USER MANUAL

for

ECHOIC: SOCIAL MUSIC INTEGRATOR

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1. Motivation

The impact that social media has on the music industry is somewhat downplayed considering just how intimately it interacts with the everyday lives of today's consumers. For this reason, there is a great deal of business potential in seeking to fill the gap between these two fields.

The sharing of music across platforms is an inconvenience for many users, requiring overhead that may result in said users choosing simply to not undertake the task. In this inconvenience hence may cost a single stream and when this scenario is compounded, may even result in significantly few streams than could be achieved otherwise.

Attempts have been made at creating system-agnostic sharing links which themselves have the links to the same song, artist, or album across several music-streaming platforms. However, creating these system-agnostic links is often tedious in its own right and so hardly get engagement outside explicit or intentional music promotion. Echoic aims to address this by creating a simple means of generating system-agnostic sharing links to songs, albums or artists - overcoming the overhead that comes with cross-platform music-sharing.

Furthermore, understanding social media trends has proven incredibly useful in several domains; music would be no different. Finding a means by which to successfully understand music consumption, discussion and sharing through social media might be able to provide a rich new source of data for industry analysts, music executives, advertisers and marketers to make use of.

Echoic aims to provide a practical means of gathering this sort of data by monitoring the contexts in which it is used. Every time a system-agnostic link is generated or used, that data will be collected and analysed. Trends could be understood in this way and hence useful data can be compiled.

2. Implementation:

The Echoic Social Music Integrator (v1.0) is able to generate system-agnostic links for a desired song. Following this link will produce the user with system-specific links that will redirect them to the music streaming service of their choice. An API is provided that returns such a system-agnostic link for a given song. The data regarding which songs are shared with Echoic and, in particular, how many times their respective system-agnostic links have been clicked is monitored by a service and used to update the data centre.

Furthermore, the Echoic Social Music Integrator (v1.0) offers simple searching capabilities through the Twitter platform. For a given tweet containing the Echoic trigger flag, a song title found between to delimiters is searched for and its system-agnostic link is returned, if possible.

To run locally: socialscout - localhost:8080
                  linkgenerator - localhost:8081
                  Mongo - localhost:27017-test

3. Detailed use-cases:

3.1 Generate system-agnostic music link.

Subsystem:
- Link Generator System

Actors:
- Social Scout System
- API user
- Link Tracking Service
- Music Streaming service
- Agnostic link service

Pre-conditions:
- A correctly tokenized string or search string referring to a song is received from the Social Scout System (U2.1.2, U2.1.3 and U2.1.4 have not occurred in U2.1)
- A search string has been received through the API method
- All used services must be available

Basic flow:

1. Using music streaming API, the matching song details for the search string are returned

2. A system agnostic link is generated using a service

3. System-agnostic link is wrapped in a tracking proxy in order to receive details regarding statistics of shares and clicks – this is provided by a service

4. Data centre is updated

5. Wrapped system-agnostic link is returned

Alternative flows:
- In the case of the Social Scout, if no matching music entity is found using the music streaming platform APIs, a message is forwarded to the Social Scout to indicate that no music entity was found (see U2.1.3)

Post-conditions:
- A wrapped system-agnostic link to a music entity is generated which will then be forwarded to Social Scout System or via API. The music entity to which the link pertains will have it's data updated in the data centre.

3.2   Open system-agnostic link

Subsystem
- Link generator system

Actors
- Twitter/API user
- Link tracking service
- Data centre
- Agnostic link service

Preconditions:
- A generated system-agnostic link was successfully wrapped in a tracking proxy and shared.
- It has assumedly been less than a day from the moment of link generation.
- All required services are available.

Basic flow
- Link is opened.
- System-specific links for the song of interest are returned to the user.
- Link-tracking service detects this the click

Link Generator periodically queries link tracking service for updates on links to commit to data centre.

Alternative flow
- Link is clicked after a day and click is never committed to data base (unlikely owing to how fast-paced Twitter is)

Post condition
- System-specific links are returned to user an the record of their entering the link is committed to the link tracking service ahead of being persisted to the database

3.3   Tweet song to Social Scout

Subsystem
- Social scout system

Actors
- Twitter user
- Link generator

Preconditions
- User makes a correctly formatted tweet containing the Echoic flag.

- Link generator is available.

Basic flow
- Tweet is detected by Social scout.
- Tweet is checked for formatting and a suitable search string is found.
- Search string is submitted to Link generator which returns a tracked system-agnostic link.
- Social scout replies to initial tweet with matching song information and the generated link.

Alternative flows
- If the tweet is not suitably formatted, the Social scout notifies the user
- If the Link generator cannot find a matching song, the user is notified.
- If the Link generator finds the wrong song, this is returned to the user.
- If the initial tweet is deleted, the Social Scout does not respond.

Post condition
- User receives a tweet back from the Social scout.

3.4   Getting link statistics for a song,

Subsystem
- Link Generator

Actors
- API user/admin
- Link tracking service

Preconditions
- User/admin has all the necessary permissions and passwords for service access
- Unique identifier for the song is known

Basic flow
- User requests details for a song,
- Aggregations are performed by data centre, returning the number of times it has been shared and the number of time it has been clicked
- User notes details

Alternative flows
- User can user links to find more rich data using link tracking service directly.

Post condition
- User knows statistics regarding tracks.