

GEOGRAPHY 258 – DIGITAL GEOGRAPHIES

WINTER 2018 – M/W 9:30-11:20

Sarah Elwood
Dept of Geography

University of Washington
selwood@uw.edu, 206.616.5238

Wednesday labs: AA: 11:30-12:20; AB: 12:30-1:20; AC: 1:30-2:20

Thursday labs: AD: 8:30-9:20; AE: 9:30-10:20; AF: 10:30-11:20

Course Description

The way we know and experience the world around us is increasingly mediated by digital technologies – many of them with geographic or locational capabilities. Global positioning systems in cars, smart phones, buses, card readers and countless other devices track the location and movements in countless people as they go about their everyday lives. Google Maps and geo-tagged Tweets are used to coordinate pro-democracy and anti-inequality protests around the world. Geo-social ‘check-in’ services alert us when a friend is nearby. Citizens send geotagged photos of urban problems to government officials in some cities via smart phone apps. Crisis mappers use mobile spatial technologies to compile and map real-time observations of disaster relief needs or human rights violations around the world. This class will help you engage the societal practices (and problems) arising from these digital spatial technologies in two ways:

1. We explore a 3 ways that digital spatial technologies shape (or ‘mediate’) our lives. Unit 1 asks how digital geographies work as *spatial practices*? How and why do these digital practices shape what we see, feel, experience, know or do in particular spaces; and to what ends? Unit 2 focuses on how digital geographies work as *digital practices*. What are the unique properties of digital artifacts and the consequences of coding the world as ‘data’ and using software to act upon it? Unit 3 asks about the kinds of relationships, interactions and forms of power/control that result from digital spatial practices (e.g. privacy and surveillance, inequality, social justice, inclusion, and empowerment). Here we ask how do digital geographies work as *relational practices*’?
2. We build hands-on skills for creating your own simple interactive multimedia maps and data collection apps, and important aptitudes you need for *creating and innovating* with digital spatial technologies. By the end of the course, you will have learned enough html, css, and javascript to build a simple website portfolio of interactive multimedia maps you create during the quarter. More importantly, our tech activities in the class are intended to help you *learn to learn* new digital practices in an ever-changing world of technology. No department or course can teach you every single app, programming language, or software you might use someday, so the most important skill for your future is an ability to teach yourself new skills by exploring unfamiliar softwares, identifying and completing publicly available tutorials, and collaborating with those around you to learn together.

Learning Objectives

- Understand how new spatial technologies produce social and spatial relationships, geographic knowledge, inequality and empowerment, inclusion and exclusion.

- Understand the hardware, software, data and applications that create digital geographies.
- Develop hands-on skills for digital mapping and data management; integrating diverse visual, textual and quantitative data; and working across multiple platforms or web services.
- Expand your aptitudes for learning new technologies (individually and collaboratively) in an environment of rapid technological change.
- Critically assess the societal implications of new spatial technologies, particularly with respect to social, political, and economic inequality from local to global scales.

Digital device policy & hardware/software

Many of our activities in class will involve using geographic applications that run over the internet or on mobile devices. You are **not** required to have such a device, but if you have a laptop, tablet or smart phone you are willing/able to use for these activities, please bring it to class with you. **HOWEVER: All devices must be put away in your bags or pockets at all times during class except when I have specifically asked you to take them out for an activity. If you are using technologies at another time, you can expect me or a TA to interrupt lecture and ask you to stop.**

Why no screens? Each of you deserves the very best chance to concentrate and learn in this class, and large numbers of former students in this class complain about being distracted by other students' use of technologies during lecture. Further, research clearly demonstrates that taking notes by hand improves your comprehension and memory of class content. Read more here: <http://www.scientificamerican.com/article/a-learning-secret-don-t-take-notes-with-a-laptop/> <http://www.theguardian.com/science/2014/dec/16/cognitive-benefits-handwriting-decline-typing>

Exceptions: 1) if there are substantive reasons that taking notes on a laptop will improve your learning in this class, please come to my office hours to discuss an exception; 2) if you are having an emergency and need your phone out one day, please let me know in advance. I don't need to know the details of the emergency, but you do need to notify me. In both cases, if we give you permission to use a phone/tablet/laptop in class, **you must sit in the front 2 rows.**

How to take notes for this class: I will post lecture outlines to Canvas at least 24 hours before class. I advise printing the lecture outline and writing your own notes directly on it in class. Instructions for printing slides available at our Canvas page.

