



The science of signage

How empirical research can contribute to user-centered design



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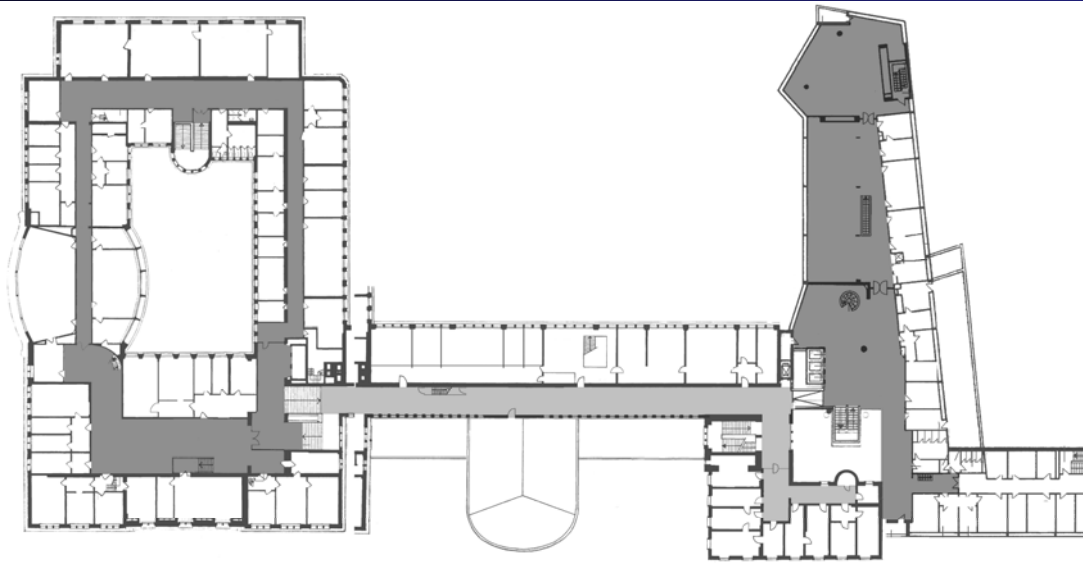
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Overview

- Analysis of the setting
- Development of a signage system
- Empirical evaluation
- Conclusion

Analysis of the setting

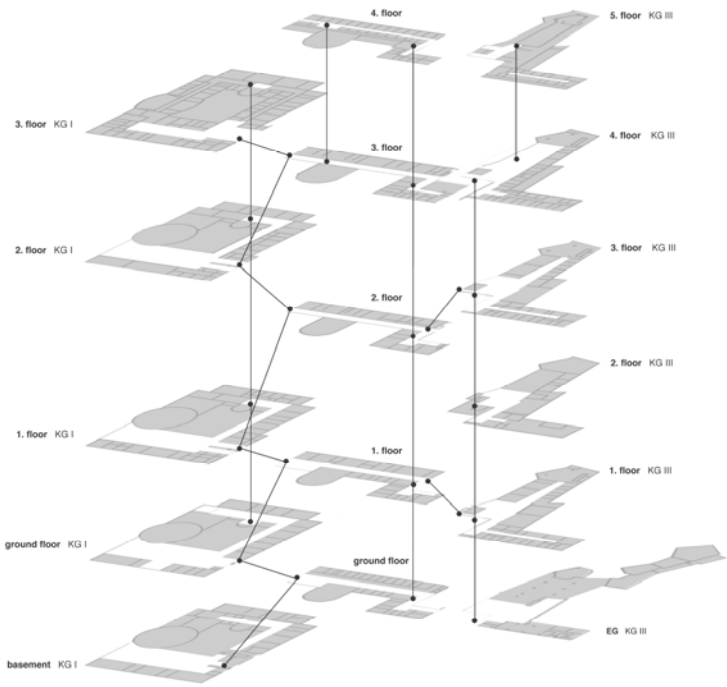
Buildings KG I and III (Univ. Freiburg)



