

Research-based Design: Case of an Academic E-Reader Design

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Introduction and Design Concept

- **Design Concept:** E-reader, a mobile app, aims to support academic reading and learning
- **Design Challenges:** the lack of motivation affordances for academic reading, interaction design challenges and the limited application of e-reader in collaborative learning.
- **Design Object:** enhance reading comprehension and improve reading competence.
- **Major Features:** multimodal presentation of texts, exercises with rewarded points and incentives, and collaborative learning platform
- **Target Users:** students in university and college
- **Design Process:** two prototypes with different fidelity (Low-Fidelity, Hi-Fidelity)
 - designer, educational experts and technology developers
 - two workshops

Literature Review

- Problematic Features of E-Reader (Thayer et al. 2011)
- Motivation & Engagement for Reading (Wright et al. 2013)
- Multimodality (Kalantzis and Cope, 2012)
- Gamification (Deterding et al. 2011)
- Collaborative Learning (Dillenbourg et al. 2009; Timmis, 2011)

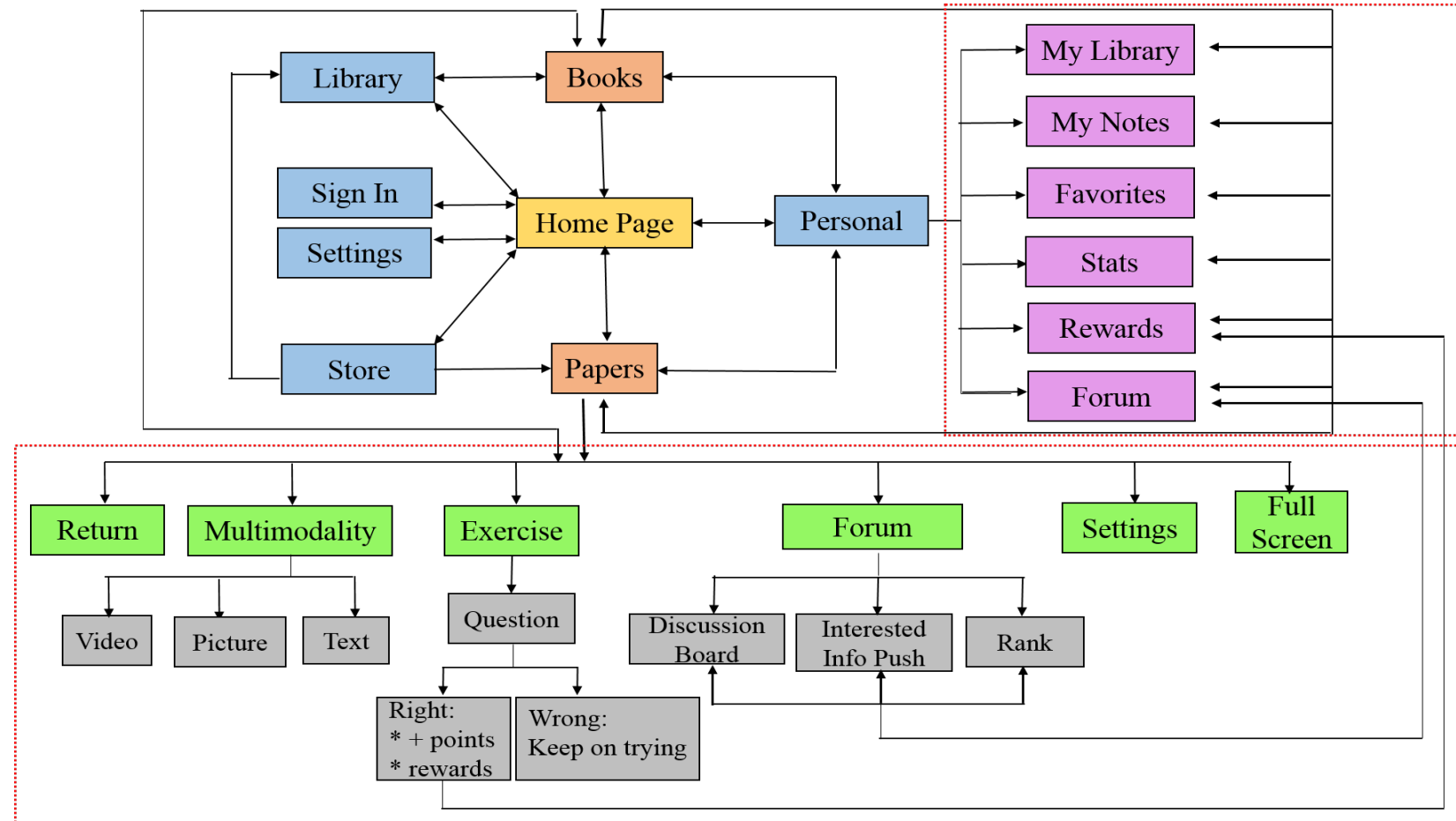
Learning Brief

Learning objects are to:

- Improve target users' engagement and motivation towards academic read
- Enhance target users' comprehension

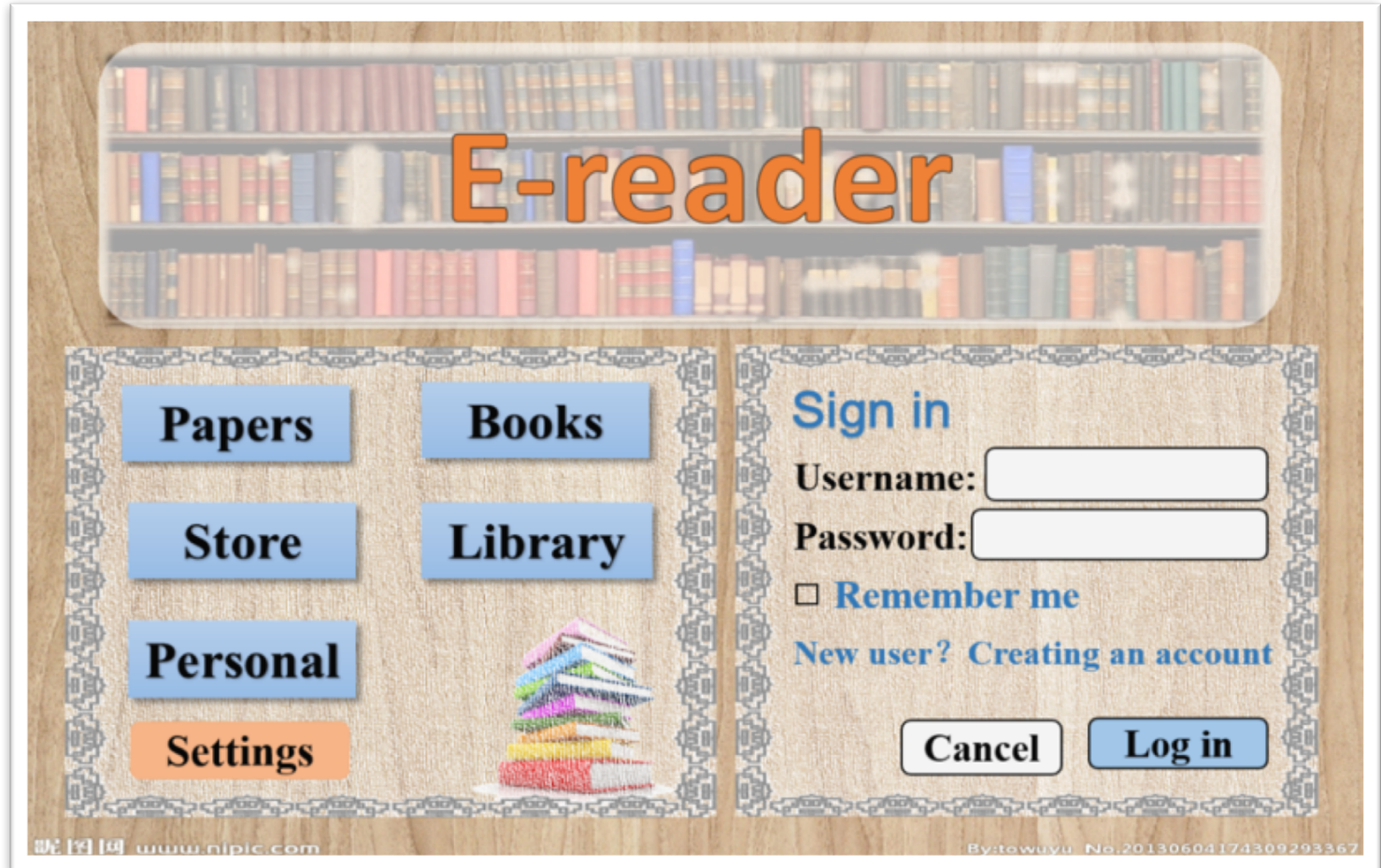
Possible Examples of Architecture and Screen Design

