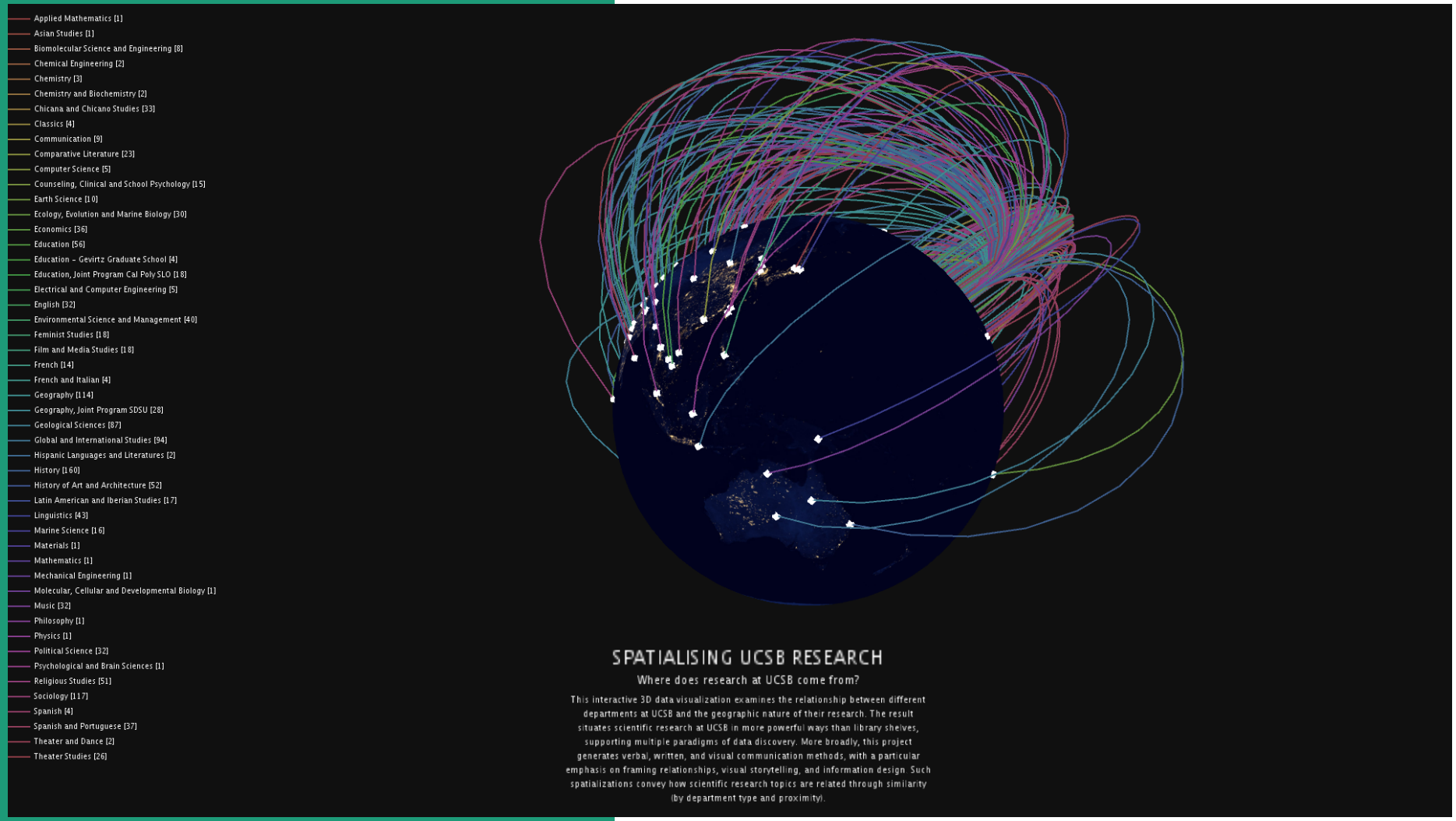
SPATIALISING UCSB RESEARCH

CHRISTINA LAST

MAT 259A

March 15th 2018

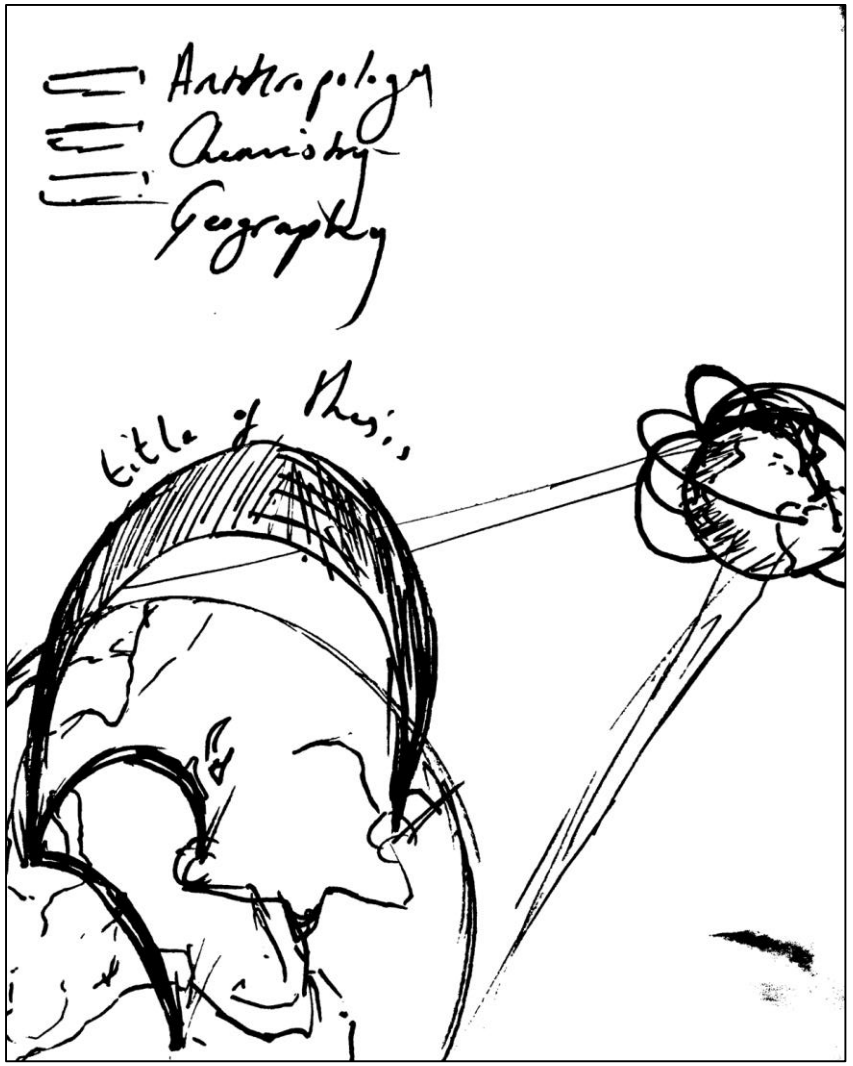


Christina Last | Undergraduate Student at UCSB

INNOVATION IN CONTENT
MAT 259A

The prevalence of globalisation has enabled researchers from all departments travel the world with great ease and share their findings within the university domain.

For my final project, I want simultaneously display the geographic reach of departmental research published at UCSB, and develop a tool for the general public to interrogate Santa Barbara's connection to other locations across the world.



