Canterbury Christ Church University

CSF CREATIVE SCIENCE FOUNDATION

Creativity, Ideas & Innovation Workshop

Prof Victor Callaghan
vic@essex.ac.uk
Dr Ping Zheng
ping.zheng@canterbury.ac.uk

www.creative-science.org

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About Me

the campus

- ‣ 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 University
- ‣ Expert in robotics and artificial intelligence (founded Robotics at Essex)
- ‣ Work with Intel on Product Innovation
- ‣ Part of organizational team for numerous conferences, workshops, journals (see http://victor.callaghan.info)

- •parkland of 200 acres
- •Royal Charter in 1965
- •9,162 students
- •30% post graduates
- •38% overseas (130 countries)
- •Ranked 9th in UK for research

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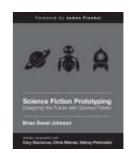CREATIVE SCIENCE FOUNDATION

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Structure of Workshop

"This workshop seeks to introduce science-fiction prototyping as a methodology for inspiring, capturing and communicating innovations for scientific, business and societal innovations".
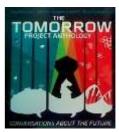
▸ **Week 1:**
  ◦ **Session 1**: Introduction to Science-Fiction Prototyping (SFP)
  ◦ **Session 2**: Imagination workshop
  ◦ **Session 3:** μSFP writing exercise
  ◦ **Homework:** Complete μSFPs & prepare a five minute presentation for following week.

▸ **Week 2**:
  ◦ **Session 1**: Introduction to macro-SFP'
  ◦ **Session 2**: μSFP presentations
  ◦ **Session 3**: Best μSFP award
  ◦ **Post-Workshop** – Translate SFP into business plan

Week 1 - Session 1

➢ Creative Science Cycle

➢ The Intel Story

➢ Science-Fiction Prototyping
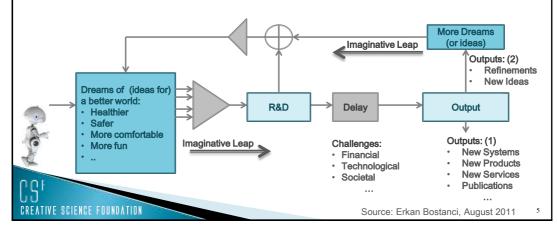
➢ μFiction

➢ μSFP Methodology

➢ Some Examples

The Creative Science Cycle

*In the beginning we **dream of a better world**. We may want the world to be **healthier** –(eg wearable technology), safer (eg intelligent vehicles), **more comfortable** (**eg** smart homes) or **more fun** (eg interactive games).*

*These **dreams** come together (integrator symbol) and feed the research. Research produces outputs but with delay due to the technological or financial challenges. There are two types of outputs; tangible outputs such as products / publications or abstractions (more dreams because we will never be satisfied with what we have!).*

*New **dreams**, as the research outputs, feed our old dreams but this time they may need some amplification because according to our research results, we may end up thinking that something is not achievable. So the "Creative Science Cycle" goes on.*

Source: Erkan Bostanci, August 2011   5

The (intel) Story

‣ Intel's 'chip life cycles' occupy about 7–10 years from concept to shipping (and maybe another 15 years of product life)!

‣ How can they specify chips for worlds that don't exist yet?
  ◦ Maybe use techniques on previous slide?
  ◦ But, they wanted to be smarter, get better ideas than their competitors!

‣ The main Intel resource is engineers (but traditional engineering education encourages structured & incremental thought!)

‣ Intel decided the magic ingredient was imagination

‣ **The Intel solution** was to ask their engineers to write fictional stories about technologies they are working on, to inject **imaginative leaps** in their thinking!

www.creative-science.org

see more detail on http://victor.callaghan.info/history/csf/   6

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Science Fiction Prototyping

- Method uses peoples <u>imagination</u> to write short fictional stories that extrapolate real science & technology forward in time to create a **Prototype** of future lives (that can <u>test</u> <u>ideas</u> and <u>motivate</u> <u>change</u>).

- Story needs to be a credible (believable) description of a possible life.

