### Design Scientist

#### Part 1. Conceptor & Visual Formalization

ICOGRADA Design Week in Daegu 2008 Color Value, 04-10 July at Daegu Exco

Day 4, Section 1, 7 July, 14:00-17:00

Prof. Albert Young Choi, Ph.D. GRAPHIC & PACKAGE DESIGN DEPARTMENT COLLEGE OF DESIGN, HANYANG UNIVERSITY AYCHOI@HANYANG.AC.KR

Design Scientist

Introduction

"Design Scientist" is a new type of designers who treats designs as important elements for the economy, society and culture of the 21st century. Because the fundamental value of design is communicating visual sensitivities, and at same time, it has a logical value as communicating a message and its function. Therefore, one must able to conduct methods to utilize a logical and linguistic intellectual system during design development phases. The "Design Scientist" is a designer in 21st century who has that Design Abilities.

#### Design Scientist

#### Introduction

Design can express the brand and impress the consumers. Today's consumers are becoming "Active" not "Passive." To express a brand to these Active Consumers, more than ever, designers must act as a brand strategist who must consider to utilize consistent design solutions adequately to impress the consumers with the physical form. Therefore, I see no boundaries between designers and design managers. Designers must have knowledge to fortify the design solution to compete in the battle of recognition, a competitive marketplace. Design Managers must understand "Good Designs" and able to incorporate an appropriate design for branding/marketing strategy.

If the designs in 20<sup>th</sup> century are considered artistic intuition because there were less competitive market and unbala nced world economy, the designs in 21<sup>st</sup> century are based on the artistic and analytical logic because the marketplace is very competitive and world economy is evenly spread throughout the world. Hence, I bel ieve today's designers should have the following qualities:

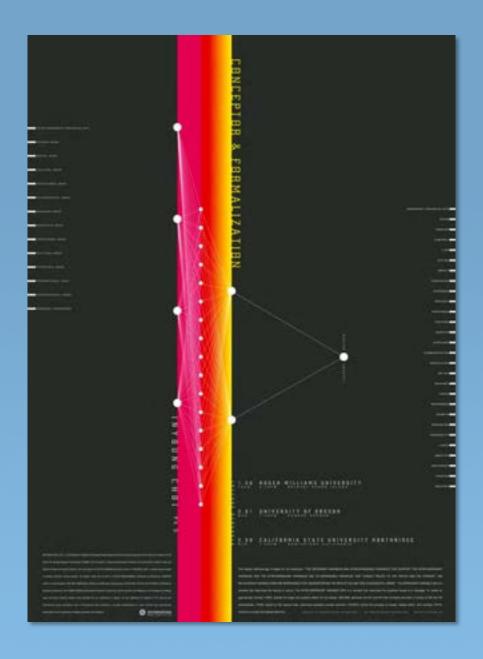
- Able to include empathy for the consumers and culture
- Able to distinguish design styles and cultures
- Able to control design solution as a sustainable design or an ephemeral design
- Able to formulate a relationship between verbal and visual communication
- Able to write and represent strategic plans and contents
- Able to transcend a marketing strategy to design applications
- Able to manage time and duties

With these qualities, designers and design managers work together as a team to create, manipulate, maintain, constrain, and express the strategic designs to the complicated consumers.

- A Statement wrote for "Design Management", Published by AVA Publisher, UK

#### **Conceptor & Visual Formalization**

#### Introduction



We knew the functions and aesthetics of forms before we created forms.

We knew the functions and aesthetics of forms before we created forms.

Nature & Human

**Human & Nature** 

How do we understand the beauty from looking? What is a standard of the beauty?

```
form = forma
        idea = concent
        shape = aesthetic
        image = style
                  design = designare
                            to define
                            de(out) + signare(to mark)
```

design

concept

aesthetic style

design concept

formalization

design aesthetic design style

# conceptor design concept

- Present one clear problem solution direction using several methods that analyze the recognition of problem for design and the elements of problem depending on information connected with the elements of problem.
- Fresh design concept gives people a new visual experience and moves their mind.

## design concept the brain

- Neural Network = Parallel Distributed Processing (PDP)
- When the brain process information, a millions of neurons move parallel direction, not linear steps.
- Human Brain vs. Computer

