

A New Manifesto For Systems Engineering Design Praxis

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Introduction

This Manifesto emerges from the ongoing work on the digitization of the Cooley Collection by the interdisciplinary team members of the INSYTE-Cooley Research Lab in the Luke Wadding Library of the South East Technological University, Waterford. Work on this manifesto has raised serious questions – is the systems design process that involves interdisciplinary teams, responsible design and development of non commercial but socially beneficial systems, a very different and emergent model? Is it compatible with, a very different design approach? An ideology is presented, from which, as the lab progresses a supporting method specific to complex digital cultural heritage systems is evolving.

INSYTE-Cooley Research Lab



- Human Centered Systems Approach
- Multidisciplinary Team
- Participation Action Research Lab

"There can exist a human-machine symbiosis which values the tacit knowledge of the human in combination with the computational power and logic of the machine" ([1]).

Conclusion

It is hoped that this seemingly “provocative act” of creating a Manifesto will refocus a light on the values and ethics important in Human Centred Systems that use a socially responsible process to produce non commercial and socially beneficial products. Instead of following traditional methodologies, (Agile supporting methodologies now included) developed for designing systems for commercial gain – some of which hark back the Taylorist “one best way” - should we ask ourselves – is there a mismatch - is it now time to make a change?

References

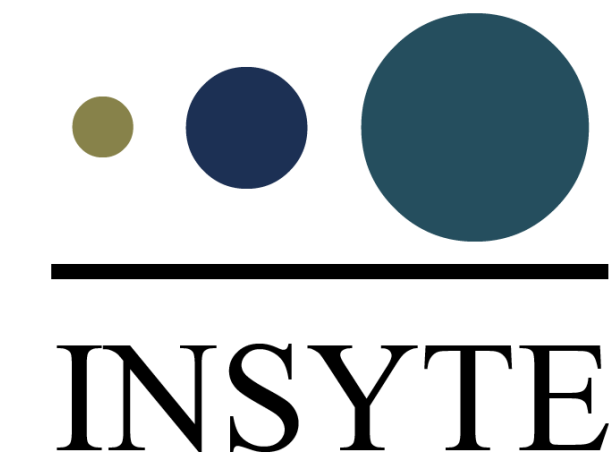
- [1] M Cooley. *Delinquent Genius The Strange Affair of Man and his Technology*. Spokesman Books Nottingham, 2018.
- [2] K Gill. *Human Machine Symbiosis The Foundations of Human Centered Systems Design*. Springer-Verlag London, 1996.
- [3] M Cooley. *Architect or Bee*. Hogarth Press London, 1987.
- [4] Alan Turing. Computing machinery and Intelligence. *MIND A quarterly review of psychology and philosophy*, LIX(236), 1959.

Acknowledgements

We are grateful to librarians Terry O'Brien, Kieran Cronin and Peggy Mc Hale in the Luke Wadding Library and Dr. Peter Carew from the INSYTE Research Lab

Manifesto

Centre for **IN**formation **SY**stems and **TE**chno-culture



1. We reject automation of human work unless invited by the individual performing the task.
2. We reject the domination of techno-centric thinking and the power dynamics it creates.
3. We embrace tacit knowledge.
4. We embrace building relationships of trust and understanding with those who steward our techno cultural artefacts.
5. We embrace open ended childlike curiosity, the raising of new questions and looking at old problems through different angles without fear of derision.
6. We embrace both success and failure because of the valuable knowledge gained from them.
7. We embrace the widespread sharing of knowledge gained from the experiences along the way.
8. We embrace the challenge to materialize the digital humanities stewards vision.
9. We embrace human creativity, collaboration and problem solving in the form of "makers".
10. We embrace socially responsible systems and socially useful products.
11. We embrace acknowledge and anticipate post solution "bricolage" (virtuoso tinkering) as a natural occurrence striving to harness benefits while minimising entropy.
12. We embrace the dedication of craftsmanship in sculpting viable solutions.
13. We embrace support and encourage the unique and colourful people we work with.
14. We embrace and invite in all those who feel marginalised.
15. We embrace opportunities to guide eager minds in the ways of HCS.
16. We embrace the diligent safeguarding of artefacts and embedded wisdom in our care during development.
17. We embrace safeguarding all stakeholders against negative risk or any in-justice (privacy violations and any injustice) during any endeavours that are informed by the system.
18. We embrace a repeatable process over a methodology.

Looking ahead...

Systems design engineers need to challenge the rigidity, control and power play inherent traditionally in the design of systems. The Agile methodology which provided some flexibility in the design of systems now needs to be revisited again. Many methodologies are being called Agile even though they do not adhere to the values of the Agile Manifesto and corresponding principles. The HCS systems design approach realigns control and power with the client and increases the chance of success for a quality system crafted to suit the needs of the client. The clients tacit knowledge is valorised and the technology augments but does not replace the work of the human in the production of socially beneficial products. A beneficial human machine symbiosis is formed. Within the INSYTE-Cooley Research Lab in tandem with the genesis of this new Manifesto which embodies the HCS approach a supporting method called "ENRICHER" has evolved and is now being tested, evaluated and refined. "We can only see a short distance ahead, but we can see plenty there that needs to be done." ([4])