

Geography in the 21st Century: From File Sharing to Smart Cities



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Historic Preservation and Underground Music Sharing on the World Wide Web



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Smart Cities and IP Addresses



- Utilizes information and communication technology for data collection, data sharing, analytics, and improved access to utilities, services, etc...
 - But also information and culture!
- Connected to the World Wide Web
 - Or other local networks
- Connections use Internet Protocol (IP) addresses to connect various devices
 - Provides locational information by country, city, zip code

How Did I Get Interested?



- Grandfather collected Big Band recordings
- Uncle collected Elvis “bootleg” recordings
 - 60 albums in about 10 years
 - Today these can be downloaded in a matter of hours
- Are there efforts at the preservation of important historical music recordings on the WWW?
 - Where are these archives?
 - Who is downloading?

Geography on the WWW



- Is there a “Geography” of the World Wide Web?
- Some of my colleagues: “No”
- Me: “Uh, it’s called CyberSPACE for a reason”
 - It can be mapped
 - It can be analyzed

Geographers in the USA



- Common claim is that Geographers study EVERYTHING
- Topics mostly ignored by Geographers in the USA:
 - WWW
 - Music
 - Hunting
 - Religion

(Re)Defining “Discography”



- Traditional definition “discography as documentation”
 - A descriptive list of recordings by category, composer, performer, or date of release; or the history of recorded music
(Miriam Webster 2011)
- Alternative definition “discography as collection”
 - The complete collection of recorded music of a specific artist
(Urban Dictionary 2011)

Music on the WWW



- Official commercial recordings
 - In print (most file sharing considered “piracy”)
 - **Out of print**
- Unofficial non-commercial recordings
 - Live concerts (aka **Bootlegs**)
 - Demos, studio sessions, interviews, etc.

Historic Preservation Value Paradigms



	<i>Non-Market Value</i>	<i>Market Value</i>
<i>Associational Value</i>	POPULIST	ENTREPRENEURIALIST
<i>Intrinsic Valuation</i>	ESSENTIALIST	PRIVATIST

Underground Dissemination on WWW

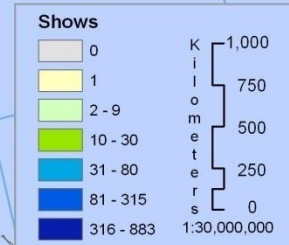


- Outside traditional marketplace
 - Except for influence of digital divide
- Everything shared equally or by popularity/demand
 - Technology dependent
- Old activity of collecting transformed
 - What is “digital material culture”? – hard drive? bits?
- “Specialists” now include “amateurs”
 - Technology empowering the masses

