

CSC301 A2: First Step in Building Modern Software

Team 6 (EXGoblins) Project Report

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Summary of Software & Project Abstract

Forest Therapy is a practice that began in the 1980s combining mindfulness and meditation with nature. This practice of mindfulness in nature has now expanded and diversified in a multitude of forms. In partnering with Ontario Parks, we plan on extending health care into Ontario's naturalistic vistas by helping visitors access Forest Therapy in the form of Park Mindfulness to cope with stress, depression, and other related mental health conditions. As such, our project for this semester will be a website to support the guided meditation of visitors in Ontario Parks based on their geolocation. As a whole, we aim to help visitors leave the park in a better place than they arrived by promoting mindfulness.

Our partner throughout this project will be Ontario Parks, and John Leadston will be serving as their representative to bring this innovative mental health strategy into life. Together, we plan to lay out a series of QR codes in benches throughout popular parks in Ontario to be scanned either using our website or their phone's camera. These QR codes will then redirect the user to audio excerpts to a context and scene specific guided meditation session based on their location and surroundings within the park. Thus providing a better experience than existing guided meditation resources, with further potential for expansion. Additionally, we plan to make an intuitive access point for park managers to upload and modify the audio files that these QR codes will map to based on the location, season, specific park and more.

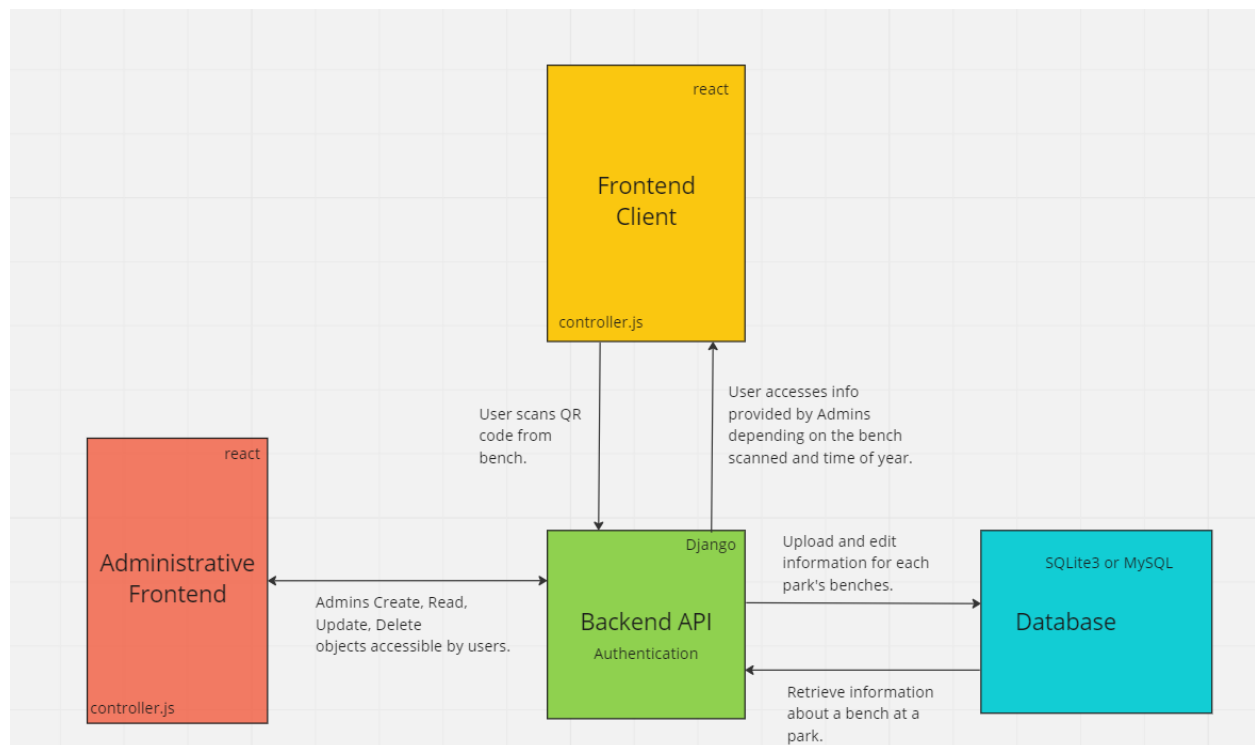
Project Breakdown Process

This project can be divided into four distinct sections to be worked on by our 3 teams. The responsibilities of each team will correspond to a core function of this website. These responsibilities are as follows:

- Frontend client: the interface used by clients that will allow them to scan QR codes and play the corresponding audio files.
- Administrative Frontend: the interface that park managers will use to update the database (e.g. add new benches, upload new audio files, etc).

