Ethical Design in Emerging Technology

Understanding the place of ethics and regulation in Robotics, Autonomous Systems and Artificial Intelligence in Defence

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Levels of Oversight & Control

Autonomy Spectrum Framework

- **Manual**
  - Human operated
- **Automation**
  - Operator Assistance
    - System assists operator
  - Task Autonomy
    - System can carry out operator initiated pre-set tasks independently
- **Autonomy**
  - Conditional Autonomy
    - Operator selects action to be carried out under supervision in specified conditions
  - Highly Autonomous
    - System makes independent decisions within human-defined goals

Key Enabling Technologies/Techniques

- Business process automation
- Robotic Systems (Physical)
- Data Science
- Narrow AI
- General AI
What is Ethical Design?

Design ethics concerns moral behaviour and responsible choices in the practice of design. It guides how designers work with clients, colleagues, and the end users of products, how they conduct the design process, how they determine the features of products, and how they assess the ethical significance or moral worth of the products that result from the activity of designing. Ethical considerations have always played a role in design thinking, but the development of scientific knowledge and technology has deepened awareness of the ethical dimensions of design. As designers incorporate new knowledge of physical and human nature as well as new forms of technology into their products, people are increasingly aware of the consequences of design for individuals, societies, cultures, and the natural environment.

- How designers work with people
- How we go about setting requirements
- How we assess the end product
- How we make sure to address the impact on individuals, societies, cultures and environment

Ensuring that ethical processes are undertaken and maintained through the entire life cycle of a product.
Why is it important?

• The National AI Strategy states that the UK public sector will lead the way by setting an example for the safe and ethical deployment of AI through how it governs its own use of the technology. As we pursue strategic and operational advantage through AI, we are determined to uphold the standards, values and norms of the society we serve, and to demonstrate trustworthiness.

• The field of AI ethics has largely emerged as a response to the range of individual and societal harms that the misuse, abuse, poor design, or negative unintended consequences of AI systems may cause.
How do I implement Ethical Design?

Building a project delivery environment, which enables the ethical design and deployment of AI systems, requires a multidisciplinary team effort. It demands the active cooperation of all team members both in maintaining a deeply ingrained culture of responsibility and in executing a governance architecture that adopts ethically sound practices at every point in the innovation and implementation lifecycle.
There is a lot information to absorb on this topic.

Multiple branches of the government publishing data and guidance.

I would propose starting in Defence Artificial Strategy June 2022 (The source of the image on the right)
Final Notes

- Awareness
- Trust
- Upskilling

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Any Questions?