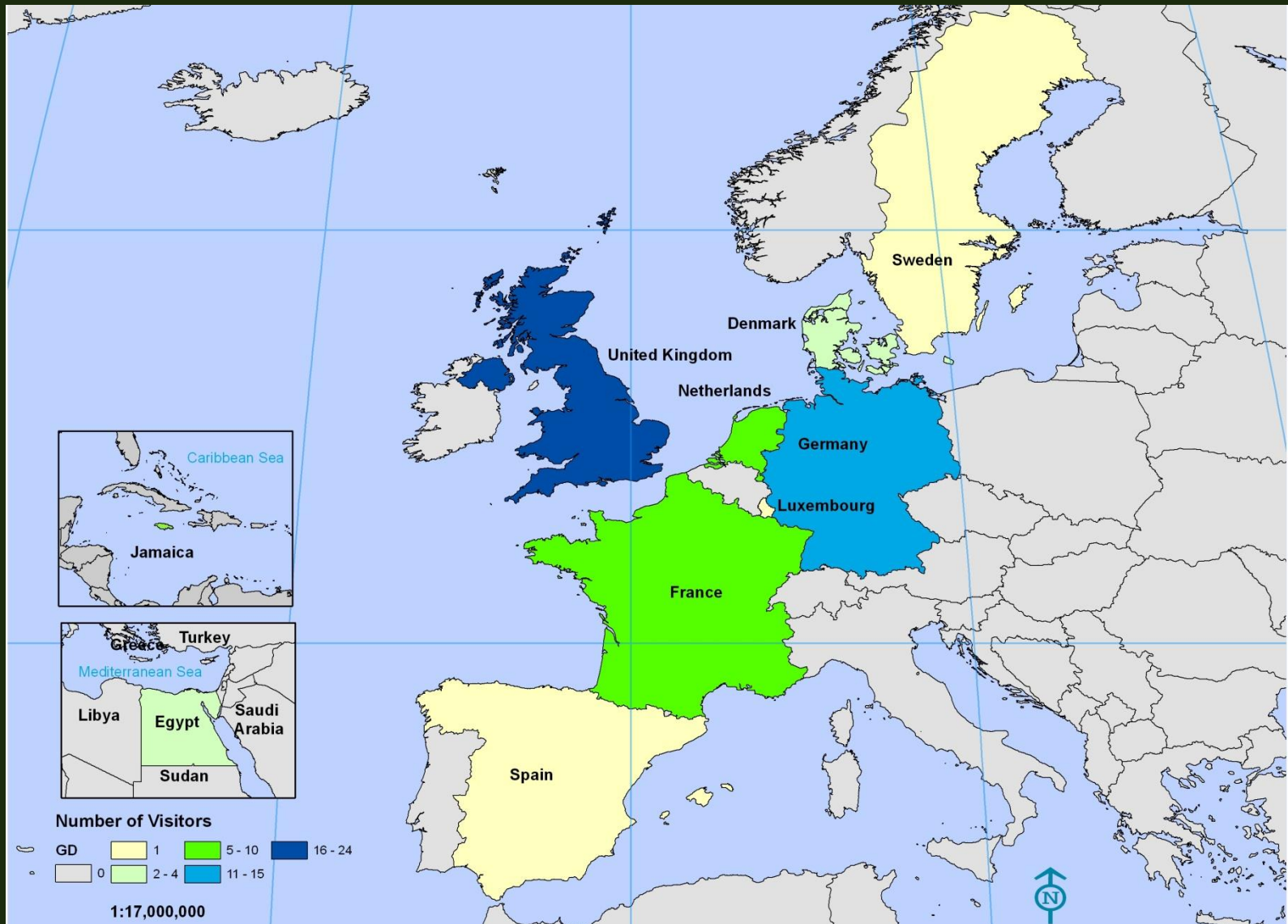
Grateful Dead Shows



- First band to openly allow concert taping by fans
- Music became soundtrack to entire concert experience
 - Concert performance itself but also...
 - Pilgrimages to and between concerts
 - Parking lot scenes before and after concerts
 - Taping and dissemination allowed these concerts to be used as soundtracks to many other subsequent activities



Grateful Dead Shows Outside North America



Taping Section



Grateful Dead Bootlegs



- Over 10,000 recordings
- Of more than 2400 performances
- At over 650 venues

THE SETLIST PROGRAM

Grateful Dead Setlists & Listener Experiences

The SetList Program allows you to search through the Grateful Dead's setlists for shows between 1965 and 1995. It also allows users to comment-on and share their experiences for each show. Find a show you've attended, and leave some comments for other users!

Search Grateful Dead Setlists:

Venue [Lookup](#)

City [Lookup](#)

State/
Country [Lookup](#)

Date [Lookup](#)

Songs [Lookup](#)

☐ Exact Match

Only search shows with comments: ☐

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The lowest prices on Red Sox tickets. Compare & save now.

Top 10 Most Commented-On Shows

05/08/77- Barton Hall (Cornell University) - Ithaca, NY	124
07/09/95- Soldier Field - Chicago, IL	90
10/09/89- Hampton Coliseum - Hampton, VA	55
08/27/72- Old Renaissance Faire Grounds - Veneta, OR	48
09/03/77- Raceway Park - Englishtown, NJ	46
03/19/95- The Spectrum - Philadelphia, PA	44
10/16/89- Brendan Byrne Arena - East Rutherford, NJ	41
06/22/73- P.N.E. Coliseum - Vancouver, XCanada	40
09/16/78- Son Et Lumiere Theater - Giza, XEgypt	31
02/09/73- Roscoe Maples Pavilion - Palo Alto, CA	31

Top 8 Most Played Songs

Me And My Uncle	605
Sugar Magnolia	590
Playin' In The Band	587
The Other One	585
China Cat Sunflower	545
I Know You Rider	545
Not Fade Away	530
Truckin'	518

Top 8 Venues

Winterland Arena	60
The Spectrum	53
Madison Square Garden	52
Fillmore Auditorium	47
Fillmore West	44
Oakland Coliseum Arena	43
Nassau Coliseum	42
Shoreline Amphitheatre	39

Top 8 Cities

San Francisco	328
New York City	157
Oakland	128
Philadelphia	67
Berkeley	60
Chicago	52
Boston	52
Los Angeles	47

Top 8 Years

1969	150
1970	149
1968	131
1967	122
1966	106
1980	87
1981	86
1987	86

Grateful Dead Shows



- Digitization and dissemination via WWW
 - Archive.org
 - Most comprehensive live performance recordings archive of any single band in music history⁵