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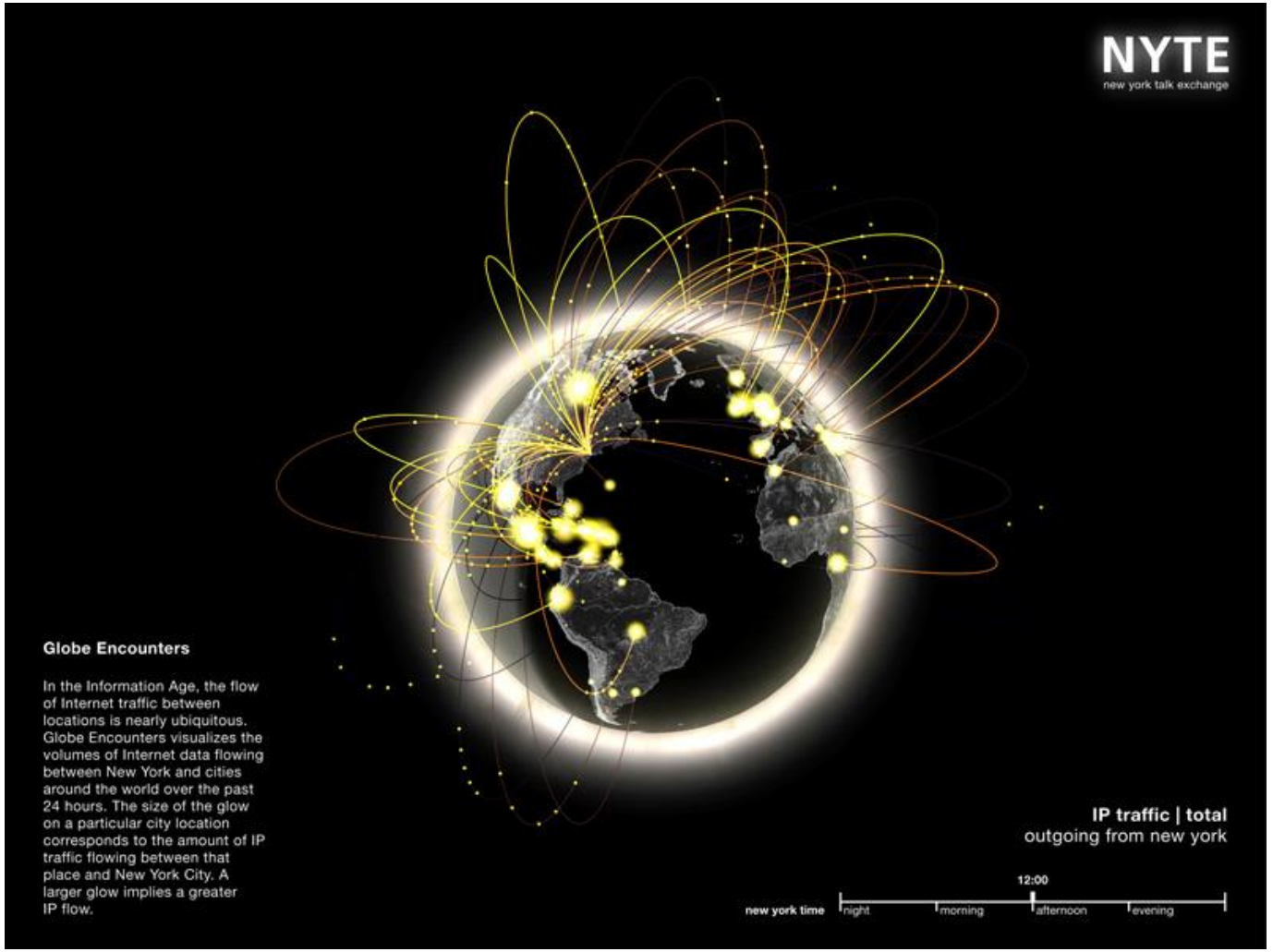
MOTIVATIONS

MAT 259A

By spatializing information, researchers can compute on collections of research documents, asking questions like “Where in the world is the density of my domain’s research the highest?”, “Which domain is the most spatially diverse? or “What other research shares the same spatial neighborhood as my domain?”