● Screen Design



Possible Examples of Architecture and Screen Design

- Screen Shots



The Home Page of E-reader

Possible Examples of Architecture and Screen Design

- Screen Shots

Multimodal Presentation
of the Reading Texts

The screenshot shows a digital reading application interface. At the top, the word "Papers" is displayed in a large, stylized font. Below it is a navigation bar with buttons for "Home", "Papers" (selected), "Books", "Store", "Library", and "Personal". A "Log in" button is located on the right side of the navigation bar. The main content area displays a text passage about "Communities of practice" with several blue hyperlinks. A diagram titled "joint enterprise" is overlaid on the text, showing a central node connected to "mutual engagement" and "shared repertoire", which are further connected to various sub-nodes. A sidebar on the right contains a list of controls: "Contents", "Progress", "Front", "Brightness", "Bookmark", and "Share". At the bottom right, there is a blue cartoon character and a "VIP" badge. A bottom bar contains a "Note Share Delete" button and a search bar with the text "No result, use other dicts for more meanings." and links to "More: Wiki Google Pictures".

Papers

Home Papers Books Store Library Personal Log in

[Communities of practice](#) are formed by people who engage in a process of [collective learning](#) in a shared domain of human endeavor: a tribe learning to survive, a band of artists seeking new forms of expression, [a group of engineers working on similar problems](#), a clique of pupils defining their identity in the school, a network of managers helping each other, a group of techniques, a gathering of first-time managers helping each other.

In a nutshell: Communities of practice are groups of people who share a passion for something they do and learn how to do it better through their interactions.

Note that this definition allows for, but does not require, that the community comes together or an incident. Not everything called a community is a community of practice. A neighborhood is a community, but is usually not a community of practice. [Three characteristics are critical: the domain, the community and the practice.](#)

joint enterprise

mutual engagement

shared repertoire

Wenger, E. (2008) *Communities of Practice: Learning, Meaning, and Identity*. New York, USA, Cambridge University Press, p. 73.

Contents

Progress

Front

Brightness

Bookmark

Share

Note Share Delete

No result, use other dicts for more meanings.

