

ISSS608:  
Visual  
Analytics  
Application

# OCEANUS TV

Music for  
everyone.

A data visualisation project by group 11: Andre Ong, Ng Jin Yao, Nor Hendra



## Who Are We?

Oceanus TV is the media hub for our complete “Deep Dive into Oceanus Folk” series. Using a rich dataset of artists, songs, albums and influences, we charted Sailor Shift’s rise from island roots to global stardom. Our visualizations map her key collaborators and inspirations, reveal Oceanus Folk’s growth patterns and evolving sound, and show which genres and artists her success has most impacted. By comparing the emerging talents, we distill the hallmarks of rising stars and predict the next breakout artists in Oceanus Folk.

## Problem Statement

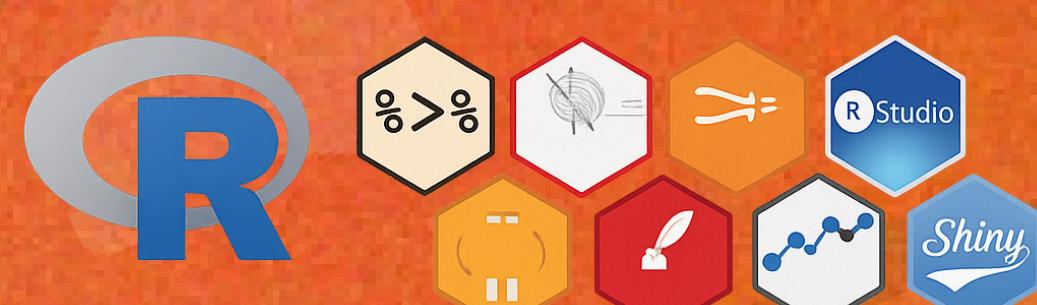
Raw tables of artists, albums, songs, and influence links do not reveal who shaped Sailor’s sound, how her collaborations propagated Oceanus Folk motifs worldwide, or how the genre evolved in return. Without purpose-built visual analytics, these multilayer, temporal relationships remain hidden—preventing clear answers to basic questions such as “Which genres adopted Oceanus Folk elements after 2028?” or “What pattern defines a rising Oceanus Folk star today?” Our project tackles this blind spot by converting the graph’s complexity into interactive timelines, influence networks, and comparative career dashboards that surface those insights at a glance.

## Motivation

Understanding how a niche island genre leapfrogged onto the world stage through one superstar’s network illuminates broader patterns of cultural diffusion and creative innovation—insights valuable to scholars, industry strategists, and Oceanus’s tourism planners alike. Yet the task is difficult because musical influence is rarely linear: it fluctuates over time, crosses genre boundaries, and is carried by collaborations that leave uneven digital footprints. Quantifying and visualizing that evolution demands reconciling messy metadata, aligning disparate time scales, and designing interfaces that let users pivot seamlessly between macro patterns and micro narratives. The complexity of these data-fusion and storytelling problems is precisely what makes solving them compelling.