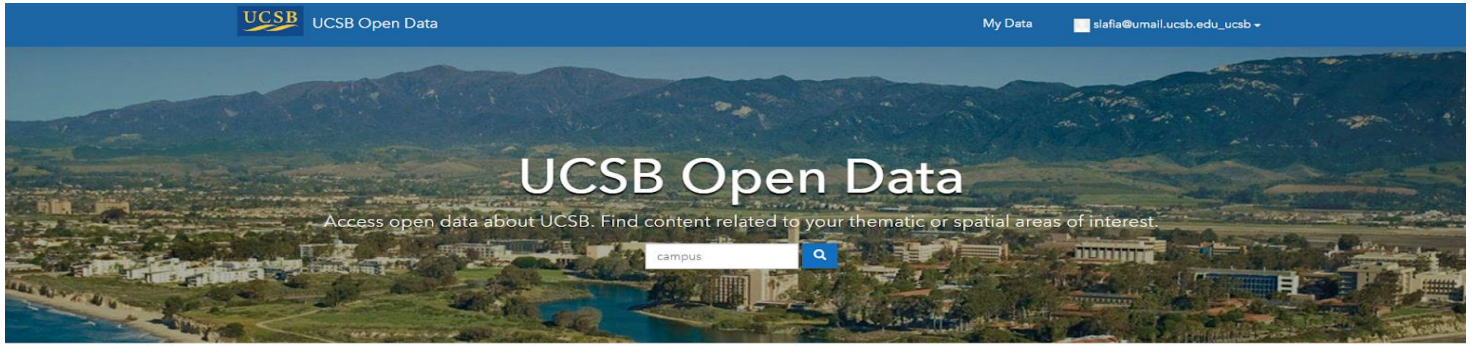
Source: http://senseable.mit.edu/nyte/visuals.html

ANALYSIS

MAT 259A

WORKFLOW:
I scraped the ADRL UCSB Electronic Theses and Dissertations. To identify any locations specific to the thesis or dissertation I pushed the results through a geoparser which compared the word strings to individual place names in Gazeteers.

The geoparsed results were read into R and geocoded using the following code which returns the latitude and longitude of the placename.



key	url	title	year	author	department	degree_supervis	description
1	https://www.al...8907/f3tx3f6r	b/ark:/48907/f3bz65v3	Complex short-ti	2016	Mayer, Hans C.	Mechanical Engi	Rouslan Krechet	In this work, several case studies involving complex
2	https://www.alexandria.ucsb.edu/lib/ark:/48907/f3tx3f6r		The Effect of Soc	2016	Bax, Anna	Linguistics	Mary Bucholtz	In this thesis, I explore the question of whether parti
3	https://www.alexandria.ucsb.edu/lib/ark:/48907/f3ws8t2n		Wings Well Brac	2016	Jensen, Anna	Theater Studies	Simon Williams	Scholarship on Henrik Ibsen has long noted his extr
4	https://www.alexandria.ucsb.edu/lib/ark:/48907/f3s182bm		Consciousness a	2016	Nez, Ana Arellan	Comparative Lite	Francisco A. Lom	Chicano barrios in the U.S. are commonly represent
5	https://www.alexandria.ucsb.edu/lib/ark:/48907/f38052dc		Cosmogenic 35S	2016	Uriostegui, Steph	Geological Scien	Jordan Clark	The current drought crisis in California highlights the
6	https://www.alexandria.ucsb.edu/lib/ark:/48907/f3vt1rxd		Sensor Fusion w	2016	Rahimi, Amir Mol	Electrical and Co	B.S. Manjunath	Visual and multimodal sensors are playing an increa
7	https://www.alexandria.ucsb.edu/lib/ark:/48907/f3zk5gg9		Tuning Electrosta	2016	Gebbie, Matthew	Materials	Jacob N. Israelac	Electrostatic interactions determine the key propertie

Beautiful Soup - scrape ADRL Thesis Collection → CSV - thesis metadata (inc. abstracts) → Geotext - geoparse abstracts/titles → Geocode – use GoogleMaps API to geocode in R → Visualise Using Processing

