Skeuomorph versus Flat Design:
User Experience & Age-Related Preferences

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Design strategy

Skeuomorph

Flat
## What’s the better design strategy?

<table>
<thead>
<tr>
<th>Skeuomorph</th>
<th>Flat</th>
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<td>iOS 6 vs. iOS 7</td>
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Oswald & Kolb (2014) suggest that the effect of Skeuomorph design disappeared after 8 months of usage. Xi & Wu (2018) found that Skeuomorph design led to more efficient visual search. Pelet & Taieb (2017) observed that flat design leads to higher ease-of-use and higher intention to order in mobile e-commerce contexts.
What’s the better design strategy?

Prensky (2015)
## Skeuomorph vs. Flat Design: User Experience and Age-Related Preferences

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<td>• higher aesthetic satisfaction and understanding</td>
<td><strong>Cho et al. (2015)</strong>&lt;br&gt;<strong>65 to 92 year-olds</strong>&lt;br&gt;<strong>effect bigger for novices</strong></td>
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<td>• more relatable</td>
<td><strong>Blaynee et al. (2016)</strong>&lt;br&gt;<strong>&gt; 65 years</strong></td>
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Research question: Is a fit between design strategy and users' characteristics helpful to elicit a more positive UX?
Independent variables

**design**

- skeuomorph
- flat

**age group**

- 12 digital immigrants
  - M = 50 years old (SD = 10.8)
  - 50% females
  - 50% males

- 12 digital natives
  - M = 24 years old (SD = 3.3)
  - 50% females
  - 50% males
Procedure

demographics control variables → interaction → UX ratings → preference rating & qualitative interview
Dependent variables

Components of User Experience:

- Perception of instrumental qualities
- Perception of non-instrumental qualities
- Emotional reaction

CUE model, Minge & Thüring (2018)

meCUE questionnaire, Minge et al. (2013)

- Usability
- Usefulness
- Aesthetics
- Status
- Positive
- Negative
Dependent variables

- Demographics
- Control variables
- Interaction
- UX ratings
- Preference rating & qualitative interview

Preference:
Which would like to use more often?

Interview:
1. Assigning verbal attributes to icons
2. Giving reasons for the assignments
Quantitative results - UX ratings

**USER EXPERIENCE:**

- **Perception of instrumental qualities**
  - usability, no interaction
  - usefulness, no interaction

- **Perception of non-instrumental qualities**
  - aesthetics, $F(22,1) = 4.8, p = .039, \eta^2 = .18$
  - status, $F(22,1) = 4.7, p = .042, \eta^2 = .18$

- **Emotional reaction**
  - positive emo., $F(22,1) = 4.3, p = .049, \eta^2 = .17$
  - negative emotions, no interaction
Quantitative results - preferences

- Preference ~ Age
  \( p = .045, \text{ OR} = 6.410 \)

Younger respondents showed a larger amount of personal innovativeness preference [%]
Qualitativ results - interview

Users wished for differences in design depending on the app’s purpose.

**digital immigrants**

- Skeuomorph is more trustworthy
- Skeuomorph is easy to understand
- Skeuomorph is more sophisticated

**digital natives**

- Reduction is good
- Flat is more trustworthy

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# Conclusion

**Research question:** Is a fit between design strategy and users characteristics helpful to elicit a more positive UX?

- Yes, a fit between age and design strategy...
  - ...supports a more positive perception of non-instrumental qualities
  - ...helps to elicit more positive emotions
  - ...might be more suitable to fit users’ preferences
- No effect for instrumental qualities and negative emotions

**Implications:**
- Fit might be more important for hedonic aspects of UX
- Purpose-depending design strategies might further enhance UX
References


Thank you for your attention

and thanks to
Maike Schröder

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Cognitive psychology and cognitive ergonomics | TU Berlin
Qualitative results - interview

Table 2. Frequencies of comments per category by elderly and young participants.

<table>
<thead>
<tr>
<th>Categories</th>
<th>Elderly</th>
<th>Young</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction to the essential (flat design) is good.</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Skeuomorph is easy to understand.</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Skeuomorph is more trustworthy because it reminds of the atmosphere in the living room (wooden shelves).</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Flat is more trustworthy because it shows its paces.</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Skeuomorph seems to be more sophisticated and is therefore better.</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Preference is a matter of habit.</td>
<td>5</td>
<td>2</td>
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</table>