Creativity Workshop

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About Me

- Director of Creative Science Foundation (see www.creative-science.org)
- President of Association for the Advancement of Intelligent Environments (oversees www.intenv.org)
- Professor of Computer Science at Essex University
- Expert in robotics and artificial intelligence (founded Robotics at Essex)
- Part of organizational team for numerous conferences, workshops, journals (see http://victor.callaghan.info)

http://victor.callaghan.info

- Parkland of 200 acres
- 13,194 students
- 20% post graduates
- 40% overseas (130 countries)
- University of the Year (Times Higher Education Awards, November 2018)
Outcome of Workshop

- An important aim of this workshop is to introduce narrative fiction as a useful business tool.
- You will write a short story of just 160 characters (around 30 words) to describe a business innovation.
- Award for best short story (to make it a bit more fun!)

Structure of Workshop

“This workshop seeks to introduce fiction as a methodology for inspiring, capturing and communicating innovations for scientific, business and societal innovations”.

- **Morning Session:**
  - ICT as a driver of change
  - Imagination, Creativity & Brainstorming
  - Diegetic Innovation Templating
  - Micro & Mini Sci-Fi Prototyping

- **Afternoon Session:**
  - Imagination workshop (group brain-storming)
  - µSFP writing exercise.
  - µSFP presentations
  - Best µSFP award

Why creative thinking is important?

- The challenge to companies is how to avoid being sidelined by new innovations, or how to produce their own innovations. One solution is to employ creative-thinking methods, to augment other technical skills.

Examples: Kodak, Nokia

- Innovations come from Creative Thinking

- To get an ‘edge in life’, we all need to be able to think creatively!

Where Do Businesses Get Ideas?

- Analyzing competitors, asking customer & market research are popular but rarely lead to disruptive innovations

- Professor Clayton Christensen of Harvard Business School found "that leading companies who have followed what their customers say have lost out to new innovations from other companies".

- Steve Jobs of Apple said "Innovation has nothing to do with how many R & D dollars you have. When Apple came up with the Mac, IBM was spending at least 100 times more on R&D"

- Albert Einstein famously remarked that "Imagination is everything. It is the preview of life’s coming attractions"
Technological drivers of change and opportunity

Some Rapidly Developing ICT Areas

- **Internet-of-Things** – small (invisible) networked computers being integrated into everything (eg home appliances, factory management, cars, city infrastructure etc)
- **Big Data** – Gathering, analyzing and selling/using data from monitoring our interactions with ICT devices (Apps, social media, mobile–phones IoT devices etc) for political or business advantage.
- **Robotics** – Combining computers with mechanical systems to make humanoid robots, self-driving cars, advanced automated factories, medical prosthetics, domestic robotics, drones etc
- **Virtualization** – merging computer created worlds with our own eg games, smart-phones, Bitcoin, virtual & augmented reality, digital twins
- **Artificial Intelligence** – Powering and extending all the above by creating computer software that mimics people’s intelligence to the extent such systems can even program themselves.

https://www.information-age.com/strategic-technology-trends-123475549/

Virtual & Augmented Reality Videos

- +Spaces (2.57)
- British Telecom (2.57)
- Metalogue (3.10)
Fiction as a Creativity & Prototyping Tool

- Fictional stories provide a means to inject imaginative leaps into the innovation process.
- Well written stories can provide virtual analogs of the real world of such fidelity that they can be used as prototypes to explore the possible implications of technology on people, societies, and the world at large.
- Stories also provide a shared language to allow communication between the various stakeholders of innovation.

Diegetic Innovation Templating

- Method uses existing imaginative stories or films to trigger ideas
- Involves scanning published fiction to identify fictional products or processes that might be transferred into real life products.
- Such innovation instances are called Diegetic Innovation Templates (DITs)
- How closely a given fiction is to a particular industry is called the Diegetic Gap' (DiG)

Example: For a company that produces mobile phones the DiG for the ‘Harry Potter’ story would be large; for a Fashion House, it may be small.