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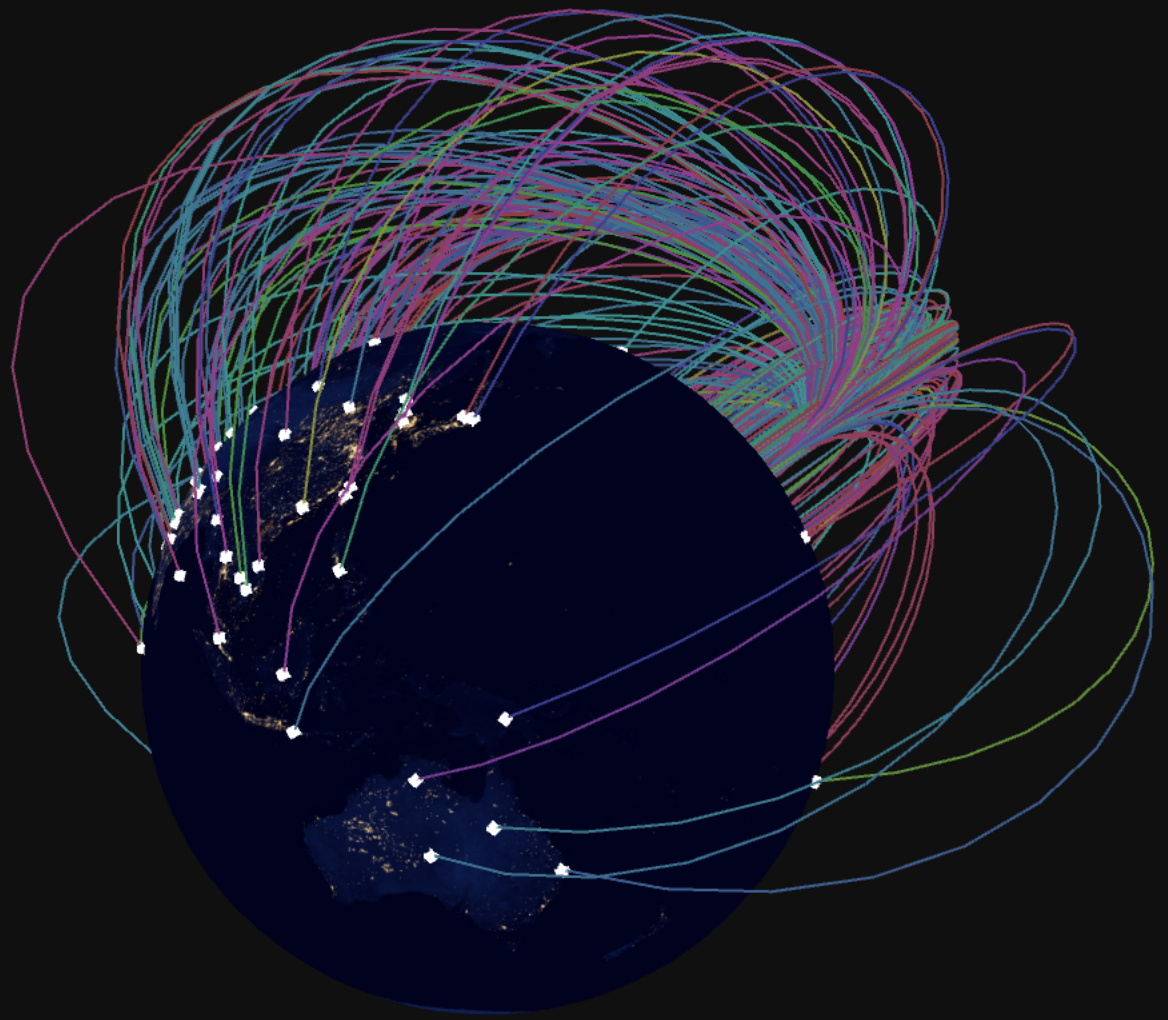
VISUALISATION