# design concept the brain

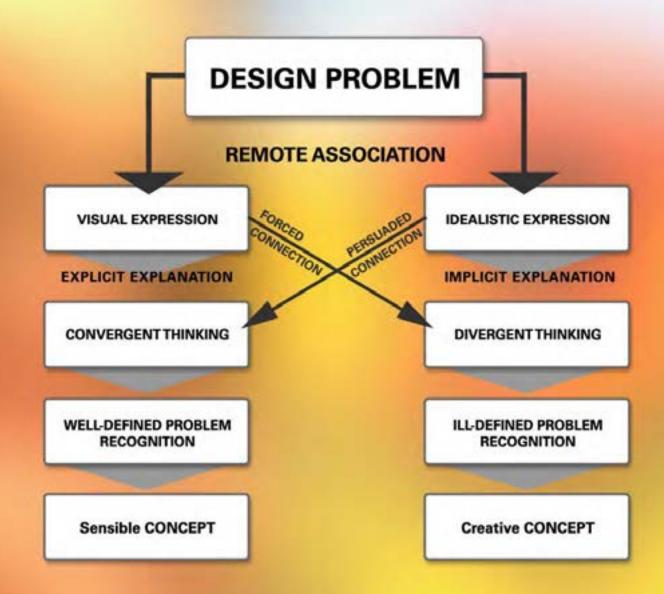
Parallel Thinking

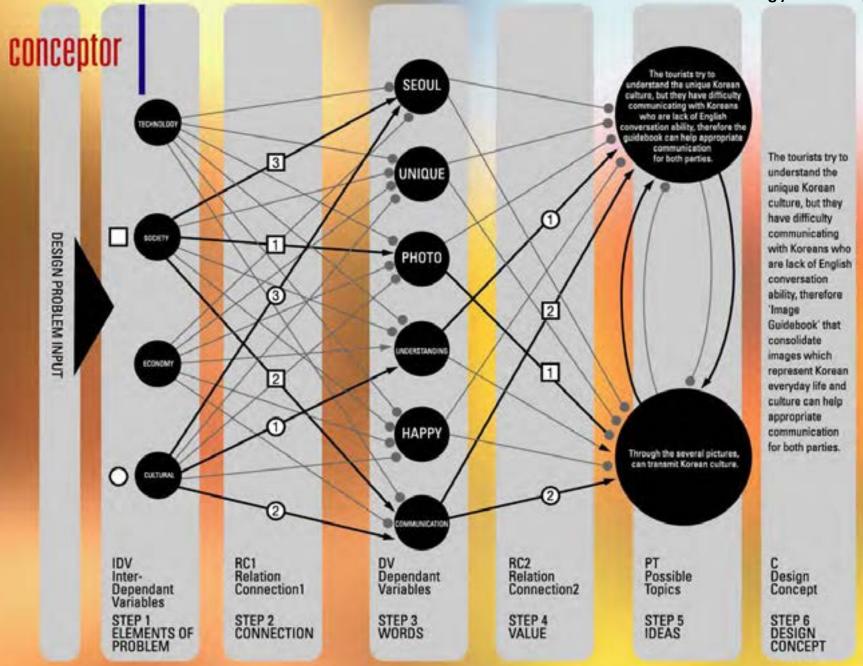
#### **TYPES OF PROBLEMS**

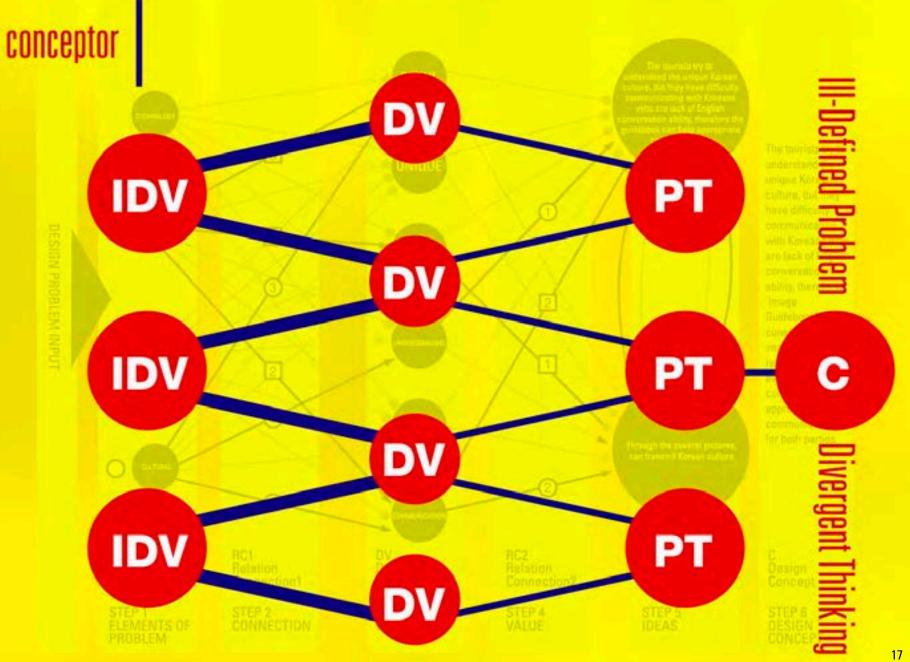
- Well-Defined Problem
- III-Defined Problem
- Insight Problem

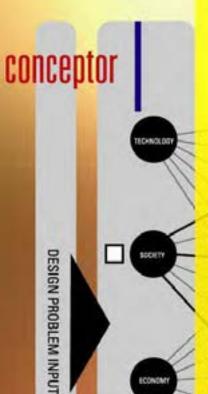
#### TYPES OF THINKING

- ConvergentThinking
- Divergent Thinking









#### IDV: INTER-DEPENDANT VARIABLES **Elements of Problem**

Variables that describe the qualified issues of message.





For example Technology Issue of Message Cultural Issue of Message Social Issue of Message Religious Issue of Message **Educational Issue of Message** Scientific Issue of Message Philosophical Issue of Message and more...

IDV Inter-Dependant Variables ELEMENTS OF PROBLEM

RC1 Relation Connection1

STEP 2 CONNECTION

conceptor

RC1: RELATION CONNECTION 1 Weigh of Connection ■ Connecting IDV and DV Order by evaluating its importance to the given design problem.

The income by to be award to be award to be award for the control of the control

unitaristical the imigoo Koreaci coffine, but the town difficulty communicating with Koreans were task of Englishmentation obsity, therefore thage. Guidebook' the coopeldate enages which represent Koreacienty the englishment on his englishment for an entry day life an collism can his exercises.

SEOUL

UNIQUE

РНОТО

UNDERSTANDING

НАРРУ

(S) COMMONICATIO

DV RC Rel Dependant Variables

STEP 3 WORDS RC2 Relation Connection2

STEP 4

PT Possible Topics

STEP 5

C Design Concept

STEP 6 DESIGN CONCEPT

DV: Dependant Variables
Words

conceptor

Variables that describe the feeling, object or action.

■ For example tension, control, life, action, impact, confusion, disorder, happiness, fortune, despair, hopeless, disappointment, aid, relief, support, touch, revolution, growth, expansion, prosperity, logic, emotion, sentiment, passion and more...

SECUL

### RC1: RELATION CONNECTION 2 Weigh of Connection

- Connecting DV and PT
- Order by evaluating its importance to the given design problem.

HAPPY

IDV Inter-Dependant Variables STEP I ELEMENTS OF RC1 Relation Connection1

> TEP 2 ONNECTION

DV Dependant Variables

STEP 3 WORDS

#### Methodology: Conceptor

unique Kornan
culture, but they
have difficulty
communicating
with Kornan wha
are lock of English
conversation
ability, therefore
limige
finidebook that
consolidate
mages which
represent Kornan
everyday life and
culture can haby
supprepriate
conversation

Through the several problems

Possibl Topics

STEP B

C Design Concept

STEP 6 DESIGN CONCEPT

RC2 Relation Connection2

The tourists try to aderstand the unique Korean iture, but they have difficulty communicating with Koreans who are leck of English versation ability, therefore the idebook can help appropriate communication for both parties.

anderstand the unique Kneam culture, mar they nave difficulty communicating with Kneams will are tack of English convencemen ability, therefore image functional than consciously mages which represent Kneam everyday ille and culture can hate appropriate continuacidori

hrough the several pictures, can transmit Korean culture.

> PT Possible Topics

STEP 5

Design Concept

STEP 6 DESIGN DUNCEPT

PT: Possible Topics (Ideas)

conceptor

■ Ideas that state the RC1 and RC2

■ Questions

Does it make people understand better?

Does it make people participate more?

Does it make people react?

Is it a unique idea?

IDV Inter-Dependant Variables STEP 1 ELEMENTS OF PROBLEM RC1 Relation Connection1

STEP 2 CONNECTION DV Dependant Veriables

STEP 3 WORDS RC2 Relation Connection2

STEP 4 VALUE



SECOL

The leadure my te profunctions the conduct Across parties, lest they have different communicating with Konsons who are took at English conversation while, they specially to quid stook use help appreciation perconnections.

C: Design Concept

Delivering a new and fresh idea with a particular and appropriate message.