KG I section

KG I mezzanine

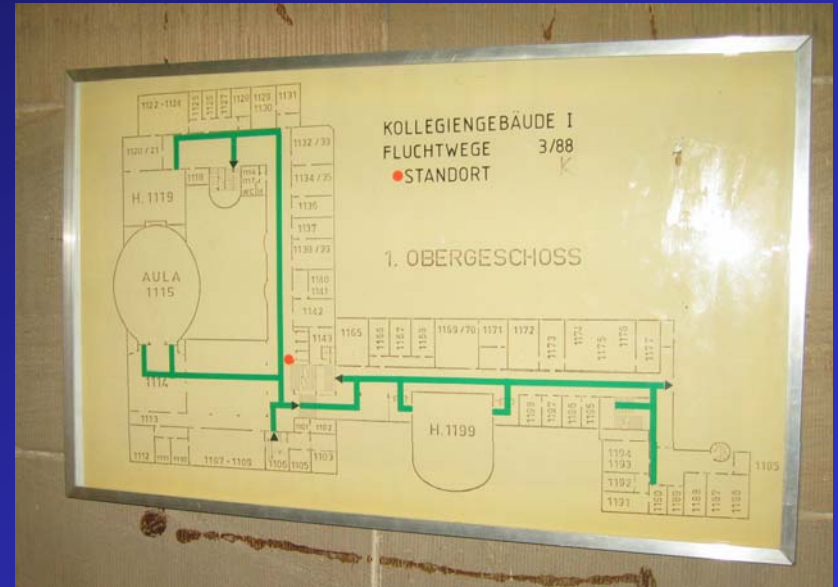
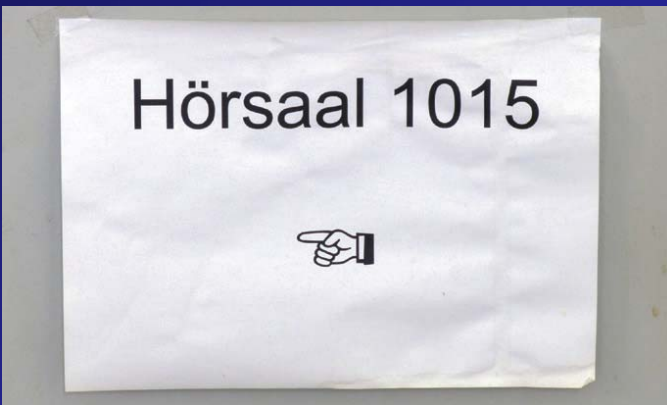
KG III section



Uncommon room numbering system:

3120 = 3 ___ KG III (building)
 _1___ 1. floor
 __20 room no.

Old Signage



Orie ntier ung sprü fung

Development of the signage system

Design of the signage system

- Cooperation with Prof. Ulrich Falk and students from Freiburg Design School (Freie Hochschule für Grafik Design & Bildende Kunst Freiburg e.V.)
- Design process (Psychologists and Designers)
 - First contact
 - Cognitive aspects in the design of a signage system
 - On site meeting
 - Designers participated in a pilot study
 - Analysis of the current state by the designers and psychologists separately
 - Joint development of the requirements for the signage system
 - Iterative design process
 - Design – Evaluation – Re-Design
 - Assessment of a prototype on site
 - Installation of a paper version of the signage system (full size scale)
 - Experimental evaluation

Requirements of the signs

- based on Passini, 1992
 - Clearness (color coding)
 - Simplicity
 - Legibility (font size)
 - Conventional (International Pictogram System, Otl Aicher)
 - Communication of the uncommon room numbering system and the misaligned floor between buildings

New Signage

KG I

1408
KG I
4. OG
Zimmernummer 08

KG III

4. OG 1401 – 1499
Fotolabor 1484 – 1485

3. OG 1365 – 1394
Alttestamentliche Literatur Bibliothek
Christliche Archäologie Bibliothek
Christliche Gesellschaft Bibliothek
Dogmatik und Literaturwissenschaft Bibliothek
Romanisches Seminar 1386 – 1394

