

Week 06

Process of Interaction Design

HCI 이론 및 실습 2020 Spring

Human-Computer Interaction+Design Lab _ Joonhwan Lee

오늘 다룰 내용

- HCI Process
- Persona
- Scenario

Process of HCI

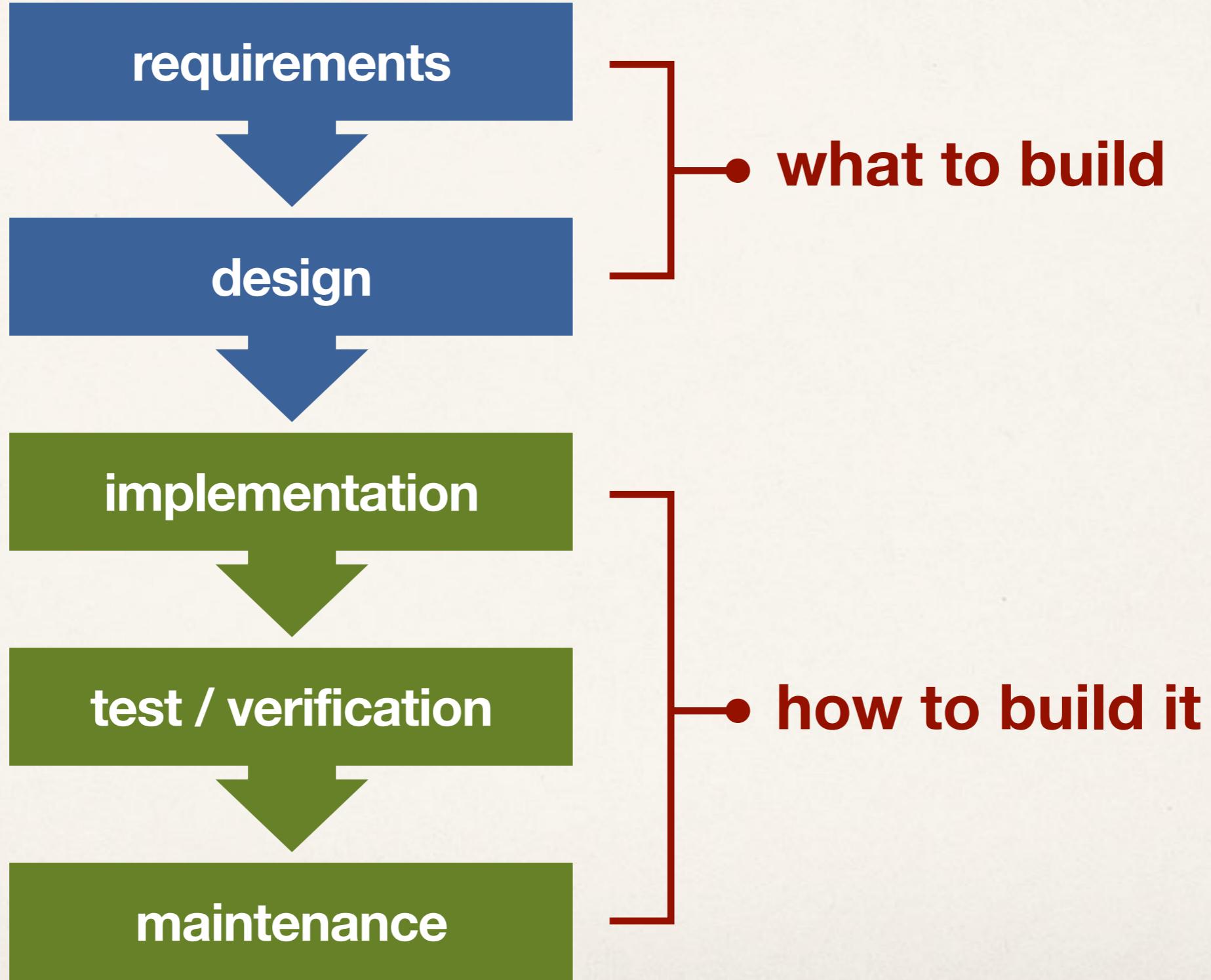
Developing Systems: four approaches

- ❖ **waterfall process:** 전체 설계 후 한번에 개발, 완성
- ❖ **iterative process:** 여러번의 프로토타이핑을 통해 사용자 중심의 디자인을 정한후 개발
- ❖ **agile process:** 조각조각 나누어 디자인하고 개발
- ❖ **lean process:** 최소한의 중심부부터 만든 후 점진적으로 채워나가며 개발

Waterfall Process

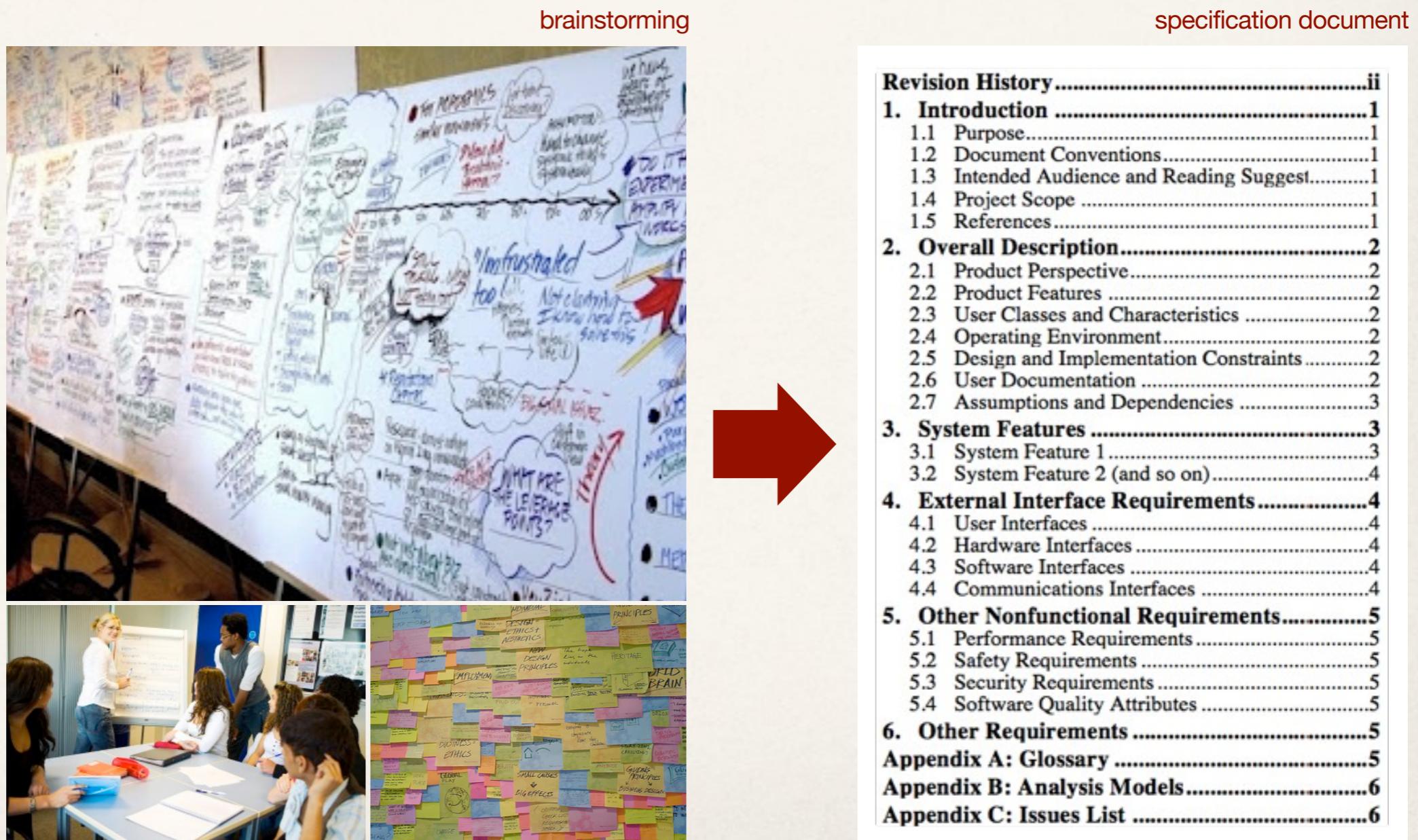
- ♦ 순차적인 개발 프로세스
- ♦ 개발의 흐름이 마치 폭포수처럼 지속적으로 아래로 향하는 것
- ♦ 크고 복잡한 시스템 제작, 인력과 자원을 정량적으로 배열
 - ♦ IBM 360 (1964)
 - ♦ SAGE aircraft monitoring system (1983)
- ♦ You should design first before you build it all at once.

Waterfall Process



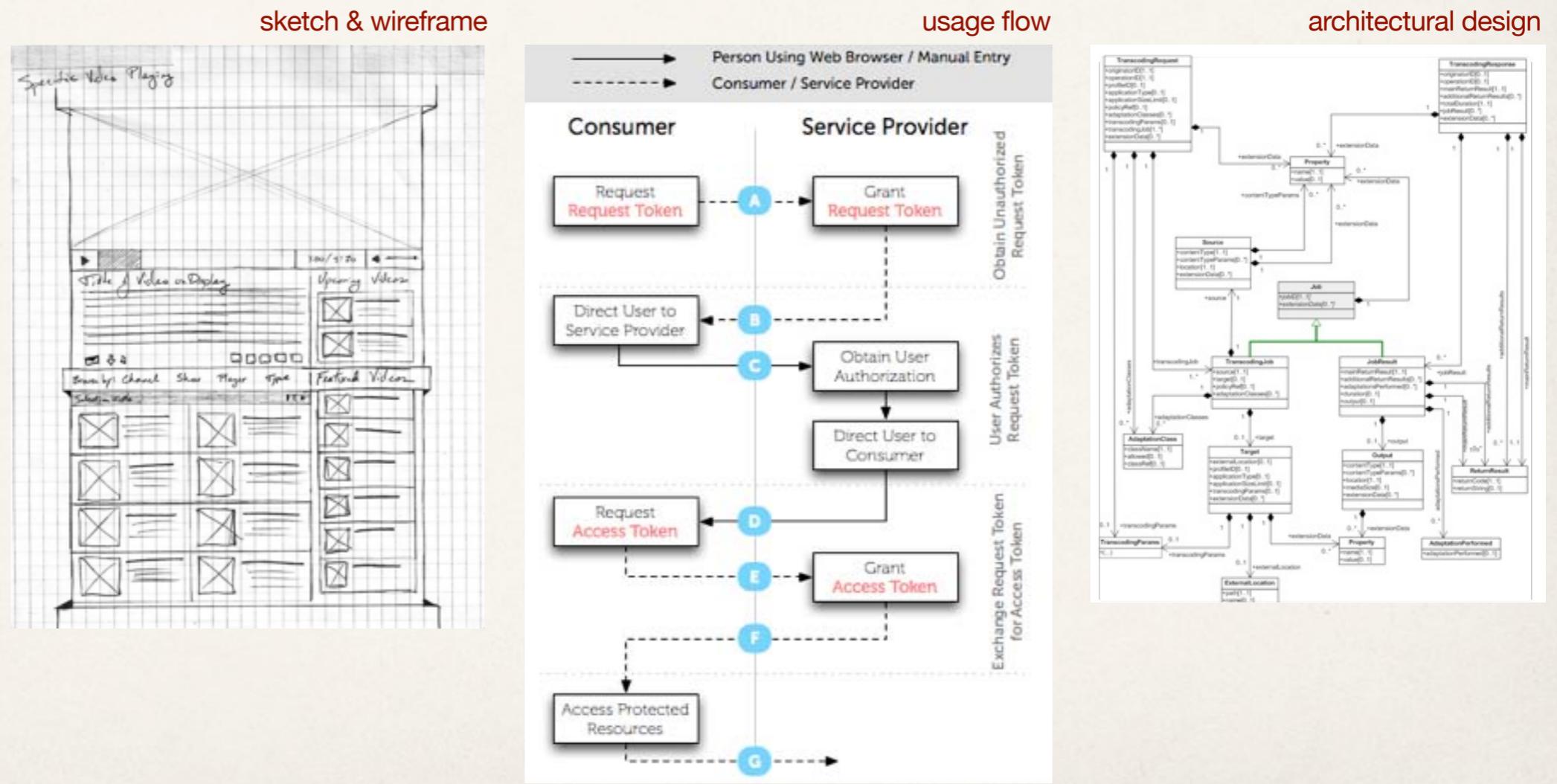
Waterfall Process: requirements

- ❖ 필요한 기능과 전체 구조, 유지 및 보수 등에 관한 정보 수집 및 정리



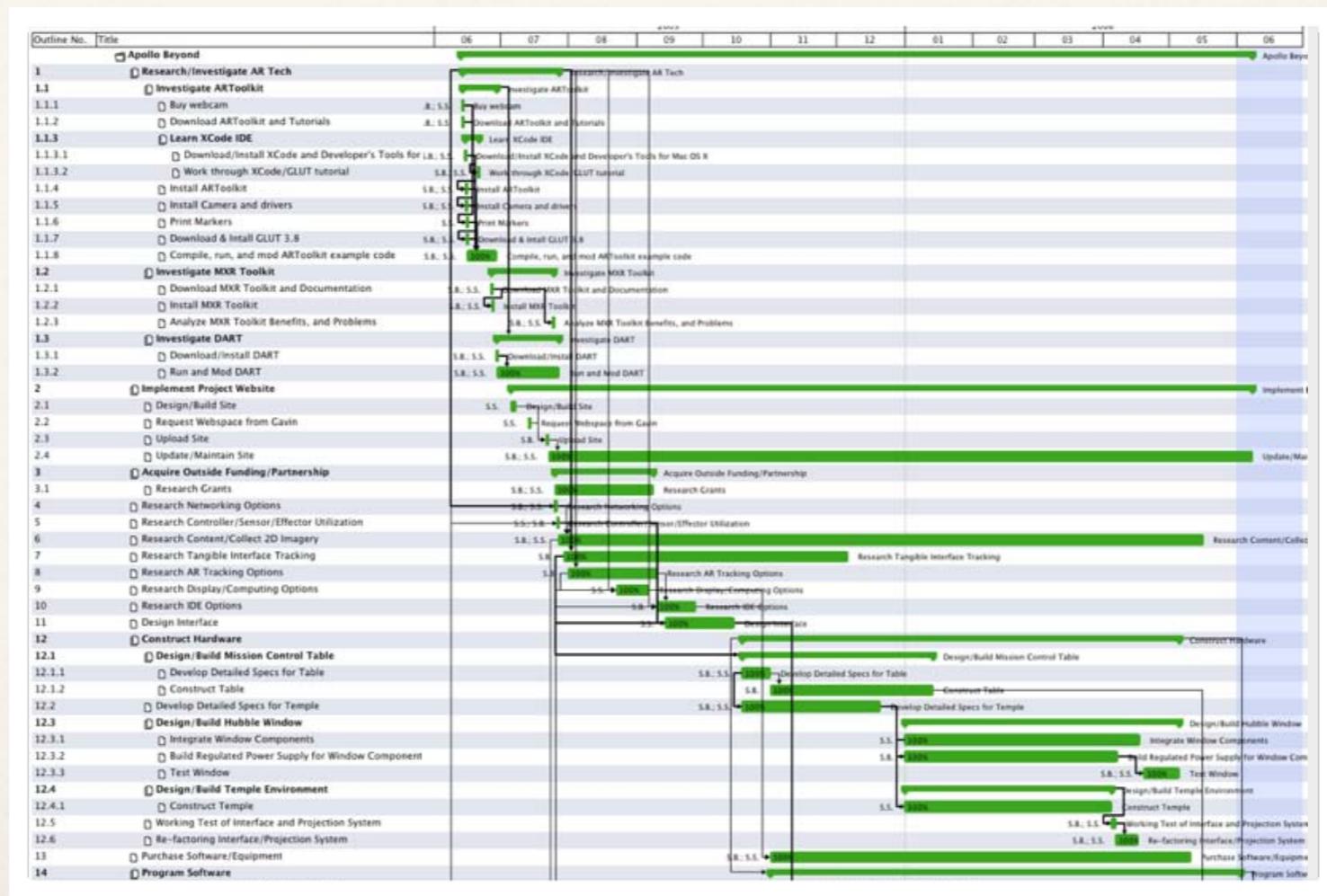
Waterfall Process: design

- ❖ 인터페이스 구성, 주요기능 시나리오와 전후과정, 코드 구조 가시화



Waterfall Process: implementation

- ◆ 프로덕트 제작, 코드와 인터페이스 및 콘텐츠 제작, 트래킹
- 시스템에 제작된 프로덕트 올리기
- ◆ 예산과 기간설정, 주요 이정표 및 우선 순위 선정