More: Wiki Google Pictures

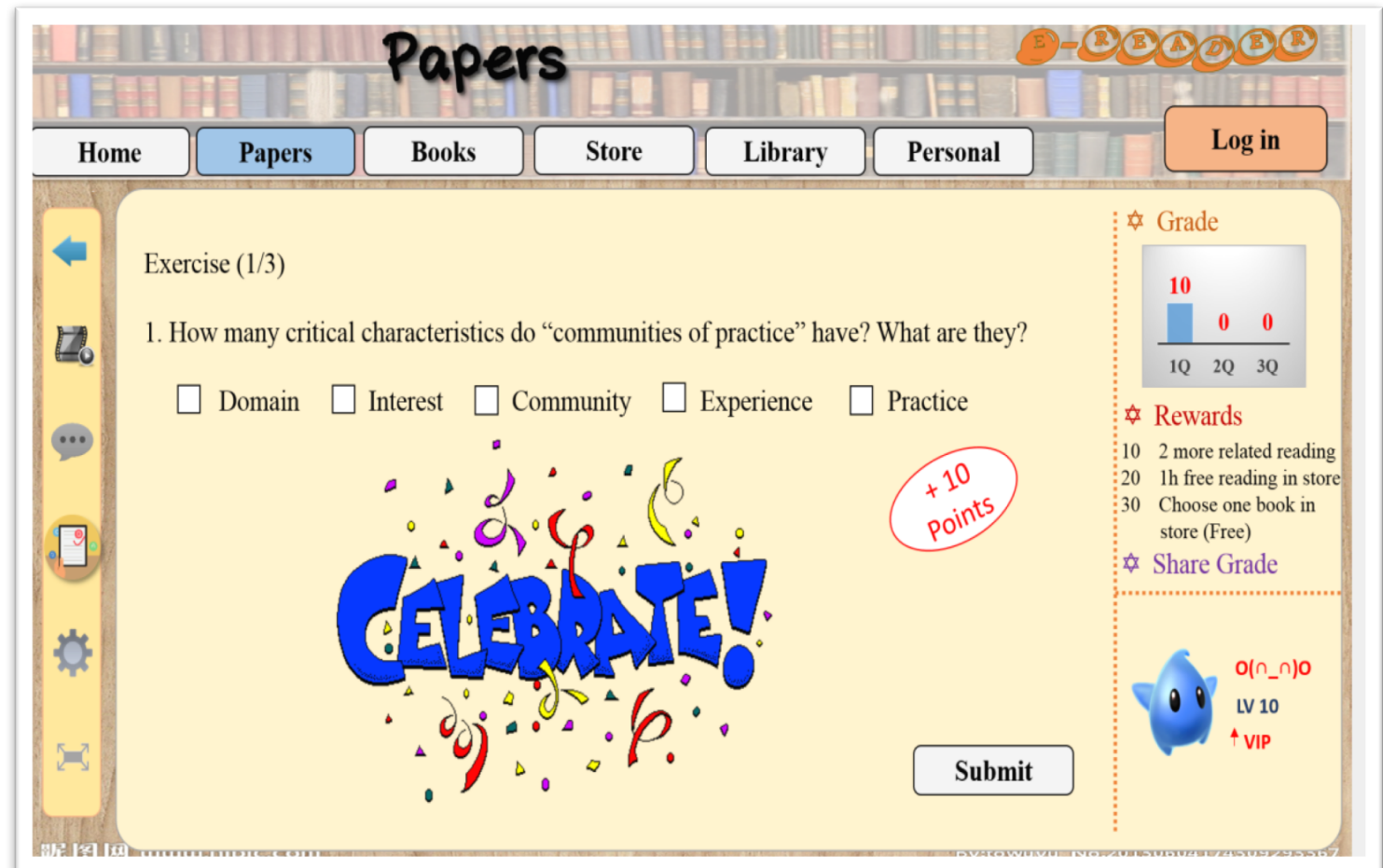
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Possible Examples of Architecture and Screen Design

