



Learning & Development  
Specialist Group



# Digital Markets and UX – Case studies in SFIA in Higher Education

Tom McEwan FBCS

# Background



- Day job:
  - Senior Lecturer, School of Computing, Edinburgh Napier University,
  - School Director of Quality (includes BCS re-accreditation)
  - Deputy Convener of University Quality Assurance Monitoring and Review Committee
- BCS Activity
  - BCS Interaction SG Exec (1999-current, presently as past Chair)
  - BCS Government Relations Group (Scottish member 2010-13)
  - BCS Entrepreneurs SG (proposed SG - Vice-Chair)
  - BCS Academy Research Committee (representing SG research 2010-13)
  - BCS in Scotland Committee (and BCS Edinburgh Branch since 2006)
  - SFIAPlus reviewer since v3
- Email
  - [tmcewan@bcs.org](mailto:tmcewan@bcs.org)
  - [t.mcewan@napier.ac.uk](mailto:t.mcewan@napier.ac.uk)
  - Twitter and LinkedIn: @tgmcewan

# Paper Structure



- Background to User Experience (UX)
- Case Study 1: Digital Markets
  - **Quality Approval**
  - Learning, Teaching & Assessment Approach
  - **Evaluation**
- Case Study 2: UXCF2010, 2011
  - **User Experience Quality Framework Workshops**
  - Involved 40 practitioners and educators
  - Core group contributed to SFIA v5

Items in **bold** are covered in these slides

# Quality Approval



- University Quality Assurance is stringent
  - Often involving non-experts in subject
- SCQF (based on Bologna) defines **volume** and **level**
  - Volume: 200 hours.
  - Level 11 (MSc) - more than “monitoring” and “reporting” (SFIA 5)
- We mined acceptable wording from
  - Emergent Technology Monitoring (EMRG4, 5, 6)
  - Innovation (INOV5, 6)
  - MSc learning outcomes likely to be SFIA 5/6
  - Honours degree at SFIA 4/5

# DM Learning Outcomes



- For example
  - INOV5:
    - "Actively monitors for, and seeks, opportunities, new methods and trends in IT capabilities and products to the advancement of the organisation. Clearly articulates, and formally reports their benefits."
  - INOV6:
    - "Recognises **potential strategic application of IT**, and initiates investigation and development of **innovative methods of exploiting IT assets, to the benefit of organisations and the community**. Plays an active role in **improving the interface between the business and IT.**"
- Led to module Learning Outcomes:
  - LO1: **Recommend** potential strategic application of IT in the digital marketplace.
  - LO2: Work in a group to exploit IT assets in an innovative way, to the benefit of organisations and/or the community.
  - LO3: **Conceptualise** ways to improve the interface between the business (or organisation) and IT.

# DM Learning Outcomes



- Similarly,
  - EMRG5/6
    - **"Monitors the market to gain knowledge and understanding of currently emerging technologies. Identifies new and emerging hardware and software technologies and products based on own area of expertise, assesses their relevance and potential value to the organisation, contributes to briefings of staff and management".(EMRG5)**
    - "Co-ordinates the identification and assessment of new and emerging hardware, software and communication technologies, products, methods and techniques. Evaluates likely relevance of these for the organisation. **Provides regular briefings to staff and management"**.
  - Becomes
    - LO4 Monitor technology markets to gain knowledge and understanding of currently emerging technologies
    - LO5: Identify new and emerging hardware and software technologies and products, assess their relevance and potential organisational value and brief staff, management **and investors**

# DM Evaluation



- Positive response from students, external practitioners and external examiner (EE), and good cohort performance
  - Successful entrepreneurs, and other advisors to start-ups, provided “brutal” “wake-up call”, yet rated all aspects at “adequate” or better
    - Use of SFIA-based statements leading to competency in **practice** as well as in knowledge and understanding
  - Some issues with student autonomy and time management
    - Suggests more development needed to attain SFIA level 5 in these aspects
  - Overall lack of theoretical basis in final coursework?
    - Suggests SFIA approach not resulting in MSc-level, although coursework 1 was OK
    - Positive statement by EE at exam board about quality of student achievement suggests a more holistic view is justified

