

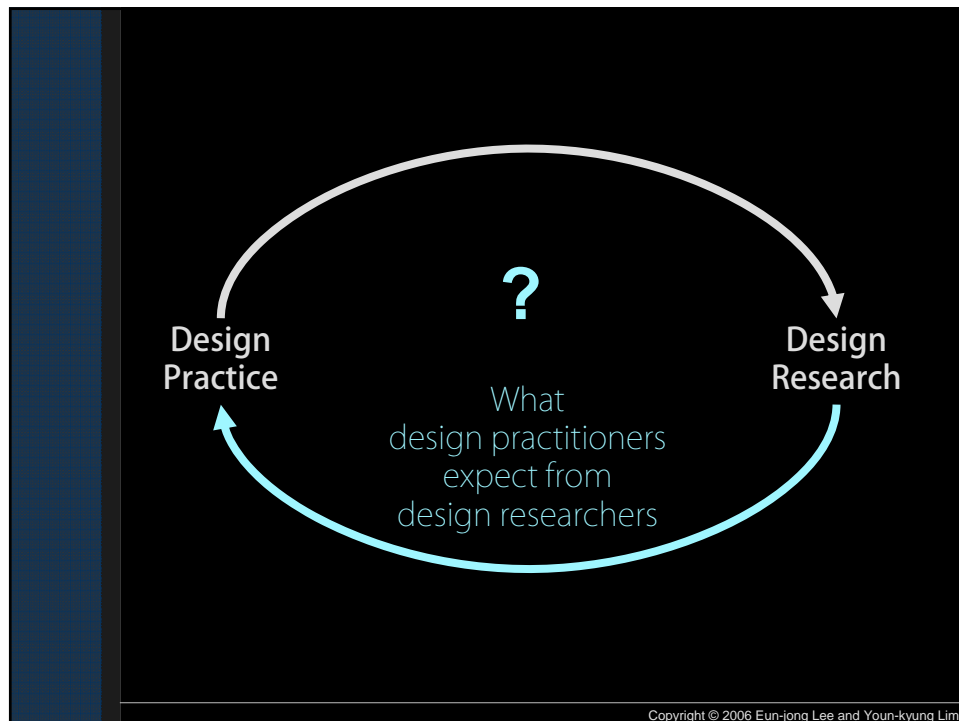
Design Language:

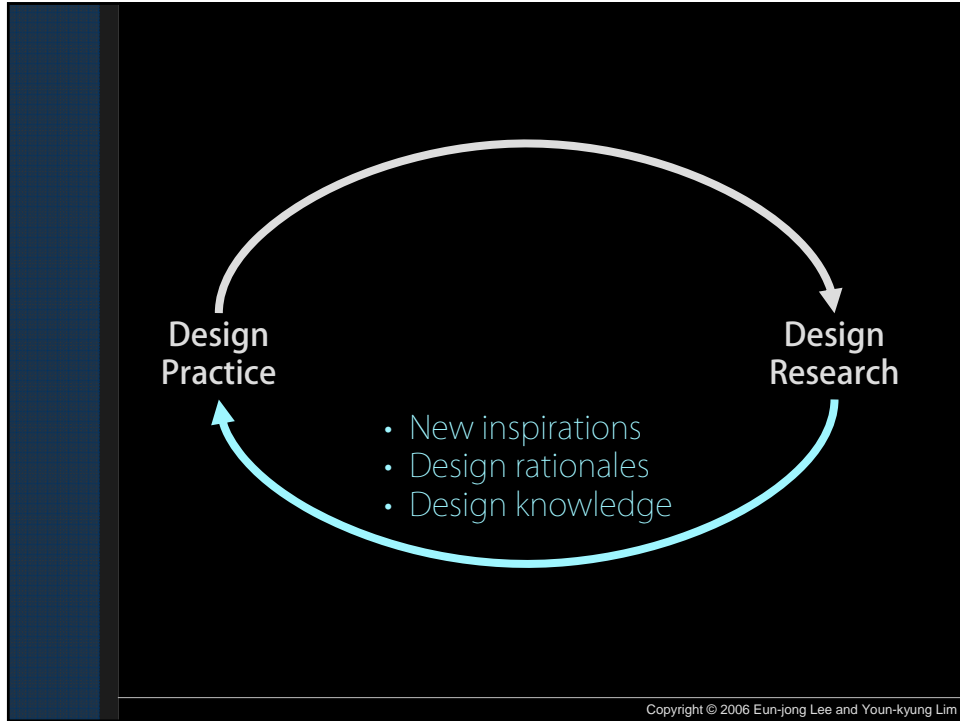
Supporting effective transformation of
research data to design data