- Concept Statement based on 1 PT or a combination of 2 or more possible topics.
- After establish an appropriate design concept for the design problem, one should consider a design direction.

understand the unique Korean culture, but they have difficulty communicating with Koreans who are lack of English conversation ability, therefore **Image** Guidebook' that consolidate images which represent Korean everyday life and culture can help appropriate communication for both parties.

The tourists try to

(DV Inter-Dependant Variables STEP 1

RCI Relation Connection)

ECTION W

DV Dependant Variables

STEP 3 WORDS RC2 Relation Connection2

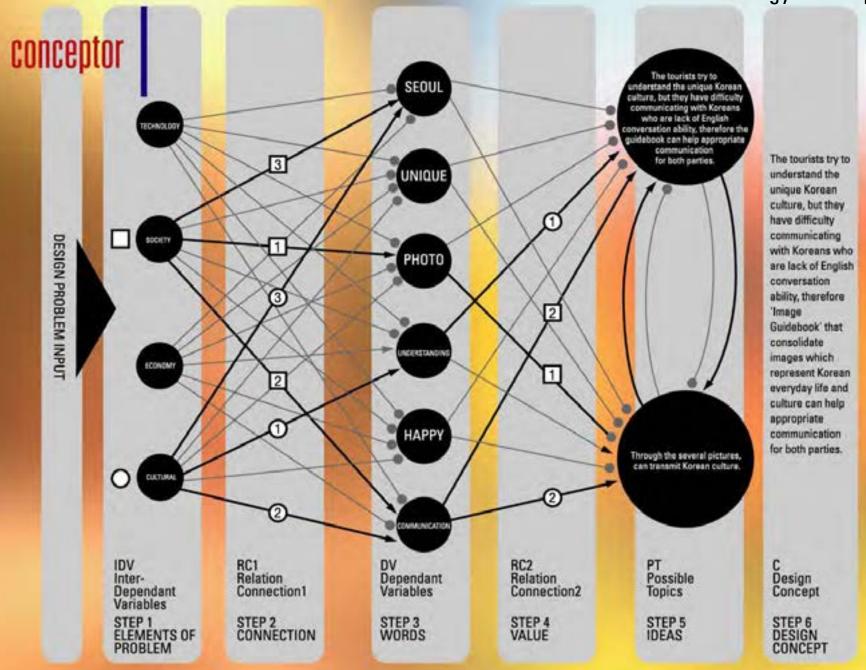
STEP 4

PT Possible Topics

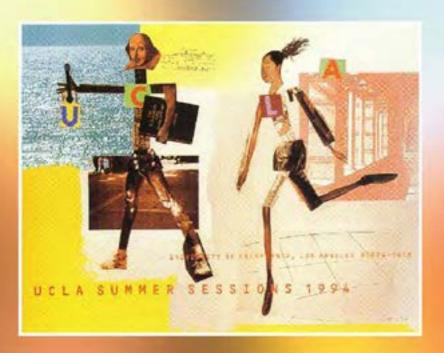
STEP 5

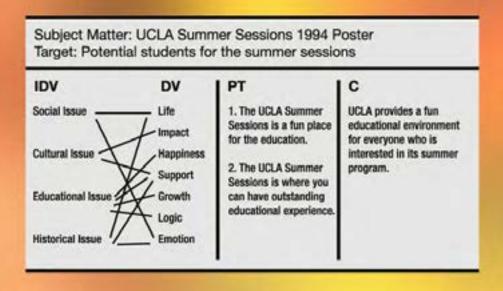
C Design Concept

STEP 6 DESIGN CONCEPT



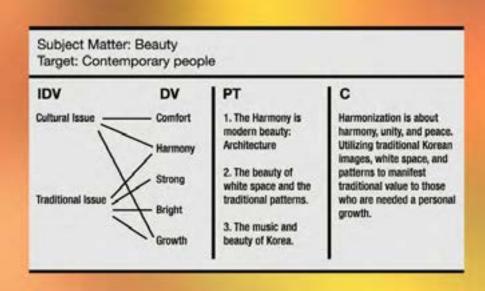
### conceptor

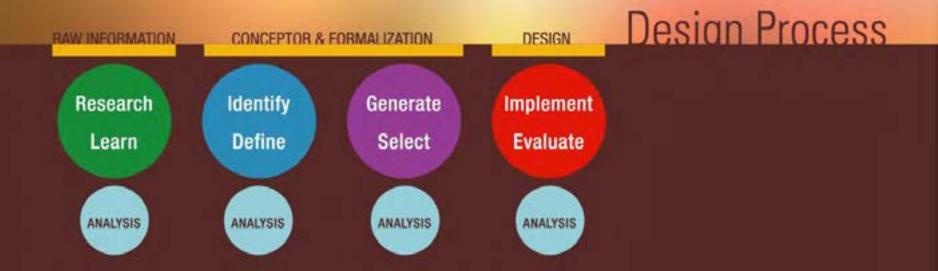




## conceptor







Design Process is a creative process

Creative process is the process of change, of development, of evolution, in the organization of subjective.



#### Raw Information Sources:

Books, Articles, Magazines, Journals, Interviews, Website, e-mail, Experience, Survey, Statistics and ect.

Low-Strength Record to High-Strength Record



Conceptor Methodology: Helps create a creative design concept

Formalization Methodology: Helps prepare for the design phase.

Concerning Words, Typeface, Typography, Images, Color, Composition, and Pattern/Texture.



Design Process

Design Phase:

Creating a form that communicates the intended message, design concept, to the viewers.

Key activities: Hierarchy through Balance and Contrast.

DESIGN RAW INFORMATION CONCEPTOR & FORMALIZATION Research Identify Generate Implement Learn Define Select **Evaluate** ANALYSIS ANALYSIS ANALYSIS ANALYSIS

Design Process

## formalization

# design aesthetic design style

Formalization is a method use to express the design concept with visual forms based on the verbal and visual information.

There are two ways to select visual elements: select recognizable or/and unrecognizable visual elements.

These elements are supporting the design concept to manifest the design aesthetic and design style.

#### Words

Write words based on the design concept.

- Key Words from IDV and DV relations.
- Selected word(s) or/and sentence(s) are used to communicate the message directly to the viewers.
- Explained Comparison or Forced Connection: Image to Image Relations, Text to Text Relations, Image to Text Relations, Text to Image Relations.

#### **Typeface**

Appropriate typeface to communicate the design concept

- Know the typeface categories and their functions and history.
- Choose a typeface with a large typeface family.
- Do not use more than 2 typeface families.
- Do not choose two typeface family under same typeface category.

#### Typography

Appropriate look of text formation and voided space.