## 2. UXCF

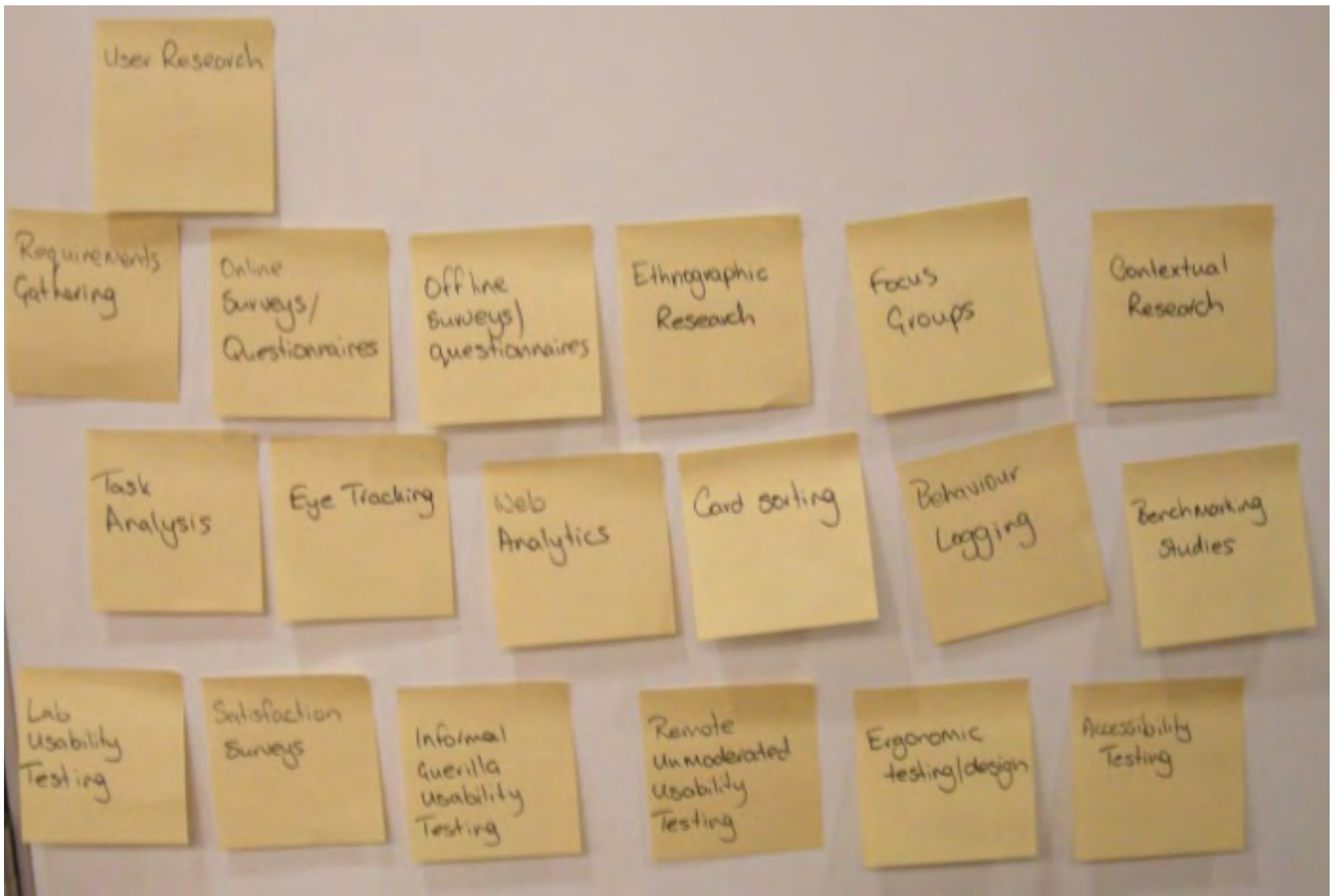


- UXCF.org contains materials from two workshops in 2010 and 2011, to understand job roles in UX, and to define courses to prepare for these.
  - UXCF2010
    - BCS Covent Garden, Feb 2010
    - 4 x 90m sessions, two of papers, two of activities
    - Individuals start to feed into SFIA v5
  - UXCF2011
    - HCI2011, Newcastle, July 2011
    - Small core group deconstructed typical teaching and mapped against professional competency
    - An on-going, but unfunded, activity



# UXCF2010, Covent Gdn.





# Issue: lack of shared definitions?



- Are definitions of job role or competency shared across different organisations? For example:
  - "[D]o you employ a UX person as **both** a usability researcher and as a designer?"
  - "It's more a prototype – they don't have to deliver a perfect design (...) they can do wireframe."
- Difference between
  - Those who **research** the usability needs of typical users (in SFIA terms, UNAN - User Experience Analysis), and
  - Those who create a finished web-site interface (SFIA has little on this – the closest is INCA – Information Content Authoring, or ADEV – Animation Development, while Skillset and CCSkills have some related definitions).
- Job demarcation needs closer study – the use of rough prototypes might indicate the need for an additional skill albeit at a lower level.