gantt chart

Waterfall Process: test / verification

- 작은 코드단위부터 전체적 흐름까지, 기능, 사용성, 견고성 등을 시험

unit / regression test

```
1 this.onEnterFrame = function(){
2     // get current time.
3     cTime = new Date();
4     hour = cTime.getHours();
5     minute = cTime.getMinutes();
6     second = cTime.getSeconds();
7     // Converting to 12 hour clock.
8     if(hour > 12) hour -= 12;
9     // Determine the angle of each hand.
10    hourAngle = 360 * hour / 12;
11    minAngle = 360 * minute / 60;
12    secAngle = 360 * second / 60;
13    // Visually set angle of the hands.
14    hour_hand._rotation = hourAngle;
15    minute_hand._rotation = minAngle;
16    second_hand._rotation = secAngle;
17 }
```

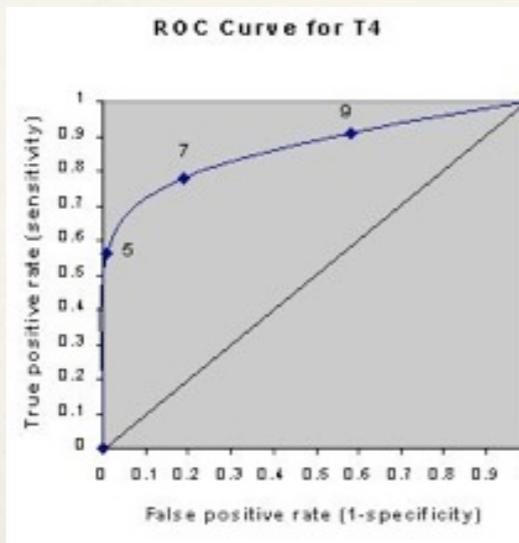
functional test



user test



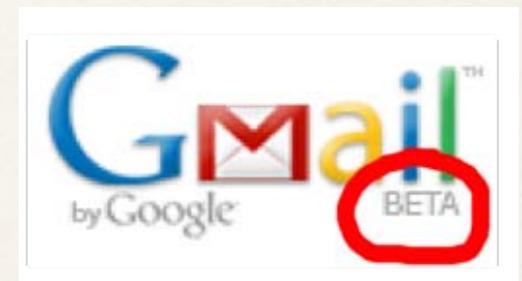
performance test



load test



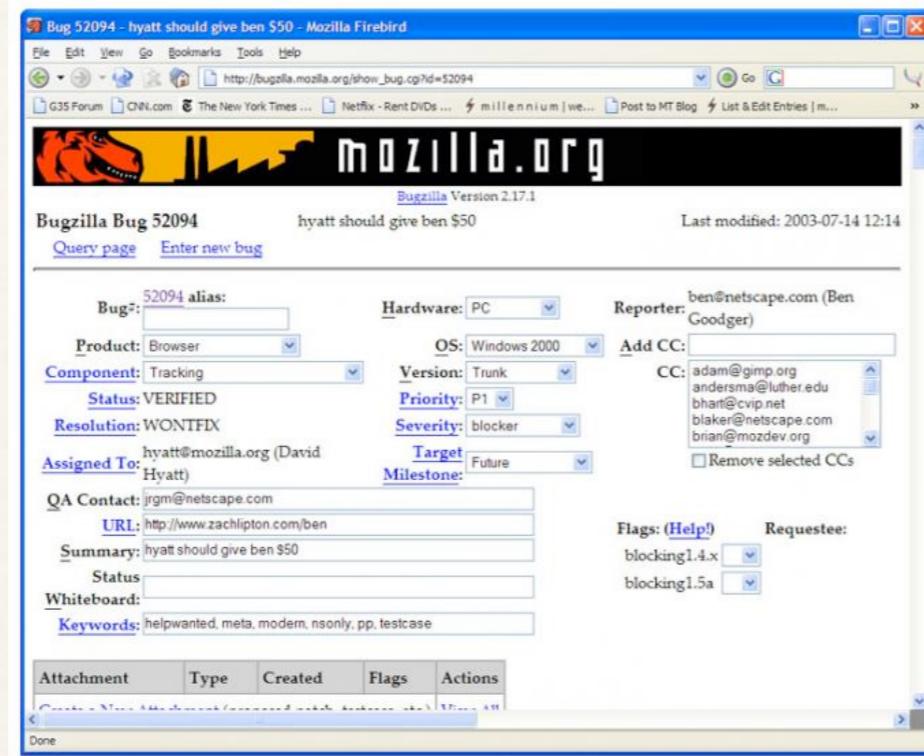
alpha / beta test



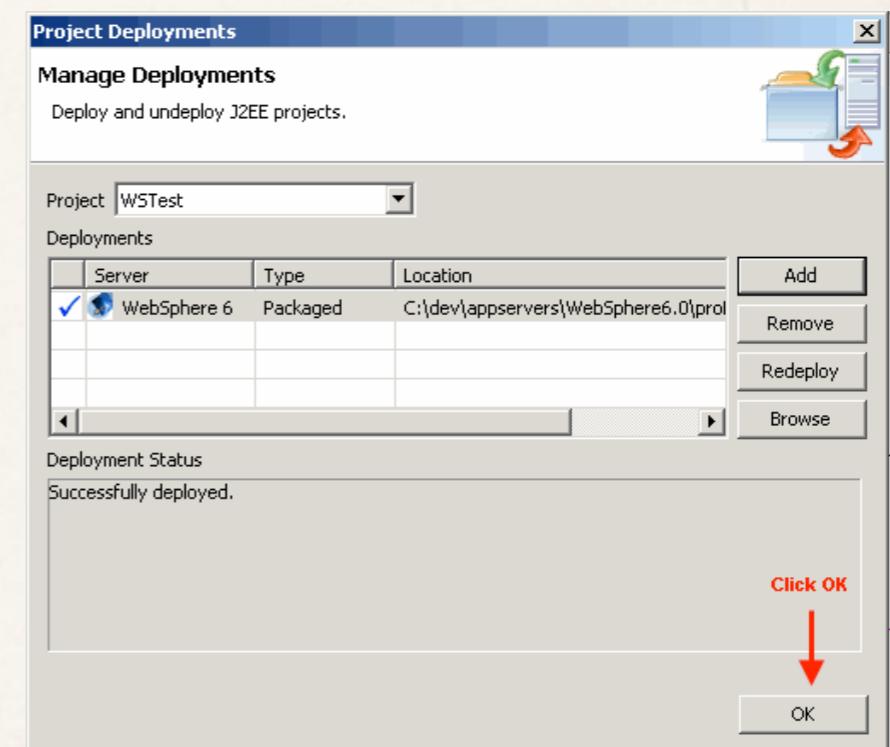
Waterfall Process: maintenance

- ❖ 버그 수집, 수정, 수정본 및 업데이트 배포

bug tracking



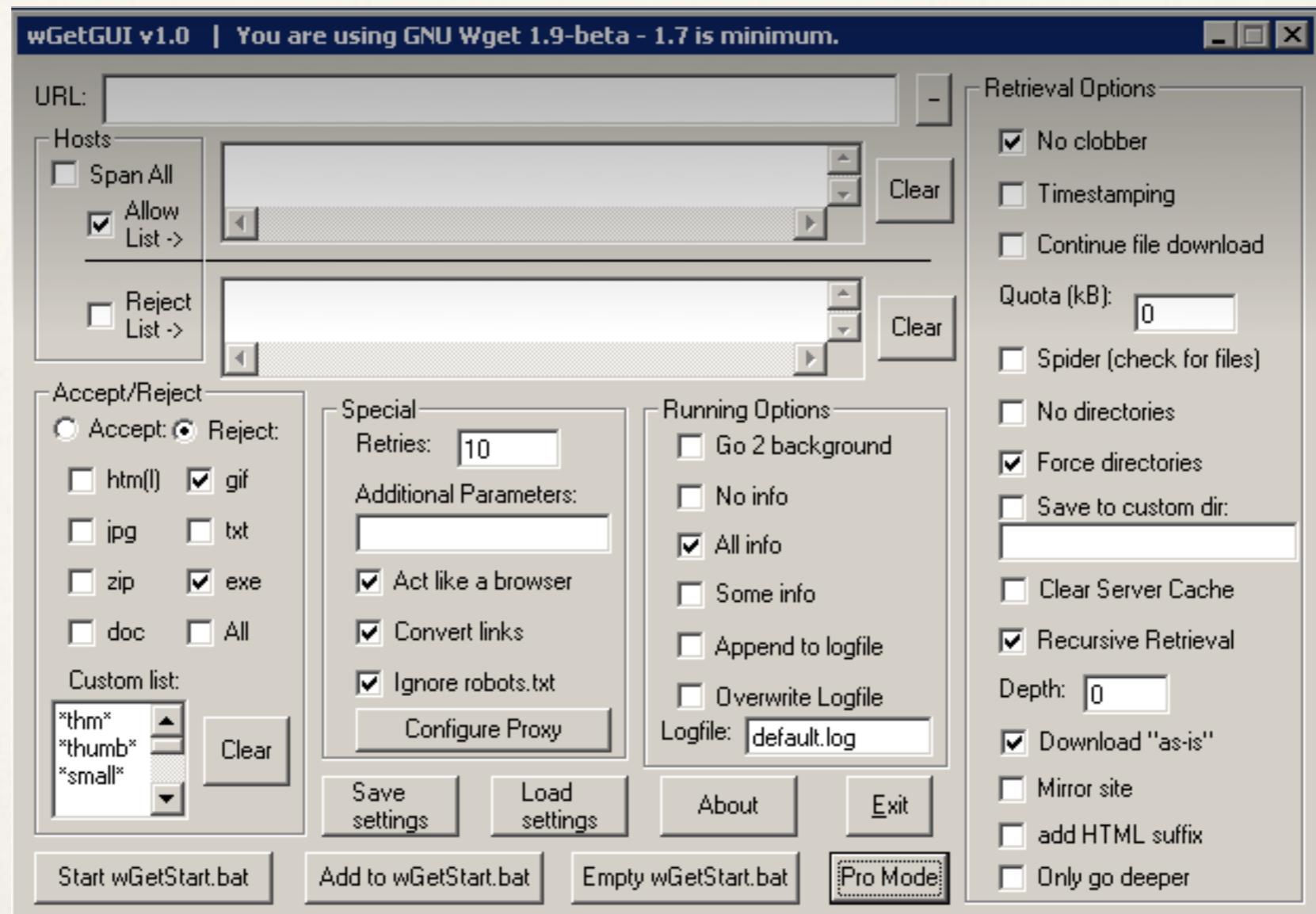
deployment



Waterfall Process: what's wrong with it?

- feature-centered design → unusable products?

wget gui frontend



Waterfall Process: what's wrong with it?

- ❖ cannot manage risks
 - ❖ not realistic to do a full design up front
 - ❖ hard to adjust your design mid-stream
 - ❖ hard to estimate your schedule, slippage
 - ❖ hard to wrap up at the end

Waterfall Process: what's wrong with it?