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Conflicting mindsets

Characteristics of Design Practitioners' mindset	Characteristics of Design Researchers' mindset
Increasing profit (ROI)	Building knowledge
Well-sold design focused	Idealistic design focused
Trend/market-centered	Discipline-centered
"Intuitive"	"Rational"
Implicit/tacit experience	Explicit

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Conflicting mindsets—creating a gap

Design practitioners need:

Inspiration for design
embodiment

Creativity

Achievable within resources

Design researchers provide:

Too abstract

Too specific

Too ideal
(e.g. too complicated (time),
too expensive to implement
(cost), too theoretical, etc.)

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Overcoming the gap

Enabling the
transformation

Research data

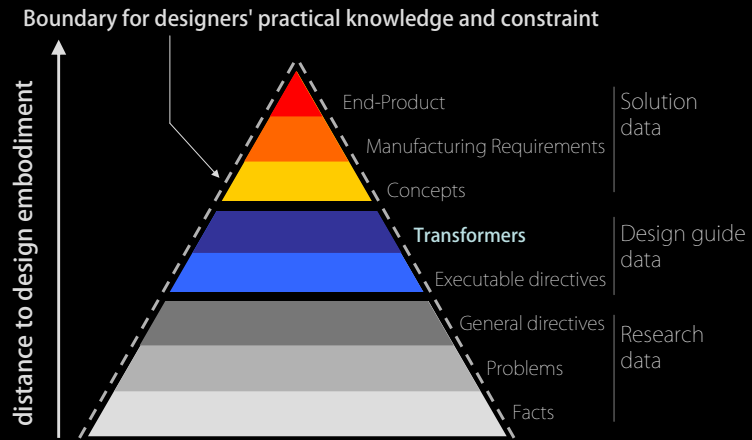
Not applicable,
not usable in practice,
BUT very important
information for design

Design guide data

Directly informing and
inspiring design

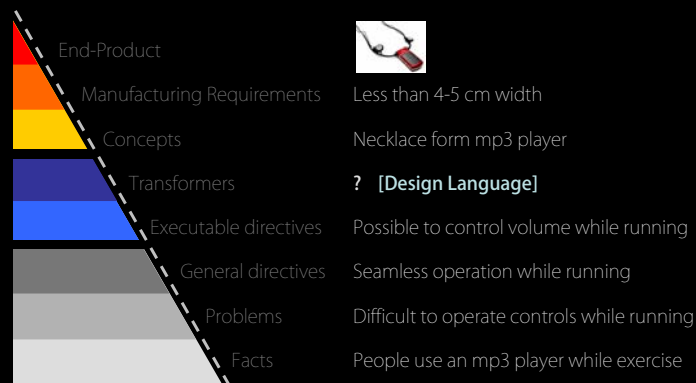
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Structure of design data



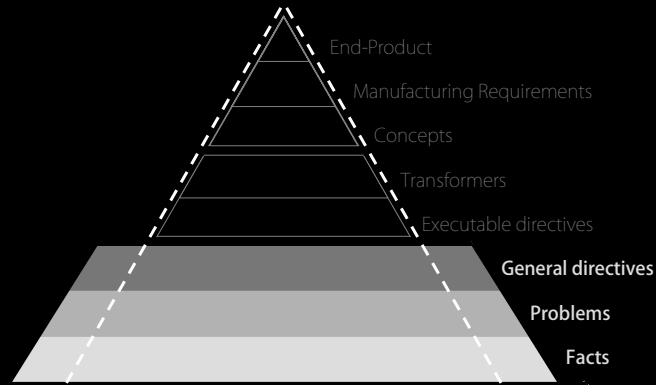
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Structure of design data



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Problematic case 1



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Too abstract

FAMILY WANT TECHNOLOGY TO...

Understand

- a. Providing seamless information anywhere any time
- b. 적시적소에서 정보 제공
- c. 동시다발적인 상황 대응
- d. customization

Remind

- a. 돌발적인 정보의 저장
- b. 잊어버리거나 챙겨야 할 정보의 알림
- c. Routine한 일상에 따른 정보의 알림

Fit

- a. 좌식 문화의 영향
- b. 상황/경우/용도에 따른 디스플레이의 이미지 고려
- c. 우리 가족[개개인] 교육의 스타일

Connect

- a. Share emotion & memory
- b. 가족 간의 메시지 교환(보드 등)
- c. 지역주민간의 교류
- d. Family Union의 기회/매개체 제공
- e. 상황/장소에 적합한 공유 방식 제공