2. OG 1201 – 1294
Alte Geschichte Seminar 1234 – 1238 / 1286 – 1294
Klassische Philologie 1222
Philologisches Seminar 1201 – 1211
Romanisches Seminar 1285 – 1278
Theologische Fakultät 1220

1. OG 1102 – 1199
Alte Geschichte Seminar 1187 – 1193
Deutsch als Fremdsprache 1108 und 1199
Fachbereichsbibliothek Philosophie & Erziehungswissenschaften
Husserl Archiv 1195 – 1198
Musikwissenschaften 1118 – 1129
Quellenkunde der Theologie des Mittelalters 1111 – 1114 a

EG 1003 – 1098
Deutsch als Fremdsprache 1005
Philosophisches Seminar 1003 / 1065 – 1078 / 1096 a – 1097
Sprachlabor SL 3 – 4 1028 – 1030
Sprachlernzentrum 5 1026

5. OG 3501 – 3540
Christliche Archäologie und Kunstgeschichte 3501
Skandinavistik 3509 – 3524

4. OG 3408 – 3440
Christliche Archäologie und Skandinavistik
Deutsches Seminar 3417 – 3440

3. OG 3301 – 3340
Deutsches Seminar 3301 – 3315

2. OG 3208 – 3240
Kunsthistorisches Institut 3231 – 3241

1. OG 3101 – 3140
Orientalisches Seminar 3101 – 3115 / 3125 – 3140

EG 3042 – 3044
Sprachlabor SL 1 – 2 3042 – 3043

Detaillierte Pläne befinden sich an den Treppenaufgängen.