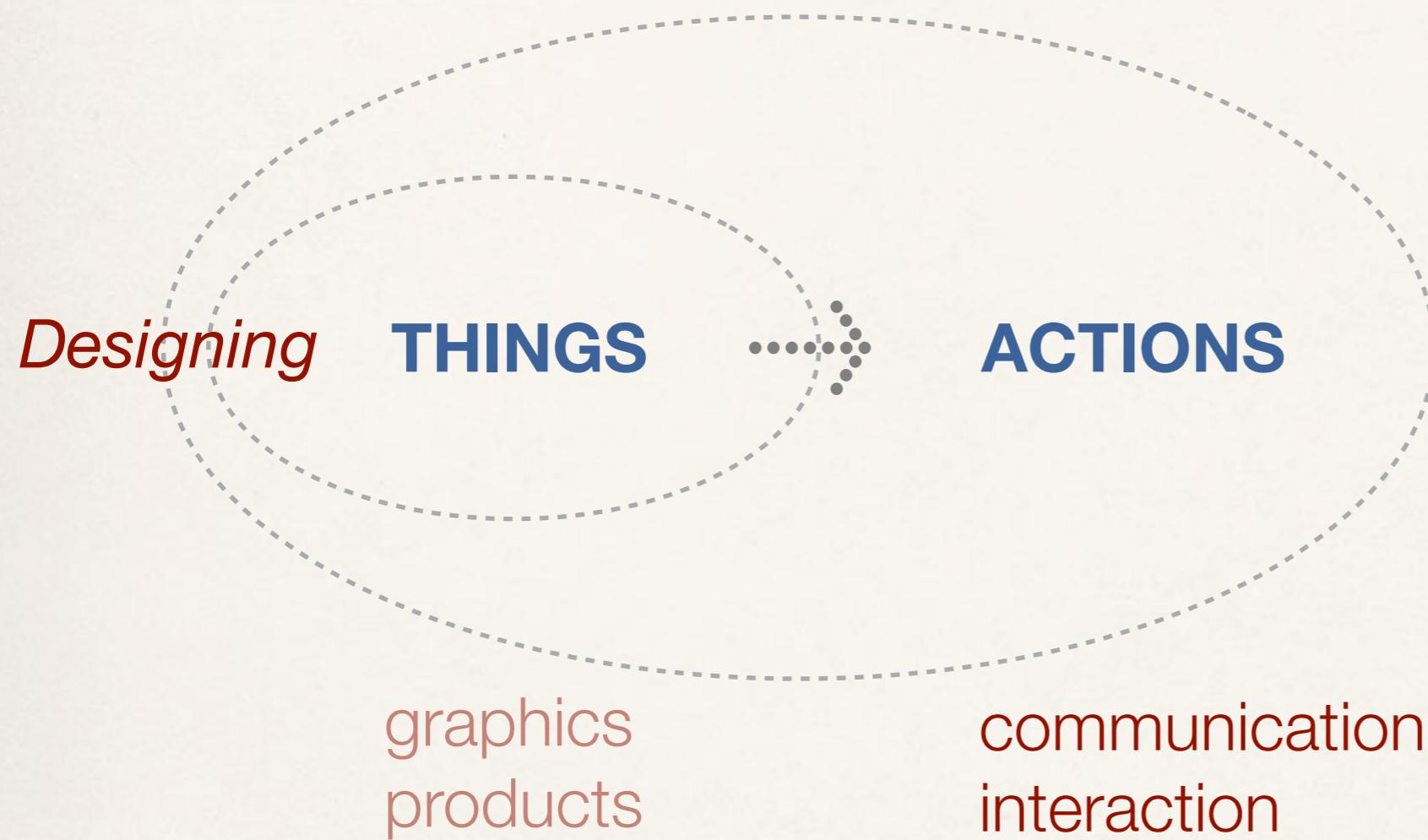
- ❖ where are the users?
 - **human-centered design
(HCI: human-computer interaction)**

System Development: perspective changes

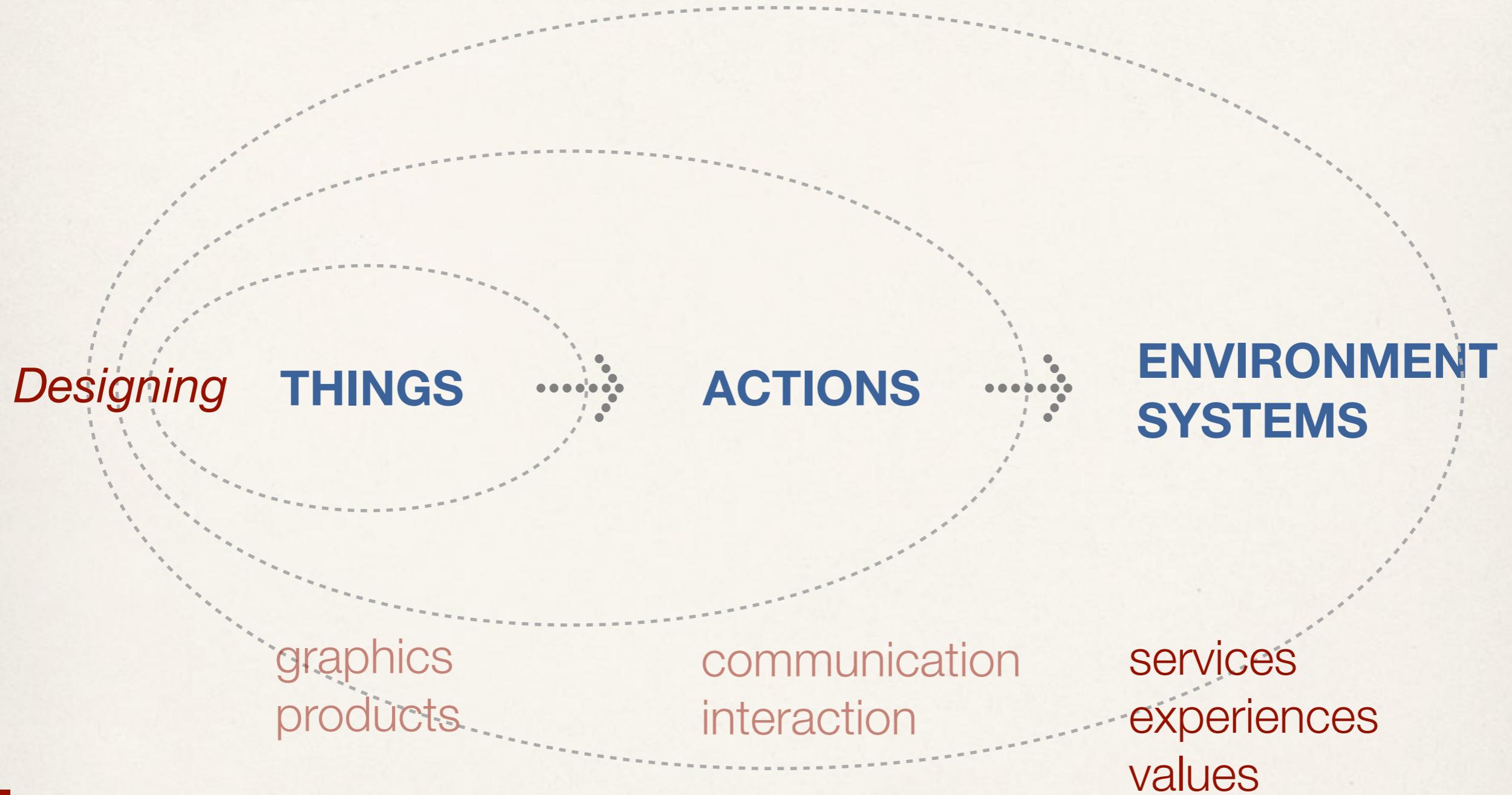
Designing **THINGS**

graphics
products

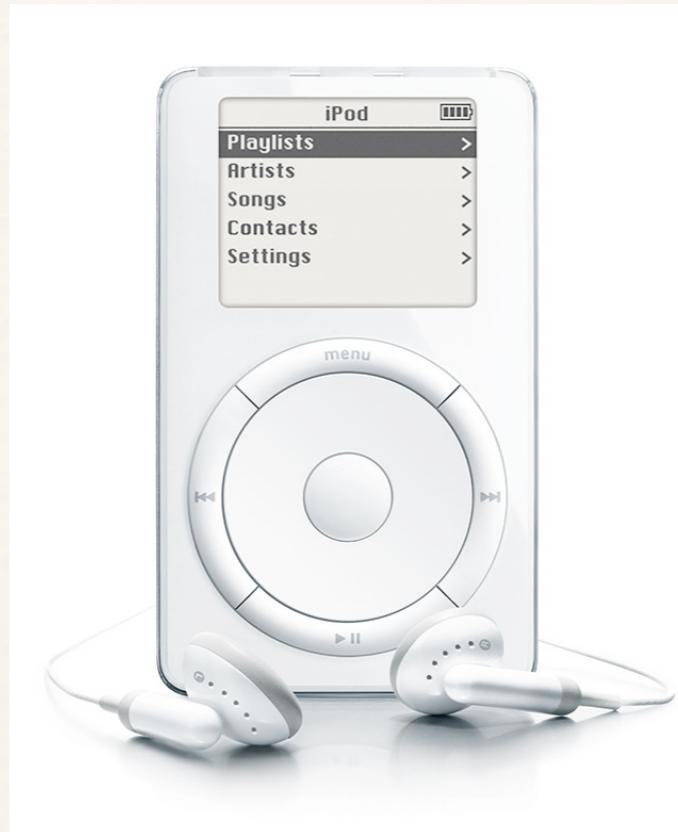
System Development: perspective changes



System Development: perspective changes

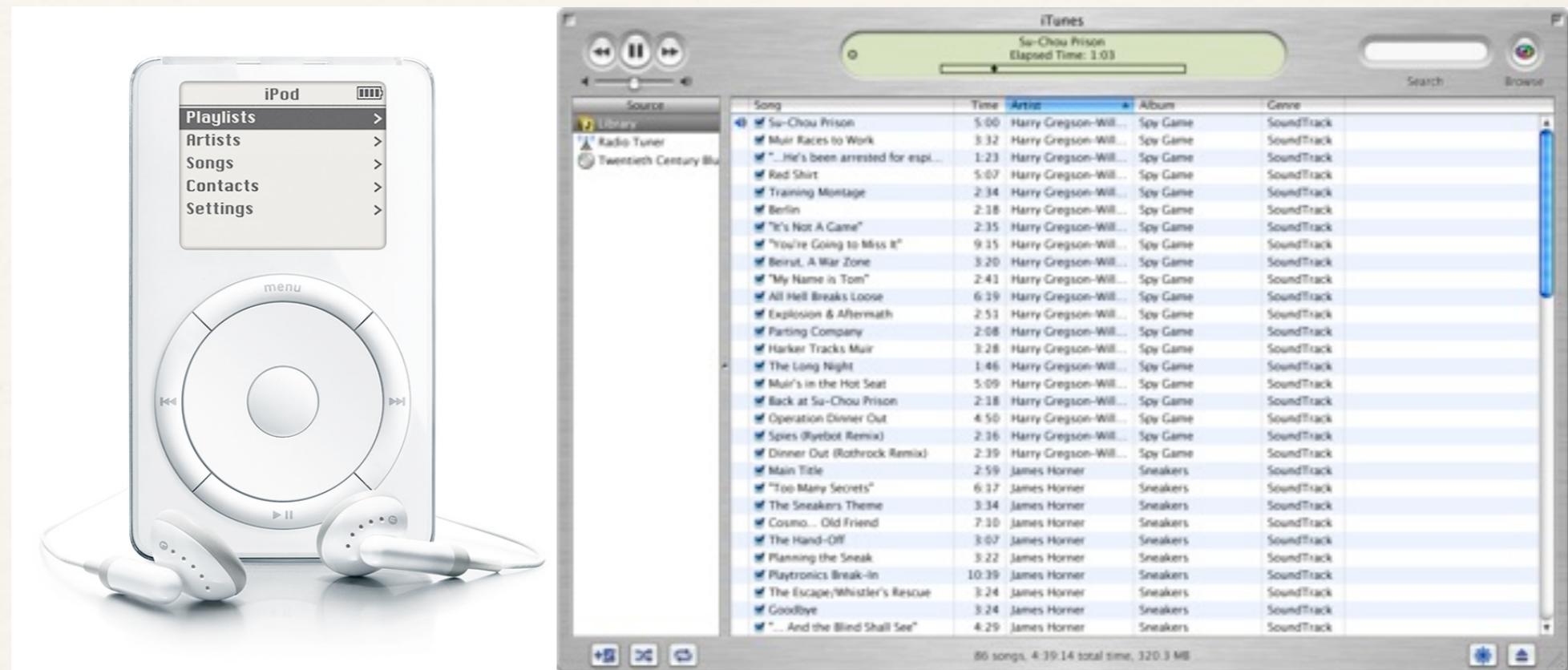


System Development: perspective changes



1st generation iPod

System Development: perspective changes



1st generation iPod & iTunes

System Development: perspective changes

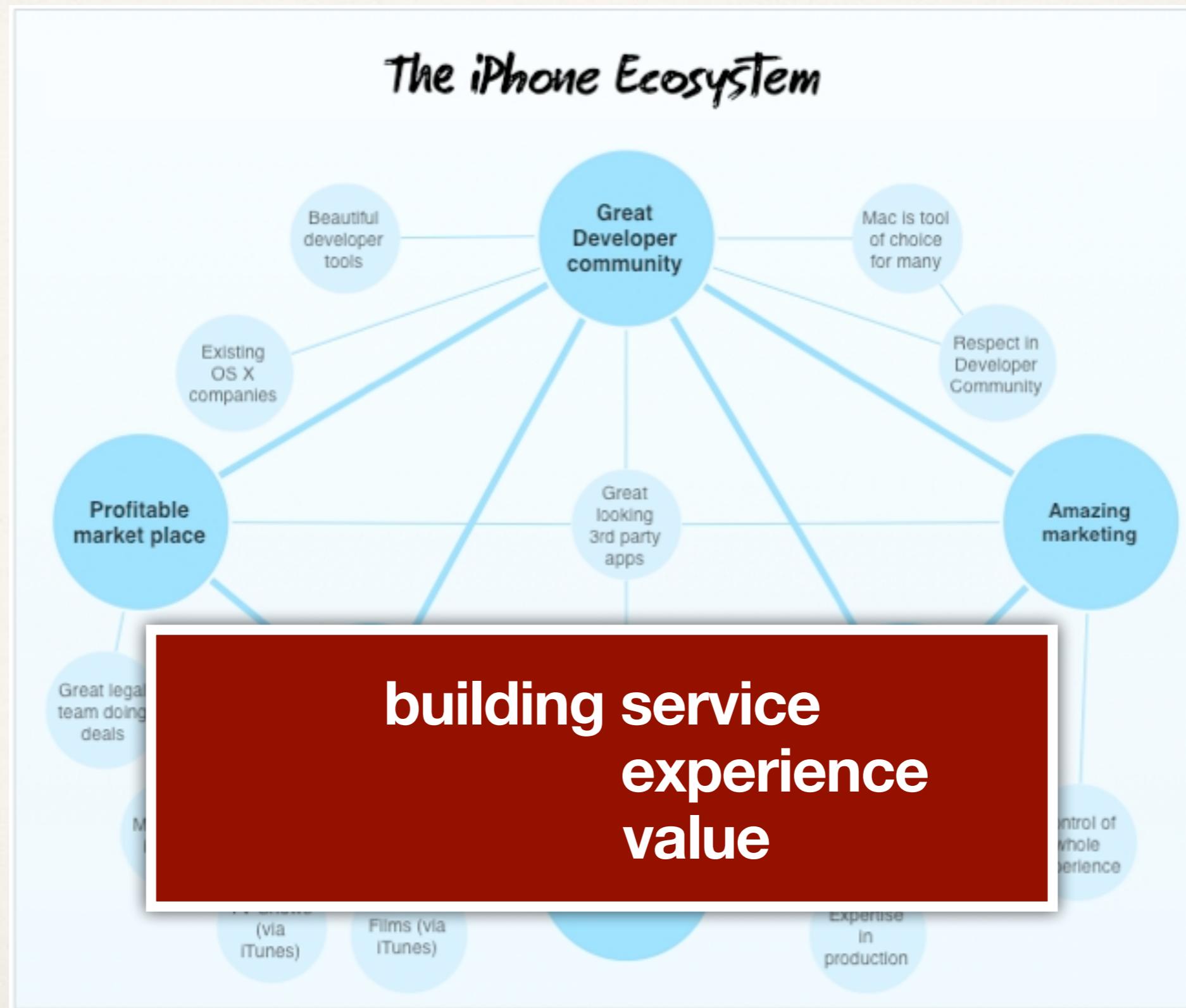


iPhone & iTunes

System Development: perspective changes



System Development: perspective changes



HCI Process

- ❖ HCI Process
 - ❖ a goal-directed problem solving activity informed by intended use, target domain, materials, cost, and feasibility
 - ❖ a creative activity
 - ❖ a decision-making activity to balance trade-offs
- ❖ Generating alternatives and choosing between them is key
- ❖ **User-centered design**