⁵ WARD, JOHN V. 2012b

The Geography of the Grateful Dead



- The digital preservation and dissemination of bootlegs has made the Live Music Archive the most significant “site of popular music heritage” for the Grateful Dead and perhaps in all of music
- Must be other “sites” with significant historically important live music recordings

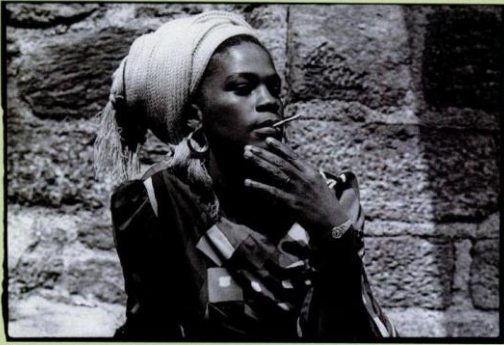
WWW Bootleg Facts



- 32,000+ torrents (concerts) on one site alone
 - 129,000+ users
 - 95 torrents added in last 24 hours (29 June 2012)
- 4704 “taper friendly bands” on archive.org
 - 2000+ Grateful Dead bootlegs
- Visitors from 180+⁴

⁴ WARD, JOHN V. 2012a

Bootlegs



Judy Mowatt

Judy Mowatt

Live in New York 1983

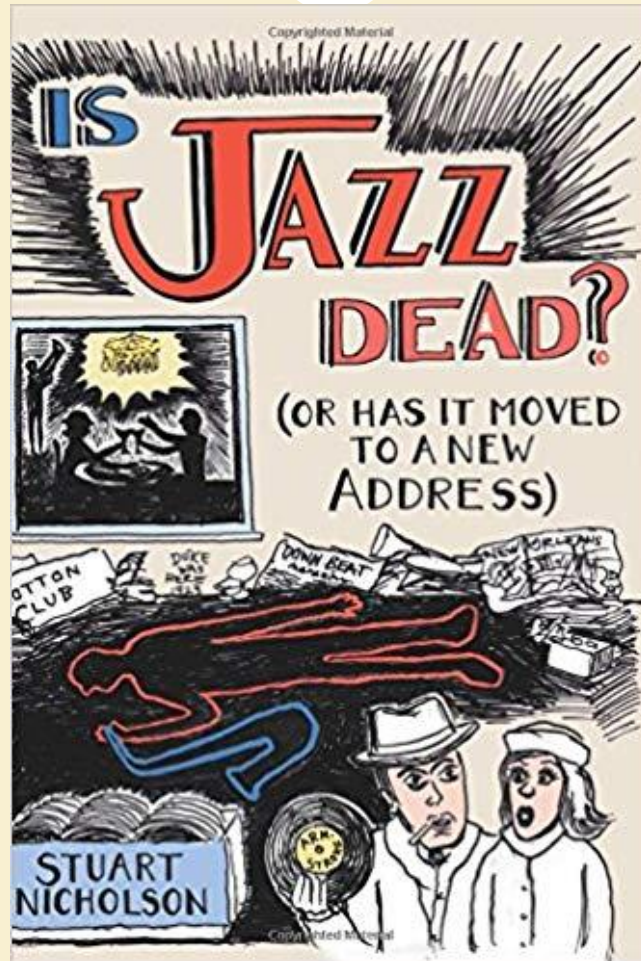
(ft. duet with Peter Tosh)



Miles Davis

Only way to really hear
complete unedited live
performances is via bootlegs

Is Jazz Dead?



Tracking File Sharers on the WWW



- Using IP addresses to identify, locate, and analyze the distribution of file sharing in order to investigate significant “underground” sites of music historic preservation.
- Various ways of doing this:
 - Sites themselves provide information on user location
 - Contact sites about information on user location
 - Contact site users directly about their own location
 - External software for tracking site visitors
- Warning: Can be a tons of data!

Underground Digital Music Dissemination



- Audio archive websites (Ex. *Archive.org*)
- Peer to Peer networks
 - Direct P2P (Ex. *Soulseek*)
 - Decentralized P2P (Ex. *Bittorrent*)
- File Hosting Sites (Ex. *Rapidshare*)
- Blogs and other websites

Tracking by Enumeration Units



- What is a “country”?
 - Not really a good definition
- “Nation-States, Autonomous Territories, and Islands ”
 - Ex: Faroe Islands vs. Finland

Mapping Online File Sharers



- Geolocation technology
 - 97% accurate by “country” using IP addresses
 - IP addresses can be “spoofed”
- Access to information vs Geosurveillance
- Geographic Information Systems (GIS)
 - Mapping software

