User Experience Centered Engineering:
A Process Model Inspired by Games Development

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Usability vs. User Experience

Usability:
the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use

[ISO 9241-11]

User Experience:
A person’s perceptions and responses that result from the use and/or anticipated use of a product, system or service.

[ISO 9241- 210]
The HCI Perspective on how to develop Interactive Systems

- Project Start
- User and Task Analysis
- Task Model
- User’s Conceptual Model
- Use Model
- Paper Prototype
- Usability Testing

(iterate)
User Experience Decomposed

- Identification
- Focus on the positive aspects of the human-product relationship
- Diversion

- Flow
- Beyond the Instrumental: Hedonic, holistic, aesthetic

- Intimacy
- Emotion + Affect: subjective, positive, antecedents + consequences

- Fun, Playability
- Experiential: dynamic, unique, complex, temporally bounded, situated

- Beauty
- Experiences and feelings of users (subjective)

- Stimulation, Evocation

- Surprise
When looking at UX we have to identify the appropriate time span.

- a specific change of feeling during interaction (momentary UX),
- appraisal of a specific usage episode (episodic UX),
- views on a system as a whole, after having used it for a while (cumulative UX).
- Anticipated UX may relate to the period before first use, or any of the three other time spans of UX, since a person may imagine a specific moment during interaction, a usage episode, or life after taking a system into use.
What Differs for Games Development

The Early Development Phase

Concept Phase:
"begins when an idea for a game is envisioned - and it ends when a decision is made to begin planning the project“

Preparation Phase:
Early on with high quality for getting funds

Pitch Phase:
showing the game to the management or to the publisher’s representative;
Phase typically after the prototype phase

Green Light Phase:
Phase after the Pitch phase: gathering the team, clearance of business and legal issues, property rights
## Project preparation phase

**Identification & description of UX dimensions**

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<th>Evaluate</th>
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Summary and next steps

User Experience is changing over time
  → unclear how to notate, support, follow-up and evaluate

Processes have to be changed to start earlier and continue longer
  → new measuring and monitoring methods

Lots of lessons to be learned from the Entertainment Development Area (but not only! ... Maybe some approaches from safety-critical systems are not that bad?)
  → Cross-over of methods between domains necessary (but ...)