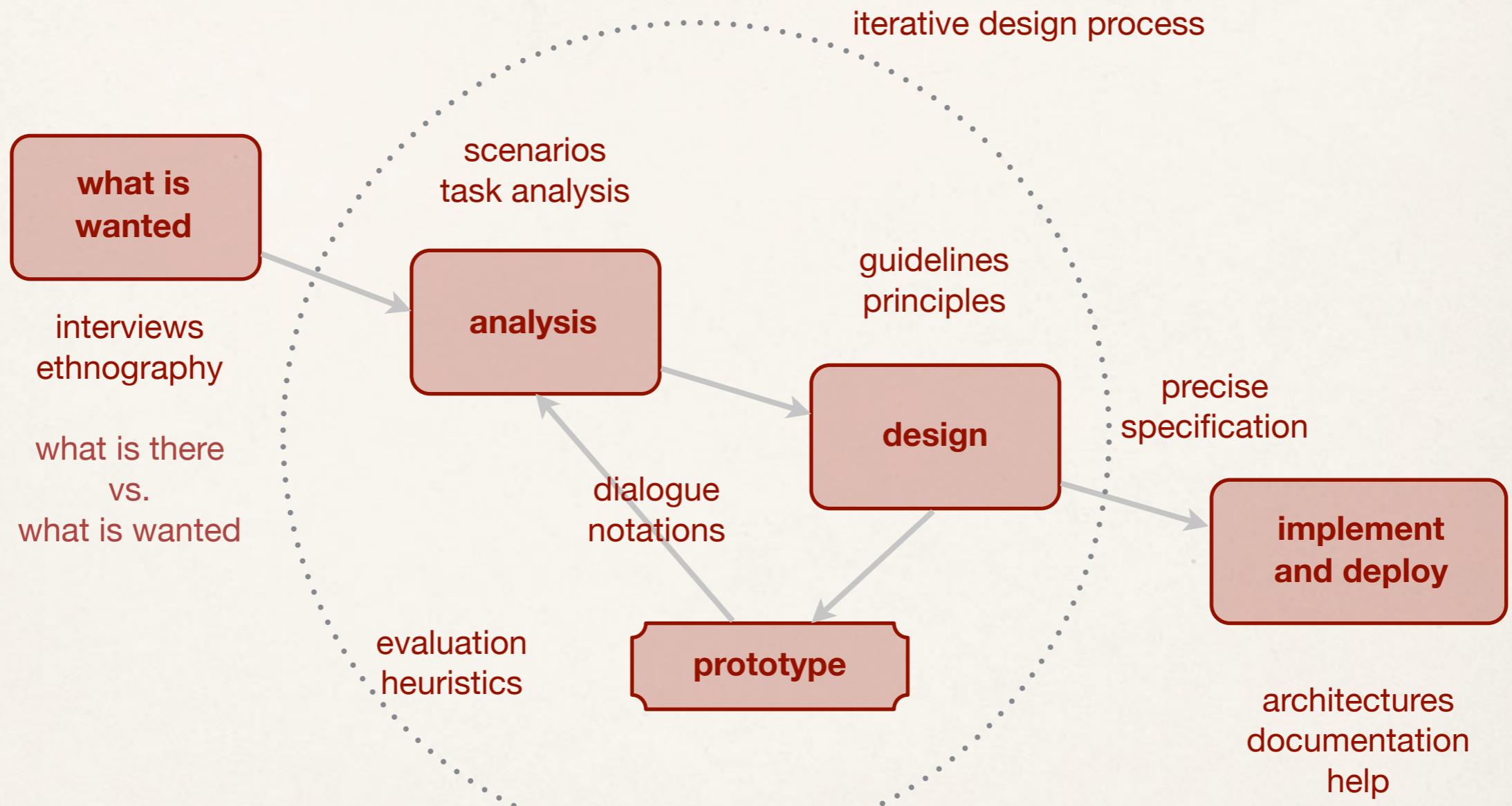
User-Centered Design Approach

- ❖ **Early focus on users and tasks:** directly studying cognitive, behavioral, anthropomorphic & attitudinal characteristics
- ❖ **Empirical measurement:** users' reactions and performance to scenarios, manuals, simulations & prototypes are observed, recorded and analyzed
- ❖ **Iterative design:** when problems are found in user testing, fix them and carry out more tests

Four Basic Activities

- ❖ Establishing requirements
- ❖ Designing alternatives
- ❖ Prototyping
- ❖ Evaluating

HCI Design Process



디자인 프로세스

- ◆ requirements
 - ◆ 어떠한 요소들이 필요하고 사용자가 원하는 것은 무엇인지를 파악
- ◆ analysis
 - ◆ 시나리오와 태스크 분석 등을 통한 requirements 이해
- ◆ design
 - ◆ 디자인 가이드라인을 만들고, 시스템 디자인
- ◆ iteration and prototyping
 - ◆ 반복적인 디자인 작업과 프로토타이핑, 그리고 평가를 통해 필요 한 것 파악
- ◆ implementation and deployment
 - ◆ 구체적인 specification 을 만들고 시스템 개발

디자인 프로세스

- ❖ 실제 개발 프로세스 → 주어진 시간과 리소스가 부족!!
 - ❖ length of design period => quality of final design
 - ❖ cost-budget 을 고려하다 보면 완벽한 디자인 결과물을 내놓기 힘들다
 - ❖ a perfect system is badly designed
 - ❖ too good => too much effort in design

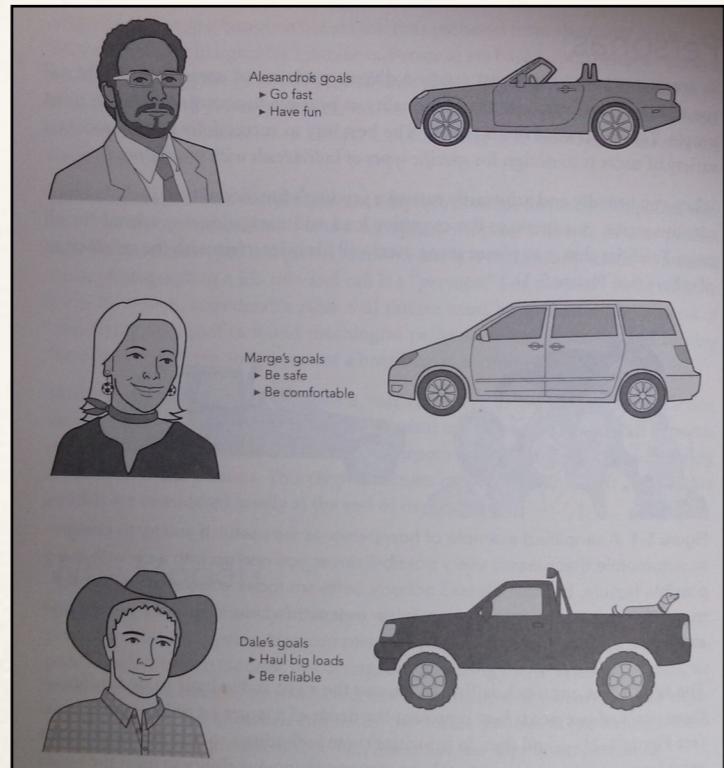
Persona

Target User

- ❖ 우리의 타겟 사용자는...?
 - ❖ 모든 사람! → x
 - ❖ 우리의 제품은 모든 마켓에 통용된다! → x
- ❖ 모든 사람을 타겟으로 하는 제품은 어느 누구도 만족시키지 못한다.

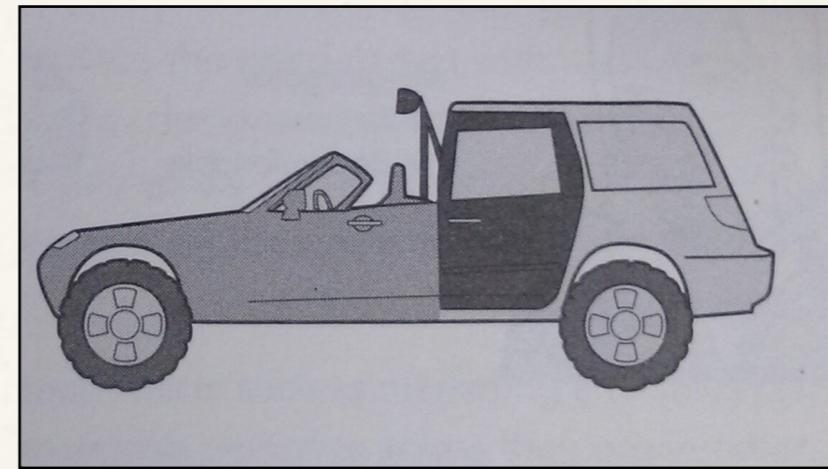
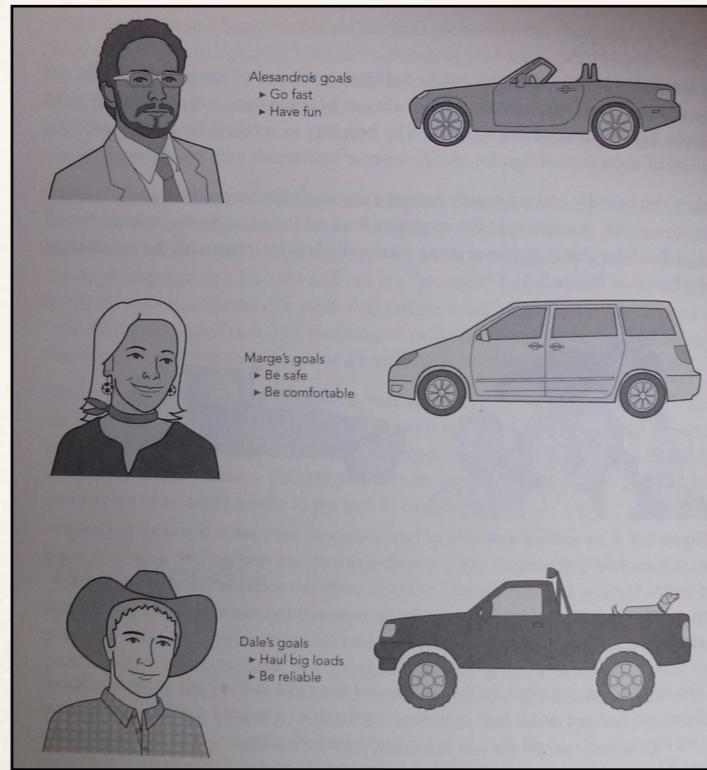
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Target User

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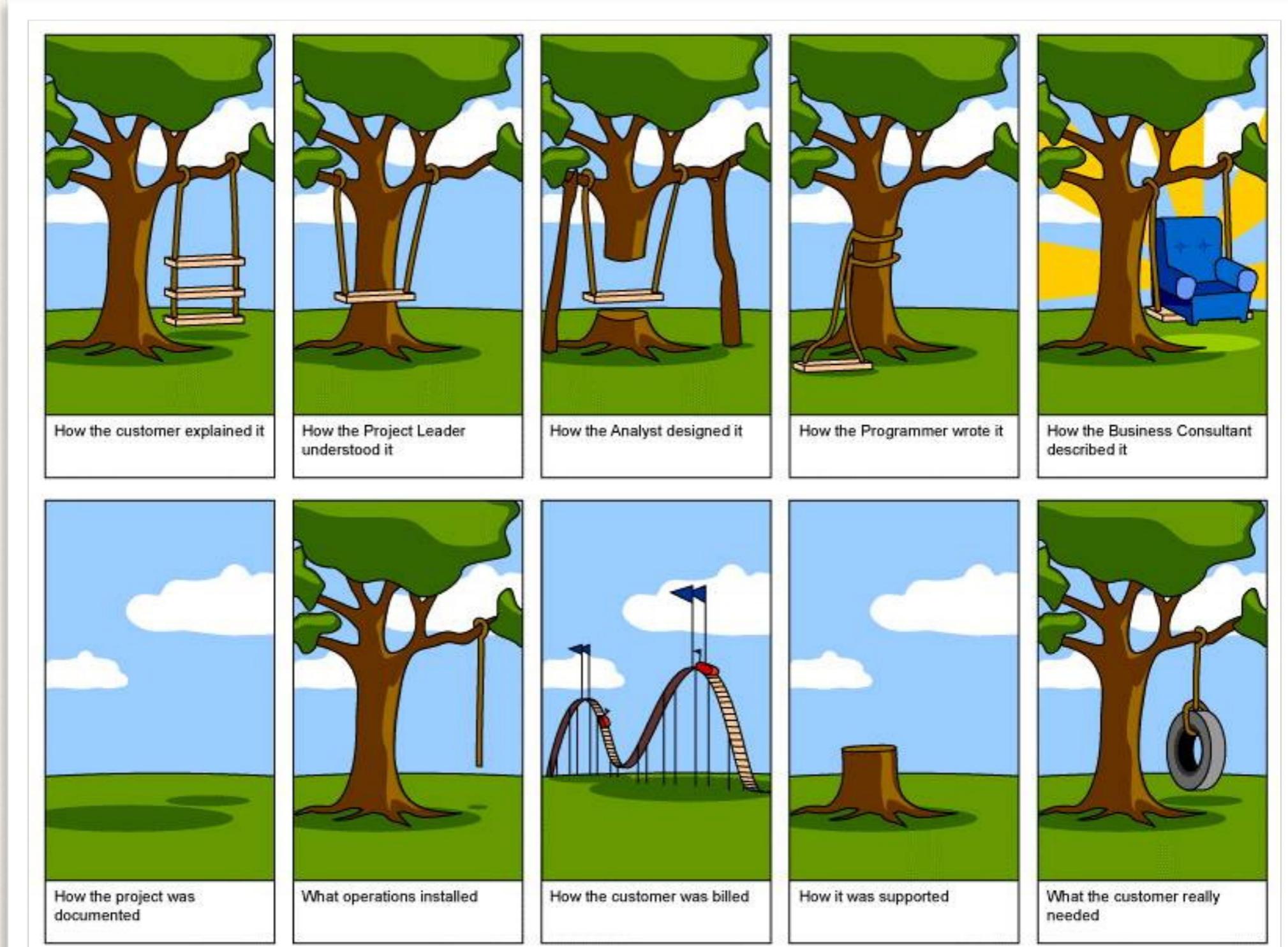


모두를 만족시키는 차?