- Concern readability and legibility
- Concern a rhythm of the typographic structure.
- Concern a style of the typography.
- Concern Micro and Macro Typography

#### **Image**

#### Appropriate Image style for the message

- There are three different types of image style:
  - 1. Literal
  - 2. Abstract
  - 3. Symbolic

### Pattern/Texture

Patterns and Textures are supportive elements to the design.

- Pattern: repeating geometric or/and organic shapes in a consistent spacing.
- Texture: repetitive elements in an inconsistent spacing to create a textile feeling.

### Color Awareness

Among adults, what color is free of cultural bias and liked worldwide?



Contents from Thome/Guido-Clark Color Consultants

### Color Awareness

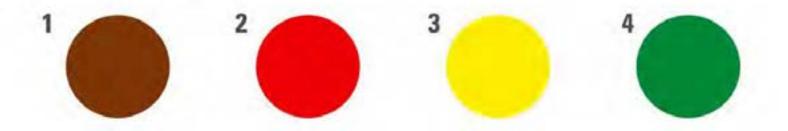
#### What are two colors elderly people tend to favor?



Contents from Thome/Guido-Clark Color Consultants

# Color Awareness

What food color is most popular among adults in Western nations?



Contents from Thome/Guido-Clark Color Consultants

Colors are used to communicate, to manipulate perception, to create focus, to motivate actions and alter behaviors, and to create continuity.

### **Functions of Colors**

Color is a VISUAL LANGUAGE

Color IDENTIFIES...

Color MODIFIES THE PERCEPTION OF SPACE

Color GENERATES AN EMOTIONAL RESPONSE

Color ASSOCIATES...

Color SYMBOLIZES...

Color CREATES CONTINUITY

Color ATTRACTS THE EYE

Color SUGGESTS

# 6 Specific Color Strategies Used in Brand Design Functions of Colors Color Strategies

Color IDENTIFIES...

Color GENERATES AN

EMOTIONAL RESPONSE

Color ASSOCIATES...

Color SYMBOLIZES...

Color SUGGESTS

- 1. Brand Identification
- 2. Feature Reinforcement
- 3. Differentiation
- 4. Following the Leader
- 5. Spontaneous Color Ideas
- 6. Extensive Marketing

### 1. Brand Identification

- 1. a can of Coke
- 2. Shell Gas Station
- 3. Asiana Airline

## 2. Feature Reinforcement

- 1. a package for cheapest price?
- a. white and black
- b. silver and gold
- 2. a package for fabric softner?
- a. pale blue

b. bright red

### 3. Color Differentiation

- 1. a can of Coke vs. Pepsi
- 2. Shell Gas Station vs. Mobil Gas Station
- 3. Asiana Airline vs. Korean Airline

# Less Useful Strategies

4. Following the Leader5. Spontaneous Color Ideas6. Extensive Marketing

### Color Education Methodology of Brand Design Functions of Colors Color Strategies

Color IDENTIFIES

Color GENERATES AN

EMOTIONAL RESPONSE

Color ASSOCIATES

Color SYMBOLIZES

Color SUGGESTS

- 1. Brand Identification
- 2. Feature Reinforcement
- 3. Differentiation
- 4. Following the Leader
- 5. Spontaneous Color Ideas
- 6. Extensive Marketing

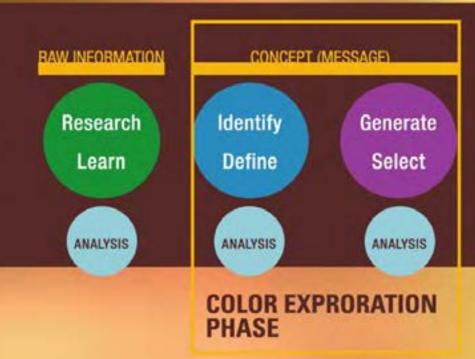
### Color Education Methodology of Brand Design

#### Strategies of Color Identity

- 1. Brand Identification
- 2. Feature Reinforcement
- 3. Differentiation

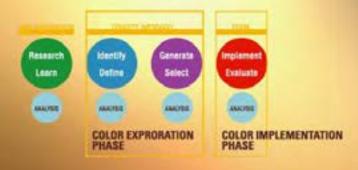
Functions of Color Identity
IDENTIFIES
GENERATES AN EMOTIONAL RESPONSE
ASSOCIATES
SYMBOLIZES
SUGGESTS

### Color Strategy Process





COLOR IMPLEMENTATION PHASE



# Student's Design Project Differentiating

# Suitability

#### **Target Board**

Primary Age Group
Secondary Age Group
Career
Life Style
Brands They Buy
Brands They Desire

**Brands They Care** 



#### **Competitors Board**

Primary Age Group
Secondary Age Group
Career
Life Style
Competitor's Service
Competitor's Product



# Student's Design Project Differentiating

#### **Target Board**

Strategies of Color Identity

1. Brand Identification

Suitability

- 2. Feature Reinforcement
- 3. Differentiation

Functions of Color Identity
Identifies
Emotional Response
Associates
Symbolizes
Suggests



#### **Competitors Board**

Strategies of Color Identity

- 1. Brand Identification
- 2. Feature Reinforcement
- 3. Differentiation

Functions of Color Identity
Identifies
Emotional Response
Associates
Symbolizes
Suggests

#### **Visual Formalization**

**Dominant Color: 1 color** 

Sub-Dominant Color: 0, 1, or more color

Accent Color: prefered 1 color

direct instant, bi, clean, cleaner, nano, active, wear, magic, new fresh 3 white

associate
trio camel cactus, sports,
just soak tap, always, every
instant over resolution



### Student's Design Project



**Dominant Color: 1** 

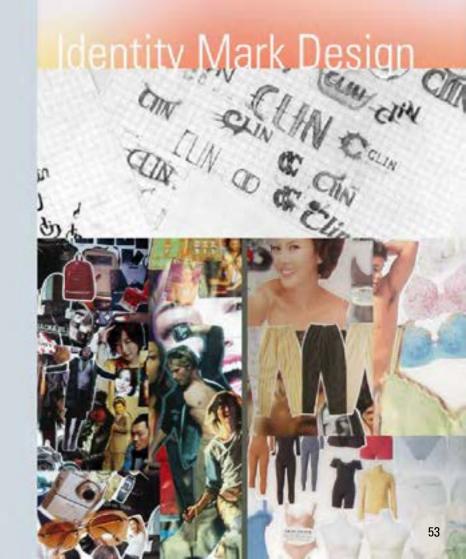
**Sub-Dominant Color: 1** 

Accent Color: 0



DC

SDC







#### **Visual Formalization**

**Dominant Color: 1** 

**Sub-Dominant Color: 2** 

Accent Color: 2



#### **Eye Movements**

- Saccadic Movements
- The process of eye movement that the eye stops on a particular part then move to different parts in short jumps.

