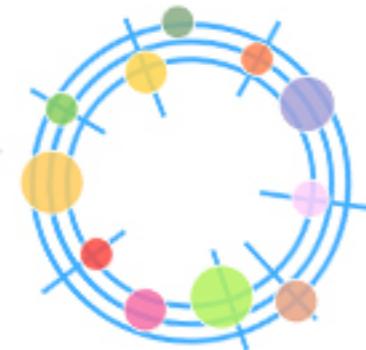


LINKED JAZZ



Using Linked Open Data to Map Relationships Among Musicians

Bill Levay, Pratt Institute
48th Annual ARSC Conference, May 16, 2014

Overview

- Project goals
- Why Linked (Open) Data?
- What has Linked Jazz done so far?
- Where is Linked Jazz going in the future?

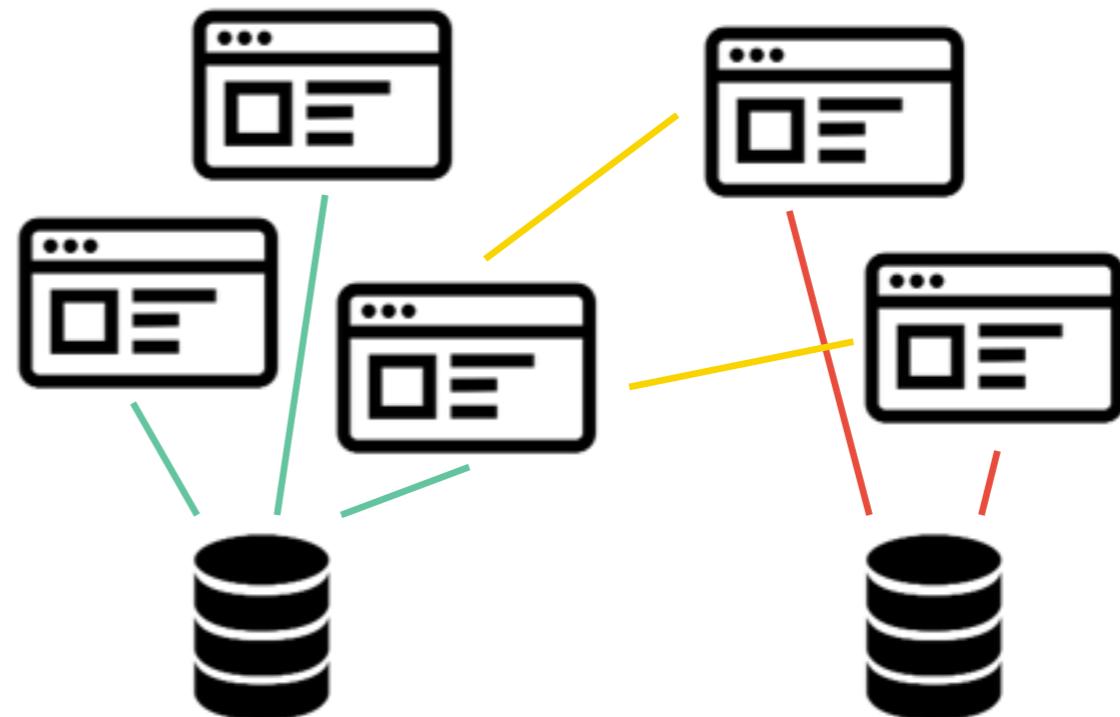
The Project

- Experiment with applying Linked Open Data technology to archival materials in order to enhance visibility and access
- Develop tools to facilitate discovery and analysis of the archives of jazz history
- Make Linked Jazz dataset openly available on the web

Linked Data From a web of documents...

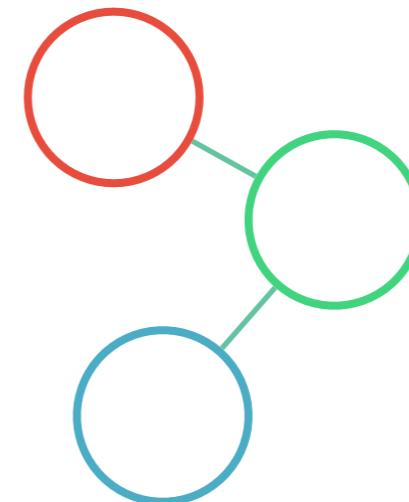
Current landscape:

- Lots of linked documents
- Databases are silos of information
- User interprets how documents are related



Linked Data ...to a web of data

- Databases are interconnected
- Data is structured in a standardized way
- Relationships between data are made explicit
- URIs point to data <http://dbpedia.org/resource/John_Coltrane>





John Coltrane

From Wikipedia, the free encyclopedia

"Coltrane" redirects here. For other uses, see [Coltrane \(disambiguation\)](#).

