Engineering for User Experience: an Interactive TV Case Study

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Introduction

I(P)TV domain

• claim to focus on UX widespread

• next generation of I(P)TV products – more content, better experience

• Often closely linked to introduction of ‘new’ interaction technologies
  • E.g. in France (vivid IPTV market)
  • Pointing (point and click), gesture, touch (announced)
  • E.g. Apple TV – Voice Commands, touch field
Introduction

Modern product development

- One of most important pillars: User and ux centred design & engineering
- based on analysis of target users population, tasks, environment & context
- Analysis of requirements, develop alternative designs, iterative development & evaluation of prototypes with different qualities

- Benefits of iterative design & development approach are clear:
  - results in a product that is fitting the users’ needs based on thorough analysis of users’ needs, tasks and iterative development and testing
- Cost of failure increases over time, risk of undiscovered issues declines the more iterations in design and evaluation circle are carried out
- ‘Fail early, fail often’
Problem Statement in a nutshell

Industrial Settings

- vision of ideal iterative development – rarely fully applied in industrial setting.
- UX is seen as something important, details how it should be supported or evaluated are often missing or underspecified

Case Study:

- Case study with insights from daily work
- shortcomings industrial practice when following iterative design & development approach
- Lessons learned
Case Study

Project Goal

• Development of IPTV-UI
• supports UX – positive emotions due to
  • seamless animations, quick and responsive feedback, easy to use, intuitive
  • high ratings in aesthetics
  • Stimulating, identification
• development of (Set-Top Box) browser compatible version of UI (html5)
• our intention – deploy iterative design and devel approach in this project, including a set of evaluations
  • Subsequently – experiences why and how we failed to follow this approach
Case Study

Requirements Phase

• Project set-up and early requirements phase:
  • our mindset: Simple textual description of requirements is not enough
  • delivered fully functional (flash based) prototype with 70% of functionality
  • requirements document several hundred pages, including
    • task descriptions, UI screenshots
    • detailed functional requirements
    • design specifications (high degree of detail – color codes, positioning, etc)

• What we thought: the more details we provide, the better.
• Project partners: overwhelmed, did only use the prototype as reference, did not follow documentation in the requirements document.
Case Study

Design and Development Phase

- Design was already set, our mindset: no further design phase necessary
- continued straight to development phase

- Insight gained during implementation with partner company in Asia:
  - Slow development of design & parallel development/implementation might have helped to make our vision clearer

- Lesson learned: especially in the beginning, it is important to take the necessary time to ensure that the focus of the project, the time frame and the expected outcome is clear for all involved parties. (compare ‘zero sprint’ in presentation Peter Forbrig)
Case Study

Outsourcing - Challenges

• Language & communication problems
  • Working with international teams/partners - language skills & mastery vary.
  • Communication of project goals, design goals, design rationales - not understood correctly, misunderstandings when passing on to international, multi-location teams, translations and back-translations, ...

• Cultural misunderstandings
  • Long feedback cycles with bigger international companies in multiple locations
  • Cultural differences in working attitudes & commitments
  • Cultural differences in communication (e.g. how to say ‘no’)

• Our problem: we would have wanted partner to show and communicate possible limitations earlier – were not named until the very end of the project
Case Study

Acceptance Criteria - Design and Development Phase

- Outsourcing – acceptance criteria and consequences need to be written down and worded in a way that is clear for all involved parties,
  - including what happens if acceptance criteria is only partially met.
  - How to handle changes in requirements
- Committed project management and communication on both sides essential to transport goals and priorities to the respective teams.
- UX centered design and development: advisable to have project requirements ready early on (balance of over- and underspecification)
- Reserve enough time for feedback circles throughout project
  - reduces risk of misunderstandings & delays if project-partner not sticking to agreed requirements
Case Study

Communication problems - Design and Development Phase

• multi-language & multi-location: teams involved spread over various locations
• Sometimes ‘translation’ between professional worlds is necessary
  • e.g. designer has different professional vocabulary as a software developer or project manager
  • Needs a person that takes care of these ‘translations’ to avoid problems
• Our experience:
  • software developer needs vs. designers interpretation
  • Another example – cliché: software developer not focusing on usability, designers making beautiful yet unusable interfaces
Case Study

Evaluation phase – our experiences

- Constant testing and user feedback throughout whole product development:
  - Desirable, but unrealistic

In Reality:

- UX engineering more engineering to the clients’ or ceo’s desires
  - due to time constraints, confidentiality constraints, ...

- The nearer the deadlines, the less likely decisions not based on user studies and evaluation (e.g. because of sooner release)

- Time constraints – changes in planning – iterative development & evaluation not scheduled anymore or reduced to minimum.

- ‘have something running’ as a demo/mockup on time is sometimes more important than usability or UX of the final system.
Summary & Take-Away

• Case study – insight in our daily work
• Experiences during development of IPTV based UI (subjective)
• Occurrences described observed directly in the projects

Key lessons:
• Time needed to understand scope of work, level of quality required/desired, agreement on outcome and how to measure completion/acceptance
• Be aware of misunderstandings and cultural differences
• Mind the gap – scientific lessons & industrial practice, different roles, different understandings for the project, different languages
Summary & Take-Away

A USER INTERFACE IS LIKE A JOKE. IF YOU HAVE TO EXPLAIN IT, IT'S NOT THAT GOOD.
Thank you very much for your attention!

Questions? Comments?
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