Visualize

- a. 집 밖의 일상적 정보의 가시화
- b. 단절되거나 보는 것이 번거로운 정보 체크

Educate

- a. 가정 내 자녀 교육의 소구
- b. 아이들의 Gallery 공간 필요

Organize

- a. Manage various information of home
- b. 멀티미디어 자료의 생성, 편집, 이동, 관리
- c. 다량의 아날로그 미디어의 손쉬운 변환, 검색, 관리
- d. 디지털화가 어려운 가사 정보 관리

Manage

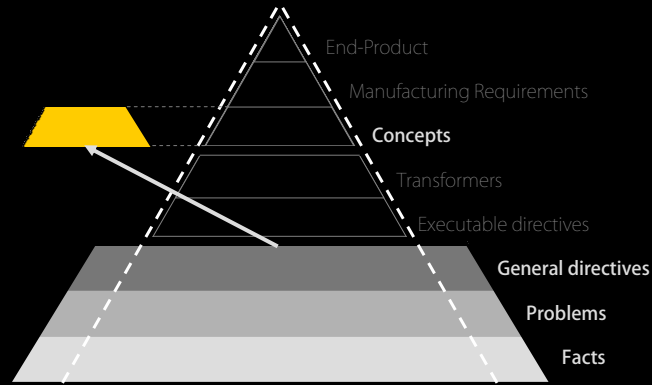
- a. Home Optimization에 대한 요구 - 정보/기기/환경
- b. 다양한 기기 관리 요구 (디스플레이를 통한 Manual 제공)

Decorate

- a. 간단하고 잦은 여흥의 요구
- b. 건강관리
- c. 미용관리
- e. Personal 서비스의 요구

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Problem case 2



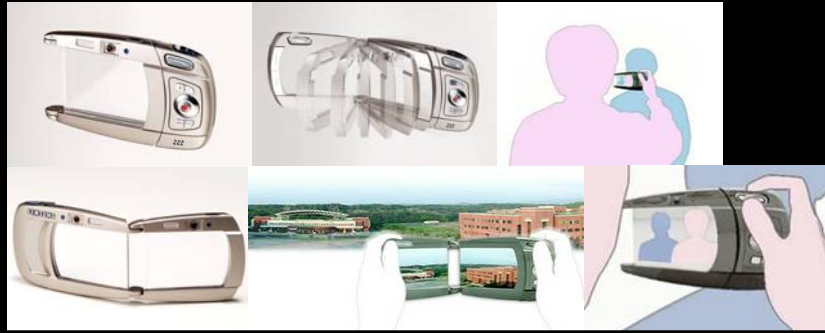
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Too abstract

	Enjoyable & Graspable	Graspable *2	Graspable & Basic	Graspable & Powerful	Basic *2	Powerful *2	Technical *2
	.mp3 player & compact .pixels: under 2M .price: 40 ~ 50 :Casio Exilim EX-M1	.slim & compact .pixels: under 2M .price: 10 ~ 20 :Fujifilm Finepix, Che-42	.compact (pocket size) .pixels: over 2M .price: 50 ~ 60 :Minolta Dimage X :Canon Ixus 230	.compact, high pixels .pixels: over 4M .price: 80 :Sony DSC-P9	.featureless(average) .pixels: over 2 ~ 3.5 M .price: 30 ~ 60 :Samsung Digimax3502 :Kodak Easyshare C81 2000	.high performance .pixels: over 4M .price: 200 ~ 150 :Canon PowerShot S100 :Sony DSC-F707	.singlelens reflex(SLR) .full manual mode .pixels: 5 ~ over 6M .price: 300 ~ 800 :Nikon D1 X
	1	2	3	4	5	6	7
Sony							
Nikon							
Canon							
Olympus							
Samsung			
Fuji						
Kodak							

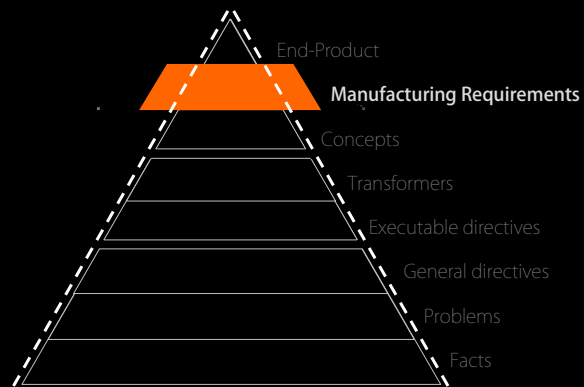
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Too specific