↑

4. OG – 5. OG

←

3301 – 3340
Deutsches Seminar 3301 – 3315

↓

EG – 2. OG

→

KG I 1201 – 1294

Standpunkt

↑

1. OG – 2. OG

←

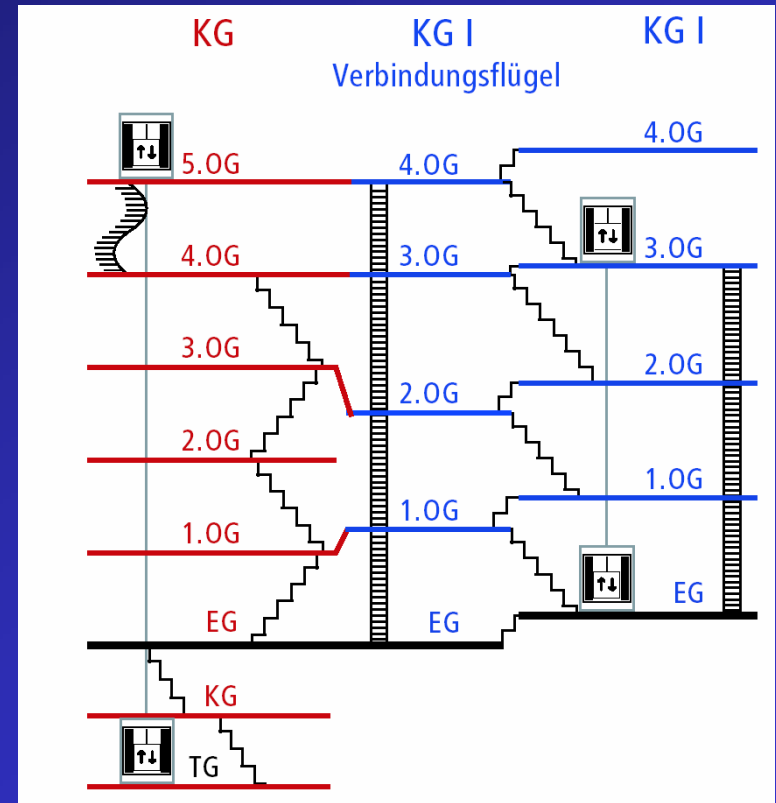
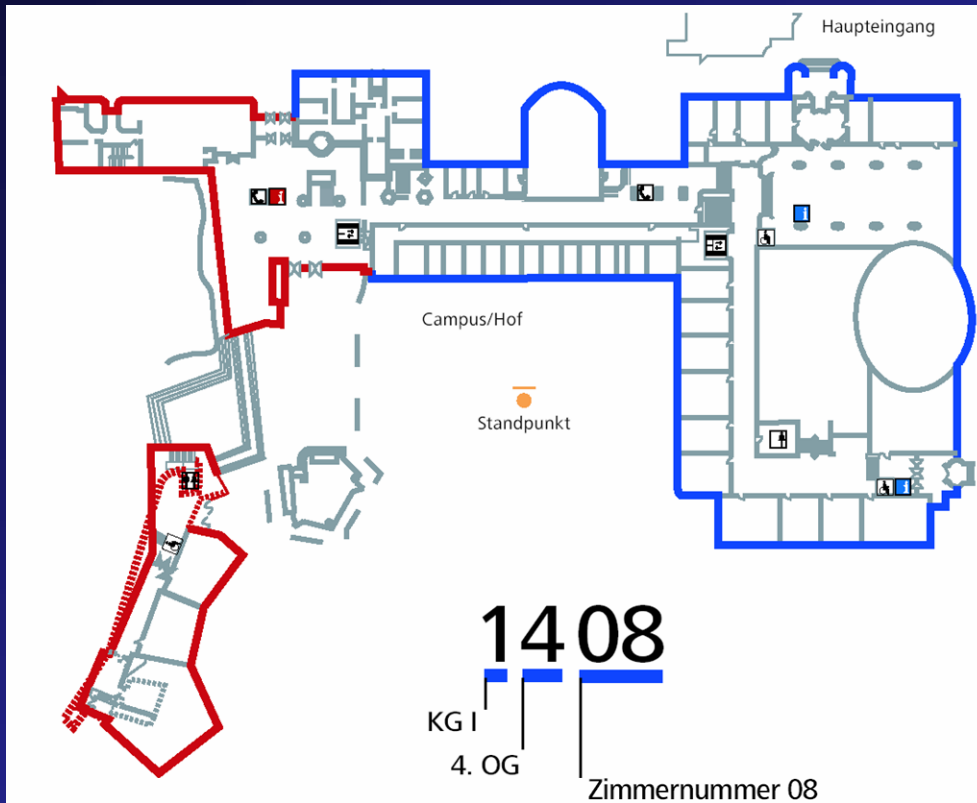
1021 – 1036
Sprachlernzentrum SL 3 – 4
1028 – 1030
Sprachlabor 5 1026
Deutsch als Fremdsprache 1005
Philosophisches Seminar 1003

1015 – 1019

Standpunkt

Information am Treppenaufgang im KG I

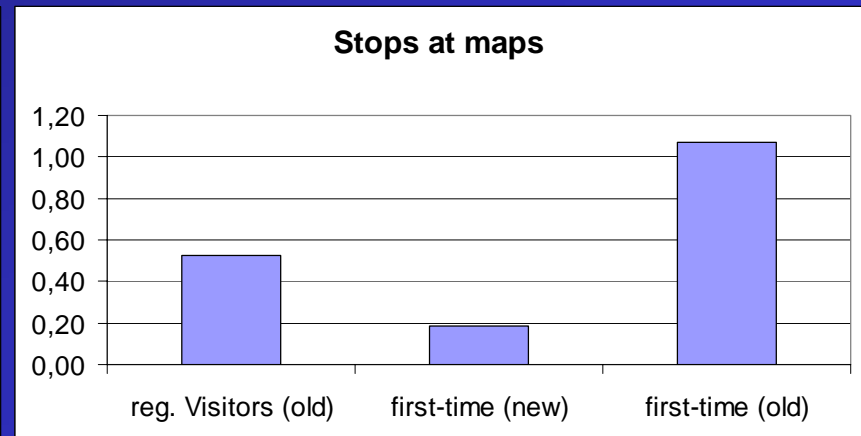
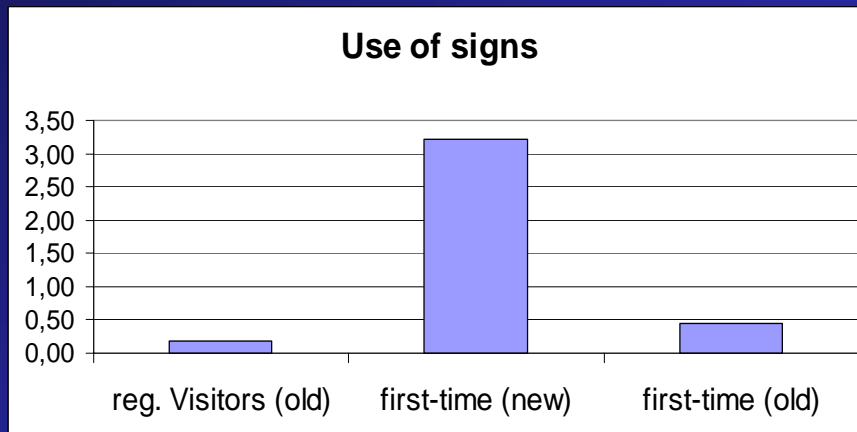
Floor Plans in Detail



