Some relevant developments in (new) Media Design

- mash-ups, C/S, soa's
- co-creation, co-design
- iterative & incremental design
- design exploration & emergent design
- agile design & rapid prototyping
- enactment: scenario's, (paper) prototyping, demonstrating

Content Developments

- Tangible and embodied interaction
- Mobile and networked connectivity
- Smart as intelligent interfaces
- Smart as sensitive interfaces
- Social and collaborative applications
- Connected data (cf. paper CSERC, 2013)

Design Developments

- User centredness: co-creation, co-design, participatory design ...
- Patterns, frameworks & API’s: programming as picking functions and services
- Agile design and design exploration: fab-labs, sensor-labs, living-labs;
  - sensorlab: concept development
  - living labs: product development

Mash-up architecture - flexibility

- a flexible, non-technical & creative assembly of independent elements

Flexibility

- Mash-up's: a small central core with services as required, each linked in C/S manner.
  - Flexible choice of functionality
- Front-end or MVC view: all presentation aspects, allowing adaptation into maintenance
  - Flexible adaptation of presentation
- True C/S: implementation may be partial, incomplete, piecemeal. Coding specifications need not be complete, consistent or correct.
  - Flexibility in the design process
Flexible architecture

Rob (2006): Object-Orientation freed the logical from the physical design order

Analysis: user needs/wishes context techniques business ideas ...
Concept Eureka!
Implementation Prototype
Sensor lab Prototype Living lab Prototype
Market opportunities

Flexibility in HCI Design

- over structure: the layers of the application are not interdependent (cf. seeheim, O/S, mashups)
  - the UI is not dependent on the logic or the application
- over elements: the services, functions, API's are independent (cf. principles of OO)
  - add, change, remove functions as required
- over time: adaptation to changing requirements, wishes, user groups, contexts of use ...
  - It is common to continue design into 'maintenance'
- over specification: design specifications need not be complete, consistent or accurate

Ideation and implementation are separate design processes

- ideation / conceptualisation / design design: product is the user's view of the design
  - designers mental model, user virtual machine
  - the meaning of the design to the user
- implementation / coding / realisation: product is the machine's code how to do it
  - the workings of the design for the machine
  - each delineates the remaining design space

In ideation, 'enacting' design is crucial

- in sketching, role playing, demonstrating, etc.
- persons, tasks, sketches, scenario's
- video's, prototypes, working system as design specification (cf. van der Kooij and Retfalfi or art)

SE and HCI design methods

- UCD
- Waterfall
- Scenario
- Agile
- Model-driven
- Structured
- Spiral
- Screw (?)
- ....
- Concept -> Code

The process of HCI design

HCI Design is conceptual only, so the process is:
- based on prototypes
- feature-driven
- iterative and incremental.
It need not be complete, thus affording for pragmatic and special purpose tools:
- persona's (mood boards)
- scenario's, use cases
- interface sketches, wireframes
- (paper) prototypes, demo's ...
Design Developments revisited

- User centredness more important: co-design (creative research) in *Users as Designers*
- Frameworks, patterns, APIs - design is about mashups and picking functions and services in *Network Focussed Design*
- In flexible agile design practice, ideation leads implementation, enabling exploratory design / living labs and *Innovation Experiment Systems*

1 Waag Society: Users as designers

- Ask: inquiring - core users, exploratory play, context mapping ...
- Make: thinking through making - idea's, demo's, prototyping
- Try: testing in the field - engaging, tinkering, adapting ...

2 Booreiland: Network Focussed Design

- investigate the design context: actors, relationships
- pick them out and rework them into novel and networked terms
- provide for excellent UX

- not a new design but rearranging a situation into networked elements

3 Living Labs and Exporatory Design

- Loose dependencies and non strict order of design steps allow for exploratory design
- Fablabs, sensorlabs, living labs allow for tweaking, finetuning and real-life testing

Aadjan van der Helm
IDStudioLab, TUDelft

**Interactive prototyping in the early stages of the design process.**

Presentation at the User Interface Design Symposium, 1 April 2015, Den Bosch, the Netherlands

3 Jan Bosch c.s. - Innovation Experiment Systems)

Need for speed: speed-up development rather than saving on evaluation

Wrap up

The nature of HCI / Media design is changing - flexible, conceptual and exploratory with:

- New focus on the user as expert and partner
- Design as a conceptualisation or ideation process
- Design exploration, the process of exploring the concept within the design space

- Creative Technology Design where technology is no longer the burden but the enabler