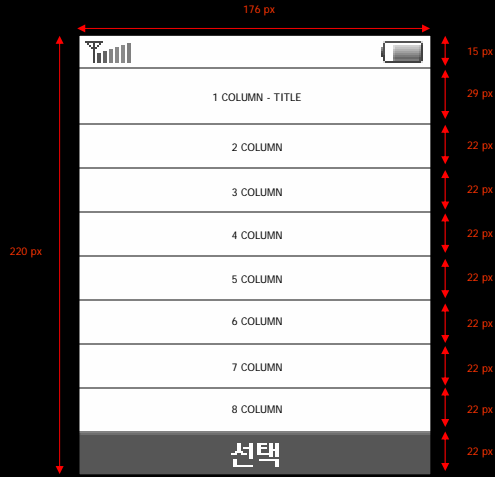
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Problem case 3



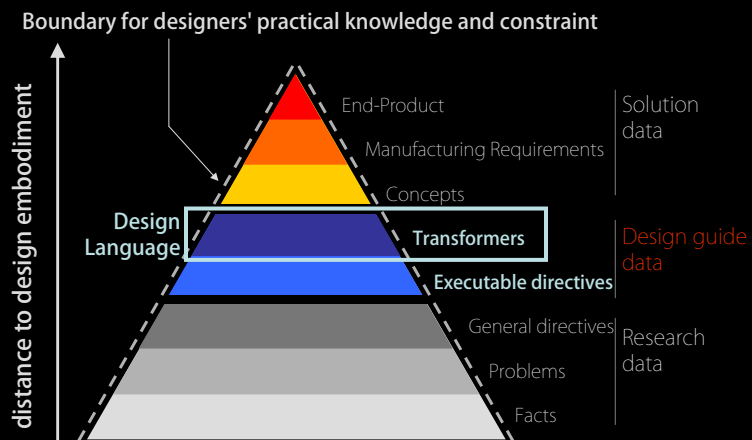
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Too specific



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Structure of design data



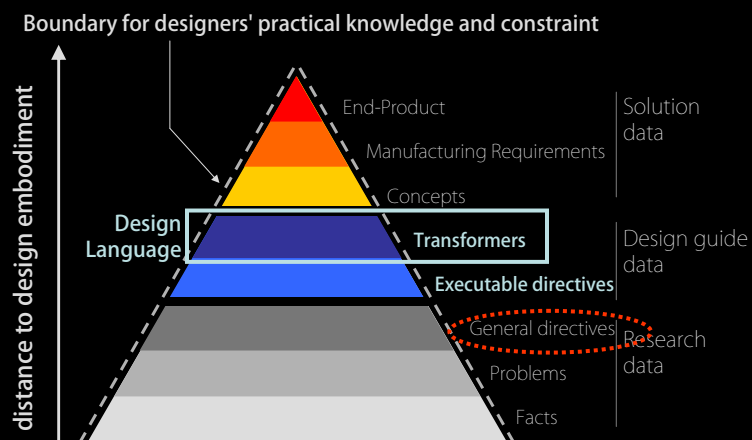
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The criteria of Design Language

- Support design judgment toward design embodiment
- Need to explain suggestions in design terms
- Let designers be creative
- Need to include invisible factors (e.g. use process, interaction style) as well as appearance factors
- Need to be within practical constraints

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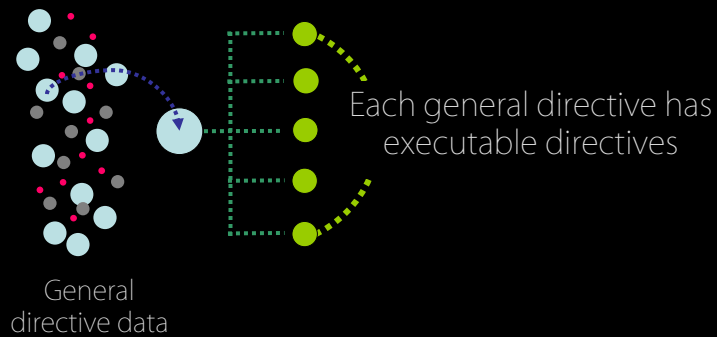
Structure of design data



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The format of Design Language