- Everyone understands a story so its perfect for <u>communication</u> between different types of people

- Outcomes of SFPs are used to create new kinds of <u>products, businesses, social structures</u> etc

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Intel / CSF Video From CS'11

- SFP uses <u>short stories</u> about the future to inject <u>imaginative leaps</u> and provide a <u>shared language</u> for innovation

VIDEO INTRODUCING SCIENCE FICTION PROTOTYPING

THE TOMORROW PROJECT

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Science Fiction Prototypes (SFPs)

- Are simply stories describing a future (and an innovation) you would desire

- Written to persuade people to buy into your innovation

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

- This week we will explore **μSFPs**

μFiction (Micro-Fiction)

> Provides quick method to capture the initial idea

Polytron Technolgies, (Taiwan)

This is the style Micro-SFPs adopt

- No agreed specification; Range from 6 to 1000 words; **Popular size 25-30, words** (text message size!).

- Similarities to *fables, parables, anecdotes, sayings, adage, 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* (Ketai) fiction (160 characters ~30 words);'*Twitter Lit*' (140 characters ~25 words)

- Examples can be found at
  - *Wired* (6-word) -http://www.wired.com/wired/archive/14.11/sixwords.html
  - *Espresso Stories* (25 words) - http://espressostories.com
  - *Micro-SFPs* (Twitter-size) - http://www.creative-science.org/activities/microsfp/

Writing a µSFP

µSFP components
1. technology
2. user
3. event
4. benefit

▸ Twitter / SMS sized fiction (140 /160 characters – about 25 words)

▸ **Simple writing procedure**

1. Start by identifying a technology, process or service
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. Start big, then reduce it to <140 characters / 25 words

Some Examples ⇒

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Examples – 6 Word micro fiction

▸ "*For sale: baby shoes, never worn* " – Ernest Hemingway (who, according to science fiction writer Arthur C. Clarke, in the 1920's bet $10 he could write a complete story in just 6 words, starting this genre!).

– – – – – – – – – – – –

▸ "*Lie detector eyeglasses perfected: Civilization collapses.*" – *Richard Powers*

▸ "*TIME MACHINE REACHES FUTURE!!!* – *nobody there* " – *Harry Harrison*

Wired **(6-word) -**
http://www.wired.com/wired/archive/14.11/sixwords.html

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

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

New Creatives, Essex, 2014

1. technology
2. user
3. event
4. benefit

- *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/

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Innovation Focus 1 (aids to future thinking)

- The Technological Singularity …. *the moment machine intelligence exceeds human intelligence* (around 2050 according to Kurzweil)
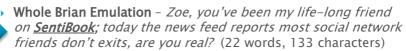

… Might be brought to fruition as outcome of *whole brain emulation*, *transhumanism* or an *intelligence explosion*!

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Video - Michio Kaku & The Singularity

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Examples - μSFP (25 words on the Singularity)

▸ **Whole Brian Emulation** – *Zoe, you've been my life-long friend on **SentiBook**; today the news feed reports most social network friends don't exits, are you real?* (22 words, 133 characters)
  ◦ Imagines point where AI has ability to masquerade as people, either openly or surreptitiously opening up intriguing, if disturbing consequences for human society and relationships.

▸ **Transhumasim** – *Tom, this morning mend the cooker, take the kids to play land & go to work. Yes, dear <u>we</u> will do that!* (21 words, 101 characters)
  ◦ Raises possibility that spare-part replacement might not just lead to creating single <u>clones</u> of people but multiple identical clones (three in this case allowing John at least three times the amount of work.

▸ **Intelligence Explosion** – *Jane's sleepy eyes said it all, another smart home with a <u>viral-intelligence infection</u>, call the singularity exorcists!* (17 words, 119 characters)
  ◦ explores possibility intelligent environments may be susceptible to super-intelligent viral agents that migrate, evolve and mutate and take on a form of evolving sentient ghost-like presences

http://victor.callaghan.info/publications/2014_CS14(Micro-Futures).pdf

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That's the end of the 1st Session!

http://victor.callaghan.info

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Week 1 – Session 2

➢ Ideas & Products ?

➢ Imagination Workshop

➢ Brain-Storming

➢ Innovation Focuses

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Where Do Businesses Get Novel Ideas?

Our workshop fits into this area

(bar chart)
- Innovation Programmes
- Published Information
- Market Research
- Supplier suggestions
- Customers
- R&D
- Competition Analysis

0.00 5.00 10.00 15.00 20.00 25.00 30.00

▸ *Asking customers & monitoring others is useful but only gets you so far in product innovation –* the more radical or disruptive the technology is, the less these are the drivers

▸ 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*".

