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# Environmental Art and Awareness in the Age of Apps

ALLISON CARRUTH

One way to describe twenty-first-century culture might well be “the age of apps.” The diminutive quality of the term for this complex technology suggests the seductive ease of everyday online habits that apps at once occasion and facilitate. Whether one owns a mobile device, and whether one is a promiscuous or frugal downloader, there is a zeitgeist that the word seems to capture. These are heady times of creative commons on the one hand and monetization on the other, social entrepreneurship and metadata surveillance, crowdsourcing and personal branding, and real-time political mobilization and self-styled “slacktivism.”

The story to tell about apps through an environmental lens—or what I would term a critical ecology lens—is similarly mixed. In January 2013, Apple announced that the iOS App Store had hit the forty billion-download mark and was well on its way to one million apps (evidently in lock step with the number of apps available in the Android Market).<sup>1</sup> Behind the rush to use apps for everything from remembering to pick up milk to monitoring air quality are the mobile devices and data centers that run them. Behind this rush to use apps, that is, lurks a rapidly expanding, energy-intensive infrastructure whose environmental impacts and labor practices we are only beginning to understand.<sup>2</sup> The time is thus ripe for *cyberenvironmentalism*, by which I mean not the use of digital platforms to advance environmental movements but rather the cultivation of environmental ethics for online actions.<sup>3</sup>

A corollary to the energy demand and e-waste that apps and all that runs them create is the thorny question of who the consumers are in

this virtual marketplace. Access to Internet service and computing devices is anything but universal. The United Nations Broadband Commission released survey data last year, for example, showing that over 90 percent of people in the “49 least developed countries do not have access to the Internet.”<sup>4</sup> Not only is Internet access itself uneven and unequal, but so too is access to the high-speed connections, next-generation devices, and cloud storage services required to put such access to use. These forms of access, put differently, encompass the social dynamics of class, race, gender, and nationality. To this point, the 2013 UN study found that, worldwide, 200 million fewer women than men are online.<sup>5</sup>

Contra this portrait of the digital age, both neoliberal economists and poverty relief organizations stress the social promise of mobile computing. As the *New York Times* reported in 2008, the vast majority of the world’s communities have cellular phone service and relatively affordable mobile plans (relative, at least, to laptop computers and dedicated Internet connections); and by 2006, according to a telecom industry group, nearly 70 percent of global mobile phone subscriptions were in developing nations.<sup>6</sup> Such data points in turn inspire a powerful storyline about the age of apps for environmental scholars and activists: the potential for leveraging this tiny digital form to engage diverse, international publics and spark new forms of ecological knowledge and action.

It is in this multivalent context that we offer the following exhibit of mobile apps, which together highlight the artistic and political possibilities for interactive digital media.

## Environmental Apps: A Curated Exhibit

BURTYNSKY: OIL

**Artist:** Edward Burtynsky

**Developer:** Melcher Media

**Address:** [http://www.edwardburtynsky.com/site\\_contents/Books/Oil\\_App.html](http://www.edwardburtynsky.com/site_contents/Books/Oil_App.html)

**Developer Description:** Edward Burtynsky has traveled internationally to chronicle the production, distribution, and use of the most critical fuel of our time. This new, interactive edition of his monu-

mental OIL project surveys a decade of photographic work on the subject and features new work from the Gulf of Mexico. This app features more than 100 of Burtynsky's stunning photographs, including ten images from a new series documenting the Gulf of Mexico oil spill. Each image is seen full-screen in high-resolution, and each can be expanded to zoom into detail. Burtynsky provides audio commentary on twenty-four of his photographs, describing how he made them, what they show, and how they fit into his narrative on oil. The app also features video walkthroughs of the *OIL* exhibition with the artist himself.<sup>7</sup>

#### BOSKOI: URBAN EDIBLES

**Developers:** Joey van der Bie, Maarten van der Mark, and Vincent Vijn

**Address:** <http://boskoi.org>

**Developer Description:** Boskoi is a free, opensource mobile app that helps you explore and map the edible landscape wherever you are. Named after the Greek word for grazer or browser the app lays out a map of local fruits and herbs and allows users to edit and add their own finds. Made by the foragers at Urban Edibles in Amsterdam, Boskoi is an Ushahidi-based app that comes with a few foraging guidelines. Finds can be reported on this website or via the current beta app for Android smartphones.

#### INDETERMINATE HIKES+

**Artists:** EcoArtTech; Leila Nadir and Cary Peppermint

**Developer:** Polina Koronkevich

**Address:** <http://ecoarttech.org/projects/indeterminate-hike>

**Developer Description:** The Indeterminate Hikes+ (IH+) mobile media app transforms everyday landscapes into sites of bio-cultural diversity and wild happenings through a series of walking tours. IH+ re-appropriates smartphones, which are generally used for rapid communication and consumerism, and turns them into tools of environmental imagination and meditative wonder, renewing awareness of biological, cultural, and media ecologies and slowing participants down at the same time. The app works by importing the

rhetoric of wilderness into virtually any place accessible by Google Maps and encouraging its users to treat these locales as spaces worthy of the attention accorded to sublime landscapes, such as canyons and waterfalls.

