Micro–Futures

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About Me

- Professor of Computer Science at Essex University
- Member of Intelligent Environments Group and Digital Lifestyles Centre
- Worked in avionics (aircraft) before joining university system
- Specialist in robotics and artificial intelligence (founded Robotics at Essex in late 80’s, IE in late 90’s)
- Part of organizational team for numerous conferences, workshops, journals

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- Parkland of 300 acres
- Royal Charter in 1965
- 12,240 students
- 27% post graduates
- 40% overseas (130 countries)
- Ranked 9th in UK for research
- Ranked 2nd for student satisfaction
Overview of Talk

“The motivation of this paper is to introduce micro-fiction as a methodology for capturing and communicating visions for scientific, business and societal innovations”. To those end, The Technological Singularity is described and used as a means to illustrate the workings of Micro-SFPs

- Section 1 – about Micro-SFPs
- Section 2 – about ‘The Singularity’
- Section 3 – about the stories
- Section 4 – reflections

Science Fiction Prototyping (SFP)

- *Science-fiction Prototyping (SFP)* is a product-innovation methodology that uses science-fiction imagery and narratives as a tool to communicate and explore ideas for new research, business models or product opportunities.
- Works by extrapolating forward in time, directions for R&D (and potential product outcomes) and testing the viability (or attractiveness) of the ideas by couching them in a social context provided by the narrative or imagery.
Some Pros & Cons of Traditional SFPs

Pros
- Stories are size of a paper thereby enabling prototypes to be well developed and tested.

Cons
- Take considerable time to write, obstructing creative activities with limited time.

Consequences
- Gave rise to shorthand genre – micro-SFPs

Types of Micro-Fiction

- No agreed specification; Range from 6 to 1000 words; Popular size 25–30, words.
- Similarities to fables, parables, anecdotes, sayings, 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/microfp/

For sale: baby shoes, never worn – Ernest Hemingway
who, according to science fiction writer Arthur C. Clarke, bet 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
The Singularity

The 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*!
Singularity Mechanisms

- Arrival of singularity would have profound consequences for humankind
  - From a positive viewpoint, people would have powerful analytical tools
  - From a negative perspective, human existence would have competing greater intelligence!
- Generally, there are three main ways that people imagine a singularity might be brought to fruition
  - Whole brain emulation – refers to building an artificial version of the brain (e.g., a software simulation)
  - Transhumanism – refers to augmenting (massively) human intellectual and physical capacities by the use of add-on or replacement parts.
  - Intelligence explosion – based on acceleration theories where one could imagine ever smarter tools making even smarter tools resulting intelligence explosion
- To distinguish singularity AI from current application-specific AI, is referred to as Artificial General Intelligence (AGI).

Writing a Micro-SFP

- **Micro-SFPs** (25 word)
  - Uses Twitter/Mobile Phone sized fiction (140/160 characters)
  - Should **focus on some technology** (e.g., machine, gadget, etc)
  - Need to include an **action to illustrate its use**
  - Include a **person** (indirect references are ok)
  - All framed in a **simple (if partial) narrative**, as in any story.
  - Start by identifying the technology, then the plot. Start big, then reduce it to <140 characters
  - Simple writing procedure
    - Start by identifying the technology, process or service,
    - Then create at plot.
    - Start big, then reduce it to <140 characters

Johnson's 5-step SFP Process
1. Selecting the product (or service) and building an imaginative world.
2. Identifying a product (or service) inflection point,
3. Analysing the ramifications of the product (or service) on people,
4. Identifying a human inflection point, and
5. Reflecting on what was learnt.
Death is optional – Dr Xu spoke compassionately to Mei “its terminal but, if you can afford a Resurrection13 scan, we can rebuild Lei & you in SimHeaven”. (24 words, 132 characters)

Implies two types of technology, a very advanced scanner (the Resurrection13) that is capable of capturing detailed workings of the brain (physical, electrical, chemical and biological) and an advanced virtual-reality technology (SimHeaven) that can use this to reconstruct simulations of people that are indistinguishable from their original self. Assumes convincing simulation of wider environments & raises the issue of cost; those with money can become immortal, those without die.