Hardware & Software

- You are not required to have or use your own smart phone/tablet. Project 3 involves use of a smart phone or tablet, and you can check out an iPad from the Student Tech Fee office: <http://www.cte.uw.edu/STFEquipment>. I recommend an advance reservation to borrow their equipment. All other necessary hardware and software are in Sherman Lab (Smith 401). If you want to work also on your own computer, you should download these free softwares:
- FileZilla or another SFTP client (I like Cyberduck as an alternative;
- Notepad++ (<https://notepad-plus-plus.org/>) or other text editor specifically for writing code (e.g. a trial version of Sublime: <http://www.sublimetext.com/>.)

Required Readings

To reduce your expenses, there is no textbook for this class. You will read a mix of academic articles and online media coverage. Quite a few of the online articles are drawn from *The New York Times*. If you exceed the maximum number of free view-able articles, you will need to purchase a reduced price student subscription to the online version of the *NYT* (approximately \$1 per week): <https://www.nytimes.com/subscriptions/edu/lp8LQFK.html> .

Activities & Grading (due dates in schedule below)

Class activities & activity teams

Our class meetings will be interactive, and I will frequently ask you to complete an activity, individually or in a small team. A portion of your grade will be determined from these activities, typically on the basis of some sort of product from the activity – a written paragraph, an online submission, etc. For team activities, your output needs to include the name and (for paper turn-ins) signatures of all group members who participated. ***It is the responsibility of each individual to make sure their signature is on the final output.*** Please note: Because I expect you to be in class for all class meetings, ***activities cannot be made up after the fact*** (Exception: late registrants adding the class in Week 1). Please see me in cases of extended illness or family difficulties that force your absence from multiple classes. Early in the quarter, you will organize yourselves into activity teams, in small groups with people who sit near you in lecture.

Assignments

- In-Class Activity Responses (weekly) (50 points)
- HTML & CSS Tutorial (20 points)
- Project 1: Digital Tour Guide (60 points)
- Project 2: Building a Mash-Up with the Google Maps API (60 points)
- Project 3: Building Your Own Mobile App
 - 3a. Mobile app survey questions (15 points)
 - 3b. Data set (15 points)
 - 3c. Map & project report (30 points)
- Final Portfolio (50 points)
- Exam (cumulative) (100 points)

Final grades for the course will be assigned based upon the following scale:

376 – 400 points = 3.9-4.0	274 – 291 points = 1.9-2.1
356 – 375 points = 3.5-3.8	260 – 273 points = 1.5-1.8
344 – 355 points = 3.2-3.4	248 – 259 points = 1.2-1.4
332 – 343 points = 2.9-3.1	220 – 247 points = 0.9-1.1
308 – 331 points = 2.5-2.8	200 – 219 points = 0.7-0.8
292 – 307 points = 2.2-2.4	Below 200 points = 0.0

Extra Credit – Help Crowdsource this Class

You can earn up to 10 points of extra for contributing *current* (**To get credit, the resource must be from 2017– check the date on the article, app, video, etc!**) resources that will help me strengthen lecture content, in-class activities, and the lab projects. I will award 5 points each for:

- A video clip or visual example that could be used in class to illustrate lecture material
- A meaningful description of how to extend one of the 3 projects with a new activity or element
- An example of a spatial app with description of how it could meaningfully illustrate specific lecture material we have covered
- An example of a spatial app with an idea for how to use it for an in-class activity

Your description should be 3-5 sentences long and include relevant URLs. Email to me at selwood@uw.edu. All extra credit contributions are due by **Friday, March 9 at noon.**

Lab & Project Activities Schedule

Week 1: Lab introductions, start HTML & CSS Tutorial

Week 2: HTML & CSS Tutorial and Project 1

Week 3: Project 1 + starting identifying a partner for Project 3!

Week 4: Project 2 + find partner for Project 3

Week 5: Project 3 + you **MUST** confirm partner for Project 3 with your TA by end of your lab!!