John William Coltrane, also known as "Trane" (September 23, 1926 – July 17, 1967),^[1] was an American jazz saxophonist and composer. Working in the bebop and hard bop idioms early in his career, Coltrane helped pioneer the use of modes in jazz and was later at the forefront of free jazz. He organized at least fifty recording sessions as a leader during his career, and appeared as a sideman on many other albums, notably with trumpeter Miles Davis and pianist Thelonious Monk.

As his career progressed, Coltrane and his music took on an increasingly spiritual dimension. His second wife was pianist Alice Coltrane and their son Ravi Coltrane is also a saxophonist. Coltrane influenced innumerable musicians, and remains one of the most significant saxophonists in music history. He received many posthumous awards and recognitions, including canonization by the African Orthodox Church as Saint John William Coltrane and a special Pulitzer Prize in 2007.^[2]

Contents [hide]

1 Biography

- 1.1 Early life and career (1926–1954)
- 1.2 Miles and Monk period (1955–1957)
- 1.3 Davis and Coltrane
- 1.4 First albums as leader
- 1.5 First years with Impulse Records (1960–1962)
- 1.6 Classic Quartet period (1962–1965)
- 1.7 Final years (1965–1967)



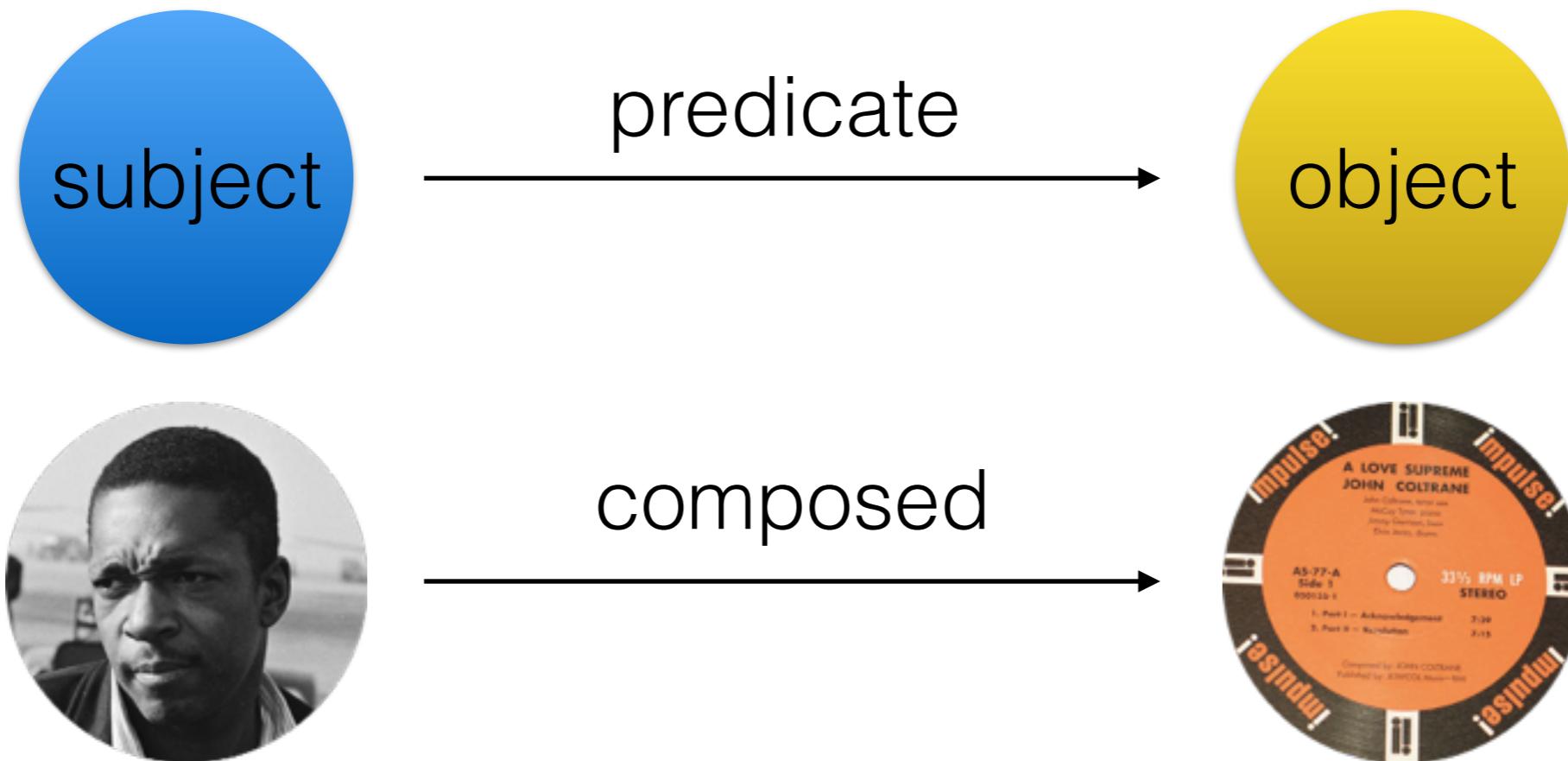
Coltrane in 1963

Background information

Birth name	John William Coltrane
Also known as	"Trane"
Born	September 23, 1926 Hamlet, North Carolina, USA

Linked Data

RDF Triples



```
<http://dbpedia.org/resource/John_Coltrane>
<http://purl.org/ontology/mo/composer>
<http://dbpedia.org/resource/A_Love_Supreme>
```

dbpedia-owl:alias	▪ "Trane"
dbpedia-owl:associatedBand	▪ dbpedia:Eric_Dolphy ▪ dbpedia:Alice_Coltrane ▪ dbpedia:Thelonious_Monk ▪ dbpedia:Miles_Davis_Quintet ▪ dbpedia:Pharoah_Sanders
dbpedia-owl:associatedMusicalArtist	▪ dbpedia:Eric_Dolphy ▪ dbpedia:Alice_Coltrane ▪ dbpedia:Thelonious_Monk ▪ dbpedia:Miles_Davis_Quintet ▪ dbpedia:Pharoah_Sanders