Target User

- ♦ The **average** user doesn't exist.
 - 전달하고자 하는 메시지가 일반적인 수준으로 평범해짐
 - 말하고자 하는 바가 너무 많아짐
 - 우선순위를 정할 수 없을 정도로 혼란스러워짐:
too many perspectives and focus?

Different Perspectives?



Definition

- ❖ Personas helps us **understand** users, not as part of a group or a demographic, but as individuals with a **history, goals, interests** and a **relationship** to the product.

Persona

- ◆ Alan Cooper에 의해 처음 제시됨 (1999)
- ◆ 실제 사용자를 관찰한 데이터를 정리하는 모델링 기법
- ◆ 사용자의 특성, 성향, 행동, 동기를 반영하는 대표적 인물을 만들어 사용자들의 행동과 사고를 유추
- ◆ 사용자에 대한 모든 팀원의 공통된 이해가 가능해짐
- ◆ 일반적(general)이 아닌 전형적(typical, specific)

Persona

- ◆ 아주 구체적인 “샘플” 사용자
 - ◆ 반드시 실제 사용자일 필요는 없음
- ◆ 시스템을 디자인할 때 사용자 유형을 대표하기 위해 사용
 - ◆ Betty 라면 이 경우 어떤 생각을 할까?
 - ◆ 디테일이 무엇보다 중요
 - ◆ Betty 가 실제 존재하는 인물이라고 가정

Persona 작성의 예

- Betty is 37 years old. She has been Warehouse Manager for five years and worked for Simpkins Brothers Engineering for twelve years. She didn't go to university, but has studied in her evenings for a business diploma. She has two children aged 15 and 7 and does not like to work late. She did part of an introductory in-house computer course some years ago, but it was interrupted when she was promoted and could no longer afford to take the time. Her vision is perfect, but her right-hand movement is slightly restricted following an industrial accident 3 years ago. She is enthusiastic about her work and is happy to delegate responsibility and take suggestions from her staff. However, she does feel threatened by the introduction of yet another new computer system (the third in her time at SBE).

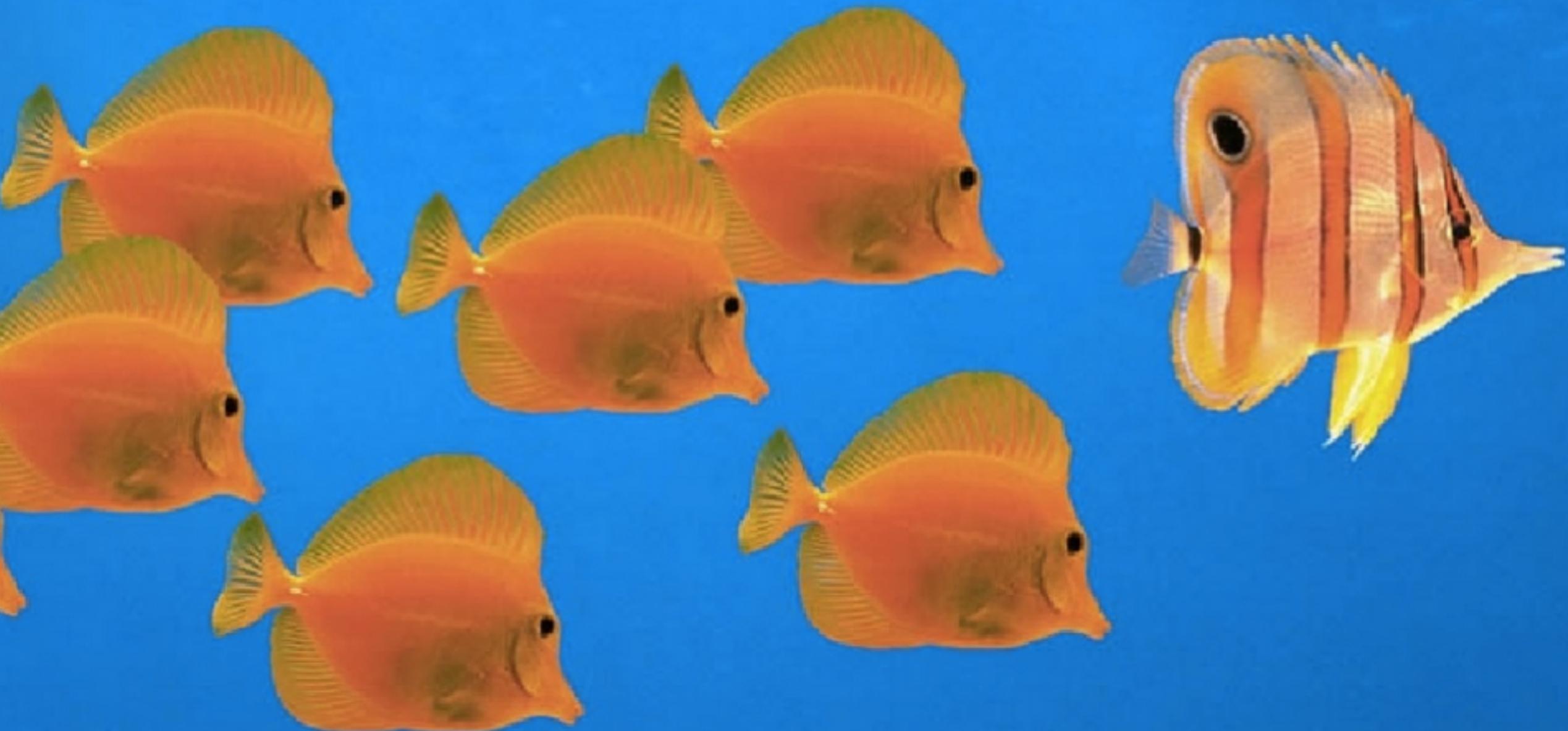


Personas bring focus



**Personas
build
empathy**

Personas encourage consensus





Personas
create efficiency

Personas lead to better decisions

Personas for Strategy

Framework for business decisions,
offerings, channel usage, features

Personas for Marketing

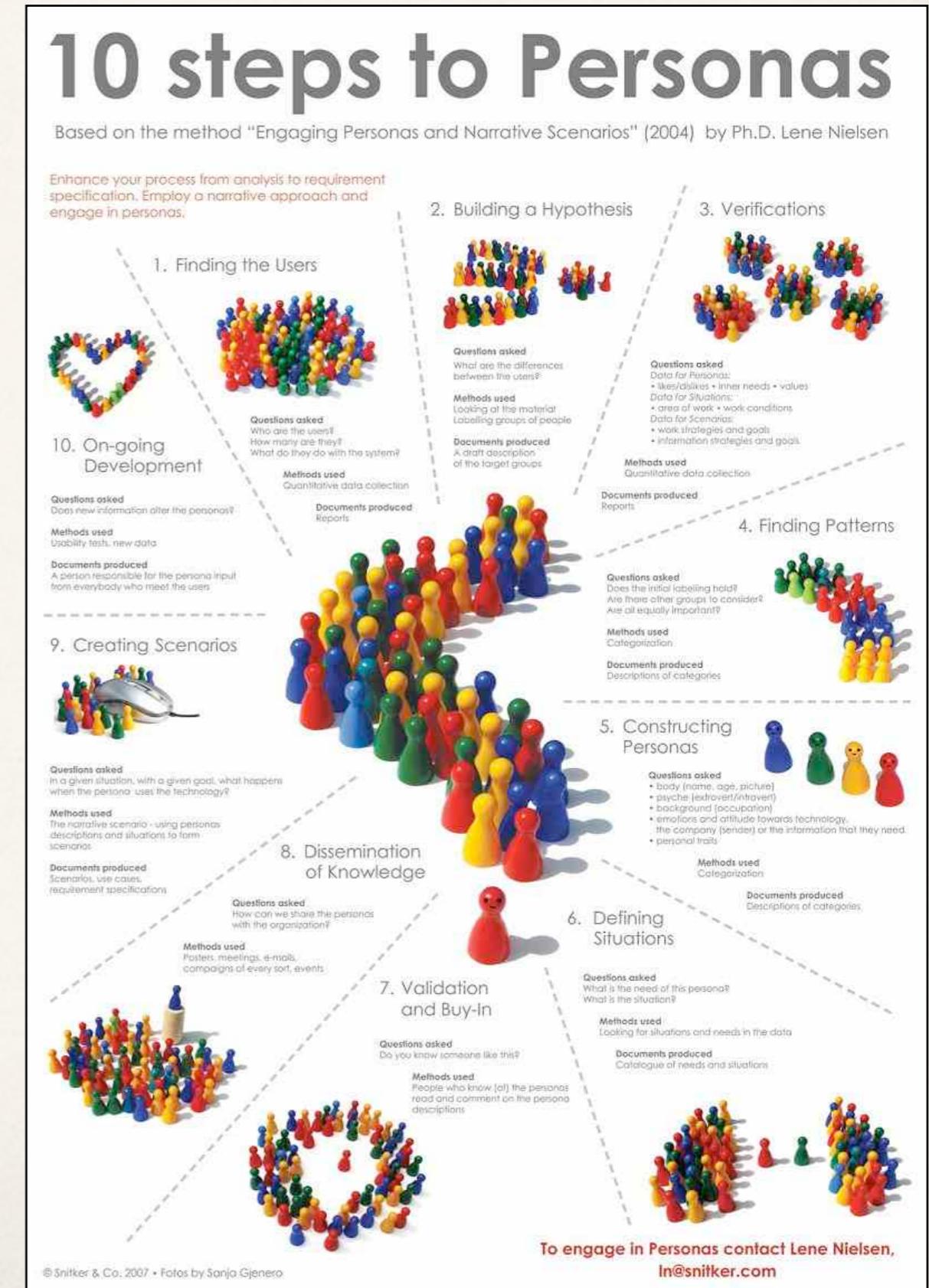
Framework for marketing campaigns, branding,
messaging, market research

Personas for Design

Information architecture, interaction design, visual design,
content development, user testing

10 Steps to Personas

1. Finding the Users
2. Building a Hypothesis
3. Verifications
4. Finding Patterns
5. Constructing Personas
6. Defining Solutions
7. Validation and Buy-in
8. Dissemination of Knowledge
9. Creating Scenarios
10. On-Going Development



10 Steps to Personas

<http://personas.dk/wp-content/LOWRES-Personas-english-version-oktober-200821.pdf>

1. Finding the Users

- ❖ Questions asked
 - ❖ Who are the users?
 - ❖ How many users are there?
 - ❖ What do they do with the system?
- ❖ Methods used
 - ❖ Quantitative data collection
- ❖ Documents produced
 - ❖ Reports

10 Steps to Personas

<http://personas.dk/wp-content/LOWRES-Personas-english-version-oktober-200821.pdf>

2. Building a Hypothesis

- ❖ Questions asked
 - ❖ What are the differences among the users?
- ❖ Methods used
 - ❖ Analyzing the material
 - ❖ Grouping the users
 - ❖ Identifying, naming the groups
- ❖ Documents produced
 - ❖ A draft description of the target groups

10 Steps to Personas

<http://personas.dk/wp-content/LOWRES-Personas-english-version-oktober-200821.pdf>

3. Verifications

- ❖ Questions asked
 - ❖ Data for personas:
like/dislike, inner needs, values
 - ❖ Data for situations:
area of work, work conditions
 - ❖ Data for scenarios:
work strategies and goals
information strategies and goals
- ❖ Methods used
 - ❖ Qualitative data collection
- ❖ Documents produced
 - ❖ Reports

10 Steps to Personas

<http://personas.dk/wp-content/LOWRES-Personas-english-version-oktober-200821.pdf>

4. Finding Patterns

- ❖ Questions asked
 - ❖ Does the initial grouping hold?
 - ❖ Are there other groups to consider?
 - ❖ Are all equally important?
- ❖ Methods used
 - ❖ Categorization
- ❖ Documents produced
 - ❖ Descriptions of categories

10 Steps to Personas

<http://personas.dk/wp-content/LOWRES-Personas-english-version-oktober-200821.pdf>

5. Construction Personas

- ❖ Questions asked
 - ❖ body (name, age, picture)
 - ❖ psyche (extrovert/introvert)
 - ❖ background (occupation)
 - ❖ emotions and attitudes (towards the technology, the company (sender), the information)
 - ❖ personal traits
- ❖ Methods used
 - ❖ Categorization
- ❖ Documents produced
 - ❖ Descriptions of categories

10 Steps to Personas

<http://personas.dk/wp-content/LOWRES-Personas-english-version-oktober-200821.pdf>

6. Defining Situations

- ❖ Questions asked
 - ❖ What are the needs of this persona?
 - ❖ What are the situations?
- ❖ Methods used
 - ❖ Analyzing data for situation and needs
- ❖ Documents produced
 - ❖ Catalogue of needs and situations

10 Steps to Personas

<http://personas.dk/wp-content/LOWRES-Personas-english-version-oktober-200821.pdf>

7. Validation and Buy-in

- ❖ Questions asked
 - ❖ Do you know someone like this?
- ❖ Methods used
 - ❖ People who know of the personas read and comment on the persona descriptions

10 Steps to Personas

<http://personas.dk/wp-content/LOWRES-Personas-english-version-oktober-200821.pdf>

8. Dissemination of Knowledge

- ❖ Questions asked
 - ❖ How can we share the personas with the organization?
- ❖ Methods used
 - ❖ Posters, meetings, emails, campaigns of every sort, events

10 Steps to Personas

<http://personas.dk/wp-content/LOWRES-Personas-english-version-oktober-200821.pdf>

9. Creating Scenarios

- ❖ Questions asked
 - ❖ In a given situation, with a given goal, what happens when the persona uses the technology?
- ❖ Methods used
 - ❖ The narrative scenario - using personas, descriptions and situations to form scenarios
- ❖ Documents produced
 - ❖ Scenarios, use cases, requirements, specifications

10 Steps to Personas

<http://personas.dk/wp-content/LOWRES-Personas-english-version-oktober-200821.pdf>

10. On-going Development

- ❖ Questions asked
 - ❖ Does new information alter the personas?
- ❖ Methods used
 - ❖ Usability tests, new data collection
 - ❖ Feedback regarding users from all those interacting with them
 - e.g. sales, support, trainers
- ❖ Documents produced
 - ❖ Foundation document

Sample Persona

The Moderately Seasoned Professional

Michael



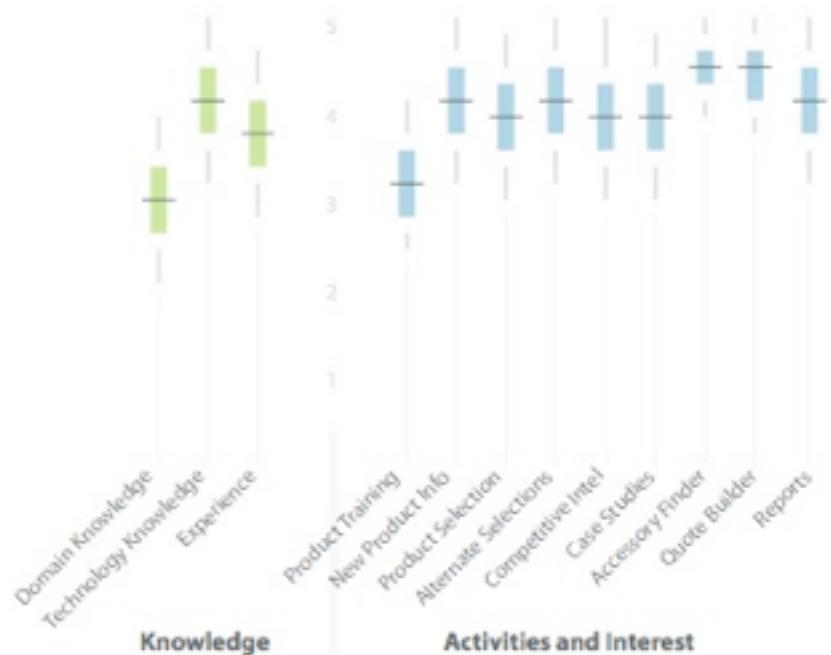
AGE: 42

OCCUPATION: Regional Sales

"I'd like to see a good, better, best."