▸ SFP is a method that aims to explore more radical or disruptive ideas by placing more emphasis on imaginative processes

.. But where do basic ideas originate?

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Idea Generation (Brainstorming)

▸ In SFP, most ideas originate from researcher's vision for field (fertilised by using imaginative fiction)

▸ For others, need a source of ideas - many approaches but we will use '*Brainstorming*'
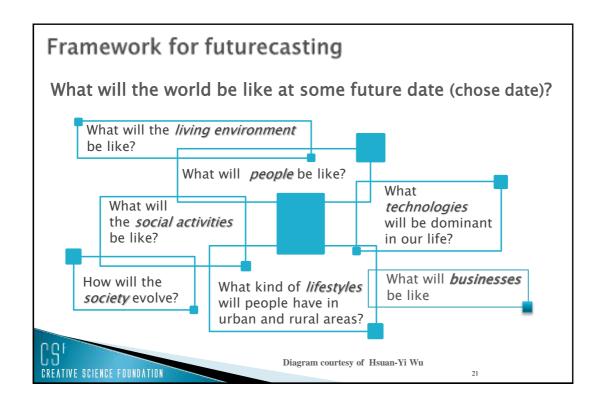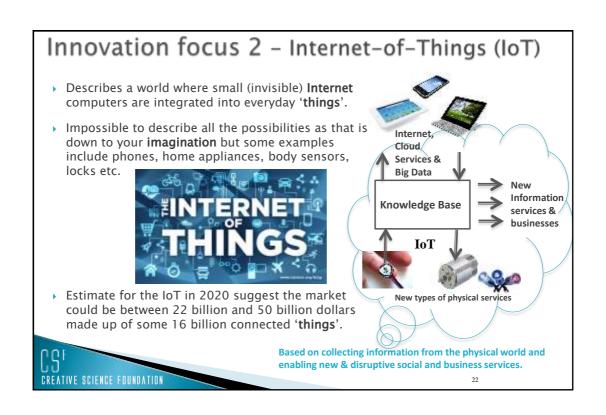
▸ **Imagination Workshop (brainstorming)**
  ◦ Form groups of 3-5 people (we will do this randomly)
  ◦ Elect a coordinator
  ◦ Chose an innovation focus (see next slide)
  ◦ List as many ideas as possible (chose quantity above quality)
  ◦ Do not worry about practicality of ideas
  ◦ Don't criticise ideas (out of the box thinking is encouraged)
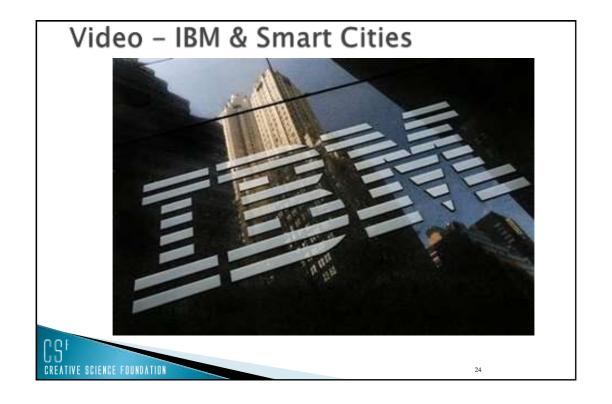 ◦ Offer new ideas, plus build on other members ideas

▸ Each member, then selects their 3 favourite ideas for SFP writing exercise in following session (different people can use same idea).

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Framework for futurecasting

What will the world be like at some future date (chose date)?

What will the *living environment* be like?

What will *people* be like?

What will the *social activities* be like?

What *technologies* will be dominant in our life?

How will the *society* evolve?

What kind of *lifestyles* will people have in urban and rural areas?

What will *businesses* be like

Diagram courtesy of Hsuan-Yi Wu

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Innovation focus 2 – Internet-of-Things (IoT)

‣ Describes a world where small (invisible) **Internet** computers are integrated into everyday '**things**'.

‣ Impossible to describe all the possibilities as that is down to your **imagination** but some examples include phones, home appliances, body sensors, locks etc.

‣ Estimate for the IoT in 2020 suggest the market could be between 22 billion and 50 billion dollars made up of some 16 billion connected '**things**'.

