

Building Visions of the Future Workshop



**Session 1: Creative Science
and the Science Fiction
Prototyping Methodology**

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Outcome of Workshop



- ▶ To understand what Science Fiction Prototyping is and how it might be used as a vehicle for public engagement as part of the Kaunas European City of Culture activities.
- ▶ In support of this you will write a short story of just 30 words to describe a vision of the future you have for Kaunas (with a prize for the most popular idea – to make the workshop a bit more fun!)

These notes are available to download from:
[http://victor.callaghan.info/publications/2020_KaunasWorkshopSession1\(23Oct20\).pdf](http://victor.callaghan.info/publications/2020_KaunasWorkshopSession1(23Oct20).pdf)

Structure of Workshop

“This workshop seeks to introduce science-fiction prototyping as a methodology for inspiring, capturing and communicating innovations as the basis of a public engagement competition in support of the Kaunas European City of Culture year”.

▶ Morning Session (Presentations):

- Science Fiction Prototyping (SFP) – Prof Callaghan
- SFP Grounding – Dr Zheng
- Introduction to Practical Sessions – Dr Zheng

▶ Afternoon Session (Practical):

- Group brain-storming
- µSFP writing exercise.
- µSFP presentations
- µSFP competition award

The Bigger Picture

Today's practical sessions are part of a bigger process comprising:

- Ideation (covered today)
- Science Fiction Prototyping (covered today)
- Diegetic Innovation Templating (converting fictions such as Science Fiction Prototypes into fundable & actionable plans – covered elsewhere)



About The Creative Science Foundation

- ▶ Is a 'not for profit' foundation with a mission *'to promote technological, business and social innovation through methods based on a synergy between art and science'*.
- ▶ Founded in 2011 by Intel
- ▶ Based in Central London at Ravensbourne University which specializes in Creative Arts and Technology
- ▶ Is run by an International board of volunteers.



www.creative-science.org

Innovation as an opportunity & threat

- ▶ Innovation brings opportunities to make society or business better
- ▶ Innovation can also disrupt the status quo threatening society and livelihoods.
- ▶ For example, Nokia became an internationally renowned company through its innovative mobile phone design, but was effectively destroyed by the **disruptive innovation** of the smart-phone
- ▶ Thus, all successful companies and organisations invest effort in monitoring or harnessing emerging innovations



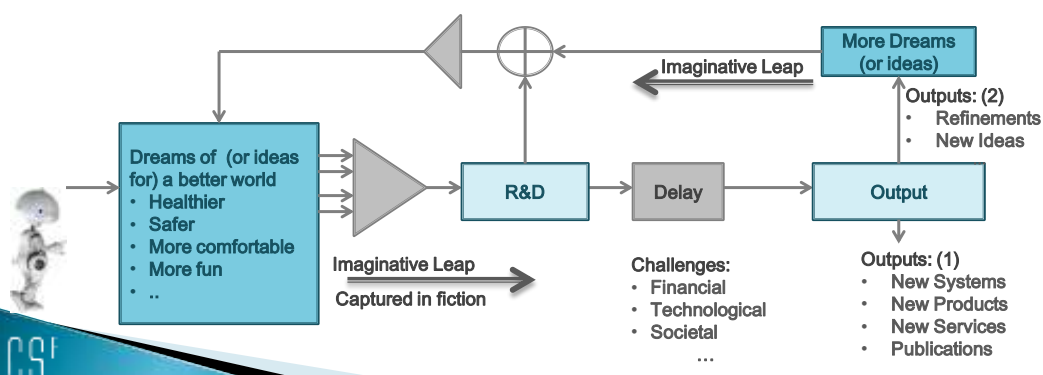
But how do organisations avoid being sidelined by new innovations, or how produce their own innovations.

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.