dbpedia-owl:background	▪ non_vocal_instrumentalist
dbpedia-owl:birthDate	▪ 1926-09-23 (xsd:date)
dbpedia-owl:birthPlace	▪ dbpedia:Hamlet,_North_Carolina ▪ dbpedia:United_States ▪ dbpedia:North_Carolina
dbpedia-owl:deathDate	▪ 1967-07-17 (xsd:date) ▪ --07-17
dbpedia-owl:deathPlace	▪ dbpedia:Huntington,_New_York ▪ dbpedia:Long_Island ▪ dbpedia:United_States ▪ dbpedia:New_York
dbpedia-owl:genre	▪ dbpedia:Modal_jazz ▪ dbpedia:Free_jazz ▪ dbpedia:Hard_bop ▪ dbpedia:Post-bop ▪ dbpedia:Avant-garde_jazz
dbpedia-owl:instrument	▪ dbpedia:Soprano_saxophone ▪ dbpedia:Tenor_saxophone ▪ dbpedia:Alto_saxophone
dbpedia-owl:occupation	▪ dbpedia:Composer ▪ dbpedia:Saxophone ▪ dbpedia:Bandleader
dbpedia-owl:recordLabel	▪ dbpedia:Impulse!_Records ▪ dbpedia:Atlantic_Records ▪ dbpedia:Blue_Note_Records ▪ dbpedia:Pablo_Records ▪ dbpedia:Prestige_Records
dbpedia-owl:thumbnail	▪ http://upload.wikimedia.org/wikipedia/commons/thumb/a/a1/John_Coltrane_Live_at_Birdland.png/200px-John_Coltrane_Live_at_Birdland.png
dbpedia-owl:wikiPageExternalLink	▪ http://www.johncoltrane.com/ ▪ http://www.mossiehigh.com/Coltrane ▪ http://www.johncoltrane.com ▪ http://www.infography.com/content/736735270236.html ▪ http://jazztimes.com/articles/24832-john-coltrane-images-of-trane ▪ http://www.colby.edu/music/honors/Bertholf.pdf

Linked Open Data

Best Practices



Available on the web
with an open license



Available as structured
data (formatted, editable)



Use non-proprietary formats
(CSV instead of Excel)



Use URIs to denote things
so people can 'point' to it



Link your data to other data
and provide context



Linked Jazz, so far

- Get the names of musicians
- Find the names in oral history transcripts
- Describe the relationships and map them

First phase was funded through an OCLC/ALISE Library and Information Science Research grant.