#### **Focal Points**

- Focal Point focuses on the sudden part of the layout.
- Supportive Focal Points are secondary focal point that support the Focal Point.
- Three principles of focal ponts: 1) Contrast, 2) Isolation, 3) Placement.

#### Visual Direction

- Connects focal points in the layout
- Basic visual direction: top to bottom left to right big to small dark to light

#### Visual Hierarchy

- Change visual emphasis from more emphasis to less.
- Established by size, contrast, position, and proximity.

#### **Layout Composition Process**

Step 1: Decide the balance of layout using Morphologic Factors

Step 2: Decide a Major Focal Point and Minor Focal Points

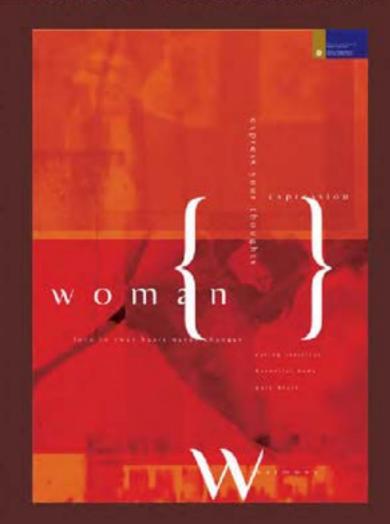
Step 3: Decide a Calm or Exciting layout using a 'Compositional Bar'

Step 4: 'Visual Hierarchy Bars'

	Balance	The location of Center	
A	Symmetrical Balance	1	Horizontal
		2	Vertical
		1	Left
		2	Right
		3	Upper
В	Asymmetrical Balance	4	Lower
		5	Upper-Left
		6	Upper-Right
		7	Lower-Left
		8	Lower-Right
C	Radial Balance	1	Center
		2	Off Center
D	Crystallographic Balance	1	Equal
			Distribution



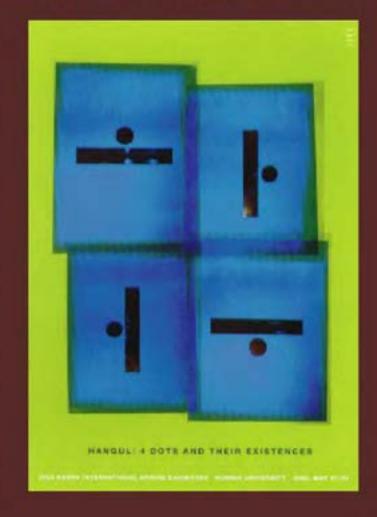
Balance		The location of Center	
A	Symmetrical Balance	1	Horizontal
		2	Vertical
		1	Left
		2	Right
		3	Upper
В	Asymmetrical Balance	4	Lower
		5	Upper-Left
		6	Upper-Right
		7	Lower-Left
		8	Lower-Right
C	Radial Balance	1	Center
		2	Off Center
D	Crystallographic Balance	1	Equal
			Distribution



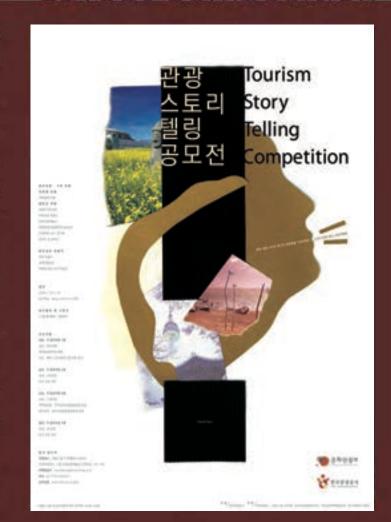
Morphologic Factors				
Balance		The location of Center		
A	Symmetrical Balance	1	Horizontal	
		2	Vertical	
		1	Left	
		2	Right	
		3	Upper	
В	Asymmetrical Balance	4	Lower	
		5	Upper-Left	
		6	Upper-Right	
		7	Lower-Left	
		8	Lower-Right	
C	Radial Balance	1	Center	
		2	Off Center	
D	Crystallographic Balance	1	Equal	
			Distribution	



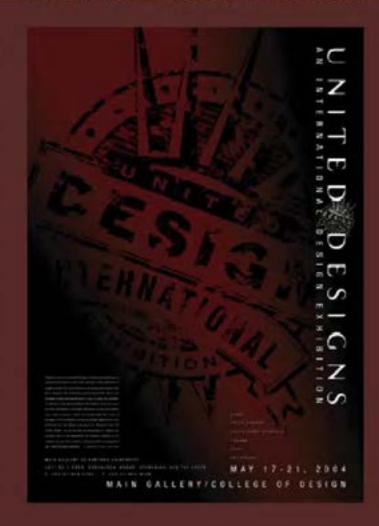
Morphologic Factors				
Balance		The location of Center		
A	Symmetrical Balance	1	Horizontal	
		2	Vertical	
		1	Left	
		2	Right	
		3	Upper	
В	Asymmetrical Balance	4	Lower	
		5	Upper-Left	
		6	Upper-Right	
		7	Lower-Left	
		8	Lower-Right	
C	Radial Balance	1	Center	
		2	Off Center	
D	Crystallographic Balance	1	Equal	
			Distribution	



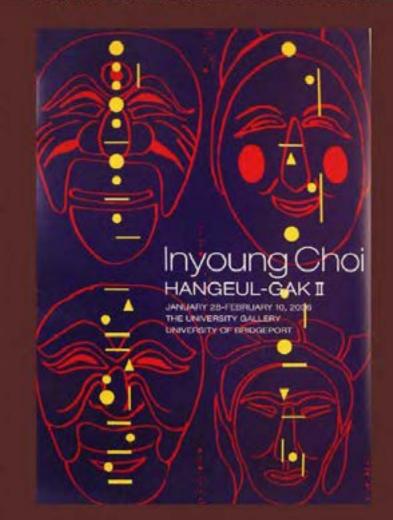
Balance		The location of Center	
A	Symmetrical Balance	1	Horizontal
		2	Vertical
		1	Left
		2	Right
		3	Upper
В	Asymmetrical Balance	4	Lower
		5	Upper-Left
		6	Upper-Right
		7	Lower-Left
		8	Lower-Right
C	Radial Balance	1	Center
		2	Off Center
D	Crystallographic Balance	1	Equal
			Distribution

