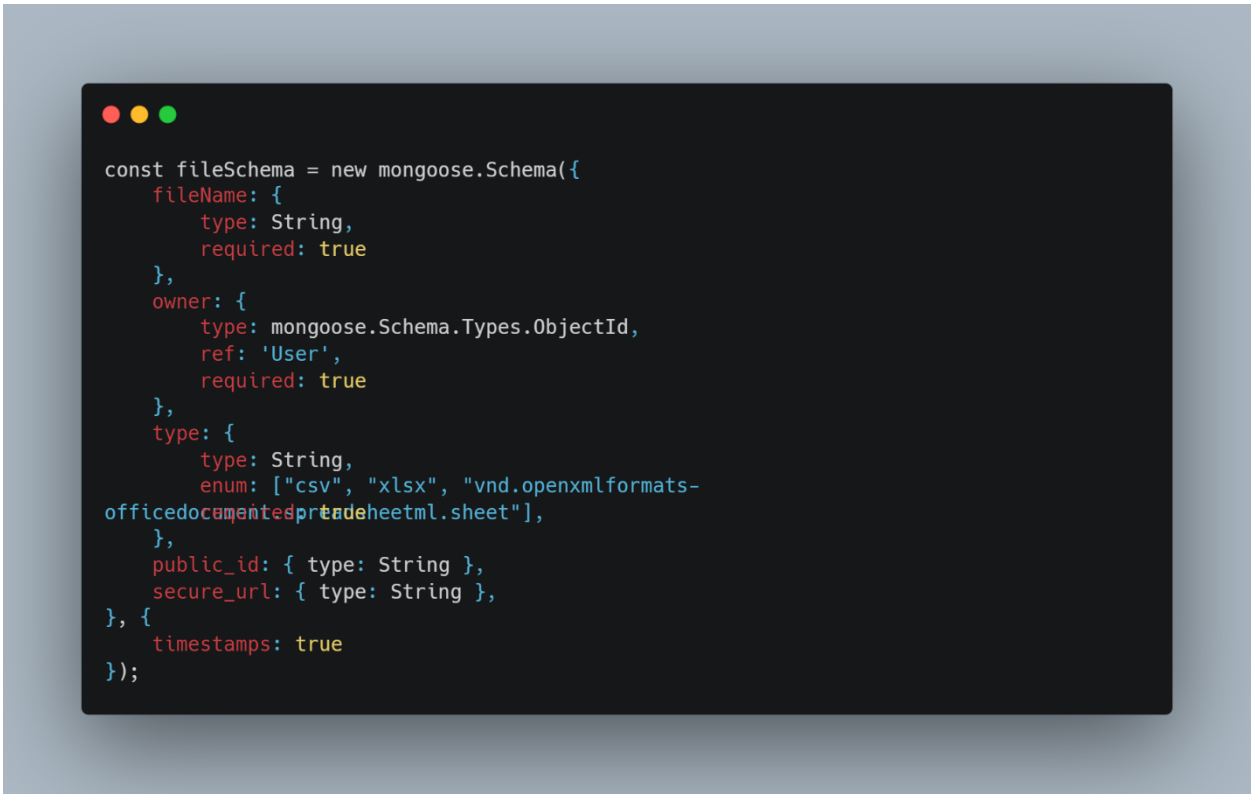
1. **User Schema**

```
const userSchema = new Schema({
    fullName: {
        type: String,
        required: true,
        trim: true,
        index: true,
    },
    username: {
        type: String,
        required: true,
        unique: true,
        lowercase: true,
        trim: true,
        index: true, // used for searching
    },
    email: {
        type: String,
        required: true,
        unique: true,
        lowercase: true,
        trim: true,
        match: [/\S+@\S+\.\S+/, 'is invalid'],
    },
    password: {
        type: String,
        required: [true, "Password is required"],
    },
    role: {
        type: String,
        enum: ["user", "admin"],
        default: "user",
    },
    otp: {
        type: String,
        default: null
    },
    otpExpiration: {
        type: Date,
        default: null
    },
    isVerified: {
        type: Boolean, default: false
    },
    refreshToken: {
        type: String,
    },
    secretKey: {
        type: String,
        default: null,
    },
    avatar: {
        type: String, // cloudinary url
    },

}, { timestamps: true });

export const User = mongoose.model("User", userSchema);
```

2. **Certificate Template Schema**

```
const certificateTemplateSchema = new mongoose.Schema({
    templateName: {
        type: String,
        required: true
    },
    htmlContent: {
        type: String,
        required: true
    },
    placeholders: [
        {
            type: String
        }
    ],
    createdBy: {
        type: mongoose.Schema.Types.ObjectId,
        ref: 'User',
        required: true
    },
    previewImage: {
        type: String
    },
}, { timestamps: true });
```

3. **File Schema**



```
const fileSchema = new mongoose.Schema({
    fileName: {
        type: String,
        required: true
    },
    owner: {
        type: mongoose.Schema.Types.ObjectId,
        ref: 'User',
        required: true
    },
    type: {
        type: String,
        enum: ["csv", "xlsx", "vnd.openxmlformats-
officedocument.spreadsheetml.sheet"],
    },
    public_id: { type: String },
    secure_url: { type: String },
}, {
    timestamps: true
});
```

4. **Generated Certificate Schema**

```
const genCertificateSchema = new mongoose.Schema({
    templateId: {
        type: mongoose.Schema.Types.ObjectId,
        ref: "CertificateTemplate",
        required: true,
    },
    generatedBy: {
        type: mongoose.Schema.Types.ObjectId,
        ref: "User",
        required: true,
    },
    recipients: [
        {
            name: { type: String, required: true },
            email: { type: String, required: true },
            certificateUrl: { type: String },
        },
    ],
    status: {
        type: String,
        enum: ["completed", "failed"],
        default: "completed"
    },
}, { timestamps: true });
```

Queries

Authentication Queries

- **Find user by username:**
- User.findOne({ username });

- **Create new user:**
- const newUser = new User(userData);
- newUser.save();

File Operations

- **Upload a file:**
- const newFile = new File(fileData);
- newFile.save();
- **Find all files by owner:**
- File.find({ owner: userId });
- **Delete a file by ID:**
- File.findByIdAndDelete(fileId);

Certificate Operations

- **Generate certificates:**
- const generatedCertificate = new GenCertificate(certificateData);
- generatedCertificate.save();
- **Find certificates by template ID:**
- GenCertificate.find({ templateId });

Security Features

1. **Authentication:** JWT-based authentication.
2. **Authorization:** Role-based access control (user/admin).
3. **Data Validation:** Schema-enforced validation for accurate data.
4. **Cloud Integration:** Secure file storage using Cloudinary.

Conclusion

CertiMeet simplifies the process of generating and distributing certificates with a robust and user-friendly backend structure. The schemas and operations ensure a smooth workflow for template creation, file management, and certificate generation.