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

**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:

Lecture 2

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

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

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

\[
CC(E) = \frac{7}{1 + 1 + 1 + 2 + 2 + 2 + 2} = \frac{7}{11} = 0.64
\]
Closeness centrality

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
Gephi

Twitter Streaming Importer
Lecture 4

Topic:

Online Search
Online and Mobile Advertising
Lectures 5, 6

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)
Lecture 10

Topic:

Crowdsourcing and the Sharing Economy

Readings:

- **CASE:**

Lecture 11

Topic:

Open Source Approach
Cloud Computing

Readings:

• CASE:

Chris Anderson
The *Maker Movement*

DIY

Open Source + Open Innovation

“Democratization” of manufacturing
Ideation
Open Source Innovation

3DR

MF Niculescu, GaTech
Open Source Software
Open Source Hardware
Revenue strategy around open source

Crowdsourcing
Ideation
Tech startup strategy

Platform approach
DIY Maker Movement

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!