Internet, Cloud Services & Big Data

Knowledge Base

IoT

New Information services & businesses

New types of physical services

Based on collecting information from the physical world and enabling new & disruptive social and business services.

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Innovation focus 3 - Smart Cities

- **Interlinked Ecosystem**: numerous people, gadgets, processes, resources etc
- **Key Areas**: Transport, Buildings, Security, Energy, Healthcare, Education etc
- **Key Technologies**: Internet of Things.

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Video - IBM & Smart Cities

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Innovation Focus 4 – Smart Homes

Le Corbusier, Villa Savoye, Poissy, 1928-31.

▸ Le Corbusier (**1887–1965**) famously remarked that, "*A house is a machine for living in*".

➢ Modern homes are populated with numerous technologies that facilitate communication between devices and people to create **Smart-Homes**

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Video – Samsung & Smart Homes

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Innovation focus 5 – Smart Businesses

- Could businesses be regarded as intelligent machines?
- The have inputs, processes and outputs!
- By bringing innovations to those processes companies can be made to work better (or worse!)
- Might even consider the proposition that "*a company is a machine (an intelligent machine!) for doing business*" ?

- Consider new ideas for business processes and structures

http://victor.callaghan.info/publications/2012_IE12(IntelligentBusinessProcess).pdf

The **Robot Building** (Sathorn business district, Bangkok, Thailand) - designed Sumet Jumsai (& completed in 1986) for the Bank of Asia to reflect the computerization of banking .

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….. let the 'Brainstorming' begin!

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Brainstorming

Innovation Focus Themes
- Technological Singularity
- Internet-of-Things
- Smart Cities
- Smart Homes
- Smart Businesses

▸ **Imagination Workshop (brainstorming)**
  ◦ Form groups of 3-5 people (we will do this randomly)
  ◦ Elect a coordinator
  ◦ Chose an innovation focus (see next slide)
  ◦ List as many ideas as possible (chose quantity above quality)
  ◦ Do not worry about practicality of ideas
  ◦ Don't criticise ideas (out of the box thinking is encouraged)
  ◦ Offer new ideas, plus build on other members ideas

Each member, selects 3 favourite ideas for SFP writing exercise in following session (different people can use same idea).

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That's the end of the 2ⁿᵈ Session!

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Week 1 - Session 3

SFP Writing Session

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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

Innovation Focus Themes
- Internet-of-Things
- Smart Cities
- Smart Homes
- Smart Businesses

EXAMPLES

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.

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For Next Week

▸ Finish your µSFPs

▸ Prepare a 2 slide PowerPoint presentation with a few bullet points giving:

  ◦ Information about you (name, course etc)

  ◦ Your µSFP & the business opportunities it might create

Prizes for best µSFP (Intel book and certificate)

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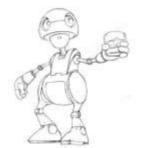
That's it For This Week

"How do we change the future?
Change the story people tell themselves about the future they will live in"
Brian Johnson

"It's really hard to design products by focus groups. A lot of times, people don't know what they want until you show it to them." Steve Jobs

http://www.creative-science.org
http://victor.callaghan.info

These notes are available to download from:
http://victor.callaghan.info/publications/2015_CCCU(CreativityIdeasInnovation).pdf

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Prof Victor Callaghan
vic@essex.ac.uk
Dr Ping Zheng
ping.zheng@canterbury.ac.uk

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Robots & Cyborgs

Hyper Reality

Future Cities

Canterbury Christ Church University

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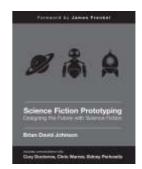
Week 2 Sessions

This week we will explore examples of SFPs that have led to commercial product innovations, plus hold a fun μSFP competition.

▸ **Session 1**: Introduction to 'Macro-SFPs'

▸ **Session 2**: μSFP presentations

▸ **Session 3**: Best μSFP idea competition & prize award

▸ **Post-Workshop** – Create business plan around your favourite SFP

Science Fiction Prototyping

THE TOMORROW PROJECT ANTHOLOGY

2

1

Some Upcoming Events (with a creative science thread)

Technology, Innovation, Entrepreneurship & Education 2016 (TIE'16) – Canterbury 8–9th September 2016

Immersive Learning 2016 (iLRN'16) – Santa Barbra 27th June–1st July 2016

Intelligent Environments 2016 (IE'16) – London 12–16th September 2016

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Week 2 – Session 1

➢ Forecasting versus Futurecasting

➢ Macro-SFP Writing

➢ Commercial Examples

➢ Other Types of Prototypes

These notes are available to download from:
http://victor.callaghan.info/publications/2015_CCCU(CreativityIdeasInnovation).pdf

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2

Future Facts: a 1976 book of extrapolations

▸ **300 examples** of existing work that are extrapolated forward 25 years (*unlike SFP, this book didn't test these ideas by setting them in stories*).