- Applied Mathematics [1]
- Asian Studies [1]
- Biomolecular Science and Engineering [8]
- Chemical Engineering [2]
- Chemistry [3]
- Chemistry and Biochemistry [2]
- Chicana and Chicano Studies [33]
- Classics [4]
- Communication [9]
- Comparative Literature [23]
- Computer Science [5]
- Counseling, Clinical and School Psychology [15]
- Earth Science [10]
- Ecology, Evolution and Marine Biology [30]
- Economics [36]
- Education [56]
- Education - Gevirtz Graduate School [4]
- Education, Joint Program Cal Poly SLO [18]
- Electrical and Computer Engineering [5]
- English [32]
- Environmental Science and Management [40]
- Feminist Studies [18]
- Film and Media Studies [18]
- French [14]
- French and Italian [4]
- Geography [114]
- Geography, Joint Program SDSU [28]
- Geological Sciences [87]
- Global and International Studies [94]
- Hispanic Languages and Literatures [2]
- History [160]
- History of Art and Architecture [52]
- Latin American and Iberian Studies [17]
- Linguistics [43]
- Marine Science [16]
- Materials [1]
- Mathematics [1]
- Mechanical Engineering [1]
- Molecular, Cellular and Developmental Biology [1]
- Music [32]
- Philosophy [1]
- Physics [1]
- Political Science [32]
- Psychological and Brain Sciences [1]
- Religious Studies [51]
- Sociology [117]
- Spanish [4]
- Spanish and Portuguese [37]
- Theater and Dance [2]
- Theater Studies [26]



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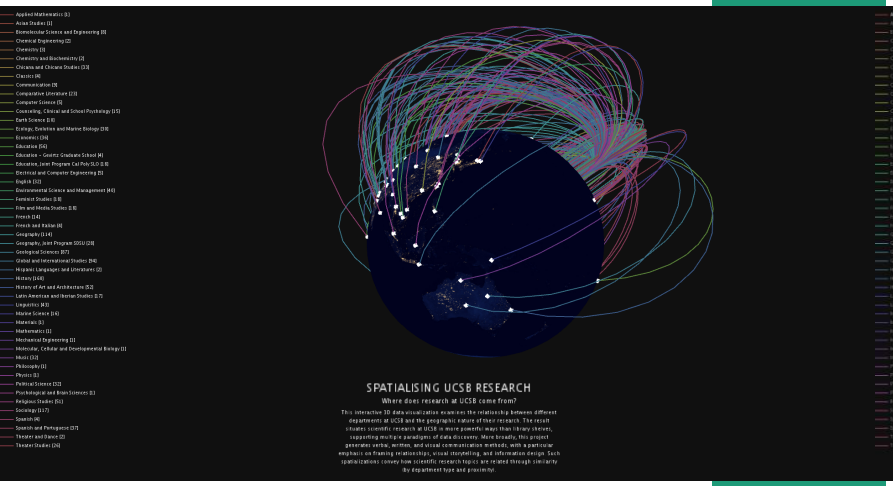
INTERACTIONS



The full data set

The department

The Thesis

Mouse Pressed – on individual departments to reveal all departmental thesis links and the thesis titles
Mouse Hovered - .on individual departments to reveal all departmental thesis links
Mouse Hovered – on individual thesis titles to reveal their individual link.
Rotating – clockwise and anti-clockwise with arrow keys | stop and start with any key.

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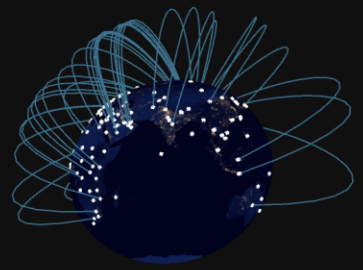

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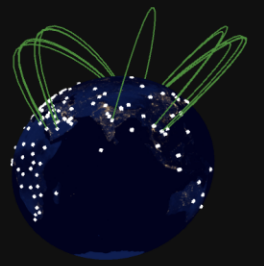

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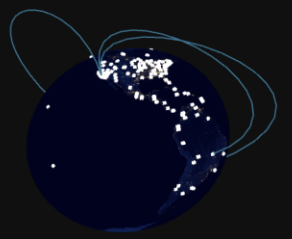