## Approach

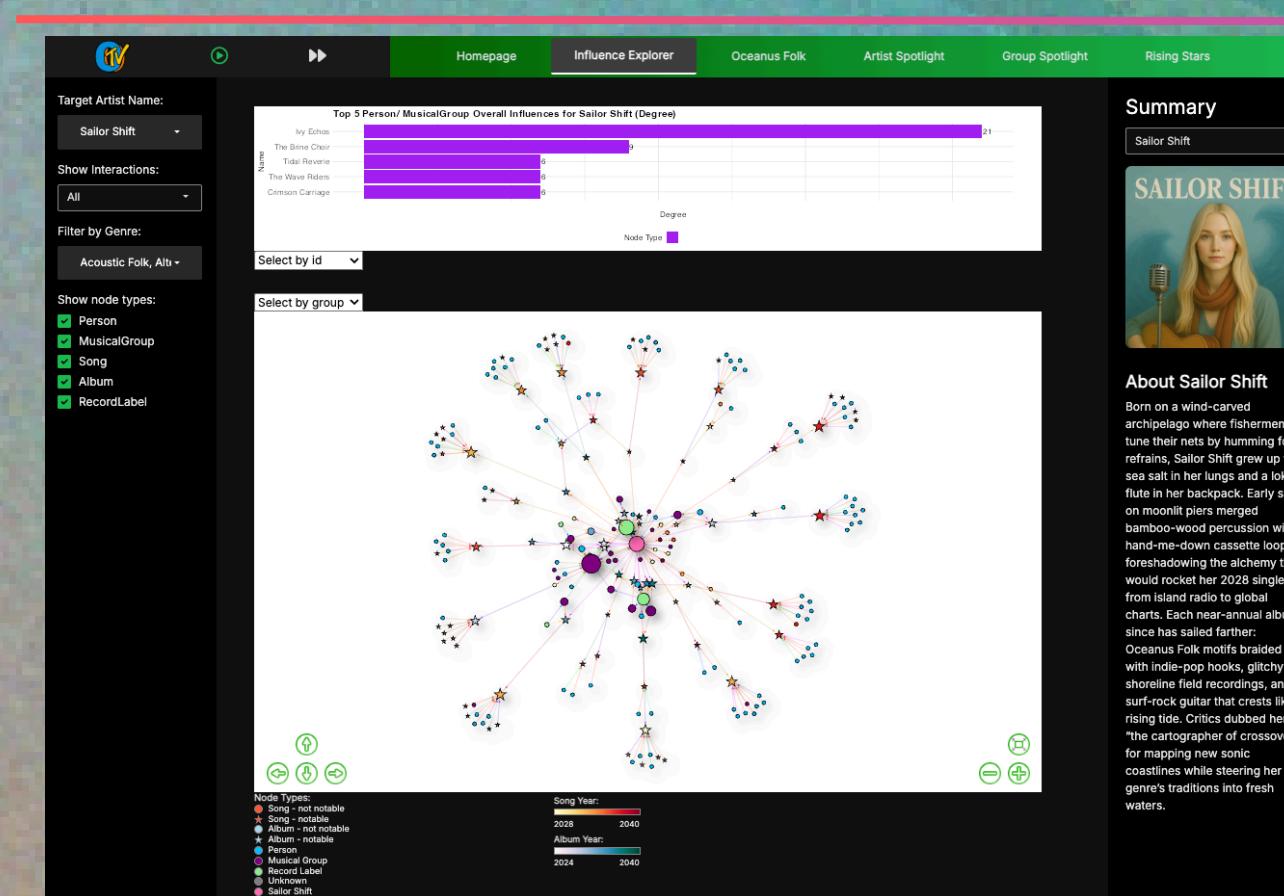
### R Packages



This project was developed in R, with Quarto powering the main website (hosted on Netlify), and the interactive web application built using R Shiny Dashboard.

## Data Preparation

We began by loading our entire music-knowledge graph from a JSON file directly into R so we could work with it as tidy tables. We parsed out the nodes and links into two tibbles—nodes\_tbl, where we immediately tagged each row with a numeric idx for fast lookup, and links\_tbl, which holds every raw “source” and “target” ID string. To streamline all of our later graph operations, we built a tiny lookup (id\_map) that maps each node’s string ID to its numeric idx, and then joined that map onto links\_tbl twice—once to translate the source into a from index, once for the target into a to index—dropping any links that didn’t match a valid node. With that cleaned, integer-indexed edge list in edges\_idx, we pulled out a few handy vectors: the indices of all “Person” nodes so we could quickly focus on people in our network, the sorted list of unique genres from every song node to drive our genre-filter dropdowns, and the names of every musical group (by finding “MemberOf” edges and looking up their targets) to populate our group spotlight controls. By front-loading this conversion and lookup work, the rest of our app can treat the graph as simple numeric IDs and precomputed choice lists instead of wrestling with raw JSON strings at every turn.

