Migrations:

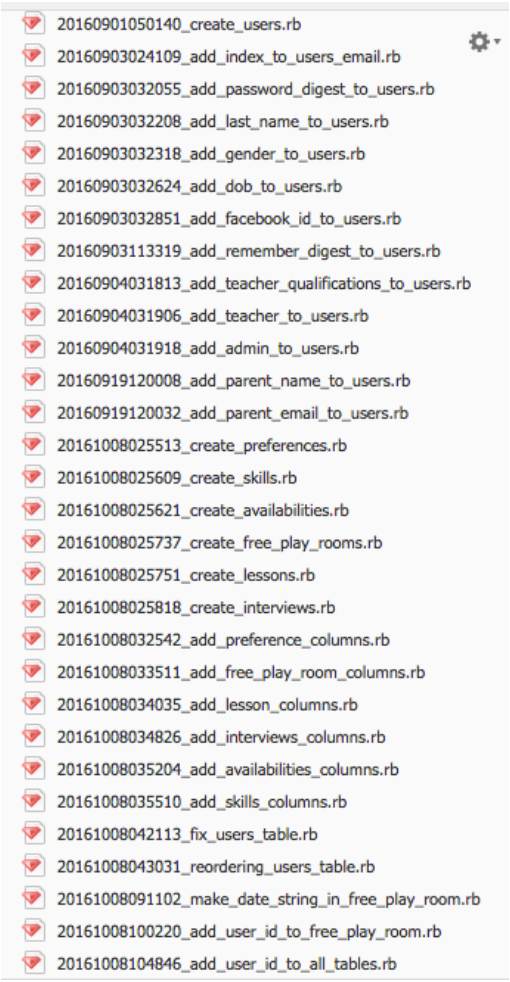

Figure 1. All migrations made as of 9/10/16.

Figure 1 shows all the migrations made as of 9/10/16 and thus include migrations made during release 1. As can be seen all migrations related to release two were conducted on the 8th of October. Firstly, the migrations for adding empty tables were made. These migrations were automatically generated by the rails frameworks when generating the models for each table. Once the models were added, singular migrations were made for each table. Adding the elements shown in the UML Diagram of the database design. When all elements were added, progress on the controllers began and mistakes in the table were found. As can be seen in the final two migrations, a column for user_ID needed to be added to all tables in order for the relations ship between these tables and the user table to work. Additionally, the migration fix_user_table added elements into the user tables (elements including address and a boolean for both parents and students as to choose if they receive emails).

Schema:

```
12
13  ActiveRecord::Schema.define(version: 20161008104846) do
14
15    create_table "availabilities", force: :cascade do |t|
16      t.datetime "created_at",              null: false
17      t.datetime "updated_at",              null: false
18      t.string   "user_email", limit: 50
19      t.string   "day",        limit: 15
20      t.string   "time"
21      t.string   "duration"
22      t.integer  "user_id"
23      t.index ["user_email"], name: "index_availabilities_on_user_email"
24    end
25
26    create_table "free_play_rooms", force: :cascade do |t|
27      t.datetime "created_at",              null: false
28      t.datetime "updated_at",              null: false
29      t.string   "user_email", limit: 50
30      t.string   "date"
31      t.string   "time"
32      t.string   "duration"
33      t.integer  "user_id"
34      t.index ["user_email"], name: "index_free_play_rooms_on_user_email"
35    end
36
37    create_table "interviews", force: :cascade do |t|
38      t.datetime "created_at",              null: false
39      t.datetime "updated_at",              null: false
40      t.string   "user_email",    limit: 50
```

Figure 2. Schema (Availabilities and free_play_rooms tables)

```
  create_table "interviews", force: :cascade do |t|
    t.datetime "created_at",              null: false
    t.datetime "updated_at",              null: false
    t.string   "user_email",    limit: 50
    t.string   "teacher_email", limit: 50
    t.date     "date"
    t.string   "time"
    t.string   "duration"
    t.integer  "user_id"
    t.index ["user_email"], name: "index_interviews_on_user_email"
  end

  create_table "lessons", force: :cascade do |t|
    t.datetime "created_at",                null: false
    t.datetime "updated_at",                null: false
    t.string   "user_email",      limit: 50
    t.string   "student_email",   limit: 50
    t.date     "start_date"
    t.date     "end_date"
    t.string   "day",             limit: 15
    t.string   "lesson_time"
    t.string   "lesson_type"
    t.string   "lesson_duration"
    t.string   "lesson_cost"
    t.integer  "user_id"
    t.index ["user_email"], name: "index_lessons_on_user_email"
  end
```

Figure 3. Schema (Interviews and lessons tables)

```
  create_table "preferences", force: :cascade do |t|
    t.datetime "created_at",                          null: false
    t.datetime "updated_at",                          null: false
    t.string   "user_email",                limit: 50
    t.string   "preferred_day",             limit: 15
    t.string   "preferred_time"
    t.string   "instrument",                limit: 50
    t.string   "preferred_teacher_language", limit: 30
    t.string   "preferred_teacher_gender",   limit: 10
    t.integer  "user_id"
    t.index ["user_email"], name: "index_preferences_on_user_email"
  end

  create_table "skills", force: :cascade do |t|
    t.datetime "created_at",                    null: false
    t.datetime "updated_at",                    null: false
    t.string   "user_email",          limit: 50
    t.string   "instrument_1"
    t.string   "instrument_1_skils"
    t.string   "instrument_2"
    t.string   "instrument_2_skills"
    t.string   "language_1"
    t.string   "language_1_skils"
    t.string   "language_2"
    t.string   "language_2_skills"
    t.integer  "user_id"
    t.index ["user_email"], name: "index_skills_on_user_email"
  end
```

Figure 4. Schema (Preferences and skills tables)

```
  create_table "users", force: :cascade do |t|
    t.string   "name"
    t.string   "email"
    t.datetime "created_at",              null: false
    t.datetime "updated_at",              null: false
    t.string   "password_digest"
    t.string   "last_name"
    t.string   "gender"
    t.text     "dob"
    t.string   "facebook_ID"
    t.string   "remember_digest"
    t.string   "teacher_qualifications"
    t.boolean  "teacher"
    t.boolean  "admin"
    t.string   "parent_name"
    t.string   "parent_email"
    t.string   "address"
    t.string   "parent_moblie"
    t.boolean  "user_recieve_emails"
    t.boolean  "parent_recieve_emails"
    t.index ["email"], name: "index_users_on_email", unique: true
  end

end
```

Figure 5. Schema (Users table)

Above shows the final schema of the project produced by the migrations. From these schemas it can be seen that the database for the website is almost identical to the UML Diagram of the database design as specified in Artefact 6. The only difference between the initial database design and the developed data base is that of the addition column (user_Id) in all tables. During database design it was unknown that each table required the user_id column and was thus only added after trying to develop the controller for free play rooms. Evidence of this can be seen here: https://github.com/freef49/IFB299-Music-School/tree/FreePlayRoomController

Relationship Connections:

```ruby
class User < ApplicationRecord

  #Relationships
  has_one :skill
  has_one :preference
  has_many :lessons
  has_many :interviews
  has_many :free_play_rooms
  has_many :availabilities
```

Figure 5. User relationships

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```ruby
class Availability < ApplicationRecord
  #This requires validation
  belongs_to :user
end
```

Figure 6. Availabilities relationships

As shown above (Figure 5 and 6), this was how the relationship between the models was implemented in rails. The User model has 6 relationships and thus each User has one skill and preference and have many lessons, interviews, free_play_rooms and availabilities. It will be the controller that decides which users can create these new tables. Relationships are declared at the beginning of all models in the project.