Linked Jazz Name Directory

- *Data processing:*
Extract and ingest names from DBpedia and name authority files (LC & VIAF) via Python scripts
- *Human curation:*
Manually refine results with the Curator Tool
- *Resulting Linked Jazz Name Directory:*
~9,000 individuals represented by triples, e.g.:

```
<http://dbpedia.org/resource/Mary\_Lou\_Williams>
<http://xmlns.com/foaf/0.1/name> "Mary Lou Williams"
```

Curator Tool



Perfect (965) High (1,319) Medium (2,498) Low (1,725) Many (1,256) None (1,089) | Verified (13) Deleted(1) | [Search](#)

Big Joe Williams	1903 - 1982	VI AF ?
Claude Williams	1908 - 2004	VI AF ?
Fess Williams	1894 - 1975	VI AF ?
Harold Ivory Jr' Williams	1949 - 2010	VI AF ?
Joe Williams	1918 - 1999	VI AF ?
Johnny Williams	1905 - 1984	VI AF ?
Mary Lou Williams	1910 - 1981	VI AF ?
Paul Williams	1915 - 2002	VI AF ?
Richard Williams	1931 - 1985	VI AF ?
Robert Pete Williams	1914 - 1980	VI AF ?
Skippy Williams	1916 - 1994	VI AF ?
Spencer Williams	1889 - 1965	VI AF ?
Tony Williams	1945 - 1997	VI AF ?
Bob Wills	1905 - 1975	VI AF ?

Mary Lou Williams



Mary Lou Williams (May 8, 1910 – May 28, 1981) was an American jazz pianist, composer, and arranger. Williams wrote hundreds of compositions and arrangements, and recorded more than one hundred records (in 78, 45, and LP versions). Williams wrote and arranged for such bandleaders as Duke Ellington and Benny Goodman, and she was friend, mentor, and teacher to Thelonious Monk, Charlie Parker, Miles Davis, Tadd Dameron, Dizzy Gillespie, and many others.



<http://id.loc.gov/authorities/names/n82025133>
altLabel | Scruggs, Mary Elfrieda, 1910-1981
prefLabel | Williams, Mary Lou, 1910-1981

Transcript Analyzer

- Oral history transcripts from the Smithsonian, Rutgers, Hamilton College, University of Michigan
- Automated named-entity recognition enabled through the use of natural language processing
- Splits interview content into question-and-answer segments, later used in the Linked Jazz 52nd Street crowdsourcing tool

Transcript Analyzer

LINKED JAZZ 

 Load Transcript  Reprocess Transcript  Publish

 Names  Partials  Others  Meta-Structure  Rules (6)

 Bill Coleman	   	going with Bubbles. He'd come to Pittsburgh and he'd say, Now I'm going to teach you some of my things. " Buck was a great teacher for me. We'd be in the Subway jamming and he'd say, "Hey, look, girl, you're like me. Come over here. I'm going to teach you something. " He showed me runs. Later on after I met Count Basie and Art Tatum, Buck showed me a run that Art Tatum - it was his famous run. He made it from top to bottom and Buck had taught me that run. He said, "Now when you get in front of Count Basie and Art Tatum, you make it like this," and he turned it around. One night I was jamming with Art Tatum. Art played and I was playing so I played this run that Buck had taught me and Art Tatum said, "Hey, what's that? Play it again. " For about 3 or 4 years he and Count Basie were making this run the wrong way. That's the type of musician Buck was. He'd show me something but he didn't want me to play it when they were around, 'cause he didn't want them to learn it. They came around and would hear me turn it around and make it some other way.
 Bill Sousa	   	
 Billie Holiday	   	
 Billy Taylor	   	
 Black Actors	   	
 Blanche Calloway	   	
 Boo Frazier	   	
 Brother John Sellers	   	
 Bubber Miley	   	
 Buck Clayton	   	
 Bud Powell	   	

52nd Street Crowdsourcing Tool

The screenshot shows the homepage of the Linked Jazz crowdsourcing tool. At the top, there's a navigation bar with 'CLUB S' (partially visible), 'About', and 'Login'. Below the header, the 'LINKED JAZZ' logo is displayed next to a circular icon with colored dots and a '52nd ST' sign. A tagline reads 'Revealing the relationships of the jazz community'. On the left, a vertical banner features the word 'LINKED' in large letters. In the center, a 'Let's get started!' button is followed by four icons: a heart and musical note, two people talking, three people hugging, and a network graph. A progress bar indicates '31% of Relationships Defined'. Below these are ten thumbnail profiles of jazz musicians: Buddy DeFranco, Sam Rivers, John Levy, Louie Bellson, Bob Haggart, Stanley Kay, Charles McPherson, Mary Lou Williams, and Bill Berry. A feedback prompt at the bottom right says 'We need your feedback, tell us what you think' with a speech bubble icon.