- Backend API: the logic of the application that determines what audio files to play for which times of the year, supporting the needs of managers and users that access it through the respective frontends.
- SQL Database: a collection of tables used to store important information such as the various audio files, their corresponding benches and any other important identifiers.

The following image displays the relationship these core functions have with each other with a small description:



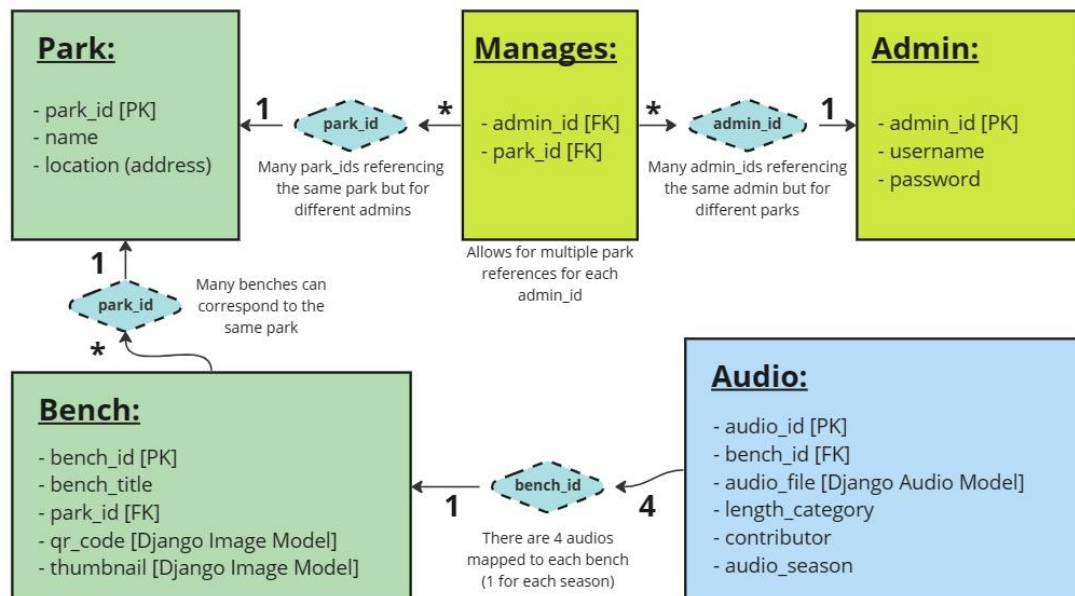
When breaking down a coding project of this caliber, it is often about much more than just dividing responsibilities. When it comes to the application's logic, we break down the objects and relationships described in the abstract of this report into the following data structures:

- Bench: the backbone of the application, holding the references of audios, thumbnails, and other data related to a physical bench in a park to be presented to the user.
- Audio: the database structure that holds relevant details of each individual audio that's connected to a specific bench in a park location.

- Admin: the limited access user account class for park managers, allowing them to create new objects for their parks within the application to display to users.
- Park: the class isolating information belonging to different park managers, simplifying the creation and search of new and existing objects in the database.

In the following image, the updated Logical Data Model (LDM) can be seen, containing the latest database structure with relationships and their descriptions:

Logical Data Model



Sub-Team Responsibilities

Team 1 - Frontend User

- Members: Parth & Tony
- We are responsible for creating the Frontend that the user will see. The flow starts when the user enters the website. They will be greeted with an option to allow access to the camera so we can scan QR codes on the site. Then the user will scan the QR code on a

bench. Scanning this QR code will lead them to the media page. This page will display the title of the bench/audio, the album art for the bench/audio, the author of the audio and a few buttons. The buttons will allow the user to play, pause, skip forward by 10 seconds and rewind by 10 seconds.

- Alternatively, the user can also choose to use their own phone's camera app to scan the QR codes. This will lead them directly to the media page bypassing the main scanning page.

Team 2 - Backend and Database Development

- Members: Tajwaar, Michele, & Samantha
- We are responsible for developing the server-side code that manages the interaction between the front-end user/manager and the database. In Assignment 2, we chose to focus on the functionality of an administrator being able to obtain the QR code corresponding to an existing bench and managing the bench object. Team 2 is responsible for designing and creating the database that stores necessary information for generating and distributing QR codes, such as bench IDs and audio information.

Team 3 - Frontend Admin

- Members: Angad, Michael
- We created an admin-facing frontend manager that allows site administrators to create new benches and print out QR codes. We focused on the basic functionality of selecting a park, viewing benches in a park, and using a form to add a new bench. The main things implemented are a searchable dropdown to select parks, the ability to view bench information as a list as well as play audio, and the form that needs to be submitted to create a bench.

Assignment Attribution

Each team member contributed equally to all portions of the submission.