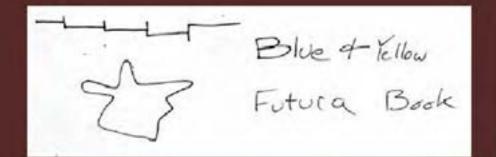


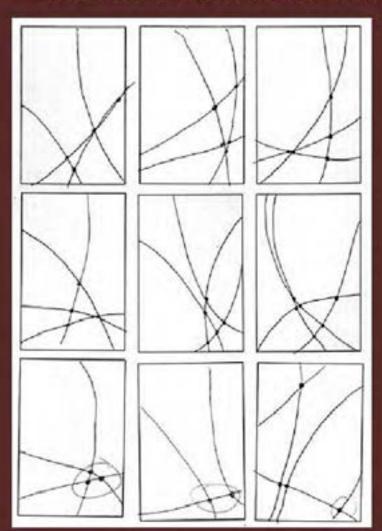
Morphologic Factors			
Balance		The location of Center	
A	Symmetrical Balance	1	Horizontal
		2	Vertical
		1	Left
		2	Right
		3	Upper
В	Asymmetrical Balance	4	Lower
		5	Upper-Left
		6	Upper-Right
		7	Lower-Left
		8	Lower-Right
C	Radial Balance	1	Center
		2	Off Center
D	Crystallographic Balance	1	Equal
			Distribution

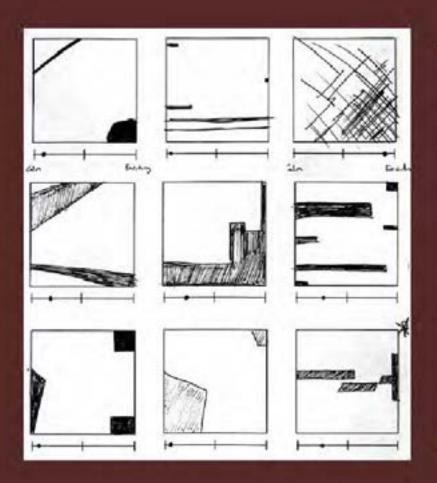


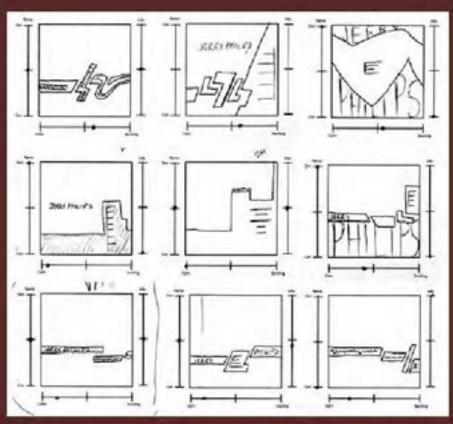
Morphologie Balance		The location of Center	
A	Symmetrical Balance	1	Horizontal
		2	Vertical
		1	Left
		2	Right
		3	Upper
В	Asymmetrical Balance	4	Lower
		5	Upper-Left
		6	Upper-Right
		7	Lower-Left
		8	Lower-Right
C	Radial Balance	1	Center
		2	Off Center
D	Crystallographic Balance	1	Equal
			Distribution







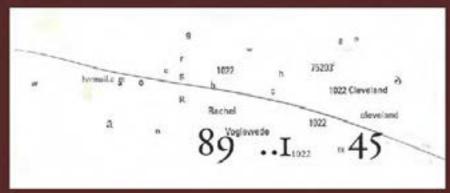












### Conceptor & Formalization

Conceptor

IDV RC1&2 DV PT

Elements of Problem

Formalization

Words
Typeface
Typography
Image
Pattern/Texture
Color
Composition

**Design Solution** 

Visual Hierarchy through Contrast and Balance

INGREDIENTS FOR COOKING

ACT FOR COOKING

### HANEULAN

#### Design Problem

- Business: Vision Recovery Treatment
- Main Target: Business people (middle class and upper middle class)
- Business Location: SeoCho-Gu

### HANEULAN

### Student Works

Step 1. Raw Information

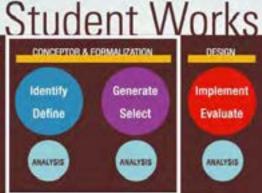


- Research: Websites, Books, Magazines, Newspapers, Journals
- Survey & Statistics
- Marketing Objectives

## Step 2. Conceptor

- Select appropriate IDVs and DVs
- 2. Write Possible Topics (Design Ideas)
- 3. Write a Design Concept









### PT

- 1. Comfortible place to treat eye for busy business people
- 2. Safe and reliable way to treat vision for health conscious business people

### C

A comfortible place where busy business people can relax and treat their eye with safe and reliable professional clinical treatments. They can receive the treatment during their lunch time.



Step 3. Formalization









Words

Brand Name: Haneulan

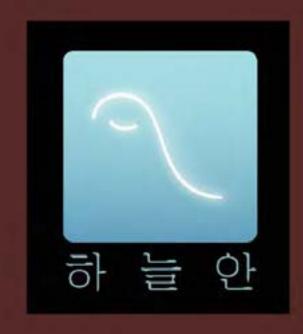
Tag Line: Comforting Space for Your Eye and Mind