CLUB S

About | Login

LINKED JAZZ

52nd ST

Revealing the relationships of the jazz community

Let's get started!

31% of Relationships Defined

choose a musician

explore the conversation

uncover relationships

grow our network

Buddy DeFranco

Sam Rivers

John Levy

Louie Bellson

Bob Haggart

Stanley Kay

Charles McPherson

Mary Lou Williams

Bill Berry

We need your feedback, tell us what you think



52nd Street Crowdsourcing Tool

LINKED JAZZ 

Milt Hinton talks about **Cannonball Adderley** (1 of 1 mentions)  [Transcript Source](#)

 Cannonball Adderley

 Louis Armstrong

 Joe Williams (Interviewer)

 Lil Armstrong

 Pearl Bailey

 George Barnes

 Count Basie

 Louis Bellson

 Ben Bernie

 Chu Berry

 Bill Berry

It was beautiful to see the expression on you face and Osie's and Hank, when the new music was put in front of you. I mean like "ayyy, yeah, hey look what we got," you know. Wow, like it was like somebody bought you a new gift. Cause Jimmy Jones was writing then, and...

Oh, yeah, well he was contractor, you know, Jimmy Jones. We could really read music and that was the thing that I thank my mother this very day for that, because I wanted to play everything, and she says "you got to learn to read that music. " And that's what we could do, we could read. And young **Cannonball Adderley**'s on the boat here, and yesterday on the Meet the Stars he was telling some people about a picture I have, I have a picture I took of **Cannonball**, sitting down with a stack of music and it's falling down off the music stand, all over the floor. And he says "I got that picture of yours. " I say well "that was on a date with Barry Galbraith on guitar, Art Farmer on trumpet, **Cannonball Adderley** on saxophone, and yours truly on bass. No piano, no drums. I said "it's the hardest record date I think I ever made in my life. " John Benson Brooks wrote a thing called "Alabama Suite" and [inaudible] off everybody. And **Cannonball Adderley** was sitting there looking at that music, and he played every note on it, it was so beautiful.

Based on this text, how would you describe this relationship?

[Knows of](#)

[Has met](#)

[Acquaintance of](#)

[Close friend of](#)

[Collaborated with](#)

[Influenced by](#)

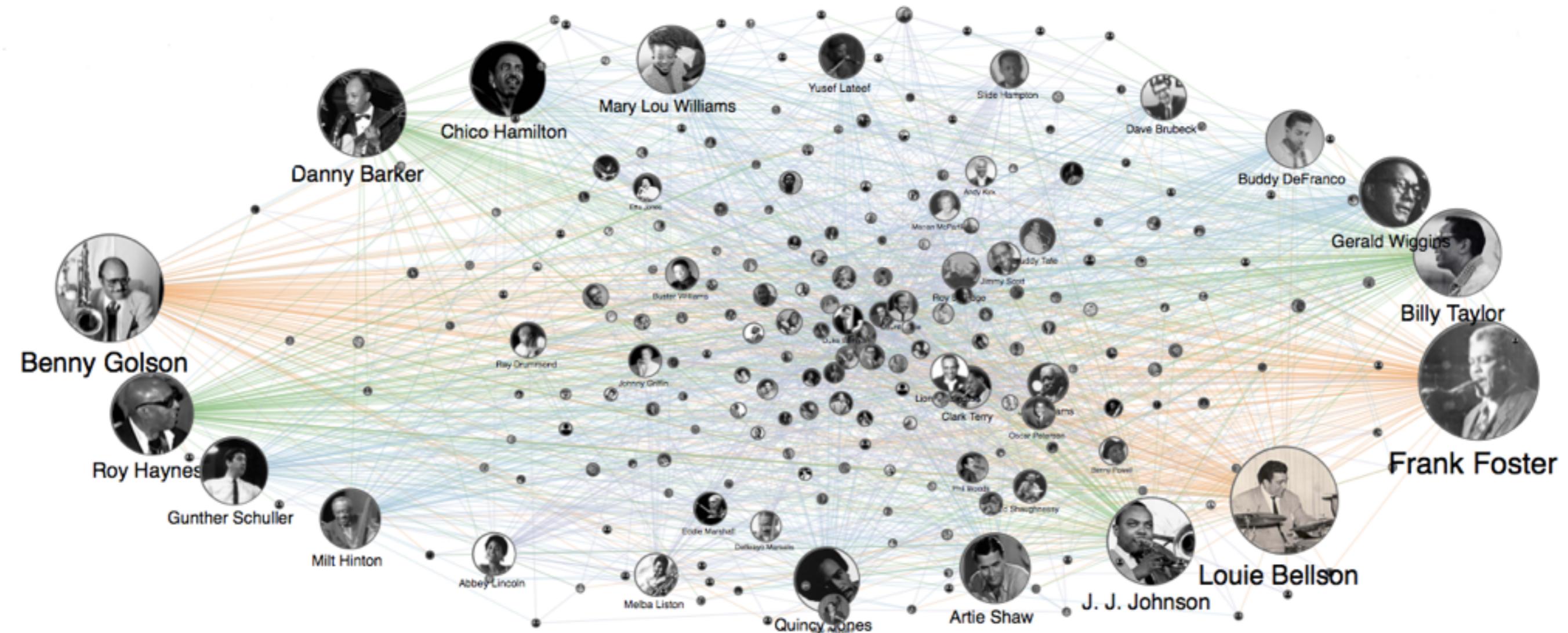
[Mentor of](#)