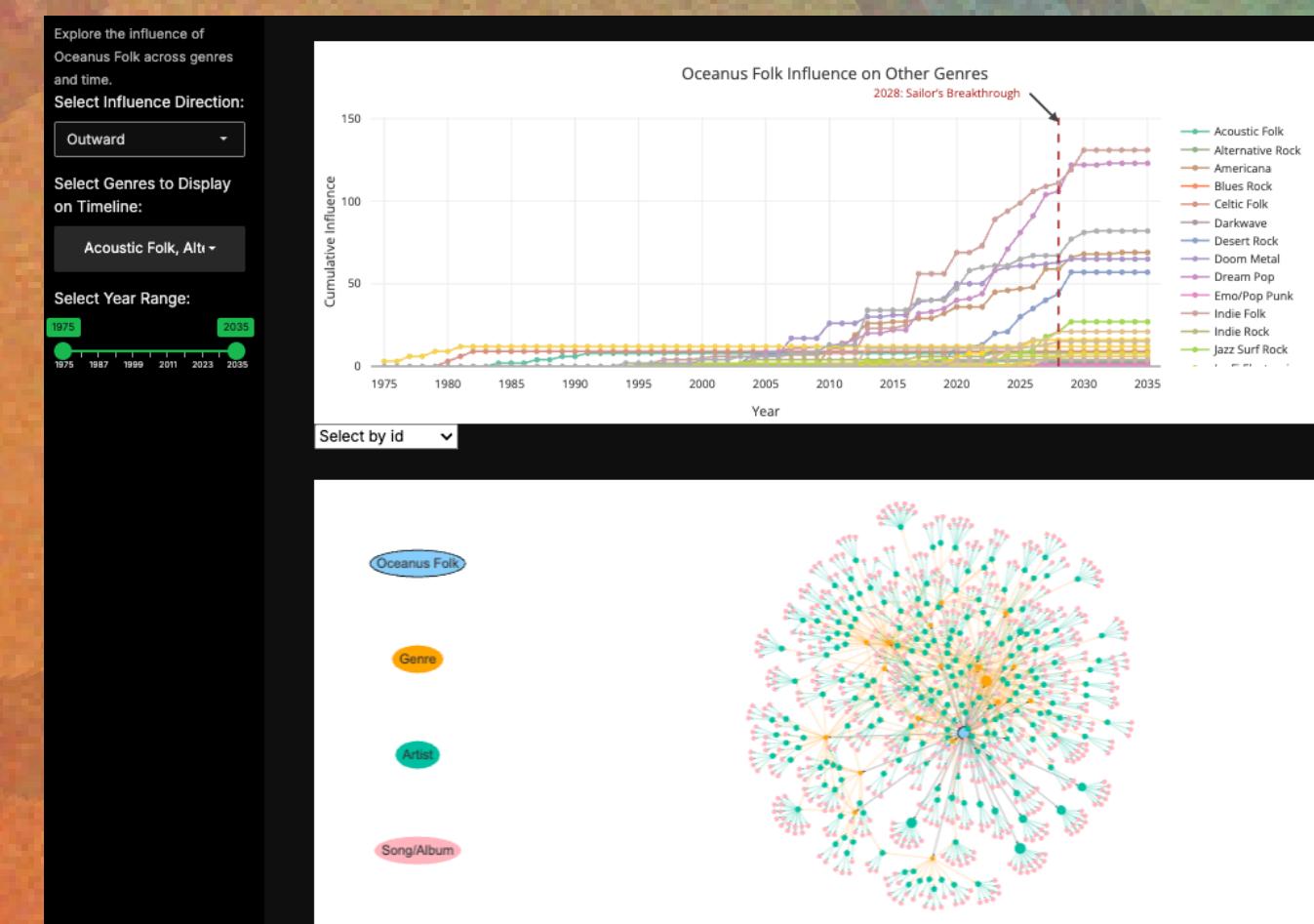


We layer Spotify’s dark-charcoal backdrop with neon-green play, pause, and skip icons, then add an MTV-style splash logo in the header to give an instant music-channel vibe that feels both current and nostalgic. The familiar palette taps users’ streaming mental model while core heuristics guide every cue: green invites play, hover glows signal clicks, muted greys keep data in focus, and scrub bars encourage quick time jumps. Because the layout mirrors habits formed in music apps, newcomers can explore Sailor Shift’s influence networks, switch between inward or outward views, and filter Oceanus Folk timelines by year or genre as effortlessly as they build a playlist, enjoying entertainment polish without sacrificing analytic depth.