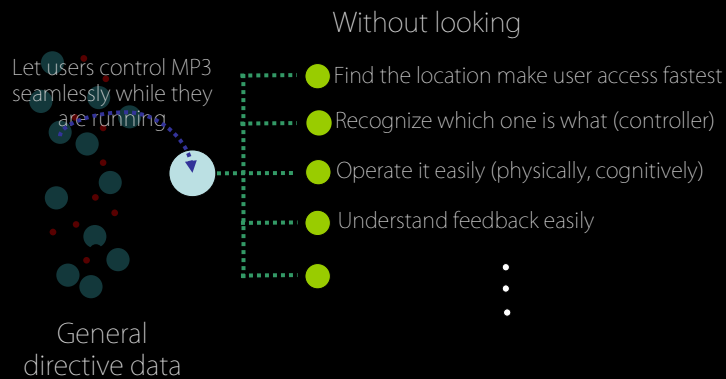
- Break down a general directive into executable directives which should be more specific than general directives



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The format of Design Language

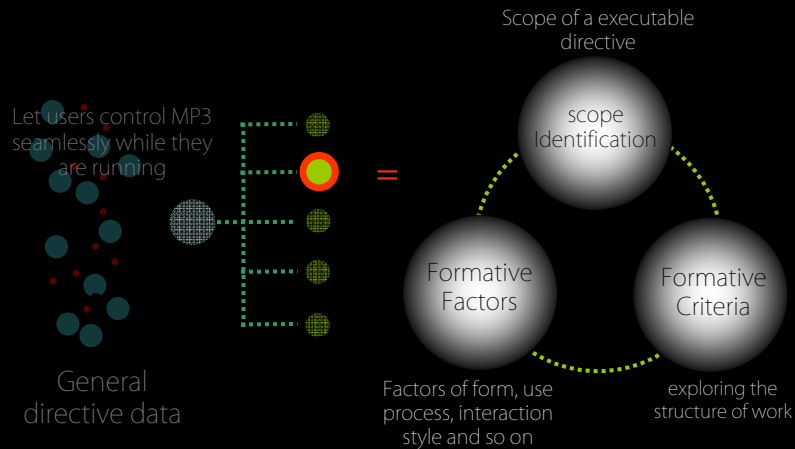
- Break down a general directive into executable directives which should be more specific than general directives



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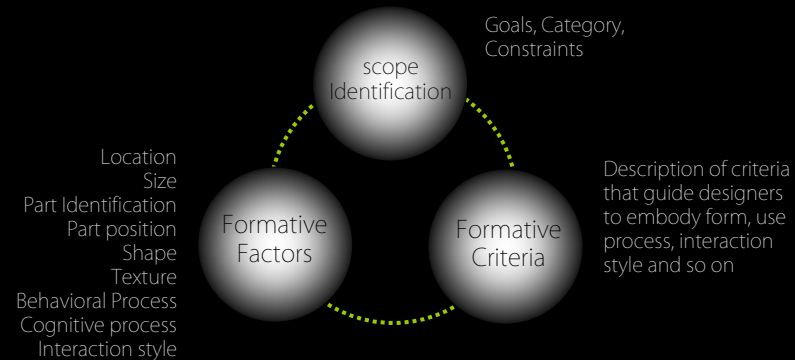
The format of Design Language

- Each executable directive can be defined by 3 properties of Design Language



The format of Design Language

- Each property consists of several elements
- Especially formative factor concerns physical elements, shape grammar, and use process which are compatible with designer's terms.



The use of Design Language

- If we know which formative factor is important to be discussed, the expression of Design Language will be..

Scope	Attaching MP3 to your body
Formative Factor	Which location is most appropriate?
Formative Criteria	<ul style="list-style-type: none">• To access fastest by hand• Not to interrupt the motion of running• To make users not embarrassed when users reach to the location

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The use of Design Language

- If we do **not** know which formative factor is important to be discussed, the expression of Design Language will be..

Scope	Controlling while running
Formative Factor	Which factor we should consider in which ways?
Formative Criteria	<ul style="list-style-type: none">• To find fastest the exact position of control element without look• To recognize control element from each other among several elements fastest• Not to mar the appearance

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The use of Design Language

- If we do **not** know which formative factor is important to be discussed, the expression of Design Language will be

Examples of suggestions compatible with design terms:

• Use distinct texture variation

• Use distinct shape variation

• Use distinct position variation

• Use distinct size variation

• To recognize control element from each other among several elements fastest

• Not to mar the appearance

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A process of embodiment using Design Language

Creating design language data for design embodiment

Designing using design language data

Verifying design alternatives with formative criteria

Finalizing a design concept

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Further research

- Refining the terms and concepts in Design Language
- Evaluating the use of Design Language in real design contexts
- Refining the structure of Design Language based on the evaluation results
- We are planning to write a paper about this research. ☺ ("Artifact")

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