[Skip](#)

[Add Comment](#)

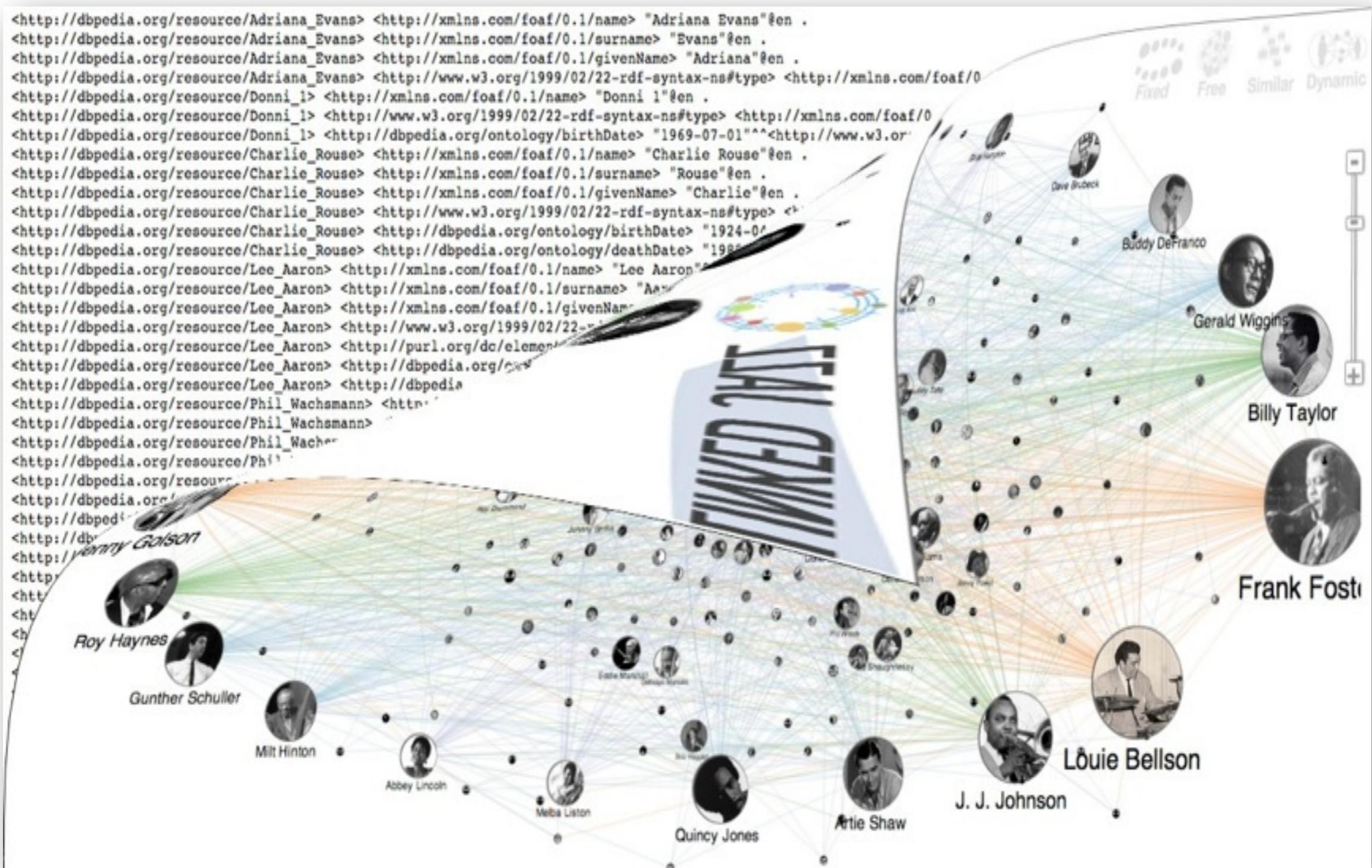
0% Complete!

