Data Centric Development Milestone Project

Design Specification

Purpose

The idea for this project is derived from a business idea which I am working towards. Although the ultimate solution, that I plan to implement, will have significantly more complex functionality built into it, this is a simple example of the type of booking solution that I would be looking to implement.

The solution is a simple booking app which will allow users to view, create, edit and delete music gigs from a select number of musicians/bands and venues located in the Kerry area and present the information from the database in an engaging and informative manner to the user. This functionality is pertinent to the business solution that I am working on but a stripped down version.

The idea would be to have the information presented in the same format for each of the user groups (artist, venue) but with subtle changes to the content based on the users needs.

Scope

This app will have a landing page which will allow the user to choose which category of user that they are part of, artist or venue. As there are no user profiles or secure login authentication as part of this project it is assumed that all users have access to be able to view/add/edit/delete content as necessary. Obviously this would not be valid in a real life situation.

The home page will show a full listing of all the gig bookings listed in chronological order with pagination functionality enabled to restrict the number of items on the page at any one time. Included will also be a filter selector which will allow the user to filter the results against a number of data elements;

- Date
- Town
- Venue
- Artist/Band

On the venues pages they will see a listing of the artists/bands and will have the option to create a booking for that artist for a specified date, as long as the artist/band is not already booked on that date. Likewise, on the artists/band page they will see the listing of venues and will be able to book gigs for those venues assuming the venue does not have anything booked in already for the date in question.

I will re-use some of the data (venue information) that I used for the Interactive Milestone Project but instead of creating fictional artists I will use actual artists who are currently registered with the business Music Venue Connect, which I run. Additional information, such as images, will be added to the profiles of the entries as necessary.

As there are elements of my final solution that we have not covered in the course yet, and there are no requirements for within this milestone project, in the interest of time, these will be omitted from this project but it would be hoped that they could be included as part of the final project. These features would include;

- Authenticated login
- User Profile Pages
- Separate activity areas for each group of users with restricted access based on the user type.
- More advanced search and predictive features to help the users to achieve their goals as easily as possible.

Data Model

MongoDB will be the database of choice for this project and will include Collections of documents based on the following data model. (auto generated _id's have been excluded from the model as they are assumed to be in place for each collection)

Town
- town_name

Genre
- genre_category

Budget
- budget_range

Venue

- venue_name
- town_name
- profile_description
- genre_category
- budget_range
- profile_image
- active - y/n

Artist

- artist_name
- genre_category
- budget_range
- profile_image
- profile_description
- active - y/n

Gig Listing

- artist_name
- venue_name
- gig_date
- genre_category
- gig_time
- gig_info
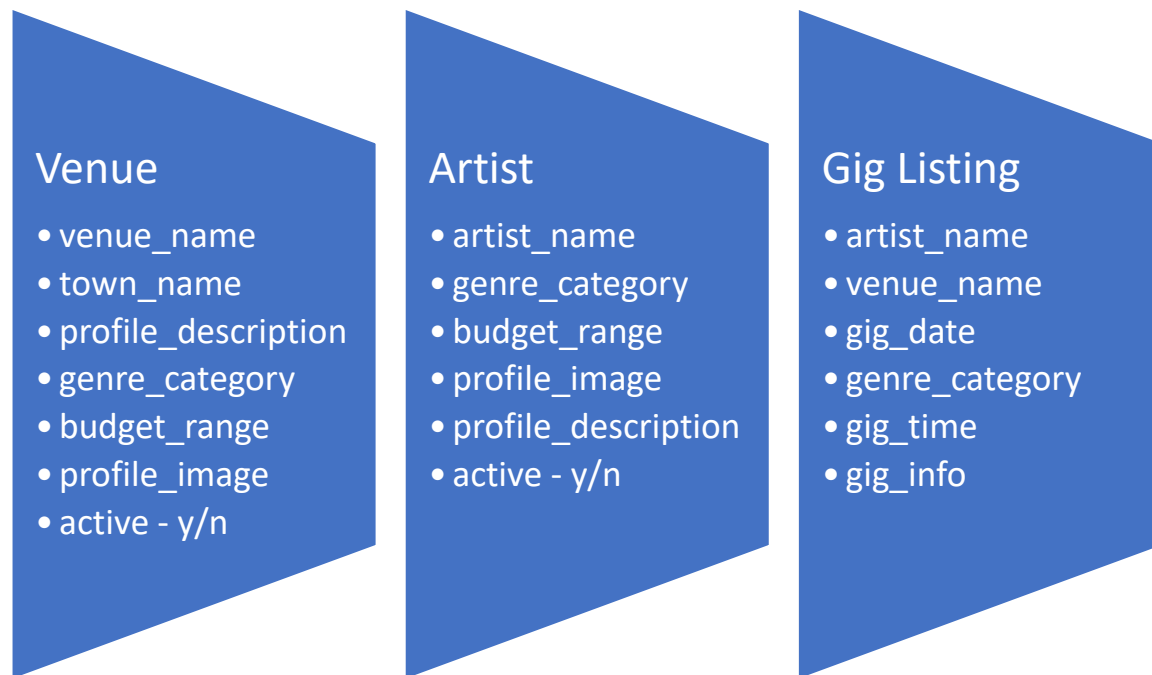
As there would be a lot of integrity and relational elements required within my ultimate solution I would generally have used a Relational Database such as MySQL for this but to meet the requirements of the brief and learn another method I have used the noSQL MongoDB on this occasion.