Make Up – Amy, you look and sound dazzling, Ben will fall in love instantly; yeh, amazing what PersonaShop3 can do for a girl! (21 words, 115 characters)

Imagines that blended reality is in widespread use (eg more advanced versions of Google glasses) offering whole range of new affordances which would seem like magic in our world. Describes a new type of ‘make-up’ set, PersonaShop3, which allows the user to alter aspects of their own appearance and persona.

Existence – Zoe, you’ve been my life-long friend on SentiBook; today the news feed reports most social network friends don’t exist, 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.

Smart Friends – So, old friend, you finally replaced your wet-brain with a FreeWill3 quantum unit; yeh, & I’m replacing old friends with smarter ones! (22 words, 134 characters)

Implies that free-will is an important characteristic of people & might need a different type of computing (quantum). The story also raises the issue of whether augmenting the body and mind may lead to less stable social relationships.

Clone World – Tom, this morning mend the cooker, take the kids to play land & go to work. Yes, dear we will do that! (21 words, 101 characters)

Rises possibility that spare-part replacement might not just lead to creating single clones of people but multiple identical clones (three in this case allowing John at least three times the amount of work. Where would this stop, how would those clones be managed and how (and would) their experiences to integrated to maintain a single super-person?

Upgrade – Max read the side-effects warning on the mental-arithmetic upgrade nanobot-pills; “some users report reduced emotional behaviour” (16 words, 129 characters)

Ponders whether if change one part of our physical or mental make-up, it will have side-effects on other aspects of our being. How will such changes affect our lives and wider society? How will such augmentation be supplied and regulated.
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 (possibly displaying combinations of benevolent, mischievous or malicious behaviour as found in people).

Collective Consciousness – Silently Zac prayed for inspiration; thanks to his SentiNet brain implant from the 7th Day Evangelists, his prayers were soon answered.

Upgrade – Sentinet is down again! Be warned wise reader, the Singularity will be preceded by an unprecedented torrent of upgrades!

Viral Intelligence – Jane’s sleepy eyes said it all, another smart home with a viral-intelligence infection, call the singularity exorcists!

Collective Consciousness – Imagines time when brain interfaces are commonplace commodities linked by to create a type of crowd sourced super-intelligence and an artificial form of connected consciousness that is analogous to telepathy.

Micro-SFP Examples: The Intelligence Explosion

- Viral Intelligence – Jane’s sleepy eyes said it all, another smart home with a viral-intelligence infection, call the singularity exorcists!
  - 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 (possibly displaying combinations of benevolent, mischievous or malicious behaviour as found in people).

- Collective Consciousness – Silently Zac prayed for inspiration; thanks to his SentiNet brain implant from the 7th Day Evangelists, his prayers were soon answered.
  - Imagines time when brain interfaces are commonplace commodities linked by to create a type of crowd sourced super-intelligence and an artificial form of connected consciousness that is analogous to telepathy.

- Upgrade – Sentinet is down again! Be warned wise reader, the Singularity will be preceded by an unprecedented torrent of upgrades!
  - Makes a literal interpretation of the intelligence explosion; seeing it as a rapid cycle of improvements (upgrades) signalling the onset of a massive intelligence explosion. In doing this it questions, implicitly, how will the singularity happen, what might be the signs?

Summary

- Micro-SFPs provide simple tool to capture and communicate ideas about the future.
- Compatible with Twitter or phone texts (140 characters or 25 words).
- Small size is challenging but focuses writers on most essential elements.
- Used “The Technological Singularity” to present 9 examples of micro-SFPs relating to areas
  - Whole brain emulation
  - Transhumanism
  - Intelligence explosion
That’s it!

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