▸ **People Washer Egg** (Sanyo Electric Co) – fifteen minute cycle of warm shower warm shower, ultrasonic washing, whirl water cleaning with small rubber balls to massage skin and muscles & hot air drying – not happened yet!

▸ **Telenet** – data communication system, used by Pentagon's Advanced Research Projects Agency (ARPA) to link 18 cities – became the Internet!

▸ **System 80 Learning Machine** (Borg-Warner) – acts like private tutor (two feet square, console containing a record player, screen, row of buttons, and memory bank) – became eLearning!

In contrast to trying to forecast the future, SFP concerns futurecasting (making the future!)

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Typical Macro-SFP Structure

▸ **Size** –4-12 pages.

A cross between an academic paper and a short story

▸ **Structure** (12 page version)
  ◦ **Introduction** (half a page)
  ◦ **Background work** (1-2 pages) discusses the factual aspects and how they relate to the story (including any references).
  ◦ **Fictional Story** (9-10 pages) which illustrates describes and tests (exercises) the vision for the new technology, business or socio-political system.
  ◦ **Short summary** (half to one page, say) that provides an overall comment (reflection).
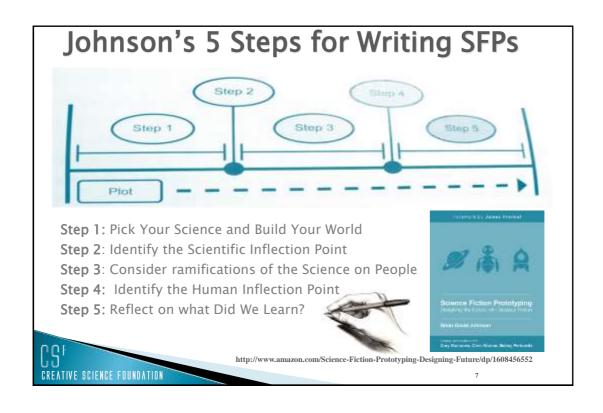 ◦ **References** should be included at the end of the paper.
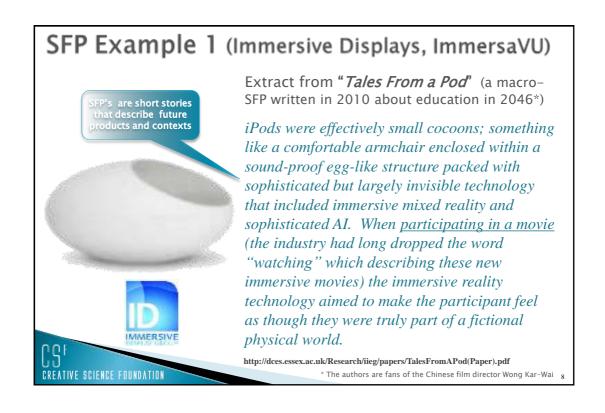
Note: short SFPs are prorata smaller mirrors of the above
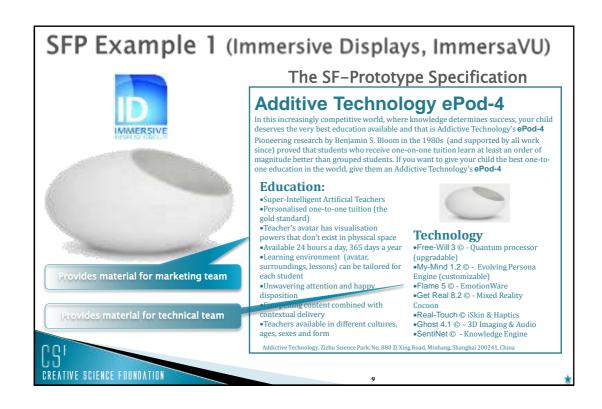
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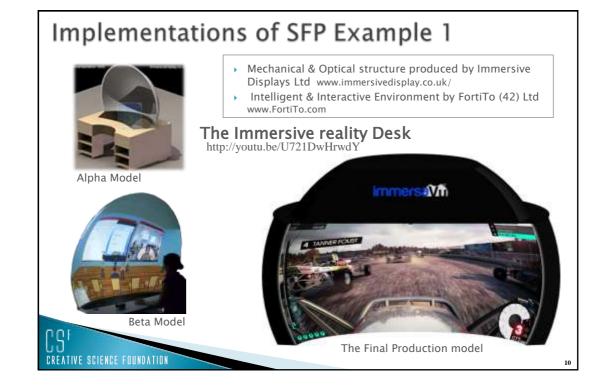**Some Examples**: http://dces.essex.ac.uk/Research/iieg/CS2011.htm