Nordic Jazz on the WWW



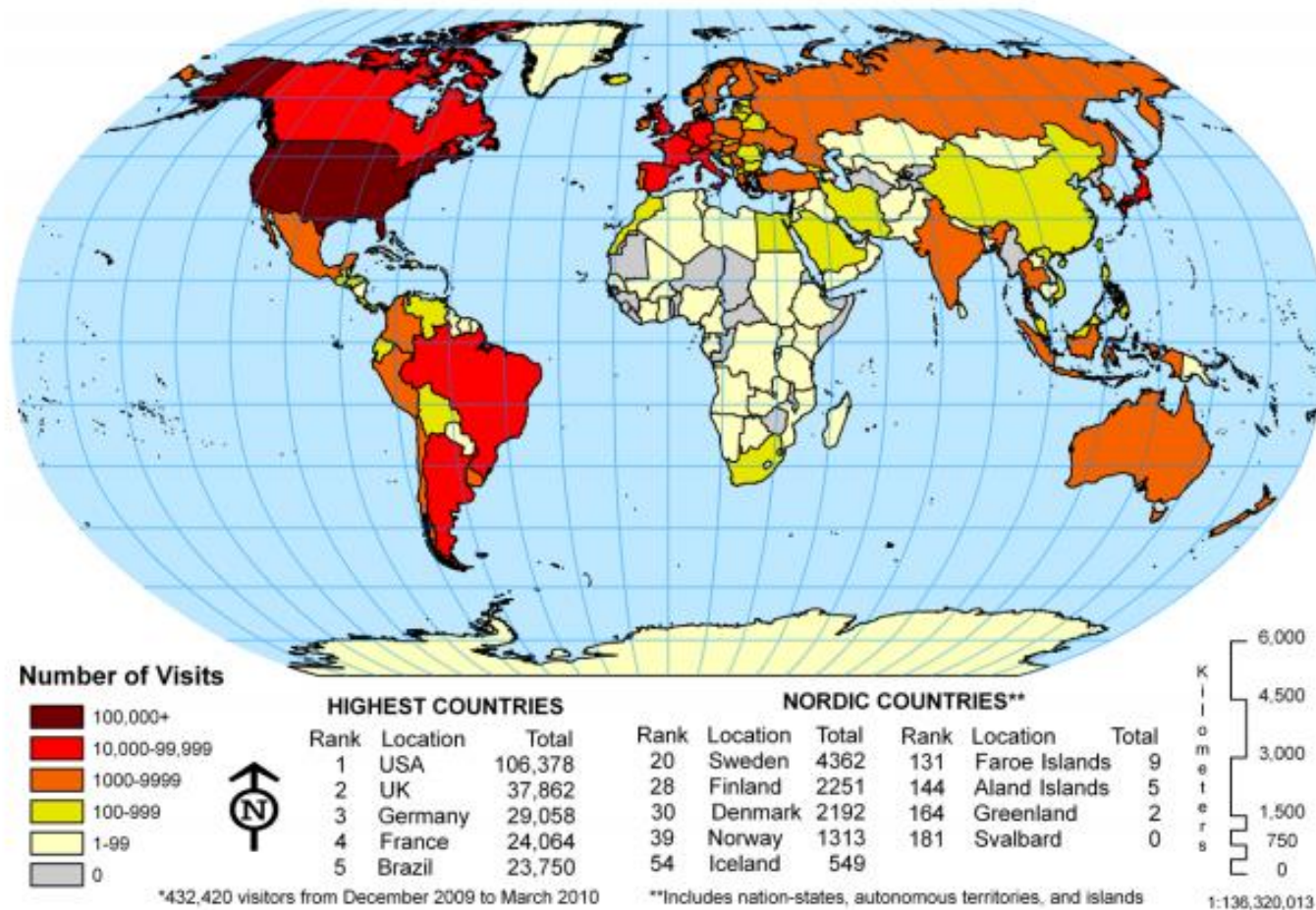
Afghanistan	Djibouti	Kuwait	Qatar
Aland Islands	Dominica	Laos	Reunion
Albania	Dominican Republic	Latvia	Romania
Algeria	Ecuador	Lebanon	Russian Federation
Andorra	Egypt	Lesotho	Rwanda
Angola	El Salvador	Libya	Saint Kitts and Nevis
Anguilla	Estonia	Lithuania	Saint Lucia
Antarctica	Ethiopia	Luxembourg	Saint Pierre and Miquelon
Argentina	Faroe Islands	Macao	San Marino
Armenia	Fiji	Macedonia, the Former Yugoslav Republic of	Saudi Arabia
Aruba	Finland	Madagascar	Senegal
Australia	France	Malaysia	Serbia
Austria	French Guiana	Maldives	Singapore
Azerbaijan	French Polynesia	Mali	Slovakia
Bahamas	Gabon	Malta	Slovenia
Bahrain	Georgia	Martinique	South Africa
Bangladesh	Germany	Mauritius	Spain
Barbados	Ghana	Mexico	Sri Lanka
Belarus	Gibraltar	Moldova, Republic of	Sudan
Belgium	Greece	Monaco	Suriname
Belize	Greenland	Mongolia	Sweden
Bermuda	Grenada	Montenegro	Switzerland
Bolivia	Guadeloupe	Morocco	Syria
Bosnia and Herzegovina	Guam	Mozambique	Taiwan
Botswana	Guatemala	Namibia	Tanzania, United Republic of
Brazil	Guyana	Nepal	Thailand
Brunei Darussalam	Haiti	Netherlands	Trinidad and Tobago
Bulgaria	Honduras	Netherlands Antilles	Tunisia
Burkina Faso	Hong Kong	New Caledonia	Turkey
Burundi	Hungary	New Zealand	Uganda
Cambodia	Iceland	Nicaragua	Ukraine
Cameroon	India	Nigeria	United Arab Emirates
Canada	Indonesia	Norfolk Island	United Kingdom
Cape Verde	Iran, Islamic Republic of	Norway	United States
Cayman Islands	Iraq	Oman	Uruguay
Chile	Ireland	Pakistan	Uzbekistan
China	Isle of Man	Palestinian Territory	Vanuatu
Colombia	Israel	Panama	Vatican City
Cote d'Ivoire	Italy	Papua New Guinea	Venezuela
Costa Rica	Jamaica	Paraguay	Virgin Islands, US
Croatia	Japan	Peru	Yemen
Cuba	Jersey	Philippines	Vietnam
Cyprus	Jordan	Poland	Zambia
Czech Republic	Kazakhstan	Portugal	
Dem. Rep. of the Congo	Kenya	Puerto Rico	
Denmark	Korea, Republic of		