Network Visualization Tool

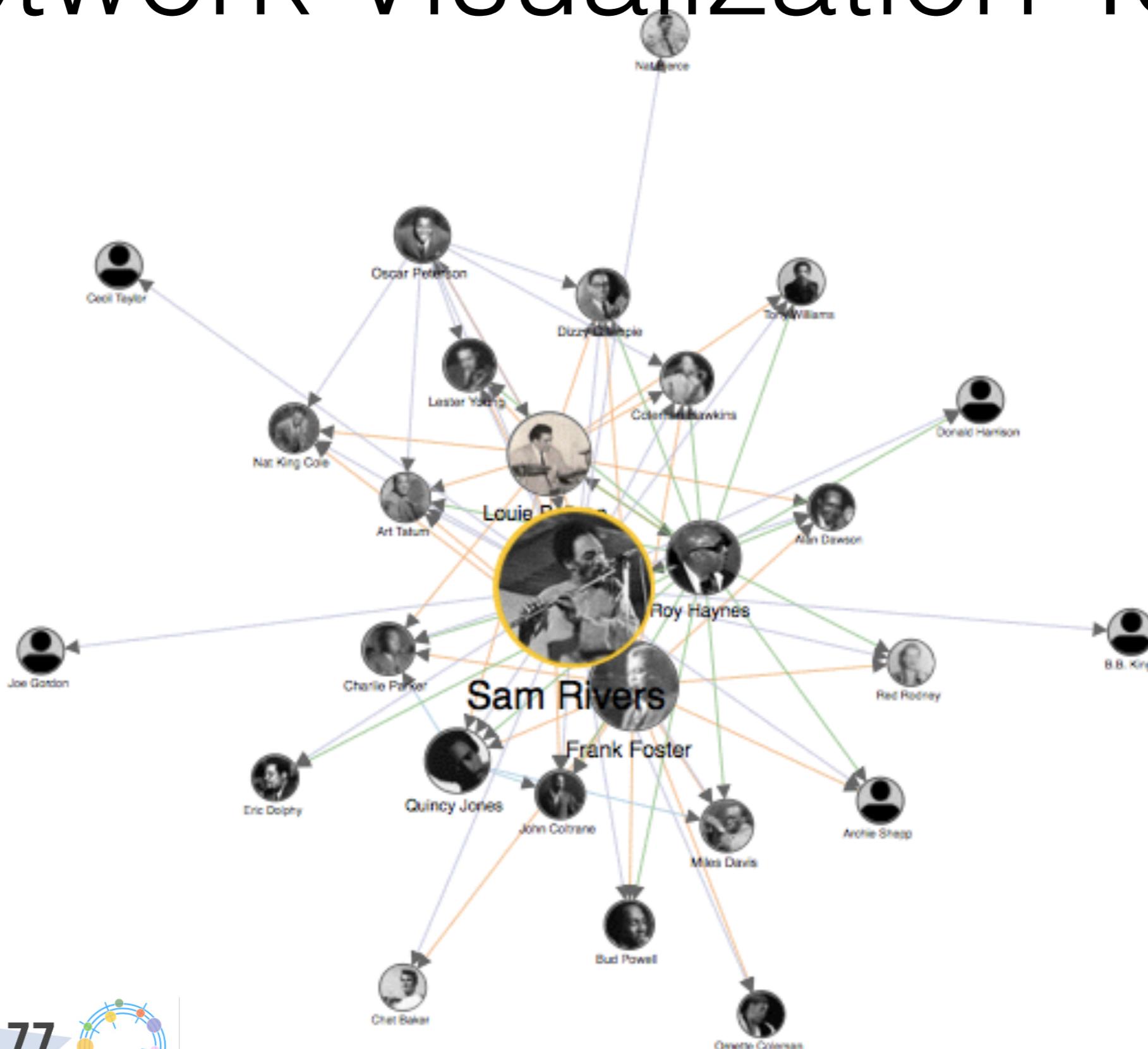


Network Visualization Tool

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Network Visualization Tool



What's Next?