MICHAEL HAS BEEN IN SALES for YEARS AND HAS BEEN SELLING AND OTHER products for most of them. he's pretty comfortable with the Symbol products and isn't that interested in basic product info, but finds himself wondering if there's a better alternative than the product he's suggesting. it's a challenge keeping up to date on all the product info from Symbol and the other lines he sells. he'd love to see something that recommends a good, better, and best option when they're available as well as showing him where the particular model stacks up against other competitive products.

The right tool for Michael helps him pick the best product while recommending other alternatives. It also has case studies with examples of how other more seasoned salespeople have been able to upsell in similar environments and applications. Accessories and add-on services for Symbol scanners are a must. And if it is a frontend for Solution Builder that would be a huge bonus.



Primary Use

- Case studies
- Alternate product selections (good, better, best)
- Accessory finder
- Product info for new products or product refresh
- As a frontend to Solution Builder

Goals

- Pick the right product and find better alternatives.
- Keep up-to-date on competitive intelligence.
- Increase sales volume.
- Increase accessory and add-on sales.
- Close more deals faster.

Influencers

- Easy-to-use
- Speed
- New product info
- Ability to run reports on open vs. closed quotes
- Ability to generate quotes

Frustrations & Pain Points

- having multiple usernames and passwords. he already has several for the different applications he uses at work and email – he doesn't need another one.
- A tool that leaves him in the dark

Sample Persona

Photo ←

Quote (Slogan) ← "아예 미국 가서 살고 싶다.^^;"

Comp. ←

Persona 3
정유진

정유진
26세 / 회사원 / 디자이너
sacity@nexcorp.co.kr

서울에 올라와 여대 졸업 후 대기업 디자이너로 일하며, 신촌에서 혼자 살고 있다. 남자 친구는 지금은 없다. 1-2년에 한 번씩은 친구들과 혹은 혼자서라도 해외 여행을 하는 편이다.

미드팬 (Meqook Drama FAN) →

- 혼자 살고 있다. 다소 넓은 원룸에 침대, TV, 책상 위 노트북 컴퓨터, 그리고 책장과 옷장을 갖고 있다.
- 집에서는 일하지 않는다. 컴퓨터로는 인터넷 쇼핑을 하거나, 사이트를 돌아다닌다.
- 요즘은 싸이도 한참 갔다.
- 집 전화는 쓰지 않기 때문에 없다. 휴대폰으로 충분하다.
- 한국 드라마는 '내조의 여왕'이 재미있다. 원하는 시간에 볼 수 있으면 좋겠다. 간혹 친구 만나거나 회식으로 늦을 때가 있다. 유료로 보기는 싫다. 인터넷에서 찾아 보는 것도 귀찮다.
- 미국 드라마는 최근 방영분까지 모두 보았기 때문에 미국과 동시에 오픈하게 되면 반긴다.
- Sex and the City, Gossip Girl 뿐만 아니라, CSI나 24 같은 시리즈도 재미있다.
- Project Runway, American Idol 같은 비드라마도 재미있어 한다.
- IPTV는 끊었다. 너무 많이 보게 된다. 바보가 되는 듯한 느낌이다.
- 아침에 TV는 자동으로 켜진다. 출근 전에 옷 입고, 간단하게 아침 먹는 동안에도 켜 놓는다.
- 일어나서 과일 먹으면서 노트북으로 날씨 확인하고 무슨 옷을 입을지 생각해둔다.
- 저녁에 돌아오면 우선 TV부터 켜고, 샤워하고, 뉴스는 노트북으로 본다.

정유진 씨(persona3)의 goal

1. 재미있는 해외 드라마를 원하는 때 보고 싶다.
2. 재미있는 공중파 드라마도 원하는 때 보고 싶다.
3. TV보면서 너무 바보가 되지 않아야 한다.

Detail → Nick → Attitude → Behavior → Context → Pain Points → Goal

Sample Persona



Timothy Powell

P. Eng, Civil Engineer
GeoLine Engineering
Age: 52

"Speed trumps security when it comes to exchanging documents. It's not worth jumping through hoops to protect a document that nobody's interested in but me and the client."

Sends 12 documents/week at nearly 100 MB each **via FTP**

Sends 8 documents/week under 5 MB each **via email**

Receives 15 documents/week under 5 MB each **via email**

Receives 15 hand-edited CAD drawings/week **via fax**

Exchanges primarily PDF and Microsoft Word files

Employs couriers only for shipping physical goods

Internet use is mostly limited to a website that hosts discussion groups for civil engineers. Purchases flights, hotels, and conference registrations twice per year.

Goal: Get everything done before heading home. Timothy has a lot of work to stay on top of and firm deadlines that cannot be missed. Speed is a competitive advantage for GeoLine, so it's essential that delays do not occur. Timothy hates working at night, too, so he makes the most of his hours at the office.

Goal: Cover his back and avoid blame. In Timothy's industry, projects usually go far over budget and are completed late, at which point all the subcontractors involved begin pointing fingers at each other. Timothy needs detailed records that prove he completed exactly what was expected of him and his company.

Timothy Powell is famous among his coworkers for once visiting a construction site and remarking to the client, "Look, you may build bridges, but I design them. And that's the most critical part!" He may not have made a friend that day, but Timothy was unconcerned. He doesn't suffer fools, just as he won't put up with anything that stands in the way of getting his job done. Timothy's work is extremely deadline-driven. His clients demand aggressive schedules and expect him to stick to them, as timing is crucial when coordinating subcontractors and suppliers on a large construction project.

"On a great day, I'm able to get everything out the door and into our client's hands. Never, ever let anything come between you and that door!" Timothy struggles with this all the time. With at least three major projects underway, it takes an enormous effort to produce his CAD drawings on schedule. As a result, he ships most of his documents at the end of the day, just before leaving the office around 5:30 pm.



Timothy Powell

Timothy spends about equal time working in AutoCAD and Microsoft Outlook, by far the most important tools in his job. AutoCAD is where he produces his work; Outlook is where he manages it. He creates a folder in Outlook for each project and is meticulous about archiving copies of all correspondence there. He copies himself on every outgoing email just for that purpose. In fact, after a phone call with a client, he'll even summarize the conversation in an email and send it to both himself and the person he spoke with if he knows their email address. Outlook acts as a central record of everything that has transpired on his projects, which is important: when clients demand, "Why did you design this bridge for only three lanes?" he can point to an archived email and tell them with satisfaction, "Because you told me to." Timothy says that his records in Outlook have saved him many times.

Although Timothy exchanges all his documents electronically — he would love never to touch another piece of paper — he is quite unhappy with the inconvenience of handling large files. He wishes that everything could be exchanged as email attachments, but over half of the 20 files he sends each week are almost 100 MB each. Files that large must be sent by FTP instead. This aggravates Timothy for several reasons. First, there's no record in his Outlook project folder. But also annoying is the speed: their FTP system is so slow that it's often the next day before he learns that a delivery failed; he sends most of his files just before heading home and doesn't want to wait an extra half hour just to see if it's successful. If a document is particularly important, he might investigate by calling the recipient from his mobile phone while driving home. Earlier this month, Timothy had to turn around and restart a transfer that had encountered an error. He was not impressed.

"Most of our clients have policies that say all documents must be transferred by FTP for security and archival reasons," Timothy admits. "But that's a load of crap. I don't think a client has ever sent me something by FTP. They send edits by fax and everything else as an attachment. Nobody has ever complained about attachments and never will — unless it's a lawyer, I suppose." He dryly remarks that "we're not building the space shuttle here, so I doubt we have to worry about espionage."

For the full story behind this persona, see Robert Barlow-Busch's chapter titled "ClickDox: A Case Study in Personas" in the book *User-Centered Design Stories* by Carol Righi and Janice James. You may also read more or contact Robert through his blog at www.chopsticker.com.

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CLICKDOX

Sample Persona

Kivio Users		
	The researcher	The Sysadmin
Name	Alexander Weiß	Donald M. Berry
Age	30	30
Location	Germany	US
Social Life	Alexander lives with his girl-friend in a flat in Hamburg.	Donald lives with his wife and 1-year old daughter in a house in Portland.
Work Life	He works at centre for environmental systems research and designs plans for replacable	He is a lead system administrator in a huge network solutions company in Portland.

Sample Persona

Kivio Users		
	The researcher	The Sysadmin
Work Life	He works at centre for environmental systems research and designs plans for replacable energies in a EU-funded project.	He is a lead system administrator in a huge network solutions company in Portland.
Computer Experience		All are highly experie
Time at a computer per week	26-50 hours per week	35-50++ hours per week
Computer tasks	Office tasks and Field-dependent. Also educational and recreational	Development and network administration. Does not use PC for office tasks, educational, and

Sample Persona

Kivio Users		
	The researcher	The Sysadmin
Computer tasks	Office tasks and Field-dependent. Also educational and recreational. No development.	Development and network administration. Does not use PC for office tasks, educational, and even recreational.
Relation to OSS.	He is not passionate about OSS.	He is a convinced user of OSS.
Requirements wrt diagramming	office requirements	highest claims
Frequency of drawing diagrams	Each 2 nd month	Twice per month
Diagram main type	Flowcharts	All, except citizen

Sample Persona

Kivio Users

The researcher	The Sysadmin
	

Frequency of drawing diagrams	Each 2 nd month	Twice per month
Diagram main type	Flowcharts. Also visualising thoughts. No technical ones.	All, except sitemap
Size and complexity	15-20 elements, 2-3 levels, 3-7 shapes	15-30 elements, 2-5 levels, 4-9 shapes
Diagram purpose and context.	For non-IT job.	Diagrams are for the IT-Job, never for himself.
Current diagramming	Power Point or OoO.	Visio.



razorfish

Sample Persona

1 the learner

Personal Profile

Sandy's work life is hectic, and "learning about investing" has been just another item on her to-do list. She has money in a 401(k) plan, but her conservative investment picks have been underperforming the market rather seriously. She recently received a \$10,000 bonus at work, and for the first time, she doesn't need the money to pay off bills.

Sandy is mainly interesting in building wealth. She's concerned about having enough money to retire comfortably, and she doesn't have any rich relatives to count on. Recently married, she and her husband are starting to talk about buying a home and starting a family. As a teacher in a private school, her husband has a moderate income, but a rather meager pension plan.

Before making any major decision, Sandy likes to thoroughly research and understand her choices. She is conservative with money and has a low risk tolerance. While Sandy is concerned about making smart investment choices, she has been feeling lately that she's missing out on the hot stock market.

With \$10,000 to invest, Sandy feels that it's time to start investing more seriously. She doesn't want investing to take over her life, but she would like to learn enough to feel comfortable making decisions. She'd be most comfortable having a professional manage her money, but she doesn't think she has enough money to justify hiring someone. And she doesn't expect her small portfolio to get much attention from a professional.

Sandy Kelchwick



"I'm interested, but I'm not sure how to go about it."

background

- 30-year-old, married, woman.
- Received a BA at Cooper Union and a masters in architecture at Columbia University.
- Works in a 20-person architecture studio in Manhattan.
- Intermediate Internet user, has fast connection to PC at work and slow dial-up line on an iMac at home
- Has about \$20,000 in a 401(k) plan her employer set up for her
- Wants to learn how to better manage her investments.
- Knows a little about mutual funds, and would like to learn about stock investing

attributes

- Younger
- Female
- Less wealthy
- More experienced with computers and the Internet
- Inexperienced with investing

customer needs

- Simplicity and ease-of-use
- Guidance
- Learning tools
- Planning tools
- Help moving from big picture to specific actions
- Proactive communication
- Service
- Validation of decisions

Scenario	Needs	Feature	Behavior
<i>Sandy wants to learn enough about investing to understand how to pick the right stocks, and how to decide when to buy and when to sell. She is particularly interested in socially responsible stocks. She picks up a book called "Investing for Dummies," and visits the Motley Fool website after hearing about it on the radio.</i>	<ul style="list-style-type: none"> • Education • Guidance 	<ul style="list-style-type: none"> • Monthly Newsletter • Market Hilties 	<i>Sandy goes to her MySchwab page and sees that the Monthly Newsletter provides xx.</i>
<i>Based on her research, Sandy decides to invest part of her money in index funds, and use the rest to buy individual stocks. She'll identify a few stable, well-established and socially responsible companies.</i>	<ul style="list-style-type: none"> • Guidance • Validation of decisions 	<ul style="list-style-type: none"> • Monthly Newsletter • Full Closing Bell 	<i>Sandy finishes the Retirement Planner and notices the Monthly newsletter. She applies.</i>
<i>Because Sandy has very little time to actively trade, her strategy is to monitor these companies' stocks and buy them when there is a dip in prices. She plans to watch them over time, but hold onto them for the long term.</i>	<ul style="list-style-type: none"> • Guidance • Validation of decisions 	<ul style="list-style-type: none"> • Price • Volume • Early Closing Bell 	<i>Sandy adds these stocks to her Watch lists. While on this page, she realizes that she can sign up for Price and Volume Alerts so she won't have to manually monitor these stocks.</i>

After placing a trade, Sandy notices that she can receive an Early Closing Bell. She can just take a glance over that once during the day to check out the unofficial prices.

