Opportunities for Future Innovation

Gareth Loudon
My Background

Electrical and Electronic Engineer (BSc, PhD)

Apple Research
Speech and handwriting recognition

Ericsson Research
Design of 3G mobile phones and applications
My Current Work

Cardiff School of Art & Design, UK
Principal Lecturer in Product Design

Centre for Creativity
Director and Co-Founder
Innovation

new ideas + value = creativity

Innovation is translating those valuable ideas into successful products and services
Innovation Skills / Knowledge

- Desirability (Human/Design)
- Viability (Business)
- Feasibility (Technical)

Innovation

Source: www.ideo.com/about
Do stuff that is “Insanely Great”
Passion and motivation

Driven by a sense of purpose
What motivates you?
Courage

What holds you back?

What are you fearful of?
Technology Trends

Big Data / Internet of Things
Digital Manufacturing
Sustainability
Big Data / Internet of Things

- **Sensor and Networks**
  - Smart watches, mobile devices, tracking products
  - GPS, RFID, NFC, 4G, WiFi

- **Cloud Computing**
  - Mobile apps, location based services, contactless payment

- **Provides**
  - Convenience
  - Contextual Information / Meaning
  - Sharing and Collaboration
  - Customisation / Personalisation
Example: City Mapper

Journey planner with ETA
(tube/subway, bus, rail, ferry, bike/car sharing, Uber)
Food Example

The Food Assembly
Fresh local food directly from farmers and food producers
Digital Manufacturing

- Rapid prototyping and production using computer aided tools

- Examples
  - 3D Printing
  - Laser cutting
  - Digital Stitch
  - Digital Print
Food Example

Digital manufacturing technology
Accredited by the global Fab Network

FabLab
Cardiff Caerdydd

PIP'S CHOCOLATE FOR MILK
BELIEbUS when MELTED INTO your favourite MILK
Sustainability

- Solutions for water management
- Sustainable Materials (pesticides / organics)
- Energy management
  - Solar, wind, batteries, ...
- Transportation effects
- Manufacturing / production design
Urban Farms

GrowUp Urban Farm in East London using aquaponics
http://growup.org.uk
But how to start innovating?
First of all work out what you are passionate about!!
LCD Model for Creativity

EMPATHY

CONNECT

COLLABORATION

BE

LISTEN

DO

REFLECTION
Listening (and observing)

“Go out in the world and proactively seek experiences that will spark creative thinking.”

Quote: Kelley and Kelley (2013)
"Connecting with the needs, desires and motivations of real people" to help "inspire and provoke new ideas"

This could be with (potential) customers, or other experts

Quote: Kelley and Kelley (2013)
Case Study: GoGurt

- General Mills make breakfast cereal and needed a new product to boost their sales.
- General Mills employed a consultancy company called GVO to help discover new customer insights.
Case Study: GoGurt

- The result was GoGurt portable yogurt for kids
- In just two years, it captured 7% of the $2 billion yogurt market

http://www.gogurt.com/brand-story
Doing

Try out your ideas!!!

Taking action, experiment and learn from trying something

Links to collaboration and reflection (feedback)
What actions can you put in place?
Books to Read

Creative Confidence – Kelley & Kelley, 2013, William Collins.
Books to Read