Use Cases

Home Page Listings Search

Home page users will land on the page and will be presented with a listings page with optional links to connect to the venue or artist areas. On the home page users will only be allowed to view and search the items within the database and will not have the requisite links to be able to add/delete or edit any of the entries. They will have a criteria selector available to them on a sidebar which will allow them to filter the selections returned on the page based on their selection from the pre-determined list of options for:

- Date (selected via a datepicker)
- Town
- Venue
- Artist/Band

Upon selection of any or all of the selection options the page should refresh with the resultant filtered list of results or a message which indicates that no results were found for that selection.

See flowchart below for outline process.

```
                    ┌──────────┐
                    │  User    │
                    │ Landing  │
                    │  Page    │
                    └────┬─────┘
                         │
                         ▼
                    ◇──────────◇
                    │View Listings or│
                    │Enter user area │
                    ◇──────────◇
          ┌──────────┼──────────┐
          ▼          ▼          ▼
    ┌─────────┐ ┌─────────┐ ┌─────────┐
    │ Artist  │ │ Select  │ │  Venue  │
    │ Pages   │ │ Search  │ │  Pages  │
    │         │ │Criteria │ │         │
    └─────────┘ └────┬────┘ └─────────┘
                     ▼
               ┌──────────┐
               │Selection │
               │ Options  │
               └──────────┘
                  ┌──────┐
                  │ Date │
                  └──────┘
                  ┌──────┐
                  │ Town │
                  └──────┘
                  ┌──────┐
                  │Venue │
                  └──────┘
                  ┌──────┐
                  │Artist│
                  └──────┘
```
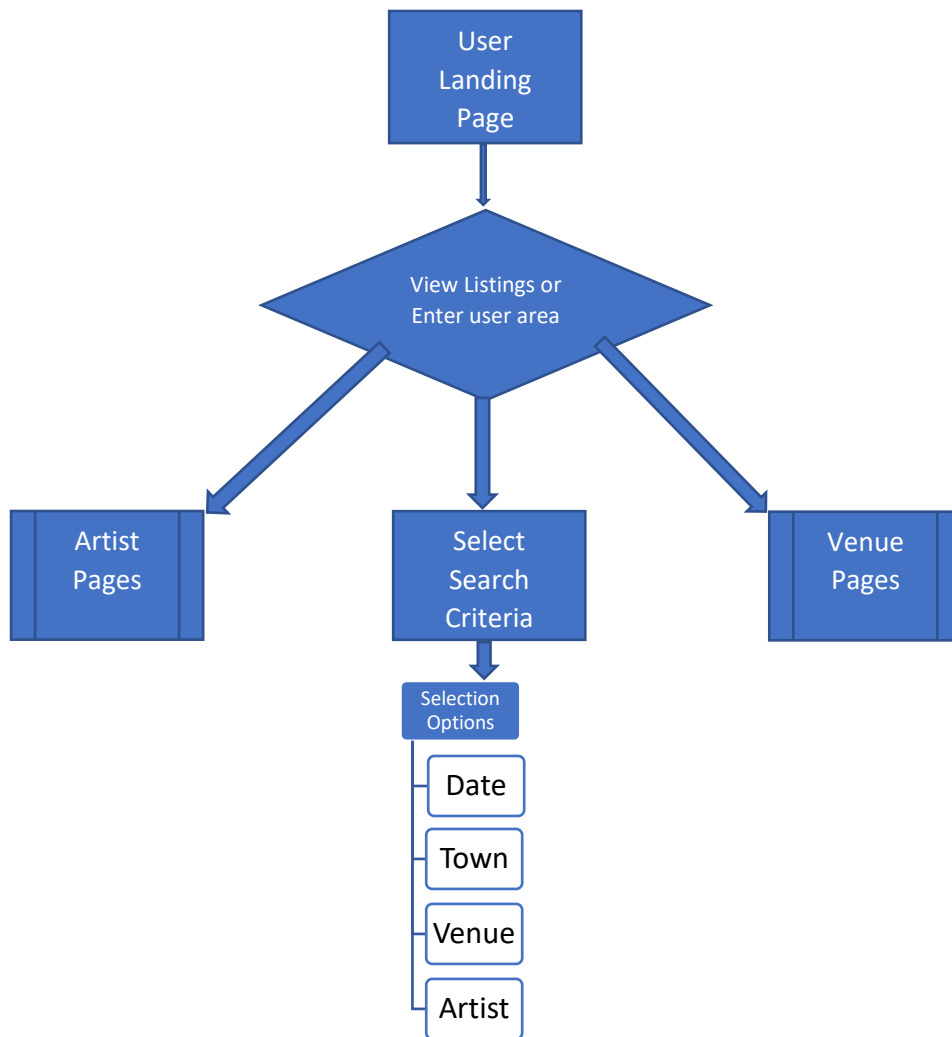
Artist Pages