02.04.00

52

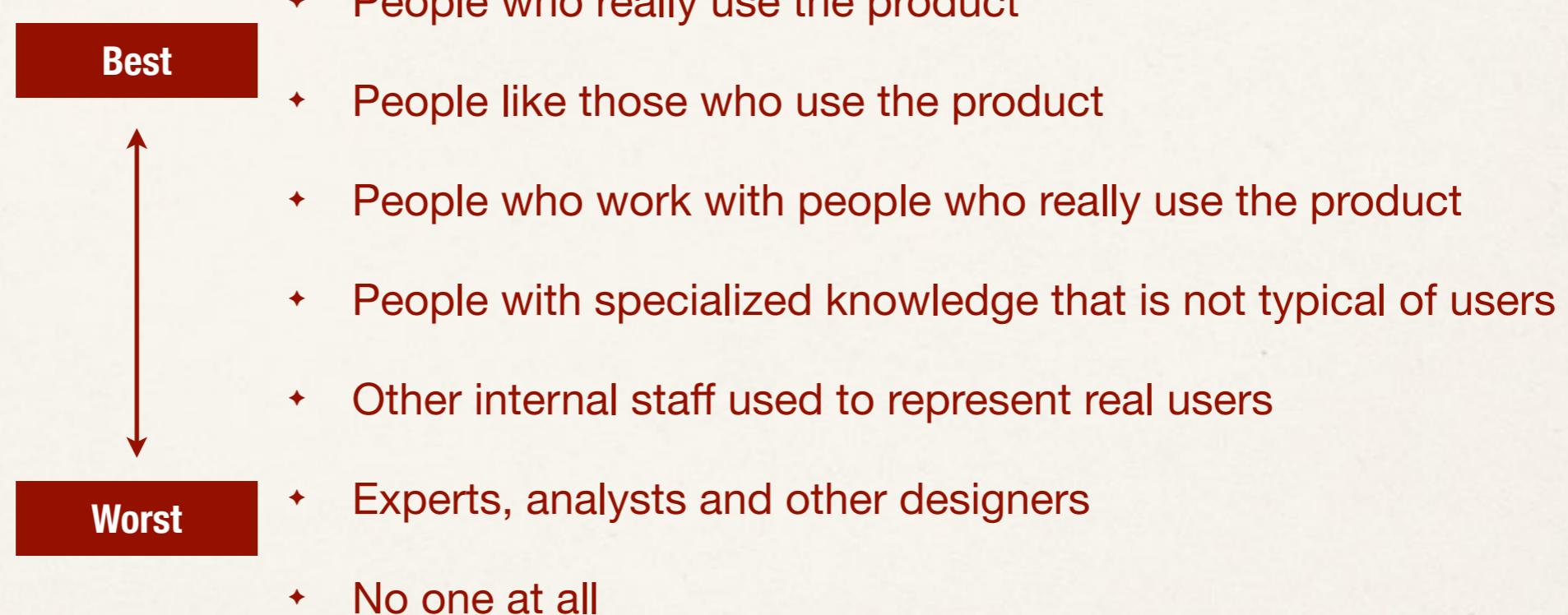
Persona의 구성 요소

Personal characteristics	Goals and tasks
Demographics <ul style="list-style-type: none"><input type="checkbox"/> Age, sex<input type="checkbox"/> Education level<input type="checkbox"/> Income<input type="checkbox"/> Family	What <ul style="list-style-type: none"><input type="checkbox"/> Most frequent tasks; most difficult; easiest<input type="checkbox"/> Order and relationships<input type="checkbox"/> Degree of freedom to choose tasks, and to work within a task
Personal goals <ul style="list-style-type: none"><input type="checkbox"/> Career or life goals<input type="checkbox"/> Hobbies or leisure activities	Where <ul style="list-style-type: none"><input type="checkbox"/> Where, and in how many different places, do they use the product
Job information or domain knowledge <ul style="list-style-type: none"><input type="checkbox"/> Current position, previous positions or roles<input type="checkbox"/> Number of years in position, with company, in industry<input type="checkbox"/> Level of knowledge	With whom <ul style="list-style-type: none"><input type="checkbox"/> People they work with<input type="checkbox"/> Information needed from, or given to, others
Web or technology experience <ul style="list-style-type: none"><input type="checkbox"/> Level of comfort<input type="checkbox"/> Similar products/sites used<input type="checkbox"/> When, where and how	When and why <ul style="list-style-type: none"><input type="checkbox"/> How often and under what circumstances<input type="checkbox"/> Frequency and duration of use<input type="checkbox"/> What triggers the use<input type="checkbox"/> How do they describe "success" at their tasks?
Attitudes and needs Information needs <ul style="list-style-type: none"><input type="checkbox"/> Favorite ways to learn or teach<input type="checkbox"/> Preferences for ways to get info or help	Motivations Influencers or advisors <ul style="list-style-type: none"><input type="checkbox"/> Collaborators or interferers<input type="checkbox"/> People who influence actions or give advice
Attitudes <ul style="list-style-type: none"><input type="checkbox"/> Patience and tolerance for problems<input type="checkbox"/> Proficiency or comfort with similar tools or experiences<input type="checkbox"/> Trust in company or systems	Decision factors <ul style="list-style-type: none"><input type="checkbox"/> Details of the context or reasons for actions
	Barriers <ul style="list-style-type: none"><input type="checkbox"/> What makes them change their plans?<input type="checkbox"/> Dislikes or pet peeves<input type="checkbox"/> Level of tolerance for efficiency, effectiveness, ease of learning
	Expectations <ul style="list-style-type: none"><input type="checkbox"/> How do they describe "success"?

- ◆ 개인정보
 - ◆ 이름(별명), 사진, 나이, 직업, 학력 등
- ◆ 목표와 동기
 - ◆ 인물의 개인적, 경험적, 최종적 목표
- ◆ 속성과 필요 (인물에 대한 정보)
 - ◆ 인물과 상황에 대한 백그라운드 설명
- ◆ 인용구/슬로건
- ◆ 시나리오
 - ◆ 퍼소나가 제품/서비스를 사용하는 스토리

Persona를 구성하는 데이터

❖ 인터뷰를 통해 사용자에 대한 정보 얻기



Persona를 구성하는 데이터

- ❖ 인물정보 작성
 - ❖ 타겟 사용자그룹에 가장 적합한 인물정보 추려내기
 - ❖ 사람들의 공통적인 속성 모으기
- ❖ 퍼소나의 목표 정하기
 - ❖ 사람들의 목표를 제품/서비스를 사용하는 경험적, 단장기적으로 나눔
- ❖ 시나리오 작성
 - ❖ 퍼소나의 속성과 목표가 가장 잘 드러나도록 상황을 정리

Persona, Properties

Frequency of persona characteristics across 31 sample personas		
Basic Details		
Name	90%	
Photograph/Illustration	71%	
Tag Line ("essence" title)	39%	
User Classification/Segment	32%	
Personal Information		
Age	84%	
Fears/Obstacles	75%	
Motivations/Aspirations/Goals	67%	
City/State/Country	61%	
Marital/Family Status	55%	
Hobbies/Leisure/Social Life	55%	
Educational Background	45%	
Description of Environment/Home	42%	
Other Personal? Responses: books, Current state of mind for disability claimants, knowledge of SSA programs, context of use, i.e., working at home, in short sessions, using library or neighbors, computer, daily life style, symptoms, disabling condition, description of family, gender, relationships with others and their descriptions (e.g., brother)	42%	
Personality Traits	32%	
Car/Significant Personal Artifacts	23%	
Email Address	13%	
Social/Political Opinions	10%	
Physical Description of person	10%	
Other		
Relationship to your product/Attitudes and Opinions towards your product	83%	
Market Size, Spending/Buying & Influence (indicator of the importance/priority of your persona)	50%	
Scenario(s)/Walk-throughs with your product or features of your product	45%	
International Considerations	33%	
Supporting Research/References	28%	
Accessibility/Disability Considerations	25%	
Other? Responses: Type of persona. We identify who's primary, secondary, and anti, how designing for one persona can influence/serve other audiences.	17%	
Job/Work Information		
Typical Activities	92%	
Job Title	84%	
Goals	81%	
Job Description/Responsibilities	74%	
Company/Industry	65%	
Challenge Areas/Breakdowns	61%	
Interaction with Colleagues	61%	
Work Style	61%	
Typical Workday/Timeline of Day	58%	
Core Competencies/Skills	58%	
Professional Motivation	55%	
Quote(s) about work	52%	
Previous Work History/Experience	45%	
Workplace Description/Artifacts	32%	
Opinion of Company	29%	
Workspace Photo/Sketch	19%	
Salary	10%	
Other work related? Responses: Geographic area, traffic and workload in field office, type of clientele they service, whether they are a specialist or a generalist	3%	
Technology Access and Usage		
Computer/Internet Use	58%	
Applications/Languages Used	58%	
Technology Opinions/Attitudes	68%	
Hardware Spec/Equipment & Technologies Used	45%	
ISP/Connection Speed	83%	
Other Technology Related? Responses: Tools used in their job, domain expertise, time of day using internet, competitive products: used and why, types of gadgets used and why/how	50%	

Persona, Properties

- ♦ 퍼소나의 3단계 목표(Goal)

- ♦ 경험 목표 (Experience Goal)

퍼소나가 제품을 사용하며 받고 싶어하는 느낌에 대해 설명. 제품의 외관과 조작에 대한 본능적인(Visceral) 이해를 바탕으로함. UX 디자이너는 경험 목표를 폼, 모션, 사운드, 이펙트, 이모션을 디자인으로 옮겨오는 것으로 잡고, 무드보드 등의 툴을 사용해볼 수 있다.

- ♦ 최종 목표 (End Goal)

퍼소나가 (제품을 통해) 이루고 싶은 목표를 정의한다. 제품의 인터랙션 디자인, 인포메이션 아키텍쳐와 같은 기능적이고 반사적인(Reflective) 반응을 다룬다. UX 디자이너는 최종 목표를 제품의 동작, 태스크, look & feel으로 옮기며, 시나리오나 워크쓰루 등의 방법론을 사용할 수 있다.

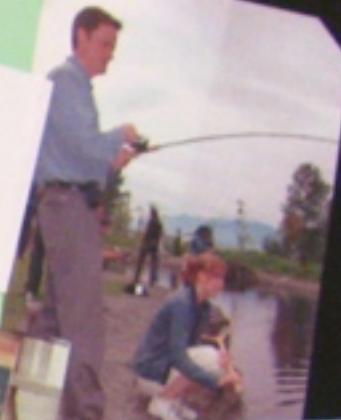
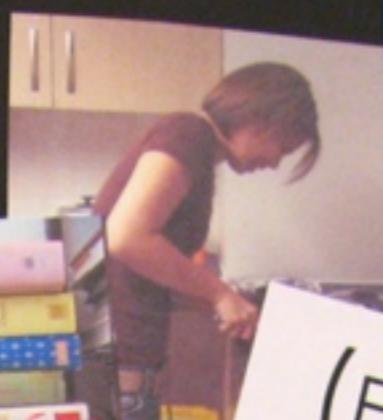
- ♦ 인생의 목표 (Life Goal)

사용자의 장기적인 목표와 동기, 자아성 등을 정의하며, 제품에 퍼소나가 감정적으로 연결되는 현상을 정의함. 제품의 전체적인 디자인과 브랜딩과 관련있으며, UX 디자이너는 인생의 목표를 브랜딩 전략등으로 연결해 나가야함.

Persona Template

사진	인용구 “ ... ”
개인정보 (이름, 나이, 학력 등)	백그라운드 설명 (Context, Pain points 등)
인물의 속성 (Attributes, Behavior)	인물의 목표 (경험적 목표, 최종 목표)
	시나리오

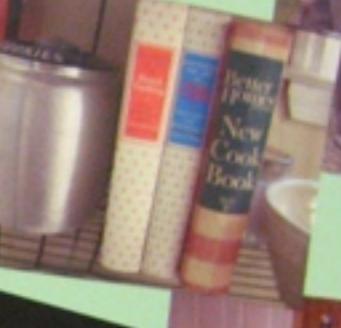
PERSONA



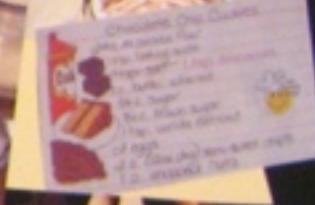
(IMPRESS)
be proud of accomplishments



(EXPLORE)
learn new things



ENJOY LIFE



(SOCIAL)
entertain others



(EASY)
keep it simple



INGREDIENTS LIST
1 pound salami
1 pound ground pepperoni
16 oz. mozzarella or other sharp
cheese (2 pounds)
1 cup fresh basil, torn
1/2 teaspoon dried
oregano
1/2 cup olive oil
1/2 cup balsamic vinegar
1/2 cup red wine
1/2 cup white wine



Sarah is a 30 year old teacher who lives in Seattle. She's unmarried by in a long-term relationship of two years. She meets about once per month to cook with her friends to share stories, play games, and explore new foods. Before they get together, Sarah and her friends usually pick a theme for the food at the next party.