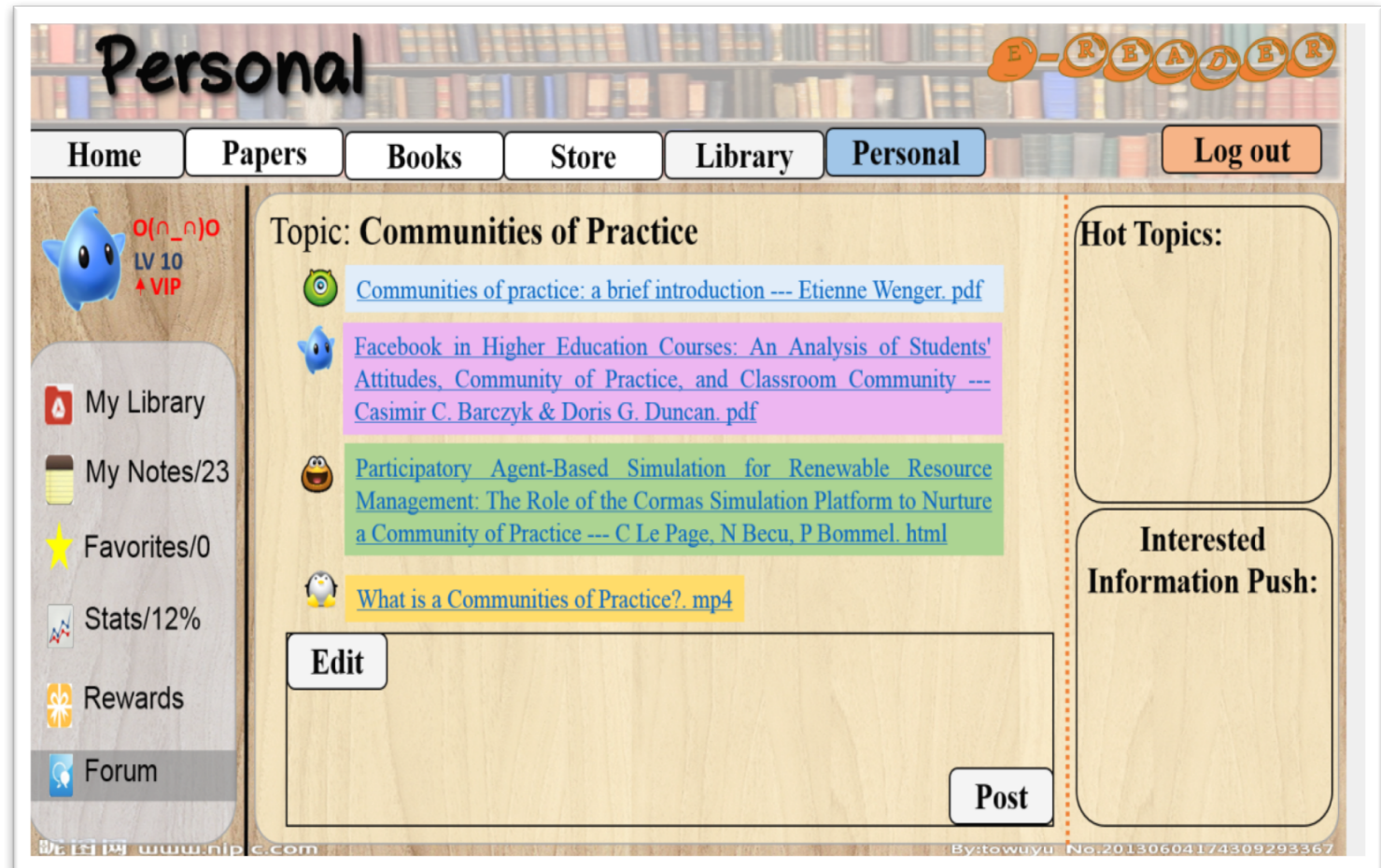
- Screen Shots



“Gamified” Exercises

Possible Examples of Architecture and Screen Design

- Screen Shots



The Personal Forum of E-reader

Design Process

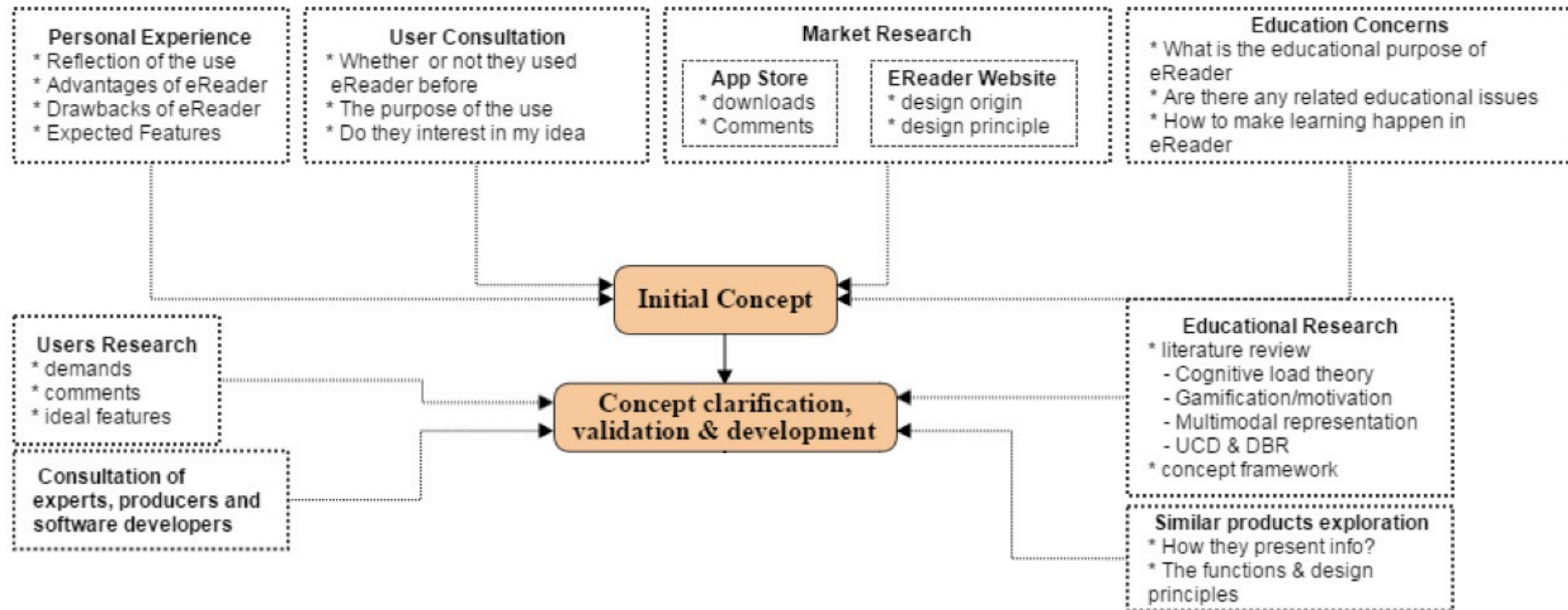
- Theoretical Framework of design process