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Johnson's 5 Steps for Writing SFPs

Step 1: Pick Your Science and Build Your World

Step 2: Identify the Scientific Inflection Point

Step 3: Consider ramifications of the Science on People

Step 4: Identify the Human Inflection Point

Step 5: Reflect on what Did We Learn?

http://www.amazon.com/Science-Fiction-Prototyping-Designing-Future/dp/1608456552

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SFP Example 1 (Immersive Displays, ImmersaVU)

SFP's are short stories that describe future products and contexts

Extract from "*Tales From a Pod*" (a macro-SFP written in 2010 about education in 2046*)

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/TalesFromAPod(Paper).pdf

* The authors are fans of the Chinese film director Wong Kar-Wai   8

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SFP Example 1 (Immersive Displays, ImmersaVU)

The SF-Prototype Specification

Additive Technology ePod-4

In this increasingly competitive world, where knowledge determines success, your child deserves the very best education available and that is Addictive Technology's **ePod-4**

Pioneering research by Benjamin S. Bloom in the 1980s (and supported by all work since) proved that students who receive one-on-one tuition learn at least an order of magnitude better than grouped students. If you want to give your child the best one-to-one education in the world, give them an Addictive Technology's **ePod-4**

Education:
- Super-Intelligent Artificial Teachers
- Personalised one-to-one tuition (the gold standard)
- Teacher's avatar has visualisation powers that don't exist in physical space
- Available 24 hours a day, 365 days a year
- Learning environment (avatar, surroundings, lessons) can be tailored for each student
- Unwavering attention and happy disposition
- Compelling content combined with contextual delivery
- Teachers available in different cultures, ages, sexes and form

Technology
- Free-Will 3 © - Quantum processor (upgradable)
- My-Mind 1.2 © - Evolving Persona Engine (customizable)
- Flame 5 © - EmotionWare
- Get Real 8.2 © - Mixed Reality Cocoon
- Real-Touch © iSkin & Haptics
- Ghost 4.1 © – 3D Imaging & Audio
- SentiNet © - Knowledge Engine

Addictive Technology, Zizhu Science Park, No. 880 Zi Xing Road, Minhang, Shanghai 200241, China

Provides material for marketing team

Provides material for technical team

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Implementations of SFP Example 1

- Mechanical & Optical structure produced by Immersive Displays Ltd www.immersivedisplay.co.uk/
- Intelligent & Interactive Environment by FortiTo (42) Ltd www.FortiTo.com

The Immersive reality Desk
http://youtu.be/U721DwHrwdY

Alpha Model

Beta Model

The Final Production model

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SFP Example 1 – Video Demonstration

▸ The production version of the ImmersaVU used in blended reality research

Buzz
Boards

forti To

VIDEO SHOWING MIXED_REALITY DEMONSTRATION
OF REALISATION OF TALES OF THE POD SFP

www.FortiTo.com   http://www.immersivedisplay.co.uk/immersavu.php

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SFP Example 2 – Intel's 21st Century Robot

▸ The first SFP, "*Nebulous Mechanisms*", written by Brian Johnson & presented at IE'09 in Barcelona based on science-fact paper (*Using Multiple Personas in Service Robots to Improve Exploration Strategies When Mapping New Environments*" by Egerton, Callaghan, Clarke).

▸ About a robot called Jimmy, and the issues that arose through mimicking the irrational aspects of humans in robots (based on experience of my then PhD student (Simon) who went to Malaysia following a girl he loved and the heartbreak that followed!