Diegetic - a term used in films to describe artefacts (mainly sounds) that are sensed by the characters as part of the story.
DIT Examples

- **Sunfed Fashion** – top selling professional women's fashion wear uses SF/Fantasy to inspire new designs embedded in popular culture (which aids marketing)
- **Dali Cashmere** (founded in 1996, 180 employees, turnover US$4 million) – High-tech manufacturer of cashmere used ideas from *Transformers* to create a flexible production facility and ideas from *1984* to manage remote operations making it 8 times more productive than competitors.

**Copy of paper available from**

Taking creative ideas from existing fictions is called Diegetic Innovation Templating

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Science Fiction Prototyping

- **SFP introduced by Intel** to overcome problem of anticipating future use of their chips (that take 7–10 years to produce).
- Science Fiction Prototypes are stories **written by ordinary people** describing a desired innovation.
- Written to **persuade** people to buy into your innovation (through credibility & emotion)
- Loosening the remit from *the likely* to *the possible* allows leaps & disruptions to be addressed

- Two types of SFP
  - **Micro–SFP (µSFP):** a very small SFP
  - **Macro–SFP:** a large SFP

- **As part of this activity you will create an µSFP**
**µFiction (Micro-Fiction)**

- No agreed specification; Range from 6 to 1000 words; **Popular size 25–30, words** (text message size).
- Similarities to *fables, parables, anecdotes, sayings, adages, proverbs* and *maxims*
- English speaking world called *micro-fiction, nano-fiction, flash-fiction, sudden-fiction or postcard-fiction*
- Around the world called *microrrelato or ficcione (Latin-America); nouvelles (France); minute-long or smoke-long (China); Haibun (Japan)*
- Technology based *– Mobile-phone (Kentai) fiction (160 characters ~30 words); ‘Twitter Lit’ (140 characters ~25 words)*
- Examples can be found at
  - Espresso Stories (25 words) - [http://espressostories.com](http://espressostories.com)
  - Micro-SFPs (Twitter-size) - [http://www.creative-science.org/activities/microsfp/](http://www.creative-science.org/activities/microsfp/)

This is the style Micro-SFPs adopt

**Writing a µSFP**

- Twitter / SMS sized fiction (140 /160 characters – 25 words)
- **Simple writing procedure**
  1. Start by identifying an innovation (**technology, service etc**)
  2. Identify a **user** (use a very short name eg Joe)
  3. Then create an **event** that illustrates the use and **benefit** of the technology, process or service (should include an inflection point)
  4. Simple µSFP template
     
  5. Start big, then reduce it to <140 characters / 25 words

Some Examples ⇒
Examples – µSFP (text size 160 characters, 25 words)

... created by 16/17 year-olds in 90 mins!

› Jack fall asleep in the sun. His smart sun protection sensor woke him up with an alarm & soft vibration. He avoids sun strokes!

› Amy can’t diet but her bracelet helps stop her eating a naughty treat over a salad. It clamps tight on her wrist & shocks her.

› OMG where did u get ur coat from? It was the only one left in the store. But I can 3D-print it 4 u. Thank u so much.

› With my new eFridge I can have my cake & my stay at home. I come home 2 a full stock of food & no court orders for a drunkard.

› I’ll just pop off to get some sushi. Bob established a wormhole link to Japan and vanished.

http://www.creative-science.org/activities/microsfp/

Mini–SFPs

› Are bigger, multi–page versions of µSFPs (4–12 pages)

› Being bigger allows them to:
  ◦ Describe the technology or business processes in more details
  ◦ Create more realistic and credible characters and contexts (ie be more accurate and reliable prototypes)
  ◦ Better engage the various stakeholders

› Require more time to write than µSFPs, so are used later in the product development cycle, when ideas need to be tested or communicated to key stakeholders (or sometimes as part of a pitch or business plan).
Example ‘Tales From a Pod’ (SFP written in 2010 about education in 2046*)

Extract – iPods were effectively small cocoons; something like a comfortable armchair enclosed within a sound-proof egg-like structure packed with sophisticated but largely invisible technology that included immersive mixed reality and sophisticated AI. When participating in a movie (the industry had long dropped the word “watching” which describing these new immersive movies) the immersive reality technology aimed to make the participant feel as though they were truly part of a fictional physical world.

http://dces.essex.ac.uk/Research/iieg/papers/TalesFromAPodPaper.pdf

Video demonstration (3.28)
ImmersaVU
Manufactured by Immersive Displays Ltd
www.immersivedisplay.co.uk/

Brainstorming

Brainstorming – Unlocking Ideas – Grounding Ideas – Prototyping Ideas (SFP, Mockups), Businesses/Implementation Plans

Don’t let what other people might think stop you having dreams or ideas.
Create a ‘cross impact matrix’ by listing emerging technologies or trends against potential impact on business area?