Research-based design process (Adapt from Leinonen et al. 2008)

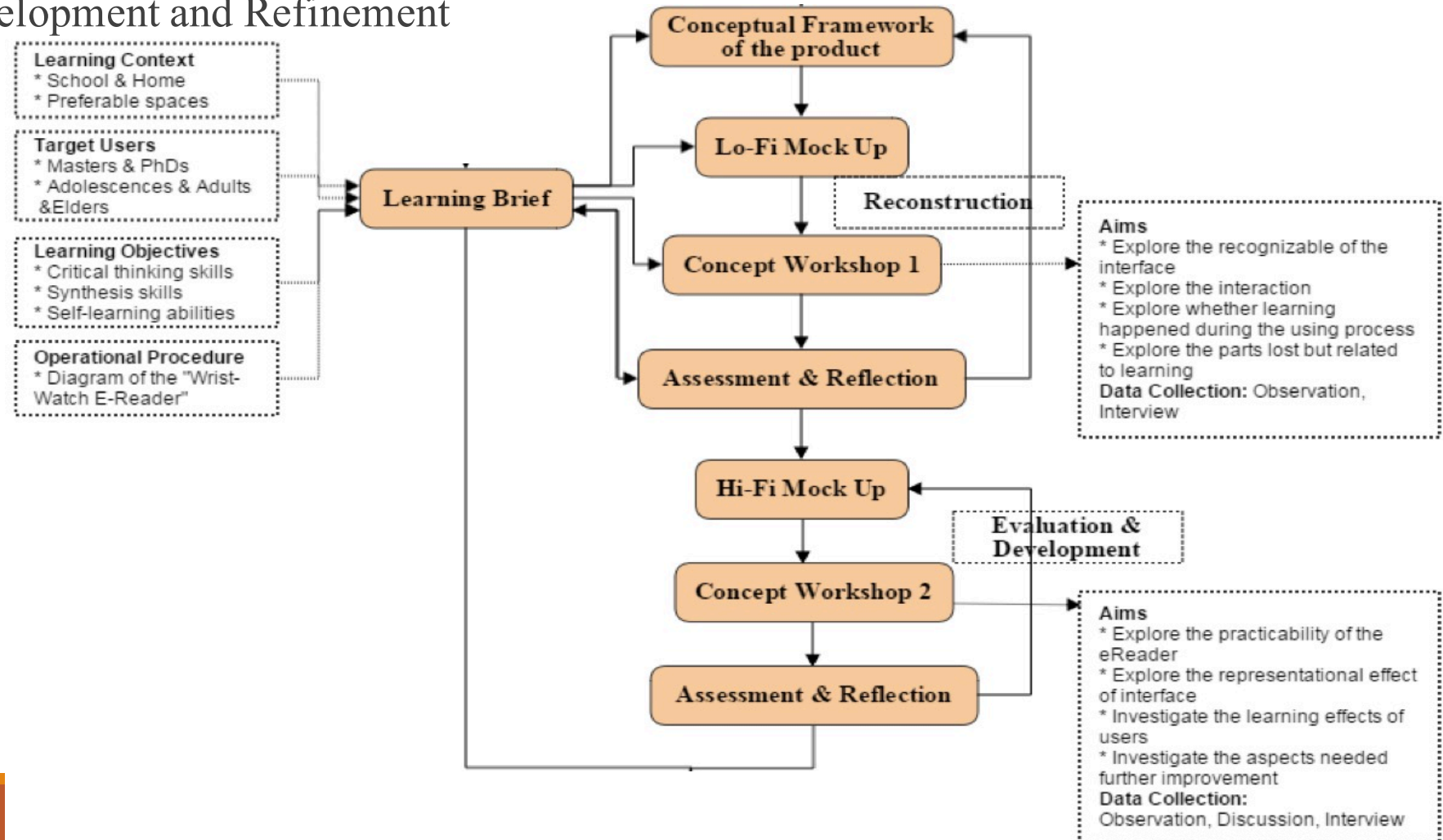
Design Process

- Concept clarification and validation



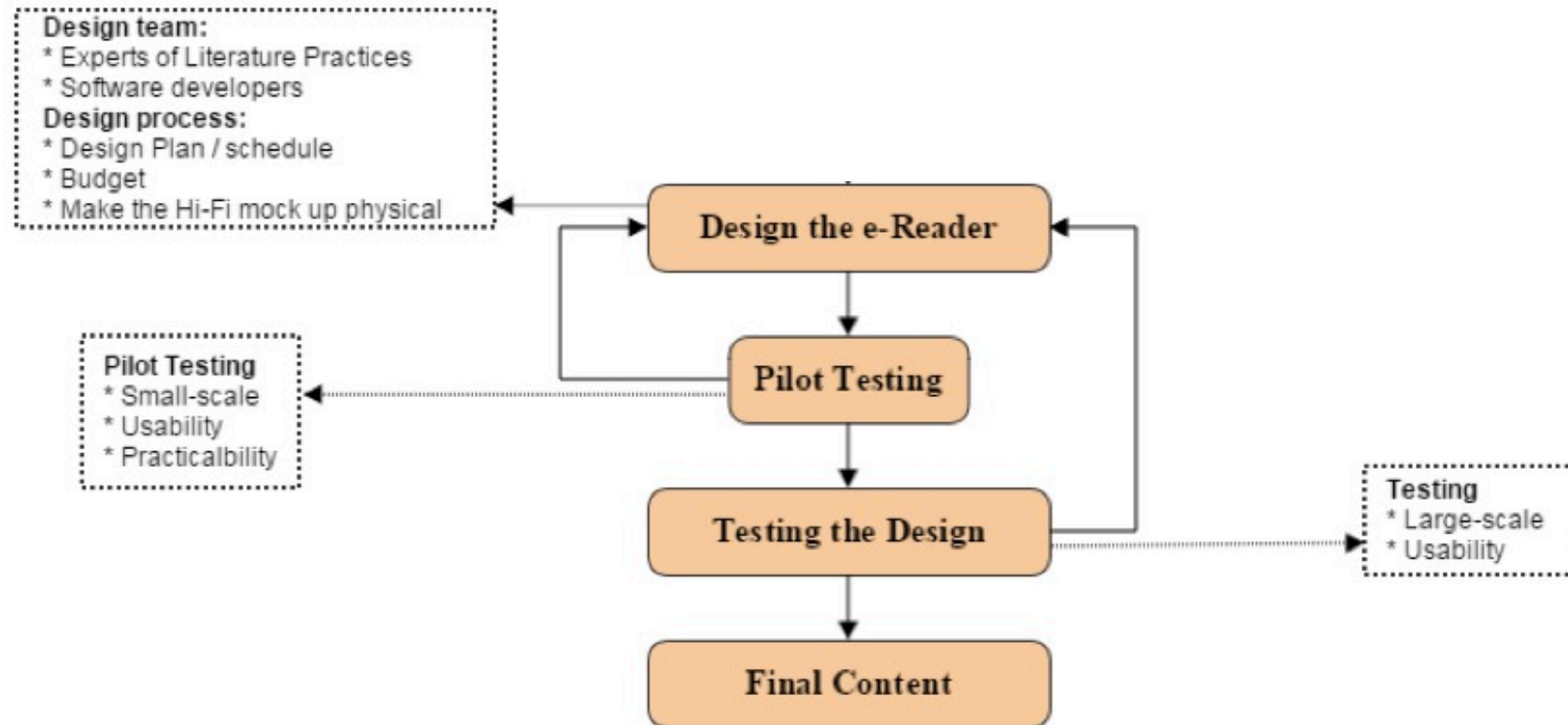
Design Process

● Concept Development and Refinement



Design Process

- Concept as hypothesis



Critiques

- limits
- Contributions

Thank you for your listening!