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SFP Example 2 – Intel's 21st Century Robot
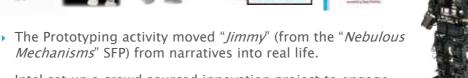
> ‣ The Prototyping activity moved "*Jimmy*" (from the "*Nebulous Mechanisms*" SFP) from narratives into real life.

> ‣ Intel set up a crowd sourced innovation project to engage the public in designing the domestic robot of the future.

> ‣ Software (Apps) & Skins design files open source (free).

> ‣ Ongoing experiment to assess value of SFP & open innovation for product innovation.

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http://www.21stcenturyrobot.com/
http://www.trossenrobotics.com/HR-OS1   13

SFP Example 2 Intel's 21st Century Robot

Wall Street Journal News Report

Brian Johnson Introducing Intel's *21st Century Robot* project on the *'Wall Street Journal Live'* TV channel (a business-focused, news service based in New York City.

VIDEO OF 21st CENTURY ROBOT INTERVIEW

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SFP for Business Process Innovation

Dali Cashmere (founded in 1996, 180 employees, turnover US$4 million) – High-tech manufacturer of cashmere using ideas from '*Transformers*' to create a flexible production facility 8 times more productive than competitors.

Owner said:

*"My organisation functions like a **transformer robot** and I am the control brain of this robot. All the parts must be in order and listen to the brain's instructions otherwise the whole robotic system would breakdown. An enterprise should act as flexible as a transformer. When needed, it should be transmutable, for example it can change into different things, such as an auto car or a gun, or a tank according to the need and circumstances. This requires that the people in the enterprise should act like the assembly parts of a robot, in which they can fit in different roles at demand. The enterprise should be able to change into different shapes through combining and reforming these parts, in order to meet the changing demands of the market. Sometimes I feel like a 'hemiplegia'; my brain has many ideas but the body cannot move or run as fast as what the brain wants. That is because of the incapability of those parts. How to obtain highly skilled employees becomes my challenge as my company grows."*

SFP for Business Process Innovation

The **Dali Cashmere** owner explained:

"My future vision is based on understanding reality and using this as the basis to predict what will emerge or happen, rather than employing pure imagination without links to the real world. However, I recognise the observation on technological change, as this does change the way we live and how we operate businesses. With the advanced computer monitoring and digital surveillance, I now manage and supervise my multiple production sites through a control pad, video conferencing and communication technology that has enabled me to not only run my business on my own but to be capable of expanding to a larger scale and multiple sites. It is useful to look into this aspect of science fiction and may help to predict what the future technology might be."

Owner of Dali Cashmere with "Big-Brother" inspired global operations monitoring

SFP for Business Process Innovation

The **Dali Cashmere** owner's vision for the next 20 years:

"*I have always focused on improving my production methods using computer-controlled systems, so it is possible that future production will become 100% automated, artificial intelligence managed, with no workers needed but only a few maintenance engineers. I can use one digital screen at home to manage and monitor multiple business premises and factories not only in China but in Japan, Korea and America. The manufacturing sector will no longer be a labour intensive industry but be 'no labour' automated industry instead. This is the consequence of continuous labour cost rises and the shortage of highly skilled workforce.*"

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SFP for non-technology products

Sunfed Fashion – top selling professional women's fashion-wear uses SF/Fantasy to inspire new designs embedded in popular culture (which aids marketing)

The company's President said:

"*Fashion is about constantly catching the popular trends at both national and international levels. What influence people the most is the cultural, art and fictional work as well as those popular fictional films which connect vogue and fashion. Fashion customers need more new and exciting experiences from a brand design. Science fiction works are our never-ending source of new ideas to keep up with customer's demand… the ability to identify and generalise ideas from science fiction is critical as not all SFP works but you need to know what customers expect and what can be used to transform these 'fictional imaginations' into a tangible product.*"

Harry Potter – Cape Coat

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SFP for non-technology products

The company's chief designer explains:

"*We understand the need and expectations of the customer. Our design targets are young professionals and middle class income women, who live in a busy and high-pace life style, who need an escape from the hectic reality to relax their mind and enjoy some very different experiences. Thus we use science fiction to create an alternative reality that is constructed by different fictional and cultural dimensions for fantasies and luxuries. For example, the Twilight movies became very popular in China and worldwide, which become my inspiration. I have thus taken a cue from the vampire look, dress style and blood colour to integrate into my autumn 2011collection. The runway shows are fully embodied with references to the films in terms of models' make-up, music, lights, sound, forest background (the fighting scene), smoky and scary atmosphere...*"