Discuss how each might be used to benefit business or product.

Significant moments of scientific disruption include — The Technological Singularity … the moment machine intelligence exceeds human intelligence (around 2050 according to Kurzweil)

References:
- Brian David JOHNSON "Science Fiction for Scientists (Intel’s ‘Expanded Consumer Experience Architecture’)", Creative–Science 2010. Kuala Lumpur, Malaysia. 19th July 2010
The Product Innovation Process In Simple Steps

Brainstorming – Unlocking Ideas – Grounding Ideas – Prototyping Ideas (SFP, Mockups), Businesses/Implementation Plans

- Fiction based depictions (eg SFP & DIT)
- Paper & cardboard mock-ups
- Tangible Prototypes (eg emulations & simulations, simplified working prototypes)
- Business or implementation plan

Practical Session – Imagination Workshop

Producing a micro-SFP to describe a product or business innovation
Practical Work

- Brainstorming Ideas (Group)
- Writing \( \mu SFP \) (Individual)
- Presentation of \( \mu SFPs \) (Group + Individual).
- Voting (Individual).

This activity is supposed to be a fun so try to enjoy it.

Brainstorming .... Around Virtualisation

Virtualisation
- Digital Twins
- Wearable (eg phones)
- Virtual Reality
- Augmented Reality
µSFP Writing Session

- Use forms supplied to create short story
- Start big, then reduce it to about 25 words
- From earlier brainstorming select an idea to write a story around. The story should have:
  1. A named technology
  2. A named user
  3. An event to illustrate the idea.
  4. A benefit

**EXAMPLES**

Jack fell asleep in the sun. His smart sun protection sensor woke him up with an alarm & soft vibration. He avoids sun strokes!

Amy can’t diet but her bracelet helps stop her eating a naughty treat over a salad. It clamps tight on her wrist & shocks her.

This is an individual activity – try to imagine you are writing this as a phone text ... it needs to be that short!

..... Let the writing begin!

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**Competition**

- Certificate for the best µSFP as voted by you!
- Prize – copy of the “The Tomorrow Project Anthology: Conversations about the Future” courtesy of the Intel Corp
- Certificate – courtesy of the Creative Science Foundation

http://tomorrow-projects.com/
Voting

- You will be the judges!
- You may vote for 2 presentations (via placing a slip in a ballot box)
- We encourage you to make one of the votes for yourself (introduced to remove the need to check for this for cheating)
- You should judge μSFP based on the following 3 criteria using:
  - How novel the idea seems (1–3)
  - How good the benefits are (1–3)
  - How ‘story-like’ the SFP is (1–3)
  3 is very good, 2 is good, 1 is ok, 0 is 😞

Presentations

- Each Person has 2 minutes, with 2 Powerpoint slides that:
  - Provides information about you (name, course etc)
  - Presents your μSFP (write it in your slide) & explain the business opportunities it might create
- Followed by 3 minutes Q&A

VOTE FORMAT:
How good the idea is?
How good the benefits are?
How ‘story-like’ the SFP is?
Award Ceremony

CERTIFICATE
Entrepreneur Workshop on Creativity, Ideas & Innovation Workshop
This is to certify that ?????? Was judged as being 1 of the 3 best SFPs
Signed:
Director CSF

And Finally

Help us improve this workshop by providing feedback 😊
“How do we change the future? Change the story people tell themselves about the future they will live in”
Brian Johnson (Intel Futurist)

“We are what we pretend to be, so we must be careful what we pretend to be?”
Kurt Vonnegut (American novelist)

There is a “need to bring art and science back together” Eric Schmidt
(Chairman of Google)

The Macintosh was so successful because the people designing it were musicians, artists, poets as well as skilled computer scientists” Steve Jobs,
(Founder of Apple)

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