Typeface Typography Images Patterns/Textures Color Composition

Step 4. Design Application

## Student Works





## Student Works













## Student Works











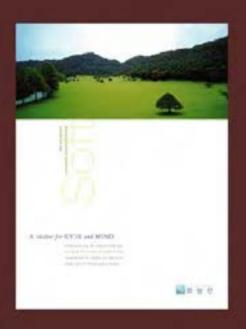


# Student Works



# Student Works

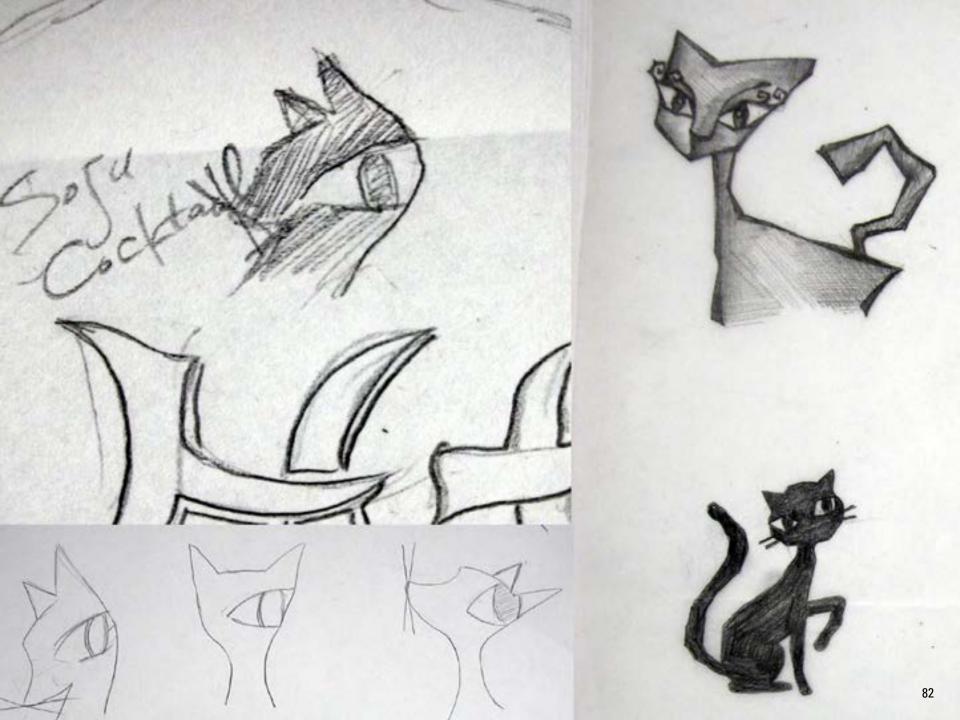








# More Student Works





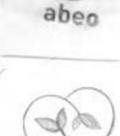












autu











15







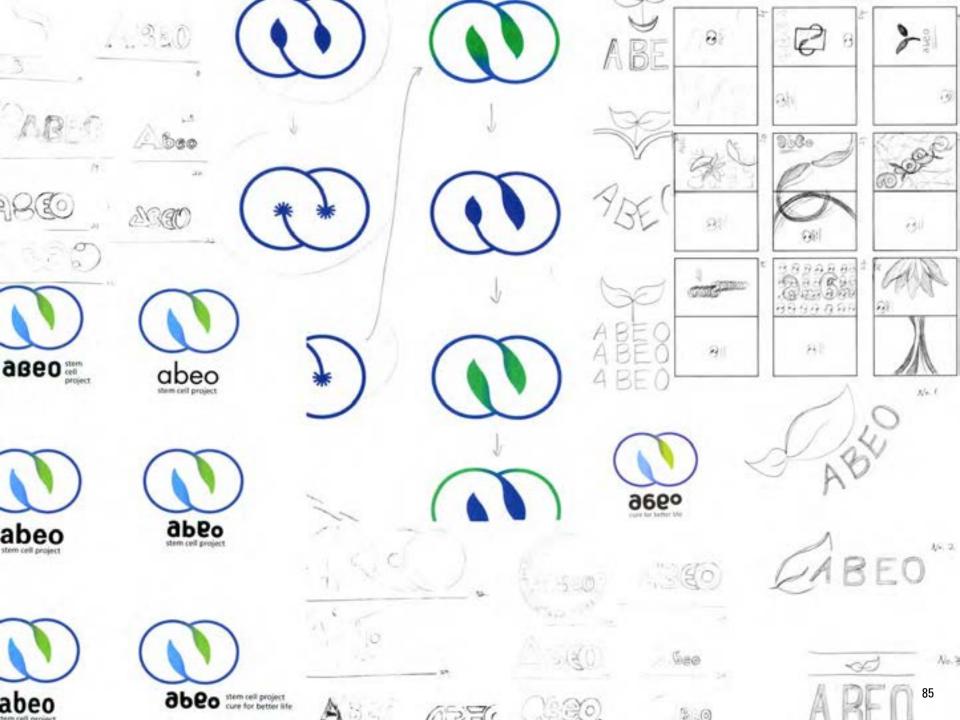


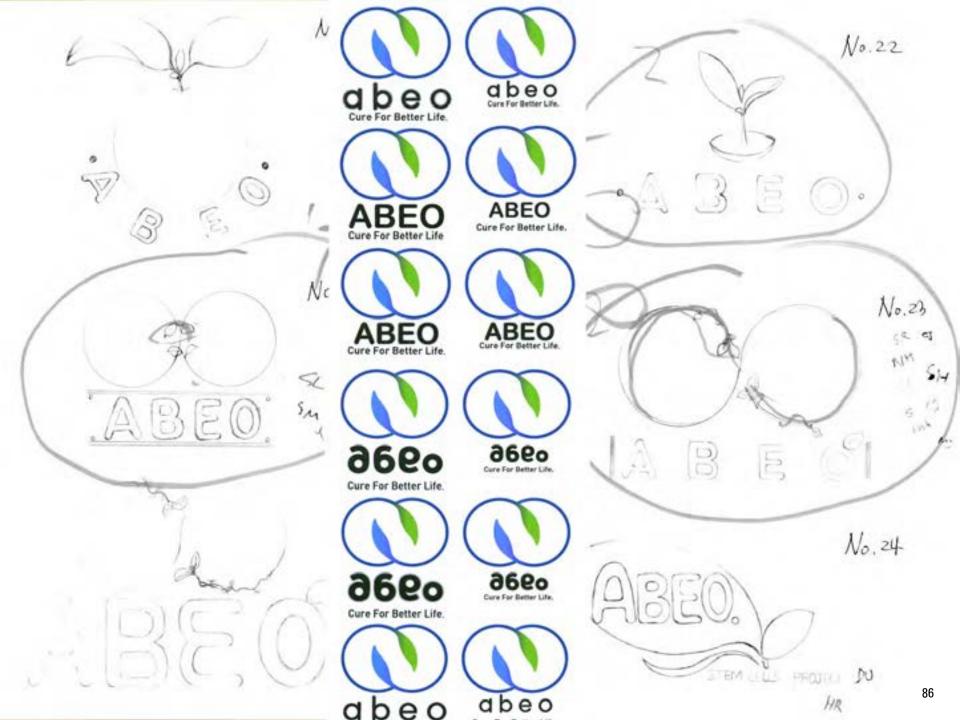






L'EAUPARKENZO























STYLE IN STYLE STYLE BAR



STYLE LAB



style LAB

stylelab STYLEXLAB

Stylelab stylelab



TYLE lab

STYLE/46

29

TYLE LA

STYLE 1ab

STYLE LAB

STYLE LAB

STYLE LAB.

OSEXUAL TREND CODE

89

#### Brand Value Position

#### E. of Mindacol Metals (See

4774 42, 212 944, 412, Cole 24 41, 7142, 44

#### 正 网络 调整排除 经共同共享 医性原用性硬件

7.4



교육 날리를 유럽지난다 10.70년으로 가운을 선택되었다. 지하 그 중에서 도움을 전혀를 이용한 이를 10.700년 전에지도의 회원에서 모두 이것이 잘되었다는 후보세요를 가를 두 있다는 음이 하스나스에 관점이 날아 있다. 기에는 기계에 스토스를 즐기는 당성을 되었으로 해고 있다 제공에 그는데를 기업을 지원 하다 보세간다.