## Influence Explorer

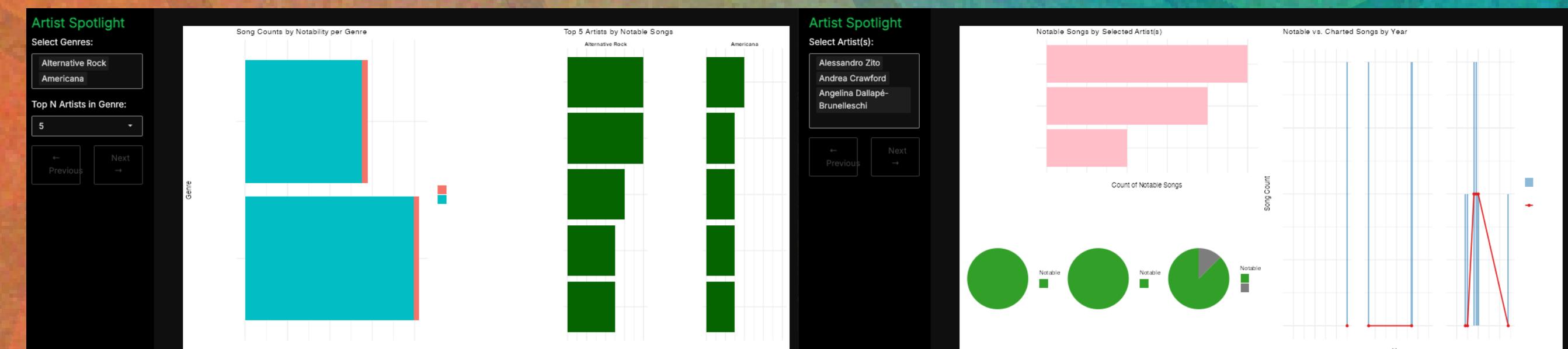
Our Influence Explorer combines a ranked bar chart with an interactive network that lets users switch the central node to any artist on-the-fly, instantly redrawing both views to show that artist’s inward and outward influence. When Sailor Shift is selected, the bar chart immediately ranks her top historical influencers, while the network positions her at the hub, colour-coding nodes by type and animating edge directions so thicker inbound lines and clustered years spotlight periods of strongest impact. Temporal filters further reveal how her influencers shift before and after her 2028 breakout, and a single click on any bar re-centres the graph on that influencer to explore reciprocal relationships. In one glance this tool delivers both quantitative rankings and a visual narrative of Sailor’s creative lineage, directly answering MC1’s first question and setting the stage for deeper exploration of her collaborations and genre-wide ripple effects.

