

0. Introduction

- Hello everyone, I am KimGeonho, a junior in Art & Technology major. Today, I will introduce my final project, DARAK.

1. Motivation

- First, the development motivation. I enjoy various cultural activities such as movies, dramas, books, exhibitions, and performances, but I experienced that these experiences quickly evaporate if not recorded. I tried to record them using Notion or other memo apps, but I felt many shortcomings.
- Therefore, I wanted to create a space where I could manage records more easily and enjoyably, centered on an image calendar function that is easy to see at a glance. I created DARAK with the concept of an 'Attic for storing tastes.' My main goal was to create a site that people would actually want to use if it were released.

2. Main Features (4 Main Features)

- **A. Image Calendar**
 - You can see at a glance what works you watched for a month and feel proud of filling in the cells.
 - In addition to basic items such as movies and books, users can directly add or delete categories.
 - You can record appreciation details in detail with various elements such as star ratings, mood at the time of appreciation, and soundtracks, as well as basic information about the work like directors and authors.
- **B. Statistics**
 - Based on the records, you can identify which genres, directors, and actors you like, what evaluations you mainly give, and what the key keywords of the evaluation are.
- **C. Bucket List Bookshelf**
 - I enjoyably visualized the experience of putting works you want to see into a bookshelf, just like putting videotapes or books in a real bookshelf.
 - You can record immediately by clicking on the bucket list.
- **D. Ticket Archiving**
 - Records can be made into images with digital tickets, and can play roles such as being saved separately and shared on SNS.
 - Adding the fun of collection by making it possible to pin them to a web gallery through archiving.

3. Design Process

- Initially, I planned with the title SPACELOG and a space concept, but I thought it might feel too childish, so I changed it to a clean 'Modern Minimalism' design with a white background. However, the clean and standardized UI felt like a work tool, and the emotional elements felt very lacking compared to the concept of a space for recording cultural life.

- So I looked for various references, and as a result, I pivoted to a theme of a retro attic and 80s arcade feel, and also changed the project title. I planned to create an immersive environment using neon pink and neon blue as points on a cozy and dark attic background, making the user feel like they have entered their own hideout.
- I set the framework for the UI design through Figma and modified specific parts while developing the site directly.

4. Demo Showcase

5. TECH STACK

- Next, I will talk about the technical structure of DARAK.
- The overall structure was made with **HTML / CSS / Javascript**.
- **For libraries,**
 - I used **html2canvas** to convert written reviews into actual collectible ticket images,
 - And used **ZingChart** to implement the user's taste keywords as a word cloud.
 - For icons, I used **Lucide Icons**.
- **For APIs,**
 - I utilized the **IndexedDB API** as a core storage to stably manage data such as large images and audio,
 - And used the **FileReader API** to process image and audio files from the local device.
 - Also, I used the **Google Custom Search API** to search for poster information on the web and the **YouTube Embed API** for soundtrack recording.

6. Core Code Structure

- **HTML / Javascript**
 - **A. SPA Structure & Section Management**
 - I wanted to implement it as a mobile application in the future, so for app-like usability, I adopted a **SPA (Single Page Application)** structure where everything happens on one page instead of using multiple HTML files.
 - Modular view switching: The entire application exists in one index.html. Using a state-based system, div containers are switched to display: block or none.
 - **B. IndexedDB**
 - At first, I tried to develop using LocalStorage due to lack of knowledge, but it was unsuitable for handling high-resolution posters and audio, so I implemented it using IndexedDB.
 - Object Stores: Built a structured NoSQL database within the browser.
 - Asynchronous data processing: By utilizing Promises to call large image data asynchronously, I ensured smooth performance even when hundreds of records are accumulated.
- **CSS**

- **Variable-based theme management:** Set CSS variables in the :root pseudo-selector to centrally manage core color palettes like neon pink and blue.
- **Glassmorphism and retro effects:** Applied 'Glassmorphism' effects using backdrop-filter and neon box shadows to add a modern sense of depth to the 80s arcade feel.
- **Responsive layout:** Implemented a responsive design by mixing CSS Grid for the calendar and Flexbox for the navigation bar to maintain a flexible layout across various screen sizes.
- **Canvas API:** Digital tickets were created through the Canvas API.

5. Future Roadmap & Conclusion

Until the final submission, I will focus on the following elements:

- **API Integration:** Integration of Google Custom Search API and YouTube Embed API has not been perfectly implemented yet.
- **Networking:** Adding a 'Feed' to share cultural tastes through a friend addition function.
- **Data Management:** Since records are precious, I feel a great need for backup, so I will implement JSON import/export functions for backup.

After implementing the functions, I will deploy it through Github.

For the conclusion, first is what I felt during the development process. Since I had no prior web development experience, implementing pages using HTML and CSS learned in class was fun, but there were many difficulties in manipulating datasets using Javascript and implementing various complex interlocking functions. Throughout the process, I realized that even the simple functions or design details were the result of many people's thoughts and efforts.

Nevertheless, I am very proud to have implemented all the functions and pages I set as primary goals during the midterm presentation.

And that's the end of my presentation. Thank you for listening.