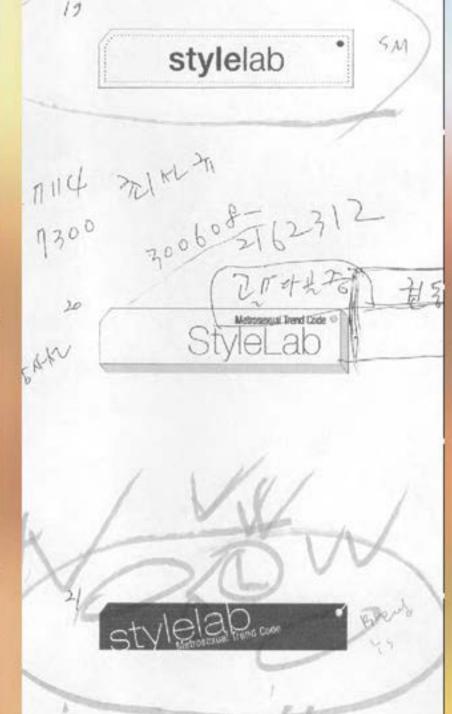
#### 医内性性神经性性小脑内的 医中枢性 植生

नागत कर्म



\$488 286 (488) 58, 4440 453, 468 (44 954) 454 24, 162 488 8834 (5440) 844 2 45454 48 2 484





4.100 5310 102424 \$4600 10



방법적이었지도 선제된 5-업을 무슨 등을 등. 방록에 느껴지는 방향하고 장치럽게 설계관에 공항하여 5 이디자에 방병 예약하고 이번을 가장하여 제소소가 많은 5

#### 도 이번 것이 네스니스의 유시선기? 제? 라마이의 문니부



लतन्त्रत प्रकृत हत्। अप्रयुप्तकः गर्गत द्व

경제도 또는 여러 같이 아크리라 나온는 호로 있어도 돼요. 이 느끼였다. 나무랑은 닭이 많이만 선택해 보이지 않은 돈

#### 6. 495 2014 4234545 53 645 401

関係に対対。 化可止性、時代に 他の、他の、故意は 直径 形容は1: 田本芸術 野原心内2: 金木田、沙木田 可可は、他の 所 香味を切りた たいないおお 1:10。 あれば 田内田 田村田 野田 なか かおけ 2:40 5:40 1:40 4:

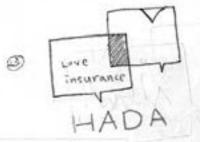




































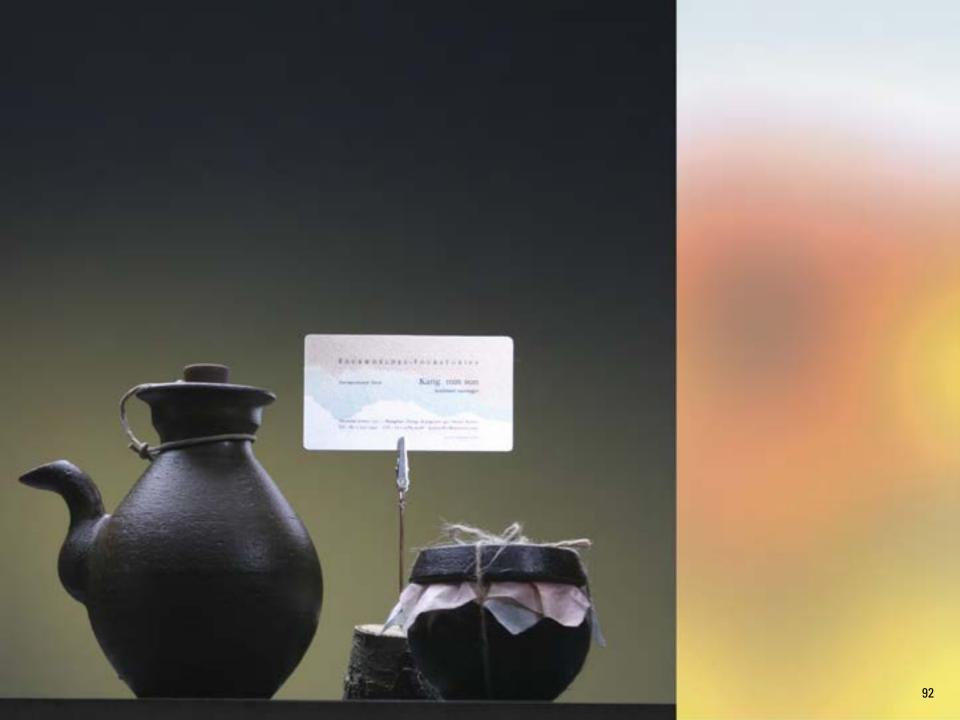


























































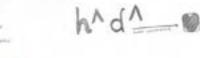










































HADA







- 18 Windows가 지원하는 한글 글골 1234567890 24 Windows가 지원하는 한글 글꼴 1234567890 35 Windows가 지원하는 한글 글꼴 1234567890
- 。Windows가 지원하는 한글 글꼴 12345678 。Windows가 지원하는 한글 글꼴 Windows가 지원하는 히































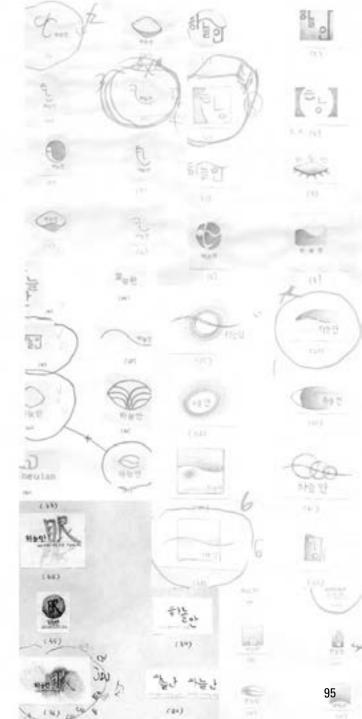


















### **Problem:**

### **Street Life in Daegu**

### **Explanation:**

Streets are made by people, for people and cars.

We walk or/and drive on streets.

We unconsciously influenced by the street environments.

These street environments are unique that they create

Division [living, territory, and users]

Culture [buildings, colors, signs, and public structure] and

Localization [unique communication].

### **Problem Solving:**

What is unique about the streets of Daegu

### **Process:**

- 1. Form small teams: 3-5
- 2. Utilizing Conceptor Methodology to create your team's concept
- 3. Walk on the near by streets and take photos to express your team's concept
- 4. Pick an image and download selected image
- 5. Power point preparation: add your concept statement with an image
- 6. I will organize slides
- 7. Show self-guided slide show
- 8. I will upload the collaborated final project

# **Design Scientist**

End of Part 1. Conceptor & Visual Formalization

**Break Time: 20 minutes** 

Prof. Albert Young Choi, Ph.D. GRAPHIC & PACKAGE DESIGN DEPARTMENT COLLEGE OF DESIGN, HANYANG UNIVERSITY AYCHOI@HANYANG.AC.KR