## Oceanus Folk

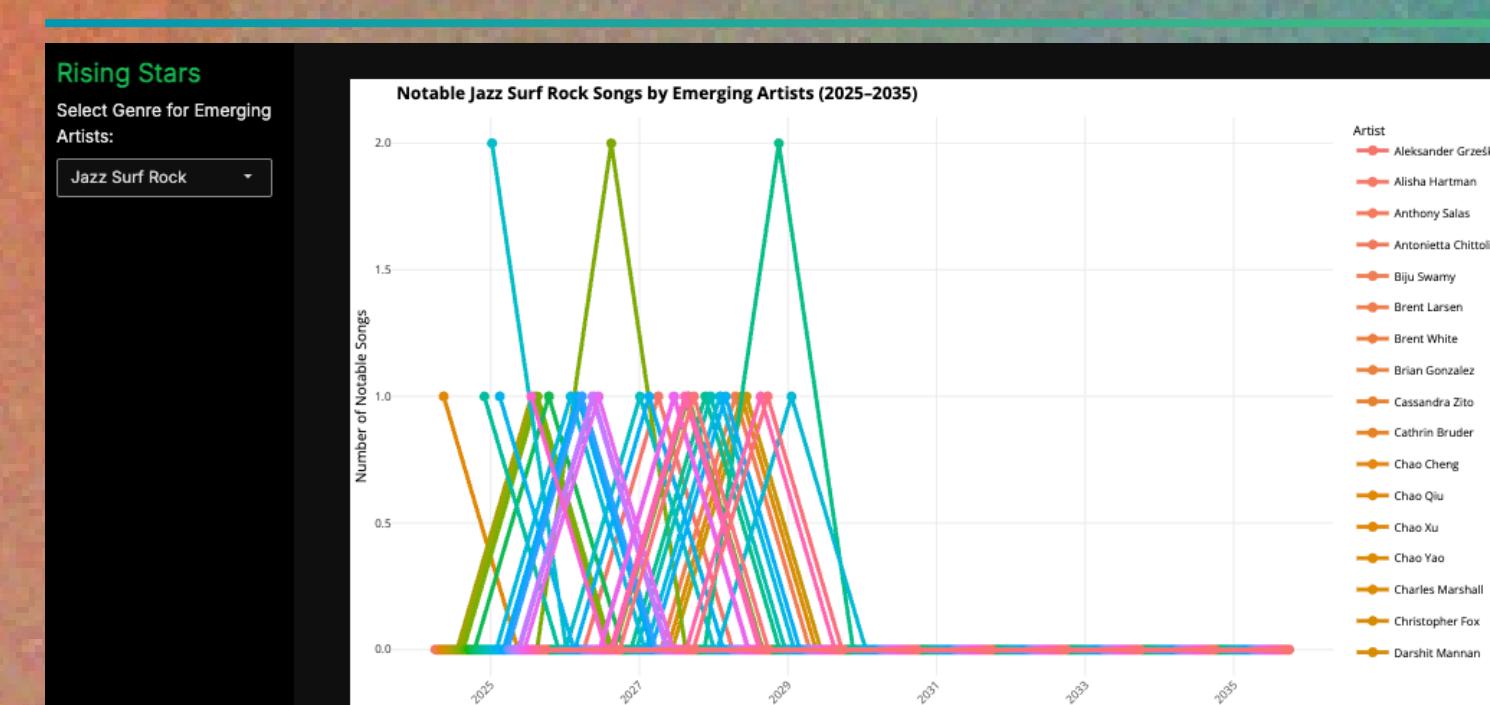


The Oceanus Folk tab pairs a cumulative-influence timeline with a dynamic visNetwork graph, allowing users to toggle between outward (Oceanus Folk impacting other genres) and inward (external genres shaping Oceanus Folk) views. A genre multi-select and a dragable year-range slider instantly refine both visuals, spotlighting how influence surges before and after Sailor’s 2028 breakthrough. As filters change, the timeline updates to show shifting trend lines while the network redraws to highlight the same subset of artists, songs, and genres flowing into or out of Oceanus Folk, complete with directed edges that mirror the chosen influence direction. This synchronized setup reveals not only which genres are most affected but also exactly when and through which contributors each wave of influence moves.

## Artist and Group Spotlight



The Artist Spotlight and Group Spotlight tabs let Silas drill into specific performers or ensembles in two steps: a “Previous” button cycles through the genre list, and once a genre is chosen, the “Next” button browses artists within that genre. For whichever artist is active, three linked views appear: a horizontal bar chart showing their total count of notable songs, a pie chart contrasting notable tracks with the rest of their catalog, and a year-by-year line plot that compares notable releases to songs that actually charted. Together these visuals give an at-a-glance read on productivity, hit rate, and career momentum for any solo act or group.



The Rising Stars tab spotlights tomorrow’s headliners with a single, streamlined control: choose a genre from the dropdown, and the line chart instantly plots each emerging artist’s annual count of notable songs across the 2025 to 2035 window. Distinct colour traces let users compare momentum arcs at a glance with steep spikes signal sudden breakouts, while steady climbs hint at slow-burn growth—making it easy to spot the three or four names most likely to follow Sailor Shift onto the global stage within the next five years.

## Future Work

The next build will evolve into a real-time music intelligence playground for enthusiasts who crave the stories behind every riff and collaboration. Live feeds from Spotify, Apple Music, YouTube, and Billboard will continuously refresh artist nodes with play counts, tour stops, and songwriting credits, while graph analytics trace influence pathways across decades and continents. An AI curator will generate adaptive playlists that group tracks by shared lineage, sampled motifs, or sudden genre crossovers, giving listeners a sonic map rather than a static list. Rich timelines, network heat maps, and side-by-side career dashboards will let fans watch trends form in front of their eyes, and embedded mini-docs will add human context to the data. An open API will invite independent researchers and fan communities to contribute niche datasets, ensuring the platform stays vibrant and authoritative. With this blend of real-time stats, deep relational insight, and crowd-powered curation, the hub will become the definitive destination for anyone who wants to explore how modern music connects.

## Results