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URPL-GP.4614
Intelligent Cities: Technology, Policy and Planning

Spring 2012
March 23 – May 4 (7 sessions)
Friday, 9:15 – 10:55am
Location: TBD

Instructor:
Dr. Anthony Townsend

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Course Overview

Global urbanization is driving demand for an estimated $40 trillion in infrastructure over the next two decades, and information technology spreading off the desktop and out of offices and homes into everyday objects. As these two trends collide, a broad range of stakeholders - the information technology industry, real estate developers, technology startups, citizens and civic leaders – are all looking for new opportunities to address both existing and emerging urban problems using "intelligent" systems. This course will cut through the thick hype around intelligent cities by discussing - what are intelligent cities really? Where, why and by whom are they being built? What are the intended and unintended potential consequences? What is the role of urban policy and planning in shaping their evolution? Students are expected to have some basic knowledge of fundamentals of urban planning. This is not a technology or engineering course – technical concepts will be explored during the lectures as needed to explain their significance in urban affairs.

March 23
Intelligent Cities: Past, Present and Future

The first session will survey the topics to be discussed throughout the rest of the course. We'll look at the key trends of urbanization and the rise of ubiquitous computing, and the symbiotic relationship between information technologies and urban growth. We'll discuss the main stakeholders in intelligent cities– and how they are engaging in the development and deployment of new urban technologies.

We'll dissect several of the most notable intelligent city projects, being led by industry – New Songdo City in South Korea and PlanIT Valley in Portugal. We'll conclude by examining some of the emerging conflicts and how they manifest themselves within the context of urban policy, planning and design.

Townsend, Ch. 1 "A Tale of Two Cities" and Ch. 2 "The $40 Trillion Jackpot"

March 30
DIY Cities

Entrepreneurs, citizen hackers and NGOs are developing a more grassroots vision for intelligent systems and building them using open source and low-cost tools. We'll look at the motivations and means by which intelligent capabilities are being deployed in the city from the bottom up. As a way of understand the potential consequences of bottom-up and top-down models, we'll look at how this intersects with industry's vision discussed in the previous week, and historic parallels with the introduction of automobiles in 20th century cities.

Townsend, Ch. 3 "Tinkering Towards Utopia"

April 6
City Hall 2.0

City governments are pursuing a broad range of initiatives using information technology for everything from precise infrastructure management to engaging citizens in long-term planning. We'll look at some of the leading cities that are using intelligent systems and the web to spur innovation in public service delivery and governance. We'll look at the open government movement and the role of open data in enabling the development of intelligent systems.

Townsend, Ch. 6 "City Hall 2.0"

April 13
Inclusion in the Intelligent City

Intelligent systems add value by personalizing, customizing, measuring and controlling – but all of that precision cuts is at odds with many civic virtues such as equality, openness, transparency and inclusion. If cities become truly intelligent, no two people may experience them in quite the same, creating enormous risks that existing injustices will grow or be reinforced, and new kinds of exclusions can be "programmed" into the city. We'll look at several dilemmas around digital privacy, crowdsourcing public services, and economic development.

Guest speaker: Benjamin de la Peña, an urban planner who leads the Rockefeller Foundation's grant making in the areas of innovations in metropolitan policy and in the intersection of urban dynamics, information technology and issues of inclusion.

Townsend, Ch. 4 “Have Nots” and IFTF “The Future of Cities, Information and Inclusion” (will be handed out in class the week before)

April 20
Civic Laboratories
What best practices are emerging, and how are they going to be identified and circulated. We’ll look at some of the emerging organizations that are harvesting, standardizing and cross-fertilizing good ideas for intelligent city policy, planning and design. We’ll compare this process to other urban innovations such as bike sharing and bus rapid transit.

Townsend Ch. 7 “A Planet of Civic Laboratories” and Ch. 8 “Thinkable Cities”

April 27
Unintended Consequences
To date, most discussions about intelligent cities have been dominated by discussion of the opportunities for creating new solutions to urban problems. However, there are considerable risks around intelligent cities in the area of excessive automation, reliability and surveillance. We’ll look at some of the worst case scenarios using signals from the world today in cybersecurity, infrastructure resilience, and intelligence and espionage

Townsend, Preface “Will the Smart Toilets Ever Work?” and Ch. 5 “Buggy, Brittle and Bugged”

May 4
Future-proofing Your Neighborhood
We’ll wrap up with speculation and brainstorming about desired paths forward. How could this all play out over the next few decades – what are ways that intelligent systems can be future-proofed to prevent obsolescence? How

Townsend, Chapter 9, “How to Future-proof Your Neighborhood”

Course Texts

Townsend, Anthony M. *Smart Cities: How Technology Giants, Citizen Hacktivists and City Hall are Battling Over Our Future* (unpublished manuscript, provided as electronic copy)

Institute for the Future, *A Planet of Civic Laboratories: The Future of Cities, Information and Inclusion*

Other materials will be distributed electronically.

Assignments

Weekly – for the first six classes, students must submit a "signal" of a recent development in intelligent cities. A signal is a news item, research paper, photograph, video or other content that represents a direction of change or emerging trend. Each signal should contain a pointer to the document (a URL, or APA-style citation) and a 200-250 word (1 page) synopsis highlighting the key development(s) in the signal, and your interpretation of its significance for urban policy, planning or design.

Final Paper – for the final week, students must submit a written position paper of 8-10 pages (maximum 2500 words plus images and illustrations) examining a real world example taken from one of those used in class, or a different example approved by the instructor. Your paper should pose and attempt to answer an urban policy, planning or design question raised by the intersection of urbanization and ubiquitous information technology.

Course Site

http://intelligentcity.tumblr.com