Empirical evaluation

Formative Evaluation

- Wayfinding tasks (directed search) before and after the installation of the new signage system
- First-time visitors vs regular visitors, with and without a map
- New signs are used more frequently than old ones
- Signs are the main attractors, maps are used rarely and provide no advantage in performance (neither to first-time, nor to regular visitors) (c.f. e.g. Butler et al., 1993)



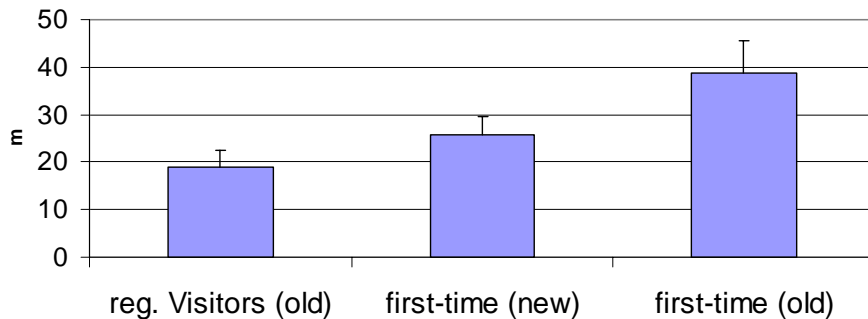
Formative Evaluation

- Directions of arrows were sometimes ambiguous

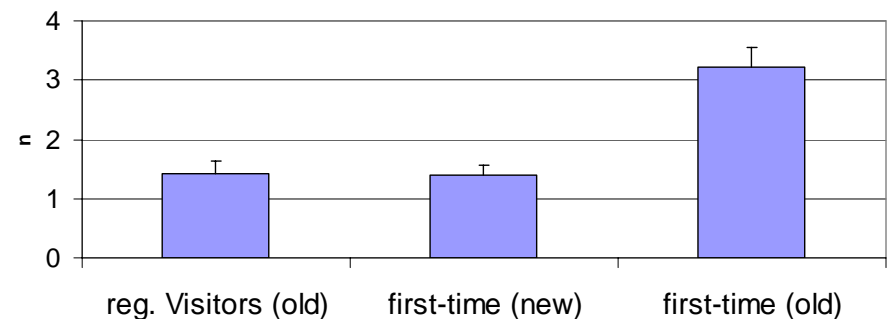


- First-time visitors with the new signs perform almost as well as regular visitors with the old signs