Week 6: Project 3 (build your app)

Week 7: Project 3 (collect data with your app)

Week 8: Project 3 (build your map & work on project 3 report)

Week 9: Finish Project 3, start Portfolio

Week 10: Portfolio

Finals week: *No scheduled lab sections.*

Lecture Schedule

Week 1 – January 3: *Class Intro & Overview*

*Readings: Strauss 2014, Keller & Neufeld 2014

Unit 1 How do digital geographies ‘work’ as spatial practices

Week 2 – January 8 & 10: *Maps to apps: Shifting ‘socio-technological’ practices*

*Readings: **Verhulst 2008**, McMullan 2014, Chaban 2014, McCrea 2016.

Week 3 – January 17: *Seeing, feeling, exploring: How do digital spaces create meaning?*

*Readings: **Ash 2009 [sections 1 & 5 only]**, Baussel 2016, Davies 2015, Grynbaum 2012, Chang 2016.

Week 4 – Jan 22 & Jan 24: *Acting: Digital spatial practices to (re)make the world?*

*Readings: Shaer 2015, Naidoo 2013, Wolf 2010, Robbins 2016, Boyle 2016, Gregory 2015.

Unit 2 – How do digital geographies ‘work’ as digital practices?

Week 5 — Jan 29 & Jan 31: *Principles of the 'digital'*

*Readings: **Manovich 2001**, Meyer 2016 (as ex of digital principles at work), Morozov 2014, Leonard 2014, Nearing 2015

Week 6 – Feb 5 & 7: *'Data' and 'Search'*

*Readings: **Kitchin 2013**, **Graham et al. 2013**, Segal 2011, Segal 2016, Dougherty 2015.

Week 7 – Feb 12 & 14: *Code and Software Sorted Geographies*

*Readings: **Kitchin and Dodge 2011**, Gallagher 2015, Williams, 2016, Smith 2012

Unit 3 – How do digital geographies 'work' as relational practices?

Week 8 – Feb 21: *Geo-information and power*

*Read: **Elwood/ Leszczynski 2014**, Johnson 2014, Shapiro 2014, Cagle 2016, Tracy 2016.

Week 9 – Feb 26 & Feb 28: *Who profits and how? Political economy of digital geographies*

*Readings: Fisher 2013, Grossman 2014, Isaac 2015, Kang 2016, LaFrance 2016, Scola 2015.

Week 10 – Mar 6 & 8: *Course Wrap Up & Exam*

*Reading: Funk 2016

Geography 258, Winter 2017 Reading List (available on Canvas)

Ash, J. 2009. Emerging spatialities of the screen: video games and the reconfiguration of spatial awareness. *Environment and Planning A* 41(9): 2015-2124.

Baussell, M. 2016. Streets without shops: how apps are transforming our local neighbourhoods. *The Guardian* 7 October 2016. <https://www.theguardian.com/cities/2016/oct/07/streets-without-shops-apps-changing-neighbourhoods-gentrification>

Boyle, D. 2016. Easel Rider! Cyclist uses GPS tracking app to create amazing artworks while tracking 3000 miles in the saddle. *The Daily Mail* 19 February 2016. <http://www.dailymail.co.uk/news/article-3454641/Easel-rider-Cyclist-uses-GPS-tracking-app-create-amazing-artworks-clocking-3-000-miles-saddle.html>

Cagle, S. 2016. Facebook, Instagram, and Twitter Provided Data Access for a Surveillance Product Marketed to Target Activists of Color. 11 October 2016. <https://www.aclunc.org/blog/facebook-instagram-and-twitter-provided-data-access-surveillance-product-marketed-target>

Chaban, M. 2014. Peek in Gramercy Park, Key No Longer Required. *The New York Times* 2 December 2014. <http://www.nytimes.com/2014/12/02/nyregion/peek-in-gramercy-park-key-no-longer-required.html>

Chang, O. 2016. How the UN thinks virtual reality could not only build empathy but catalyze change, too. *Digital Trends* 1 October 2016. <http://www.digitaltrends.com/virtual-reality/un-using-virtual-reality/>