Table 1: List of Countries of IP Origin for Jazz File Sharing Site Visitors

<i>Country</i>	<i>Total</i>	<i>Percentage</i>
USA (1)	106,378	24.6%
UK (2)	37,862	8.8%
Germany (3)	29,058	6.7%
France (4)	24,064	5.6%
Brazil (5)	23,750	5.5%
Sweden (20)	4362	1.0%
Finland (28)	2251	0.5%
Denmark (30)	2192	0.5%
Norway (39)	1313	0.3%
Iceland (54)	549	0.1%
Faroe Islands (131)	9	0.002%
Aland Islands (144)	5	0.001%
Greenland (164)	2	0.0005%
Svalbard (181)	0	0%

Table 2. Jazz File Sharing Site Visits by Country (Top 5 and Nordic Countries)

Number of Visits* from World Countries** to Five Jazz File Sharing Web Sites



Web Site Visitor Data



- **Reggae**

- 4 blogs
- Total visits = 343,972
- High = 90,799
- Mean = 1338



- **Nordic Jazz**

- 4 blogs
- Total visits = 342,624
- High = 86,645
- Mean = 1337



Top Music Downloading Countries by Genre



Reggae



#1



#2



#3

#29 of 195

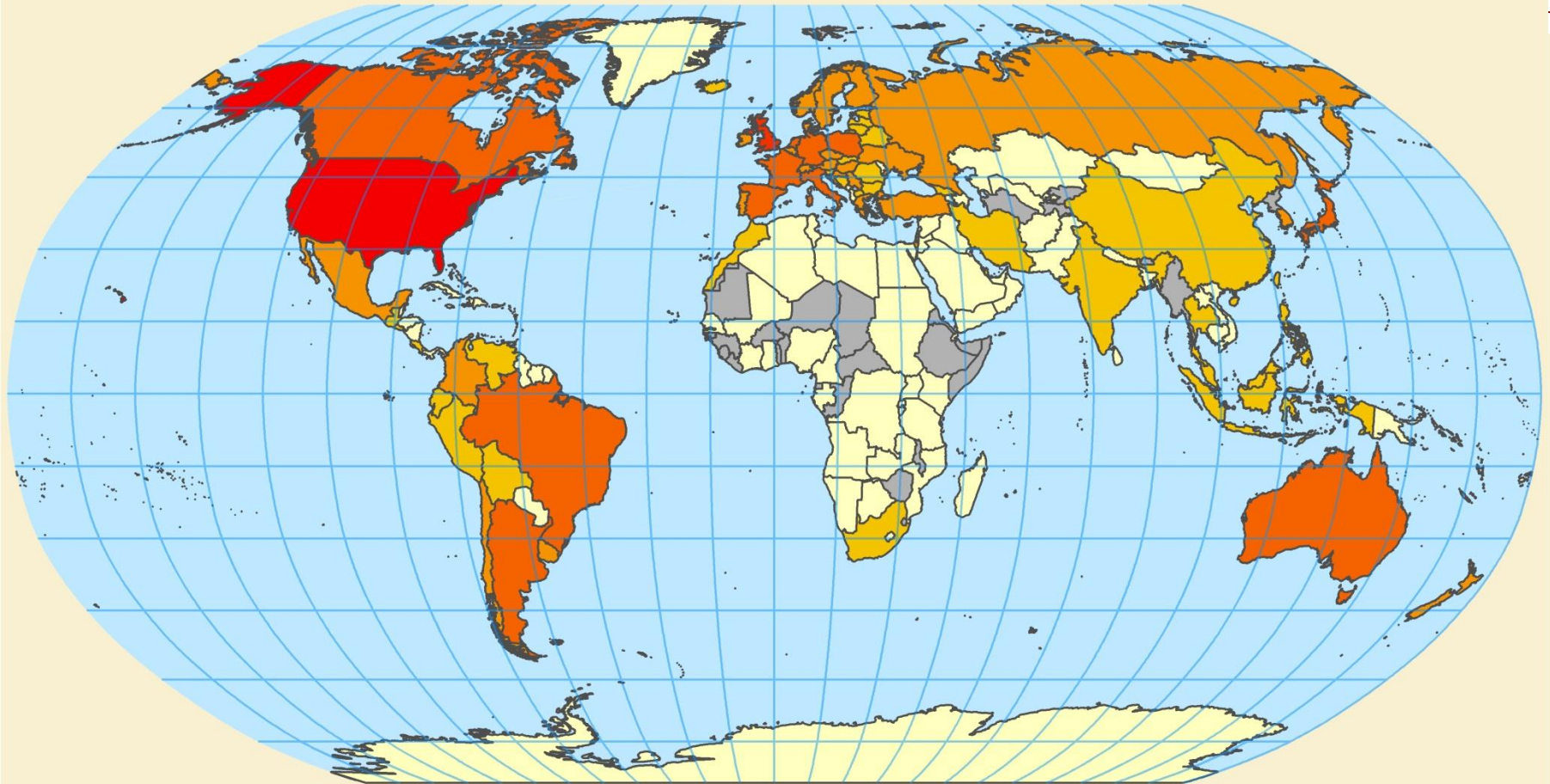


Nordic Jazz

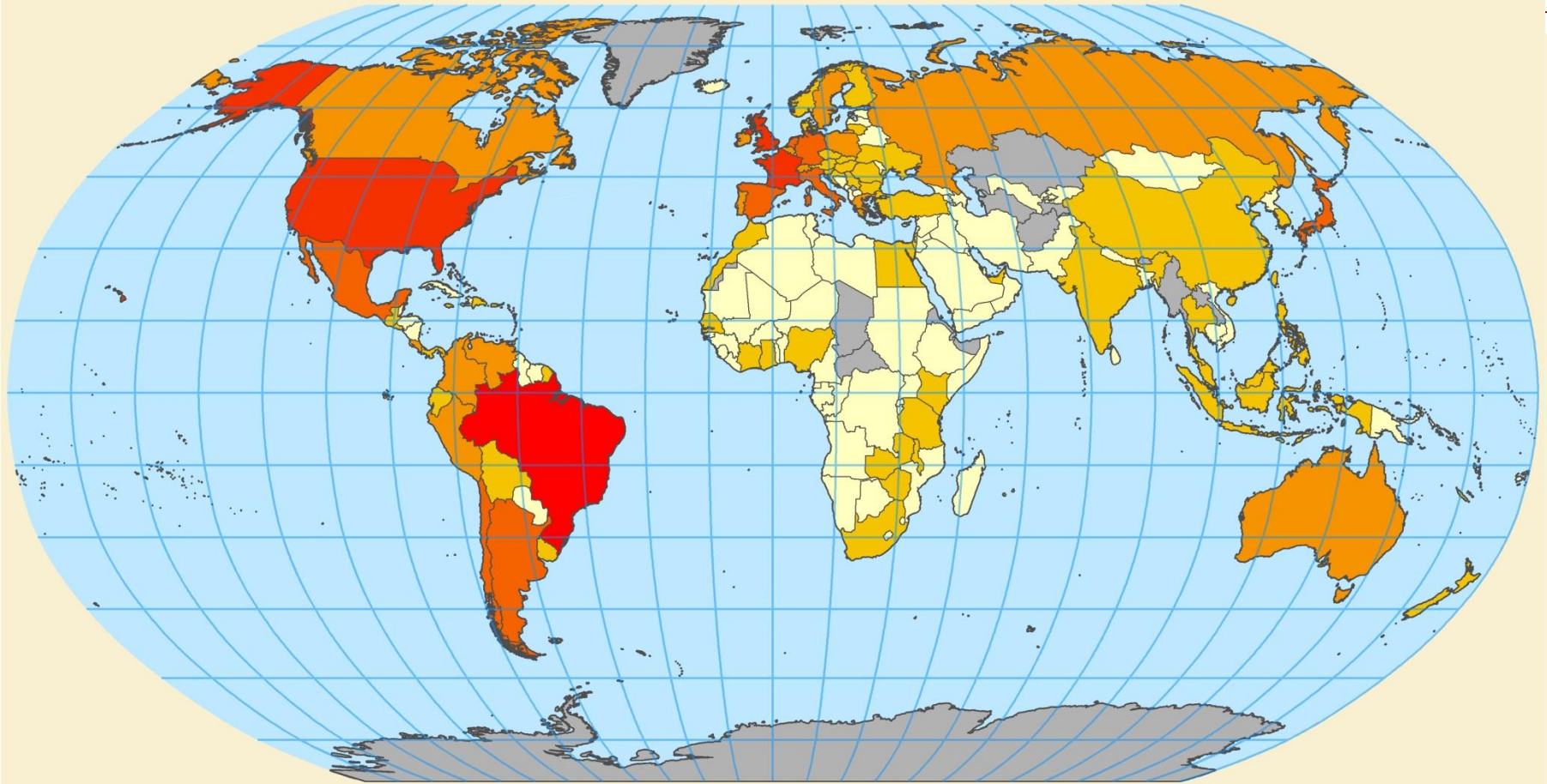


#90 of 177

Nordic Jazz Web Site Visits by Country



Reggae Web Site Visits by Country



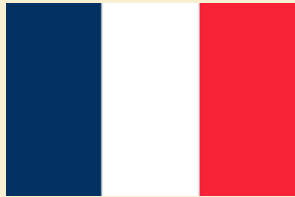
Genre Preference by Country