The CSf Innovation Process In Simple Steps

This part could be used for a **public engagement competition** for European City of Culture Year (but, maybe in an **online form**)

1. Brainstorming



2. Fiction based Prototypes (eg SFP)

3. Grounding Fiction in reality (eg DiT, DG)



4. Tangible Prototypes (eg simulations, paper prototypes, alpha/beta versions etc)

5. Business or implementation plan



The Power of Stories

- ▶ Many of us will have been raised with story books (or movies) as part of our lives.
- ▶ Well written stories feel real; immersing and engaging us and our emotions in another world.
- ▶ From one perspective our lives are stories
 - Stories of our ancestors (recounted to us by our parents)
 - Stories of our own life (as told by our family or friends)
 - Stories of the future (our dreams or aspirations for the future)
- ▶ Imagining worlds we can't see or touch is a core process in story writing and reading.
- ▶ Thus stories, fuelled by imagination, are powerful motivators of progress.
- ▶ **The power of stories to stir imagination & immerse us into worlds that are yet to be realised is the principle that Science Fiction Prototyping taps into**



Fiction as a Vehicle of Imagination, Prototyping & Communication

- 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 provides a shared language to allow **communication** between the various stakeholders of innovation.

One of the key advantages of this approach for the Kaunas European Year of Culture public engagement exercise.



Science Fiction Prototyping

- SFP was introduced by **intel** to overcome their problem in anticipating the future uses of their chips (which take 7–10 years to design /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** (μ SFP): a very small SFP
 - **Macro-SFP**: a large SFP

The variant we will show you today and propose for the Kaunas European Year of Culture



VIDEO INTRODUCING SCIENCE FICTION PROTOTYPING

Micro Fiction

Provides quick method to capture the initial idea



Polytron Technologies, (Taiwan)

▶ "LIE DETECTOR EYEGLASSES PERFECTED: Civilization collapses" - Richard Powers

▶ "TIME MACHINE REACHES FUTURE!!!" - nobody there " - Harry Harrison

Examples of 6-Word Micro Fictions

The format we will show you today and propose for the Kaunas European City of Culture Year

- ▶ No agreed specification; Ranges 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 (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>
 - *MicroSFP* (Twitter–size) – <http://www.creative-science.org/activities/microsfp/>

Writing a μSFP

Innovation oriented story writing?

μSFP components

1. **Innovation**
2. **user**
3. **event**
4. **benefit**

Mu is the 12th letter of the Greek alphabet which, in science, means small, or micro



- ▶ 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

[Person] in [Situation] uses [Innovation] to do [Action] resulting in [Benefit]

5. Start big, then reduce it to <140 characters / 25 words

Some Examples ⇒

Examples – μ SFP (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.*

Mini-SFPs

A cross between an academic paper and a short story

- ▶ Are bigger, multi-page versions of μ SFPs (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 μ SFPs, 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).



Smart Cities



- ▶ **Interlinked Ecosystem:** numerous people, gadgets, machines, processes, resources etc
- ▶ **Key Areas:** Transport, Buildings, Security, Energy, Finance, Healthcare, Education, Arts, Socialising, Politics, Entertainment etc
- ▶ **Hot ICT Technologies:** AI, Big Data, Internet of Things, 5G , Robotics, HCI (voice/vision) etc

Ideas for the brainstorming / idėjos smegenų audrai

- ▶ In support of this afternoon's brainstorming you have been given a list of topics that include:

- ART OF DYING
- BIODATA SERVICES
- AUTONOMOUS CARS
- IOT
- BITCOIN
- VR/AR/MIXED REALITY
-
- INTERACTIVE ADS
- DRONES
- VIRTUAL ASSISTANT
- IMPLANTS
- CRIME PREDICTION
-
- RECYCLING
- VOTING



Metalogue (3.10)



British Telecom (2.57)



+Spaces (2.57)

Some Video Examples

Online Tools

- ▶ For similar workshops we have used a Twitter feed to share & vote on μ SFPs



- ▶ We also have a specialist online story-writing platform called **MySciFiStory** that enables the public to collaborate (in various modes), that could be customised for the Kaunas “Building Visions of the Future” public engagement phase.



That's it for Part 1!

*“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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