- Davies, A. 2015. Measuring brainwaves to make a new kind of bike map for New York City. *Wired Magazine*, 30 January 2015. http://www.wired.com/2015/01/mindrider-manhattan-bike-map/?mbid=social_twitter
- Dougherty, C. 2015. Apps everywhere, but no unifying link. *The New York Times* 6 January 2015. http://www.nytimes.com/2015/01/06/technology/tech-companies-look-to-break-down-walls-between-apps.html?emc=eta1&_r=0
- Elwood, S. and Leszczynski, A. 2011. Privacy reconsidered: New representations, data practices, and the geoweb. *Geoforum* 42(1): 6-15.
- Fisher, A. 2013. Google's Road Map to Global Domination. *The New York Times*. 11 December 2013. Available at: http://www.nytimes.com/2013/12/15/magazine/googles-plan-for-global-domination-dont-ask-why-ask-where.html?pagewanted=all&_r=0
- Funk, M. 2016. Should we see everything the police see? *The New York Times Magazine* 23 October 2016. www.nytimes.com/2016/10/23/magazine/police-body-cameras.html
- Gallagher, S. 2015. The future is the Internet of Things – Deal with it. *ARS Technica* 29 October 2015. <http://arstechnica.com/unite/2015/10/the-future-is-the-internet-of-things-deal-with-it/>
- Graham, M., Schroeder, R., & Taylor, F. 2013. Search. *New Media & Society* 15(8) 1366-1373.
- Gregory 2015. Mobil-Eyes Us: Using Live Video and the Power of Networks for Smart Activism. Witness.org, October 2015. <https://technology.witness.org/2015/10/mobil-eyes-us-using-live-video-and-the-power-of-networks-for-smart-activism/>
- Grossman, L. 2014. The man who wired the world: Mark Zuckerberg's crusade to put every single human being online. *Time* 184(23): 30-41.
- Grynbaum, M. 2012. Amateur Mapmakers Redraw Boundaries, Working Online. *The New York Times*, 9 September 2012. <http://www.nytimes.com/2012/09/10/nyregion/amateur-mapmakers-reshape-new-york-neighborhoods-online.html>
- Isaac, M. 2015. Nextdoor Social Network Digs Deep Into Neighborhoods. *The New York Times* 3 March 2015. http://www.nytimes.com/2015/03/04/technology/nextdoor-a-start-up-social-network-digs-deep-into-neighborhoods.html?emc=eta1&_r=0
- Johnson, S. 2014. 'Internet of Things' to make life easier, but its data could be used against you. *Seattle Times* 9 November 2014. http://seattletimes.com/html/business/technology/2024985905_internetofthingsprivacyxml.html
- Kang, C. 2016. Bridging a digital divide that leaves schoolchildren behind. *The New York Times* 23 February 2016. http://www.nytimes.com/2016/02/23/technology/fcc-internet-access-school.html?_r=0
- Keller, M. and Neufield, J. 2014. Terms of Service: Understanding Our Role in the World of Big Data. *Al Jazeera America*. <http://projects.aljazeera.com/2014/terms-of-service/#1>
- Kitchin, R. 2013. Chapter 1, "Conceptualizing data" from *The Data Revolution: Big Data, Open Data, Data Infrastructures and Their Consequences*. London, Sage.
- Kitchin, R. & Dodge, M. 2011. Chapter 1, "Introducing code/space" from *Code/Space: Software & Everyday Life*. Cambridge, MA: MIT Press.
- LaFrance, A. 2016. Facebook and the new colonialism. *The Atlantic*. 11 February 2016. <http://www.theatlantic.com/technology/archive/2016/02/facebook-and-the-new-colonialism/462393/>