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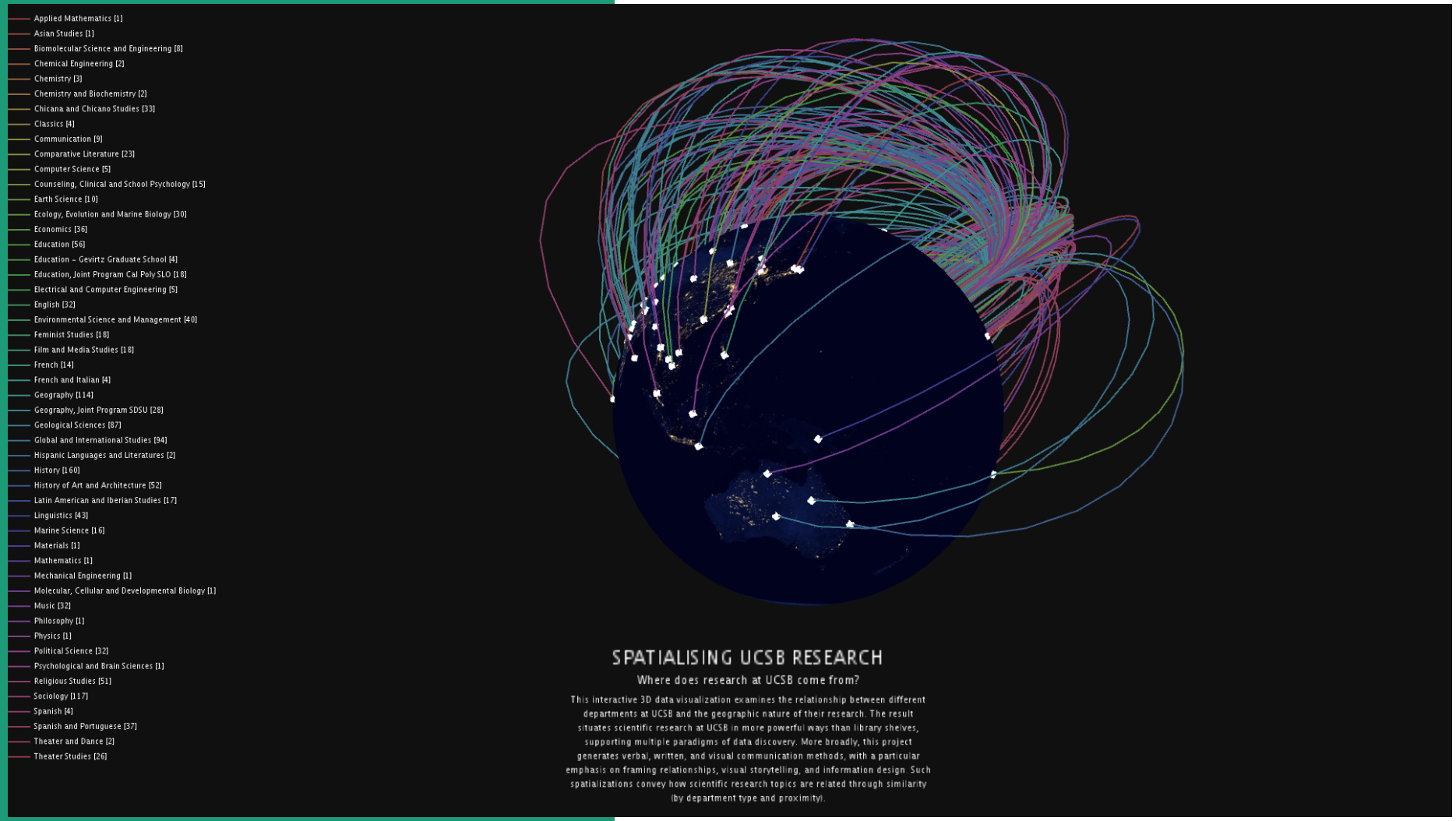

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