Frankenstein – the monster's long coat

By using popular SciFi (eg blockbuster films) new products lever both creative ideas and media marketing budgets

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Related Ideas & Groups

▸ **The British Society for Literature and Science** – promotes interdisciplinary research into the relationships between science and literature in all periods.
  ◦ https://www.bsls.ac.uk/ (society)
  ◦ http://www.literatureandscience.org/ (journal)

▸ **Design Fiction** – uses fiction to explore the social, cultural, and ethical implications of new technologies through design and storytelling
  ◦ https://www.media.mit.edu/research/groups/design-fiction
  ◦ https://cmudesignfiction.wordpress.com/about/
  ◦ https://www.quora.com/What-is-design-fiction

▸ **User scenarios, user stories, use cases** – short focused descriptions illustrating how technology could be used
  ◦ https://en.wikipedia.org/wiki/Scenario_%28computing%29

SFPs transformation to a business plan

1. Selecting the science and writing the concept SFP
2. Identifying the SFP inspired opportunity proposition in the marketplace
3. Analyzing the market size, target customer groups, product description, availability of technology or market conditions for the new product idea
4. Understanding resources needed for converting the SFP product concept into a market application
5. Implementing the product idea/prototype in reality (a practical business plan) OR
6. Developing the product concept into future vision to guide the strategic direction of NPD and R&D decisions

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Transforming SFPs into Prototypes

Low-Tech
▸ Mock-ups (eg paper & cardboard representations)

High-Tech
▸ Animated Graphics (emulations & simulations, eg virtual reality
▸ Rapid-prototyping Tools
▸ (eg plug-together modularised electronics)

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High-Tech Rapid Prototyping (Plug & Play)

www.FortiTo.com

Some Buzz Board modules

Examples: robot & Internet Radio

Buzz-Box (Smart Home mockup)

▸ Modular "embedded computing" construction

Buzz Boards

▸ Example 1 – Desktop robot
▸ Example 2 – Internet radio
▸ Example 3 – Smart room

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Summary

True innovation is coming up with a product that the customer didn't even know they needed.

STARTUPVITAMINS

▸ SFPs provide entrepreneurs with a simple creative tool to inspire, capture, test and communicate ideas about future innovations.

▸ Can be used to steer the market by 'selling a vision' (futurecasting).

▸ Next stage (beyond workshop) is to extend SFP into a business plan.

Q&A – Any questions about workshop?

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Competition

(intel)

▸ 3 prizes & certificates 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

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CERTIFICATE

Entrepreneur Workshop on Creativity, Ideas & Innovation Workshop

This is to certify that ????
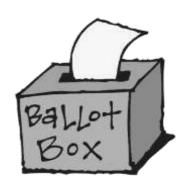**Was judged as being 1 of the 5 best SFPs**

Signed:
Director CSf

http://tomorrow-projects.com/

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Voting

▸ You will be the judges!

▸ For each SPF (but not your own) you will give 3 scores (on a scale of three; 3 is very good, 2 is good, 1 is ok, 0 is ☹:
  ◦ **How good the idea is** (1-3)
  ◦ **How good the benefits are** (1-3)
  ◦ **How 'story-like' the SFP is** (1-3)

▸ We will aggregate the score on a spreadsheet; top-3 scores get a prize (in the event of a tie, Ping & Vic will have casting votes – & will look out for, and disqualify, any unfair voting).

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Presentations

Order of Presentations
(5 mins each, including Q&A)

1. Eliot Amiot
2. Poppy Black
3. Shaun Burrows
4. Mark D'Arcy-Smith
5. Paige Dolphin
6. Louis Eastwood
7. Elif Goksu
8. Lee Hobbs
9. Timothy Hinde
10. Darren Lane
11. Jess Mcnutt
12. Mark Morgan
13. Manzambi Joao Miguel
14. Miriam Popa
15. Robert Rishman

TOMORROW
PROJECT ANTHOLOGY

THE FUTURE
Powered by Fiction

Two slides (5 mins including Q&A), introducing:
1. You
2. Your SFP (with useful supporting information)

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..... let the presentations begin!

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