More Reggae



#1



#2



#3

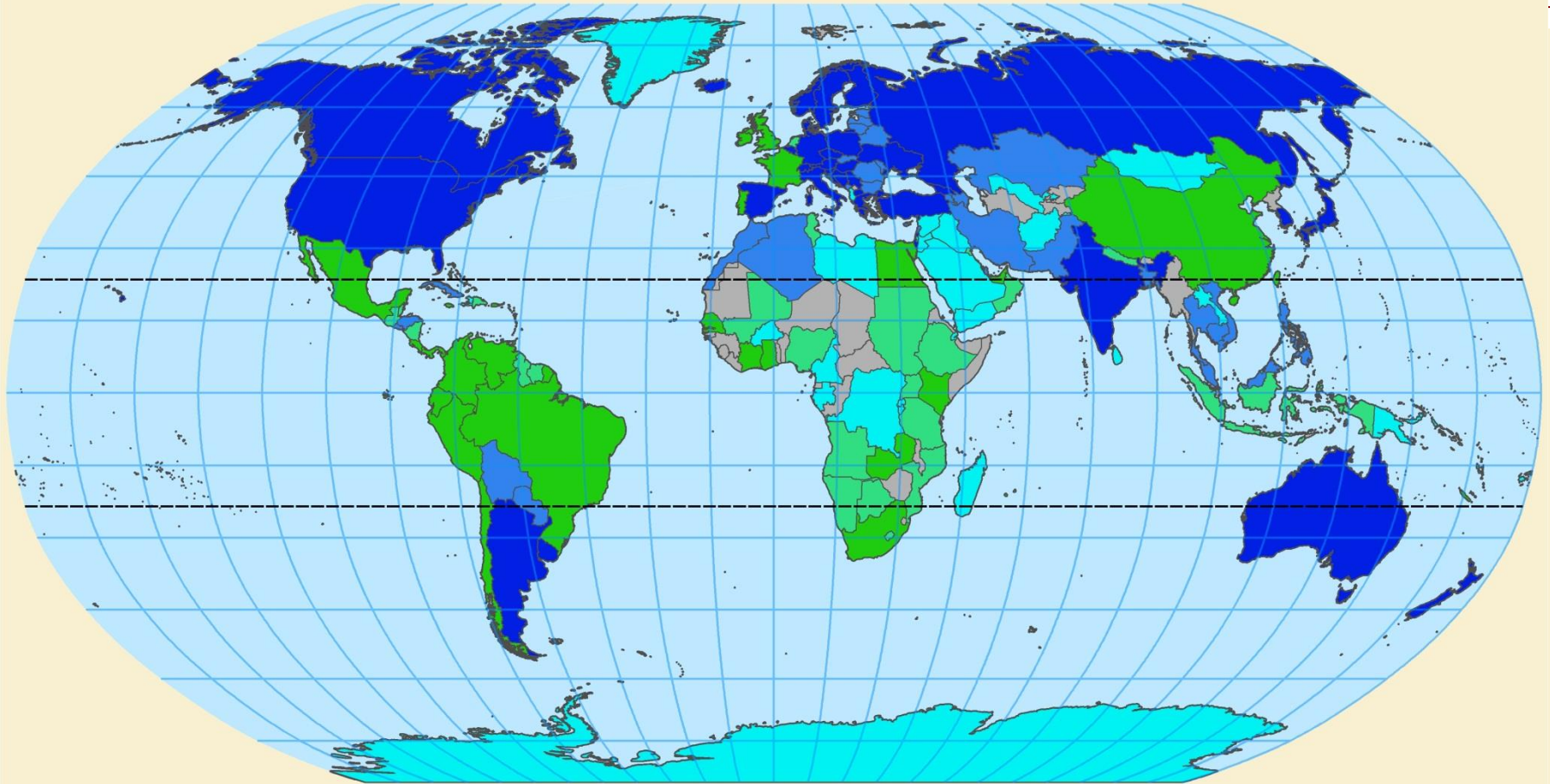


#10

More Nordic Jazz



Genre Preference by Country & Latitude



Nordic Jazz

No Preference

Reggae

Conclusions



- Opportunities for preservation of historic performances
 - Bootlegs not “piracy” if performer taper friendly
- Opportunities for preservation of out-of-print
 - Gray area in terms of “piracy”
- Must negotiate (cyber)spaces of music exchange and differing perspectives on valuation and historic preservation.
 - New models = new power relations

Conclusions



- Musicians and fans can exercise agency in creation, (re)creation, preservation, and dissemination of music
- Balance these opportunities for access against potential abuse by efforts at Geosurveillance

Conclusions



- Smart Cities Technologies can provide tremendous access to services/utilities/etc... but also to information and culture
- Human jobs vs automation
 - Cylons and Skynet???
- Must overcome the “Digital Divide”
 - Be EQUALLY available to all
 - Free WiFi for everyone!
 - Net Neutrality (equal access to all sites)!

Conference Presentations