#### OUR MALIBU BEACHES

**Writer-Artist:** Jenny Price

**Developer:** Escape Apps

**Address:** <http://escapeapps.com/apps>

**Developer Description:** In Malibu, California, coastal access to public beaches has been litigious and controversial. LA-based environmental journalist Jenny Price has covered the issue for decades and wanted to make her deep knowledge more applicable to all Angelenos and visitors to what she calls “one of the most beautiful stretches of coastline in the world.” Our Malibu Beaches gives you pinpointed directions and expert tips so you can enjoy the 20 miles of gorgeous beaches in Malibu that are lined with private development. . . . Our Malibu Beaches: An Owners Guide is part of the Know What network, a collection of apps from brilliant, informed people—each with dozens of favorite places and best local secrets.<sup>8</sup>

#### POLLUTION

**Developer:** A Mobile Future

**Address:** <http://www.amobilefuture.com/fr/produits/pollution>

**Developer Description:** Pollution allows you to learn more about your environment and, in particular, pollutants and their effects. Through the intersection of several public databases, Pollution displays polluting sources around you. Pollution shows the details of each pollutant and the consequences of each type of pollution source. Furthermore, Pollution provides measurement results of environmental quality available through public databases. When available, Pollution uses information embedded GPS to facilitate geolocation. The information used by pollution is from public databases.<sup>9</sup>

## WWF TOGETHER

**Developer:** World Wildlife Fund

**Address:** <http://worldwildlife.org/pages/the-world-s-most-amazing-animals-in-one-app>

**Developer Description:** Experience the world's most amazing and endangered animals in one app—together. This award-winning interactive experience brings you closer to the stories of elephants, whales, rhinos and other fascinating species. Discover their lives and the work of WWF in a way you've never seen before. Try out "tiger vision," stay as still as the polar bear during a hunt, and chop the panda's bamboo. Winner of a 2013 Apple Design Award, WWF Together was selected as one of the top iPad apps of 2013 in the App Store. More than 1 million downloads in 2013!<sup>10</sup>

## CO<sub>2</sub> GO (IN DEVELOPMENT)

**Team:** Carlo Ratti (lab director), Kristian Kloeckl (project leader), Vincenzo Manzoni, Diego Maniloff, Nathan Villagaray-Carski, and Rex Britter

**Address:** <http://senseable.mit.edu/co2go>

**Developer Description:** CO<sub>2</sub> GO, a new type of smartphone application, is an effective tool that assists in making smarter individual transportation choices to collectively reduce carbon emissions in cities. Making sophisticated use of the sensors contained in a standard smartphone (accelerometer, GPS, . . .) carried in your pocket, CO<sub>2</sub> GO deploys an unprecedented algorithm to calculate in real-time the carbon emissions while on the move. It does so by automatically detecting your mode of transportation (walking, biking, train, car, bus, subway, . . .) while tracking the distance covered.

## NOTES

1. Dan Rowinski, "Google Play Will Beat Apple App Store to 1,000,000 Apps," *read-write*, January 8, 2013, <http://readwrite.com/2013/01/08/google-play-to-hit-1-million-apps-before-apple-app-store#awesm=~osTF93GsfRueMn>.

2. I have recently published an essay that explores these issues and builds on the work of several science and technology studies (STS) scholars and environmental NGOs (Allison Carruth, "The Digital Cloud and the Micropolitics of Energy," *Public Culture*

26, no. 2 [2014]: 339–64. See also James Glanz, “Power, Pollution and the Internet,” *New York Times*, September 22, 2012; Greenpeace International, *How Dirty Is Your Data? A Look at the Energy Choices That Power Cloud Computing* (Amsterdam: Greenpeace International, 2011); Greenpeace International, *How Clean Is Your Cloud?* (Amsterdam: Greenpeace International, 2012); Elizabeth Grossman, *High Tech Trash: Digital Devices, Hidden Toxics, and Human Health* (Washington DC: Island Press, 2007); Steven Levy, “Google Throws Open Doors to Its Top Secret Data Center,” *Wired*, October 17, 2012; Alan Liu, *The Laws of Cool: Knowledge Work and the Culture of Information* (Chicago: University of Chicago Press, 2004); Richard Maxwell and Toby Miller, *Greening the Media* (Oxford and New York: Oxford University Press, 2012); Lisa Nakamura, *Digitizing Race: Visual Cultures of the Internet* (Minneapolis: University of Minnesota Press, 2007); Fred Turner, *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism* (Chicago: University of Chicago Press, 2006).

3. Carruth, “The Digital Cloud and the Micropolitics of Energy.”

4. Liz Ford, “Mobile Phones Have Been a Gift for Development, Says Jeffrey Sachs: Better Access to Technology Can Help Achieve Millennium Goals, Says Economist, as UN Calls for Affordable Broadband Worldwide,” *The Guardian*, September 23, 2013, <http://www.theguardian.com/global-development/poverty-matters/2013/sep/23/mobile-phones-development-jeffrey-sachs>.

5. Ford, “Mobile Phones Have Been a Gift for Development.”

6. Sara Corbett, “Can the Cellphone Help End Global Poverty?” *New York Times*, April 13, 2008.

7. Developer description synthesized from “Burtynsky: Oil on the App Store by iTunes,” iTunes website, <https://itunes.apple.com/us/app/burtynsky-oil/id524467450>; and “Edward Burtynsky Oil App,” Edward Burtynsky website, [http://www.edwardburtynsky.com/site\\_contents/Books/Oil\\_App.html](http://www.edwardburtynsky.com/site_contents/Books/Oil_App.html).

8. Developer description synthesized from “Our Apps,” Escape Apps website, <http://escapeapps.com/apps>; and “Our Malibu Beaches on the App Store at iTunes,” iTunes website, <https://itunes.apple.com/us/app/our-malibu-beaches/id565636167>.

9. My translation of the original French website copy.

10. Developer description synthesized from “WWF Together on the App Store on iTunes,” iTunes website, <https://itunes.apple.com/us/app/wwf-together/id581920331>; and “The World’s Most Amazing Animals in One App,” WWF website, <http://worldwildlife.org/pages/the-world-s-most-amazing-animals-in-one-app>.