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Mobile Technology and Sustainability

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Mobile Technology and Sustainability

Meghan Kenny & Dr. Scharff

Dyson

Seidenberg



Research

- Part 1
 - Building a set of resources to be used by students developing apps for sustainability
- Part 2
 - How multi-disciplinary teams can work together to be successful in building mobile applications that integrate a global perspective (on sustainability)? What roles can team members play?
- Part 3
 - What are the contributions of mobile developers worldwide related to sustainability?

Resources

Global Software Development

Mobile developers

Defining Sustainability



"Improving the quality of human life while living within the carrying capacity of supporting eco-systems" based on "the reconciliation of environmental, social equity and economic demands"

United Nations Environment Programme

IBM Smarter Planet Model







http://www.ibm.com/smarterplanet/

What Mobile Technology?

- Mobile applications
 - Android, iPhone, Blackberry, Windows phone 7, feature phones
- Mobile web sites
- SMS services
- Voice solutions



Building mobile applications for sustainability

Global Software Development





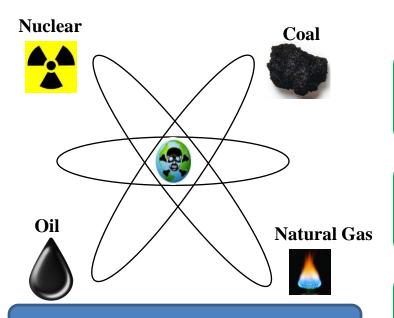
Interdisciplinary teams to work together

Global vision of sustainability

Mobile solutions relevant globally

Role: Researcher / Content Manager

Non-renewable energy



Physical environmental destruction



Brainstorming **Interviews**

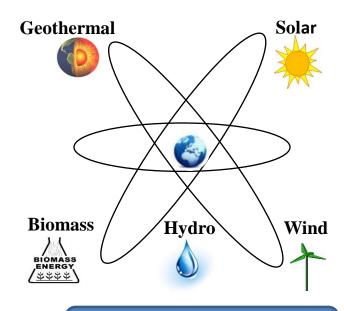
Develop effective content

Communicate

Review content

Test application

Clean and renewable alternatives



Water, electricity, recycling



The Go Clean Android Application







Learn / tips

Evaluate / quiz

Create / engage







How are mobile app developers targeting sustainability?

Mobile Developers and Sustainability

- Research questions
 - How are developers addressing the issues related to sustainability?
 - How are developers instilling messages on sustainability to users?
 - What types of apps are they developing?
 - What topics of sustainability are they tackling?
- Methodology
 - Qualitative analysis of the content of the app marketplaces











Preliminary Results for the App Store



- Use of 15-20 keywords relating to sustainability
- IBM Many Eyes Word Cloud Software
 - Patterns in the descriptions of the apps
- Findings
 - Energy, solar, green, power
 - Marketplaces organized in categories including education, health, games, lifestyle...
 - More free apps
 - More apps than games
 - Apps by companies
- Limitations
 - Keywords
 - Marketplaces evolve quickly
- Future research
 - Time intervals
 - Identify trends / changes

Keyword	#Apps	Free	Paid
Solar Energy	94	56	38
Global Warming	85	38	47
Climate Change	58	36	22
Renewable Energy	50	35	15
Eco Friendly	46	23	23
Carbon Footprint	40	33	7
Energy Efficiency	40	33	7
Environmental Sustainability	40	31	9
Nuclear Energy	26	11	15
Clean Energy	19	14	5

Figure 1. Top 10 Keyword Searches



Figure 2. Word Cloud Built from the Abstracts of the Top 15 Keyword Searches

My Experience as a Student

Conferences

- Piers Encountering Nature @
 Pace University
- Undergraduate & Faculty
 Research Showcase @ Pace
 University
- Consortium for Computing
 Sciences in Colleges,
 Northeastern Region (CCSCNE)
 Quinnipiac

Overall

- Global team collaboration
- Development practices / software
- Contribution to the GSD project