- 2013. The Dissemination and Preservation of Reggae Recordings on the World Wide Web. Paper to be presented at the 3rd International Reggae Conference, Institute of Caribbean Studies and the Reggae Studies Unit, University of the West Indies, Kingston, Jamaica.
- 2012. Post-Modern Soundtracks: 21st Century Technology, Agency, and the Mediation of Places and Events. Paper presented at the 2012 Soundtracks: Music, Tourism, and Travel Symposium, Liverpool, UK.
- 2011. Pilgrimage, Place, and Preservation: The Real and Imagined Geography of the Grateful Dead in Song, on Tour, and in Cyberspace. Paper presented at the 2011 Sites of Popular Music Heritage Symposium, Liverpool, UK.
- 2011. Piracy or Preservation? The Underground Dissemination of Bootleg Recordings on the World Wide Web. Paper presented at the 2011 International Association for the Study of Popular Music 16th Biennial International Conference, Grahamstown, South Africa.
- 2010. Discography, Preservation, and Cultural Crossings: The Role of the World Wide Web in the Underground Dissemination of Nordic Jazz Recordings. Paper presented at the 2010 9th Nordic Jazz Conference. Helsinki, Finland. PowerPoint published by Suomen Jazz & Pop Arkisto, Helsinki, Finland. Online: http://www.jazzpoparkisto.net/tapahtumat/9th_njc/

Publications



- 2013. Pilgrimage, Place, and Preservation: The Real and Imagined Geography of the Grateful Dead in Song, on Tour, and in Cyberspace. In *Sites of Popular Music Heritage*, edited by Les Roberts, Sara Cohen, Marion Leonard and Rob Knifton, New York: Routledge.
- 2012. Piracy or Preservation? The Underground Dissemination of Bootleg Recordings on the World Wide Web. In *Proceedings of the 2011 International Association for the Study of Popular Music 16th Biennial International Conference, Grahamstown, South Africa*. In press.
- 2011. Discography, Preservation, and Cultural Crossings: The Role of the World Wide Web in the Underground Dissemination of Nordic Jazz Recordings. In *The Jazz Chameleon: the Refereed Proceedings of the 9th Nordic Jazz Conference August 19-20, 2010, Helsinki, Finland*, edited by Janne Mäkelä, IIPC Publication Series Vol. 4, Helsinki: The Finnish Jazz & Pop Archive/Turku: International Institute for Popular Culture.

Thank You



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