- Leonard, A. 2014. One code to rule them all. Salon, 3 January 2014. Available at: http://www.salon.com/2014/01/03/one_code_to_rule_them_all_how_big_data_could_help_the_1_percent_and_hurt_the_little_guy/
- MacQuillan, D. 2013. Smart slums: utopian or dystopian vision of the future? *The Guardian* 6 October 2014. <http://www.theguardian.com/global-development-professionals-network/2014/oct/06/smart-slums-smart-city-kenya-mapping>
- Manauagh, G. 2016. Why you can't trust GPS in China. *Travel & Leisure Magazine* <http://www.travelandleisure.com/articles/digital-maps-skewed-china>
- Manovich, L. 2001. What Is New Media? In *The Language of New Media*. Cambridge, MA; London: The MIT Press. [Read pages 27-48 on principles of new media].
- McCrea, C. 2016. Screaming "Pikachu" in a crowded theatre. *The Monthly* 15 July 2016. <https://www.themonthly.com.au/blog/christian-mccrea/2016/15/2016/1468554069/screaming-pikachu-crowded-theatre>
- McMullan, T. 2014. How digital maps are changing the way we understand our world. *The Guardian* 12/2/2014. <http://www.theguardian.com/technology/2014/dec/02/how-digital-maps-changing-the-way-we-understand-world>
- Meyer, R. 2016. Facebook Is Making a Map of Everyone in the World. *The Atlantic* 23 February 2016. <http://www.theatlantic.com/technology/archive/2016/02/facebook-makes-a-new-map-of-everyone-in-the-world/470487/>
- Morozov, E. 2014. The rise of data and the death of politics. *The Guardian* 19 July 2014. <http://www.theguardian.com/technology/2014/jul/20/rise-of-data-death-of-politics-evgeny-morozov-algorithmic-regulation>
- Naidoo, J. 2013. Open data platforms: a tool to revolutionise governance. *The Guardian* 16 April 2013. <http://www.theguardian.com/global-development-professionals-network/2013/apr/16/open-data-governance-jay-naidoo>
- Nearing, B. 2015. "On-call scheduling" benefits employers, can leave workers scrambling. *Times Union*, 16 November 2015. <http://www.timesunion.com/tuplus-business/article/On-call-scheduling-benefits-employers-can-6632933.php>
- Robbins, L. 2016. New Weapon in Day Laborers' Fight Against Wage Theft: A Smartphone App. *The New York Times*, 1 March 2016. <http://www.nytimes.com/2016/03/02/nyregion/new-weapon-in-day-laborers-fight-against-wage-theft-a-smartphone-app.html>
- Scola, N. 2015. Bringing the Internet to the neighborhoods the Internet companies forgot. *Orion Magazine*. 20 February 2017. <https://www.fastcoexist.com/3042558/bringing-internet-to-the-neighborhoods-the-internet-companies-forgot> .
- Segal D 2011 The dirty little secrets of search. *New York Times* 12 February (<http://www.nytimes.com/2011/02/13/business/13search.html>)
- Segal, D. 2016. Fake online locksmiths may be out to pick your pocket. *The New York Times* 31 January 2016. <http://www.nytimes.com/2016/01/31/business/fake-online-locksmiths-may-be-out-to-pick-your-pocket-too.html>
- Saer, M. 2015. The media doesn't care what happens here. *The New York Times Magazine*. 22 February 2015. http://www.nytimes.com/2015/02/22/magazine/the-media-doesnt-care-what-happens-here.html?emc=eta1&_r=0

- Shapiro, G. 2014. What happens when good innovations do bad things? *The Washington Post* 2 December 2014.
<http://www.washingtonpost.com/blogs/innovations/wp/2014/12/02/what-happens-when-good-innovations-do-bad-things/>
- Smith, J. 2012. New research shows where employers find their new hires. *Forbes* 6 April 2012.
<http://www.forbes.com/sites/jacquelynsmith/2012/04/06/new-research-shows-where-employers-find-their-new-hires/#2d6ee8a5412e>
- Strauss, V. 2014. Why a leading professor of new media just banned technology use in class. *The Washington Post* 9/25/2014. <http://www.washingtonpost.com/blogs/answer-sheet/wp/2014/09/25/why-a-leading-professor-of-new-media-just-banned-technology-use-in-class/>
- Tracy, M. 2016. With Wearable Tech Deals, New Player Data Is Up for Grabs. *The New York Times*. 11 September 2016.
<http://www.nytimes.com/2016/09/11/sports/ncaafootball/wearable-technology-nike-privacy-college-football.html?smprod=nytcore-ipad&smid=nytcore-ipad-share>
- Verhulst, S. 2008. Linked geographies: Maps as mediators of reality. In Turow, J and Tsui, L. (Eds). 2008. *The Hyperlinked Society: Questioning Connections in a Digital Age*. Michigan: University of Michigan Press, pp. 191-205. Available at:
<http://quod.lib.umich.edu/n/nmw/5680986.0001.001/1:4/--hyperlinked-society-questioning-connections-in-the-digital?g=dculture;rgn=div1;view=fulltext;xc=1#4.3>
- Williams, A. 2016. The Internet of broken things, or why am I so cold? *Hackaday* 8 February 2016. <http://hackaday.com/2016/02/08/the-internet-of-broken-things-or-why-am-i-so-cold/>
- Wolf, G. 2010. The Data Driven Life. *The New York Times*. 28 April 2010.
<http://www.nytimes.com/2010/05/02/magazine/02self-measurement-t.html>