- Women in Jazz
 - Rutgers Women in Jazz project
 - Wikipedia Edit-a-Thons

What's Next?

- Women in Jazz
- Tulane University Hogan Jazz Archive Photo Collection



[Tulane Digital Library](#)[Browse All](#)[Hogan Jazz Archive Home](#)[About TUDL](#)[Log In](#)[Favorites](#)[? Help](#)

Search

[Search](#)[Advanced Search](#)Results
2 of 9[Home](#) >> [Hogan Jazz Archive Photography Collection](#) >> **Mahalia Jackson**[!\[\]\(5efba45250714609af35ff4f72027e22_img.jpg\) Reference URL](#)[!\[\]\(23f1ea6e477fa2c36c36829628ca89ec_img.jpg\) Share](#)[!\[\]\(8b01870f65b6c3ffa52a01ab5a9ceebc_img.jpg\) Add tags](#)[!\[\]\(295b030c3e0ecdad8d3f8aeffe357445_img.jpg\) Comment](#)[!\[\]\(3bae9ad3e379f54a1004e2ee48ae35f1_img.jpg\) Rate](#) [!\[\]\(e85be70154f341eceb83950a0b4ff5a0_img.jpg\) Save to favorites](#)

Mahalia Jackson

[View Description](#)[!\[\]\(967be6d43b6c8f6921a979856ec23ba3_img.jpg\) Download](#) ▾[!\[\]\(78bc2f0aed5a74941394d8f9cb42a8ea_img.jpg\) Print](#)

What's Next?

- Women in Jazz
- Tulane University Hogan Jazz Archive Photo Collection
- Freely available jazz discographies:
Columbia University's J-DISC

DISCOGRAPHY J-DISC

[Discussions](#) | [Glossary](#) | [About Us](#) | [Search Issues](#) | [Search Sessions](#)[Basic Search](#)[Type Filter](#)

<Any>

[GO](#)

God Bless The Child

Song:

God Bless the Child

Playtime: 2:33

Session Information

Session: Count Basie August 31, 1950

Order: 2

Track Production Status: Master

Session Personnel (*complete session personnel*)

Clark Terry (trumpet)
Buddy DeFranco (clarinet)
Wardell Gray (tenor saxophone)
Count Basie (piano)
Freddie Green (guitar)
Jimmy Lewis (bass)
Gus Johnson (drums)

Track Personnel Changes (*variances from session personnel*)

Billie Holiday (vocal)

< Session's Previous track | total: 6 | Session's Next track >

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- Archival metadata from EAD finding aids

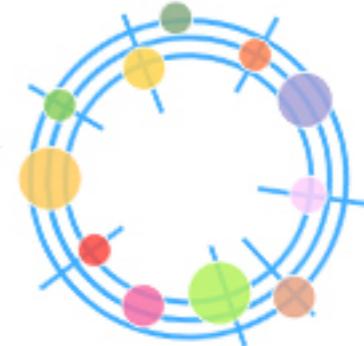
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WhoSampled.com, etc.
- Archival metadata from EAD finding aids
- Redesign tools based on user feedback

You Can Help

- Explore our network maps and our tools at linkedjazz.org
- Use our 52nd Street Crowdsourcing Tool and give us feedback
- Use our data: linkedjazz.org/api
- Suggest other openly available data we could mash up with our dataset

LINKED JAZZ



Thanks for listening!

Visit linkedjazz.org for more information.

Many thanks to Dr. Pattuelli and the entire Linked Jazz team.

Bill Levay | wjlevay@gmail.com | wjlevay.net

References

- Pattuelli, M. C., et al. (2013). Crafting linked open data for cultural heritage: mapping and curation tools for the Linked Jazz project. *Code4Lib*, 21. <http://journal.code4lib.org/articles/8670>
- Pattuelli, M. C., et al. (2013). Linked Jazz 52nd Street: a LOD crowdsourcing tool to reveal connections among jazz artists. *Digital Humanities 2013*, July 16-19, 2013, Lincoln, Nebraska, USA.

Image Credits

- John Coltrane
http://upload.wikimedia.org/wikipedia/commons/6/66/John_Coltrane_1963.jpg
- “A Love Supreme” label
<http://www.vinylrecords.ch/J/JO/John/John-Coltrane/Love/john-coltrane-love-supreme.html>
- Linked Jazz screenshots
<http://linkedjazz.org>