After selecting to go to the Artists Page the user will be presented with the listing of artists that are listed (alphabetical order) on the database with relevant basic information to allow the user to identify if they would want to book the artist/band. As per the Home page there will be a filter selector in the side-bar to allow the user to select the returned items on the page based on the selected criteria below;

- Genre
- Price Range

Within this page the user will be able to click on a button on the artist card to enter a new gig booking. The card will have a profile image which when clicked will take the user to the listings page for that band and show the bookings in chronological order. There will also be options to add/edit/delete an artist profile. Upon the user selecting the delete option the account would be toggled to inactive rather than deleted completely from the database in case there are active bookings in the future that still need to be fulfilled.

If the user selects the Book a Gig button on the Artist card then the Add Gig Form will open with the information for the artist fields in question pre-loaded so that the user does not have to fill these in again. If the Add Gig button is selected from the Navbar then there is no reference to the Artist that

the new entry relates to so all of the fields will need to be completed. Drop down lists will be used as much as possible to make this process as easy as possible for the user.

Venues Page

After selecting to go to the Venues Page the user will be presented with the listing of venues that are listed (alphabetical order) on the database with relevant basic information to allow the user to identify if they would want to book the venue for a gig. As per the Home page there will be a filter selector in the side-bar to allow the user to select the returned items on the page based on the selected criteria below;

- Town
- Genre
- Budget Range

Within this page the user will be able to click on a button on the venue card to enter a new gig booking. The card will have a profile image which when clicked will take the user to the listings page for that venue and show the bookings in chronological order. There will also be options to add/edit/delete a venue's profile. Upon the user selecting the delete option the account would be toggled to inactive rather than deleted completely from the database in case there are active bookings in the future that still need to be fulfilled.

If a user wants to create a venue profile for a venue that is not located in one of the towns already in the database then they will have to have the option to be able to enter a new town name and have it added to the database.

If the user selects the Book a Gig button on the Venue card then the Add Gig Form will open with the information for the Venue fields in question pre-loaded so that the user does not have to fill these in again. If the Add Gig button is selected from the Navbar then there is no reference to the Venue that the new entry relates to so all of the fields will need to be completed. Drop down lists will be used as much as possible to make this process as easy as possible for the user.

Add/Edit - Artist/Venue/Gig Pages

All of these pages will consist of simple data entry forms which will have a similar look and feel to keep consistency across the site. Depending on where the call for the form originates from some elements will be pre-populated and where this is not possible dropdowns or predictive text will be used to help the user make the appropriate selection in the easiest manner.

Look & Feel

Through the use of templates I aim to have a consistent look and feel to the site with all pages having a similar layout and the forms used being consistent across all input functions. The aim will

be to have the site appear as clean as possible and uncluttered. Each page will have a consistent header and footer but the list items on the header will change depending upon the area in question.

Where there are a large number of data items to be displayed on the screen suitable pagination effects will be employed to enhance user navigation and usability.

Wireframes

Home Page

Venues Page

Artists Page

Artist/Venue Listings Page

Contact Page

New/Edit Venue Form

New/Edit Venue Form

Venue Name:

Town: Dropdown Selector

Description:

Genre: Preferred Music Genres (Dropdown multi-selector)

Budget Range: Range Selector

Profile Pic: Enter link to profile image

Active Status: Y/N

Management Company
Logo/Link
Contact Name
Phone
Email

Booking Agent
Logo/Link
Contact Name
Phone
Email

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New/Edit Artist Form

New/Edit Artist Form

Artist Name:

Description: Brief introduction to the Artist/Band

Genre: Music Genres that the artist covers (Dropdown multi-selector)

Budget Range: Range Selector

Profile Pic: Enter link to profile image

Active Status: Y/N

Management Company
Logo/Link
Contact Name
Phone
Email

Booking Agent
Logo/Link
Contact Name
Phone
Email

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New/Edit Gig Form

Features

Home page use of carousel at the top of the page to rotate through upcoming gigs in the next 7 days.

Filter Selector to have pre-defined lists of options to select from based on the collections listed in the database.

Technology

To complete this project I anticipate that I will need to use the following technologies;

- MongoDb for the database
- HTML & CSS & Javascript customised for the pages and where appropriate the use of libraries to optimise the development process;
    - Materialize
    - Bootstrap

- Python/Flask for the back end data manipulation
- Jinja for the front end templates and Python integration

Testing