Class Expectations / Academic Conduct

Inclusivity. A robustly inclusively public university is one of the cornerstones of a healthy society – one of the most important institutions of a democracy. I strive to make my classroom a place where each of us contributes to this by fostering a climate of inclusiveness that respects all points of view, facilitates constructive dialogue across the full spectrum of community membership, and serves to enhance everyone’s learning and understanding. You are a tremendously diverse group of people with respect to race, gender, religion, age, citizenship status, first language, ability, sexuality, socio-economic status, veteran status and much more. Each of you is a welcome and invaluable part of this community.

If you know of any factors in your life that may require me or the TAs to adapt aspects of the course to help you learn up to your potential, please make an appointment with us. If these factors are recognized disabilities under the ADA, please register with Disability Resources for Students (DRS) and bring your letter of accommodation to me so we can plan to accommodate your needs. DRS can be contacted at: 011 Mary Gates Hall; Phone: 206-543-8924 (Voice and relay); E-mail: uwdrs@uw.edu. Full details at: <http://depts.washington.edu/uwdrs/>

Stay connected. Read syllabus, instructions, class emails carefully. Announcements will go to YourNetID@uw.edu– so check this account or set it up to forward someplace you check regularly. You *will* need to use your UW Google Account for this class (Please note: This is DIFFERENT than personal gmail/Google accounts you may have been using before you came to UW, and requires you to activate the UW Google apps for your NetID. If you have not done this, or do not understand what is explained in this paragraph, review the entire page carefully: <http://www.washington.edu/itconnect/connect/email/google-apps/getting-started/>) .

Be professional. Build a mutually support community. Treat one another with respect. Ask constructive questions. Listen to each other. Be a full participant. Be a resource for our collaboration. No vulgarity; no personal attacks; no hostile, discriminatory, or stereotyping remarks about other social groups – race, ethnicity, gender, age, class, housing status, and so on.

Be honest. Academic dishonesty, including but not limited to plagiarism, cheating, or submitting academic work that has previously been submitted (without citation or previous permission of instructor) will be penalized. If you have questions about the policy, see me or review details here: <https://depts.washington.edu/grading/pdf/AcademicResponsibility.pdf> . Academic dishonesty will be handled according to the University’s Student Conduct Code: <http://www.washington.edu/admin/rules/policies/WAC/478-121TOC.html>.

Complete assignments and exams on time. To be fair to your classmates who do their work in a timely fashion, unless a documented medical or personal emergency arises, any work turned in late will be penalized 10% of the total score per day that it is late. 10% for 1 day late, 20% for 2 days, and so on. Extensions or incompletes will not be granted unless exceptional circumstances require it and prior arrangements have been made. Everyone is expected to take the exams during class time on the day they are scheduled. See me in cases of medical or personal emergency.

Student Care & Safety Resources

It is important that you take care of yourselves inside and outside of class as you work through stress and other obstacles. There are many different support services on campus that can help, such as the Counseling Center, Hall Health, and the IMA. UW’s Student Care program can help you connect to these and other resources around campus. You can learn more and contact them directly: <http://depts.washington.edu/livewell/student-care/> , livewell@uw.edu , or 206.543.6085. If you are concerned about yourself or a friend who is struggling, SafeCampus is a helpful resource to learn more about how to facilitate access to campus-based support services. Please save the number for SafeCampus, 206.685.7233 in your cell phones.