MBA Core Redesign
Georgia Tech

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IT Teaching Workshop
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Course Objectives

Business concepts
- emerging trends and business models
- new opportunities
- transformations
- challenges

due to

advances
interconnectedness
ubiquity

of IT

Data management and analytics tools and techniques

storage and extraction
visualization
analytics

Tools: R, MySQL, Gephi
(all are open source, freely available, and compatible with all major operating systems)
Format

- 13 lectures (80 mins each) – 12 with material and one with midterm

- 1 midterm + 1 final

- 3 group assignments (around hands-on tools)

- Class participation + short answers to case-based questions
Lecture 1

Topic:

Digital Innovation, Transformation, and Ubiquity

Readings:

• HBR Article:

Topic:

**Network and Platform Economics**

In-class simulation – variant of the platform game

Readings:

- HBR Article:
  

- *WeChat’s World* – The Economist - Aug 6, 2016
Lecture 3

Topic:

Social Networks, Social Media, User Generated Content
Network Analysis and Visualization – Demo with Gephi

Readings:

• Case:


Group assignment 1 – (Social) Network Analysis (using Gephi)
Closeness centrality

Short example to illustrate the importance of choosing proper starting points for viral campaigns

\[
CC(x) = \frac{N - 1}{\sum_{y \neq x} d(y, x)}
\]

\[
CC(B) = \frac{7}{1 + 1 + 1 + 1 + 2 + 3 + 3} = \frac{7}{12} = 0.58
\]

\[
CC(E) = \frac{7}{1 + 1 + 1 + 2 + 2 + 2 + 2} = \frac{7}{11} = 0.64
\]
If communication starts at B - It takes 3 iterations of passing info along before it reaches the entire network (assuming all connections continue to share)
Closeness centrality

If communication starts at E - It takes only 2 iterations of passing info along before it reaches the entire network (assuming all connections continue to share)
Gephi
Gephi

Twitter Streaming Importer
Lecture 4

Topic:

**Online Search**

**Online and Mobile Advertising**
Topic:

**Data Analytics**

- Association Rule Mining / Decision Trees / Logistic Regression - Demo with **R**

Readings:

- **CASE:**


Group assignment 2 – Data analytics (with R)
Lectures 8, 9

Topic:

Relational Databases - Normalization and Basics of Querying using MySQL - demo with XAMPP

Group assignment 3 – Normalization + Querying (MySQL via XAMPP)
Topic:

Crowdsourcing and the Sharing Economy

Readings:

• CASE:

Lecture 11

Topic:

Open Source Approach
Cloud Computing

Readings:

• **CASE:**

Chris Anderson

- The Long Tail
  - Why the Future of Business Is Selling Less of More
- Free
  - The Future of a Radical Price
- Makers
  - The New Industrial Revolution
- Wired
  - Hyperloop Wars
  - Where NASA Goes Next
  - Second Life: Reborn in VR

MF Niculescu, GaTech
The **Maker Movement**

DIY

Open Source + Open Innovation

“Democratization” of manufacturing
Ideation

DIY DRONES
The Leading Community for Personal UAVs
Open Source Software
Open Source Hardware

Revenue strategy around open source

Crowdsourcing
Ideation

Tech startup strategy

Platform approach

DIY
Maker Movement
3DR - Pixhawk

Open Source Hardware – autopilot

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Lectures 12, 13

Topic:

**Security and Privacy**

Readings:

- **CASE:**
  

- **CASE:**

Thank you!