length of detours

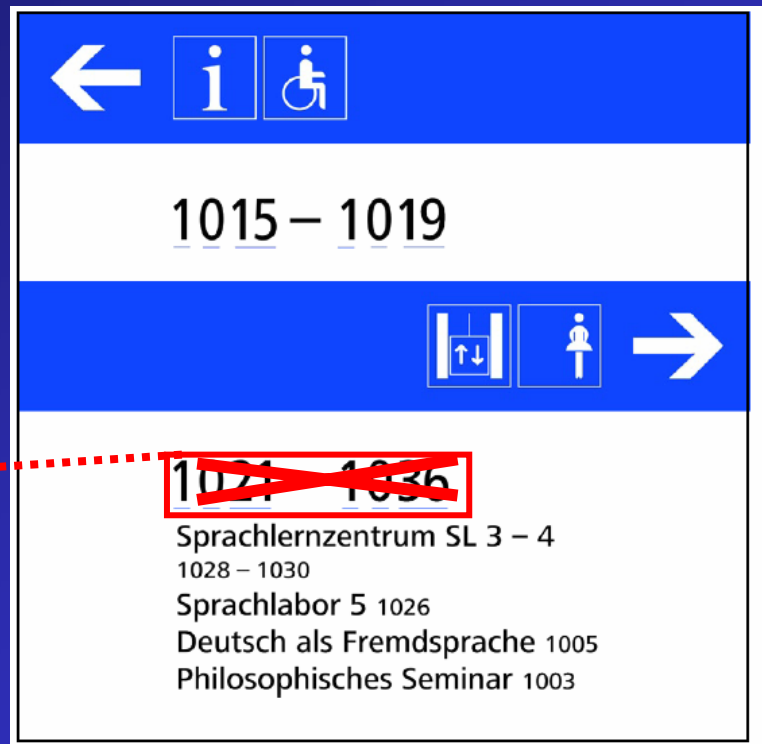
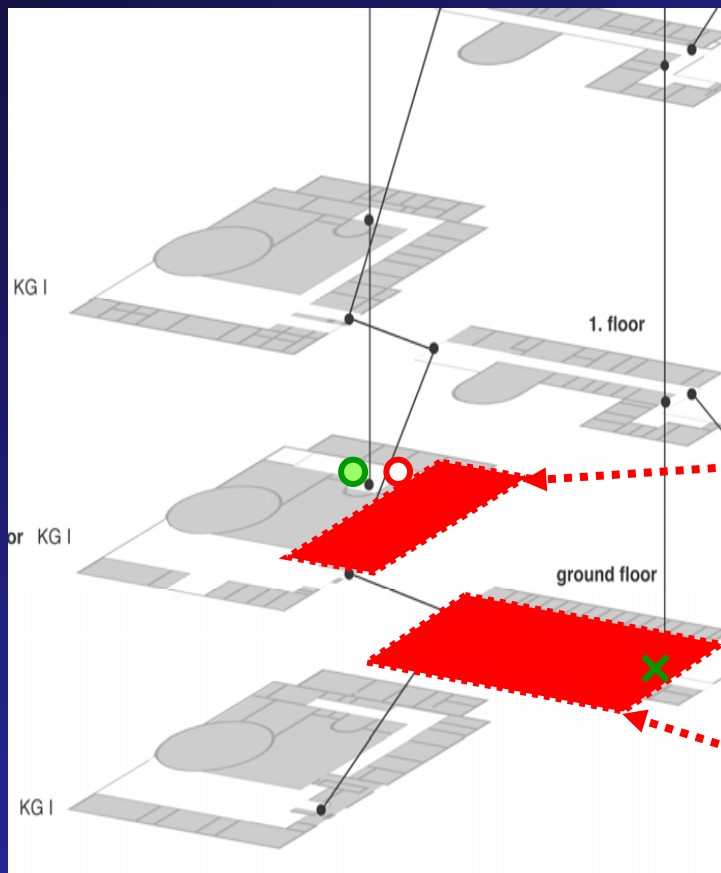


no. of stops (not at maps/signs)



Globality of signs

People expect to find their target on every sign which points into the corresponding direction. (Hesitate to follow any sign not explicitly referring to their target.)



1021 – 1099

Conclusion

- Successful collaboration between designers and psychologists
- Iterative design process turned out to be very fruitful
- Participation of the designers in wayfinding studies allowed them to take the perspective of a common visitor
- Even well-planned design features turned out to be differently interpreted by the visitor than it was intended
- Signage system will be permanently installed



Thank you!

Thanks to my colleagues

Christoph Hölscher

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