# Career progression



- Dynamic sense of how people and roles develop:
  - "But you don't have a specialist research person and a specialist design person, you wouldn't want somebody combined?"
  - "(anonymised) does usability testing, I was hired as a usability tester and then was given the chance to do the design and turned out not to suck too badly at it to begin with and hopefully got a bit better
- The response adds a third SFIA skill – User Experience Evaluation (UNAN), and shows how an individual's career path might progress
  - From USEV2,
  - To ADEV3,
  - To (by participation in UXCF itself) UNAN4 or even HFIN5.

# UXCF2011 - Analysis



| Area                          | Components  | SCQF<br>7      | SCQF<br>8             | SCQF<br>9                       | SCQF<br>10 | SCQF<br>11                  | Gaps:  |
|-------------------------------|---|----------------|-----------------------|---------------------------------|------------|-----------------------------|--|
| Planning                      | Strategy, selection of alternatives, investigate and manage resources. Risk Management, Scope Management, Expectation Management, Decision-making           | BD3<br>PD1,2   | CCD1-5<br>UCDW<br>2   | In generic modules only         |            | IUCD<br>2-3<br>UE2<br>DM1,2 | More risk mgmt needed, pragmatism, scope creep control. Case studies on persuasion/influencing                                     |
| Research and Post-release     | Formative, summative, identify needs, evaluate in us,. Out of box experience. Context of use. Benchmarking. End of life/disposal                            |                | PI1<br>UCDW<br>2      | CM1,3<br>,4<br>ED1,3            | UX1        | UE1,3<br>IUCD<br>1,3,4      |  |
| Requirements                  | Release criteria, acceptance criteria. User profiles/intended context. Scenarios, journeys, safety (operational requirements) contract (and specification?) |                | CCD2,3<br>UCDW<br>1,2 | UX4                             |            | IUCD<br>1, 4                | More effective agile approaches. Talking the user's language<br>Articulating risks and trade-offs                                  |
| Concept                       | Interaction design, modelling, design trade-offs. Feasibility, proof of concept<br>LoFi prototypes  | BD2,<br>PD3    | PI1,3                 | CM2,3<br>ED2,3<br>DS1,2,<br>3,4 | UX3        | UE4<br>DM3                  | The following items apply to both Concept and Content: Information Structure, Data quality, content strategy, influence behaviour. |
| Content (or content strategy) | Information architecture, media mix, structure, provenance, data volumes, localisation.<br>Configuration management and information structure               | BD1            | PI2                   | CM2,<br>ED1<br>DS1,2,<br>3,4    | UE4        |                             | More conceptualisation and principled selection. Application of narrative and film theory  |
| Design                        | Interaction design #2. User Interface modality. Error handling, HiFi prototype. Brand conformance, Wireframes, blueprints                                   | BD1,3<br>PD4   | PI3                   | ED2                             | UX1        | UE3,4<br>IUCD1<br>,4        |  |
| Development                   | Outsourcing. Verification, adaptability. Project standards, lifecycle issues  | BD2,3<br>PD3,4 | CM4                   |                                 |            | UE3                         | (both seen as peripheral/ boundary to UX)  |
| Implementation                | Rollout, beta versions, product localisation, customisation, user guidance, validation  |                | CCD5<br>Using SFI     | ED1<br>DS5                      | UE3        |                             |  |

# UXCF Next Steps



- All volunteer effort and little recent progress. However a good store of materials now available and good cooperation between BCS Interaction SG and UK Usability Professionals Association, leading to UCD2012
- SFIA can be enhanced by this way of “bottom-up” gathering of information about new roles and relevant courses
- Universities can meet the external quality agenda by building courses based on such evidence.
- SFIA level 4-6 competency statements could be the lingua franca to combine all of this