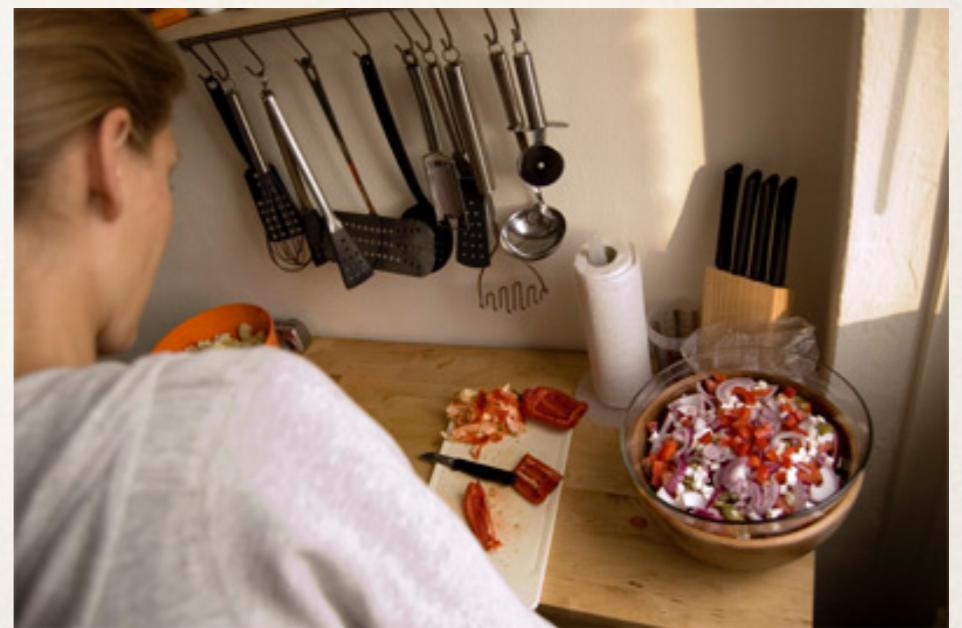
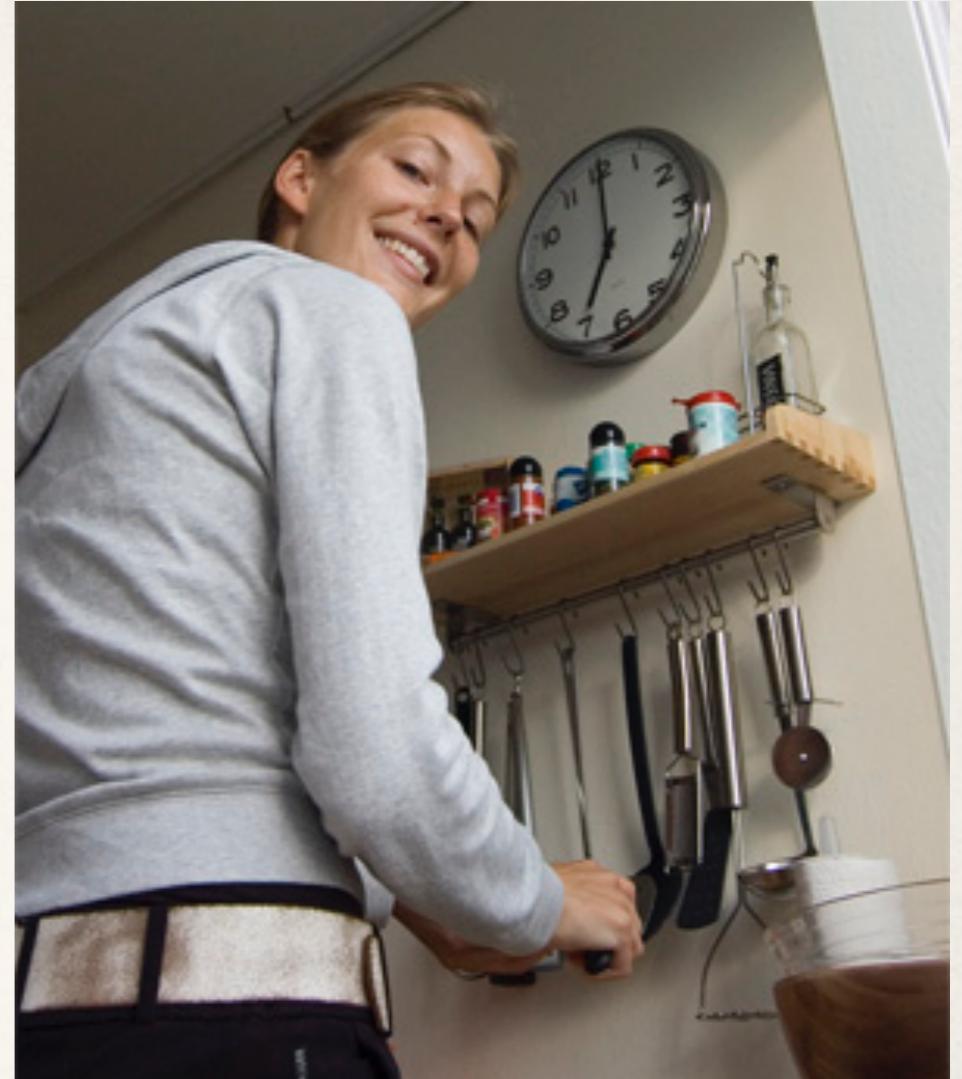
End Goals

Sarah's end goals for cooking in a social context are to:

- Experiment with new foods
- Make cooking fun
- Share recipe ideas with others
- Impress others with her cooking and creativity

Life Goals

Sarah's long-term life goals are to grow her friendships, share stories and help other learn. This last goal applies to her career as a teacher but also indicates her approach to cooking and her friendships.



Persona의 활용



RealEstateCentral.com

Francis comes to the site to:
• Learn about the home buying process
• Find out what they can afford
• Discover what areas are desirable
• Find a house matching their criteria
• Find the best mortgage lender
• Find the best homeowners insurance

VITAL STATISTICS

- Job: Registered nurse
- Location: Atlanta, GA
- Age: 33
- Current home: Apartment
- Purchase timeframe: 3-6 months
- Real estate knowledge: Low

Francis and husband Michael have dreamed of owning a home for years, but she has no idea where to start. She has ideas about what they want, and knows she has a lot to learn about the home-buying process.

FRANCIS
the First-Time Home Buyer
"I just don't know where to start!"

Low knowledge, intimidated

Customer Journey Maps

Customer Journey Maps

- ❖ 서비스 사용자의 경험을 생생하고 체계적으로 시각화하는 방법
- ❖ 일반적으로 사용자의 “여정”은 사용자가 서비스와 상호작용하는 터치포인트를 중심으로 구성된다.
 - ❖ 여정: 경험을 바탕으로하는 경로
 - ❖ Customer Journey Maps 에서는 사용자가 서비스와 상호작용하면서 느끼는 감정을 이해하기 쉬운 방식으로 표현

Customer Journey Maps 만들기

- ◆ 터치포인트의 발견
 - ◆ 실제 대면하는 사람에서부터 웹사이트 등을 통한 가상의 인터랙션, 핸드헬드 디바이스나 실제 매장에서의 물리적 체험에 이르기까지 다양한 형태로 존재
 - ◆ 사용자에 대한 통찰을 바탕으로 터치포인트 정의
 - ◆ 인터뷰를 통해 여정을 확인하거나 사용자에게 직접 기록하게 할 수도 있다

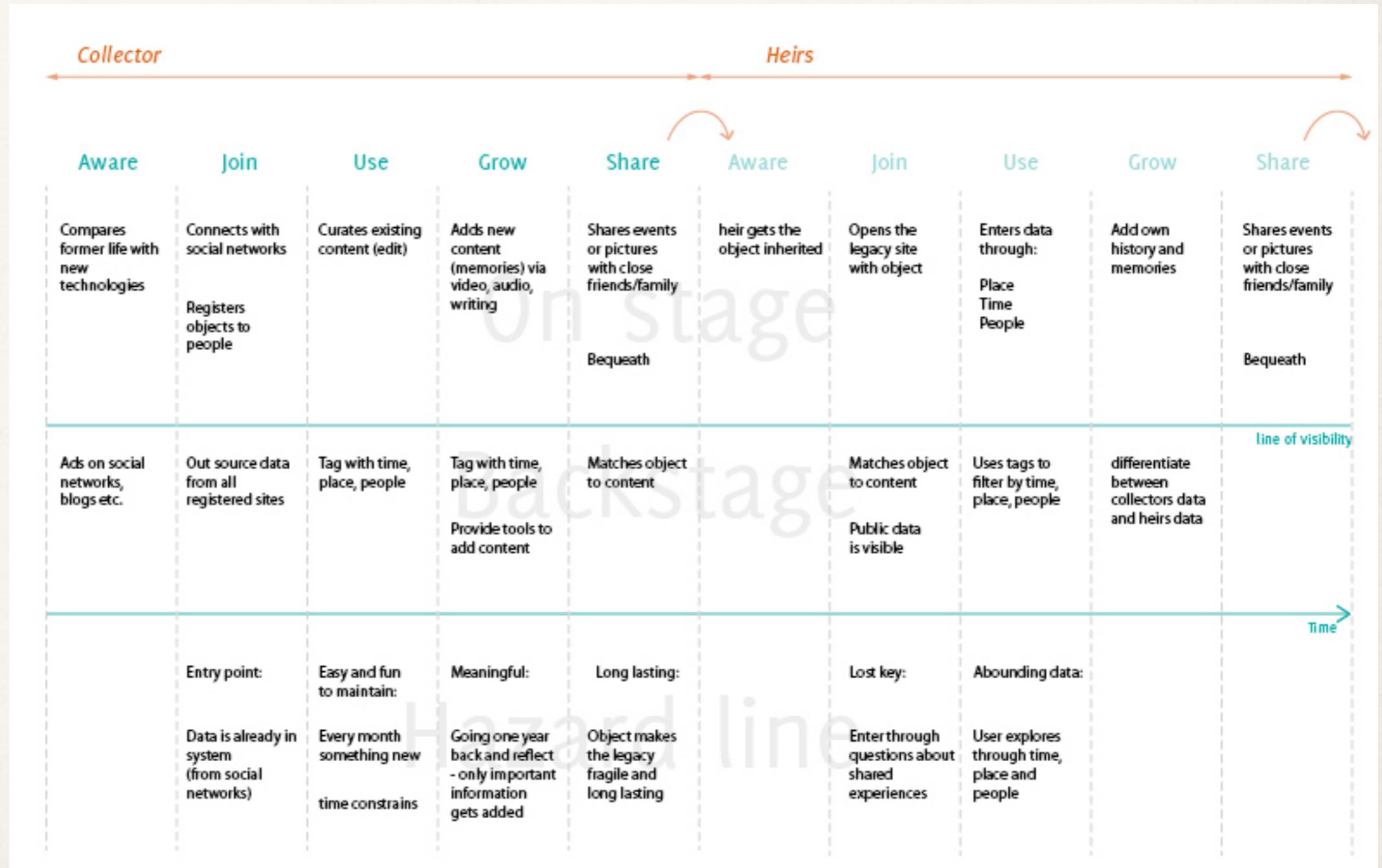
Customer Journey Maps 만들기

- ♦ 터치포인트를 찾아내면 이들을 연결해 전체적인 서비스 경험을 시각화
- ♦ persona 를 활용한다면 여정에 있는 고객이 “누군가”가 아닌 “공감할 수 있는 존재”로 만들 수 있다
- ♦ 사용자가 직접 기록한 자료를 바탕으로 만든 지도는 여정에서 느껴지는 수많은 감정을 전달

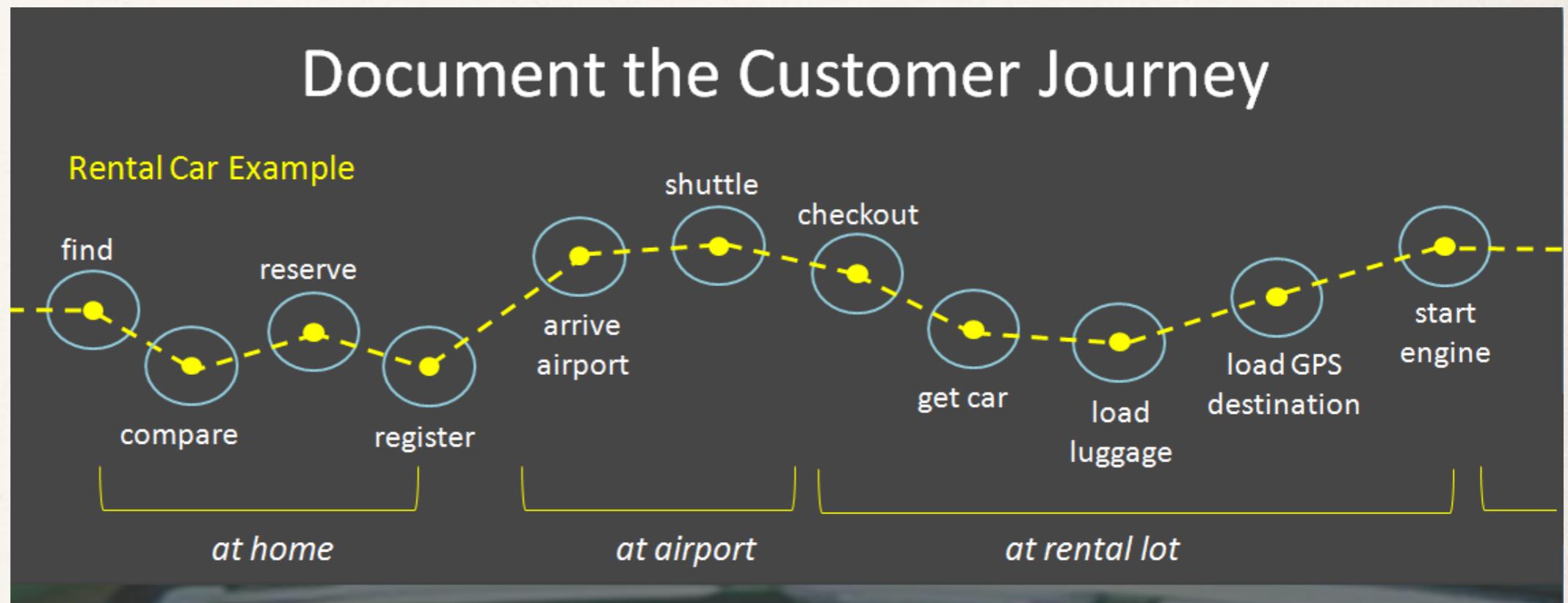
Why Customer Journey Maps?

- ♦ 사용자 관점에서 사용자 경험에 영향을 끼치는 요인에 대해 수준 높은 이해를 제공
- ♦ 사용자에 대한 통찰을 바탕으로 공식적인 터치포인트는 물론 비공식적인 터치포인트까지 모두 도식화 가능
- ♦ 문제점을 발견할 수 있을 뿐 아니라, 혁신의 기회를 발견하고 특정 터치포인트에 집중할 수 있게 해준다
- ♦ 전체 서비스 경험을 단계별로 보다 깊게 분석할 수 있다

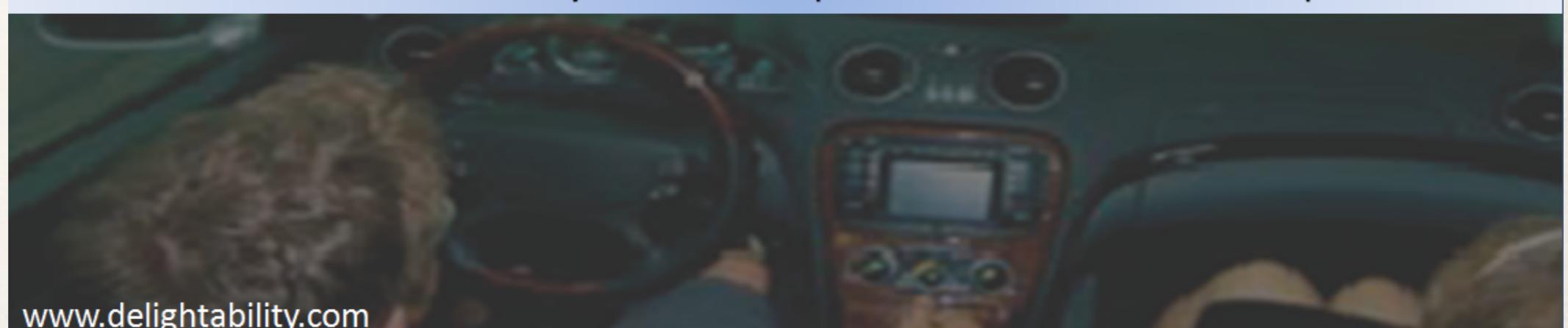
Customer Journey Map Examples



Customer Journey Map Examples



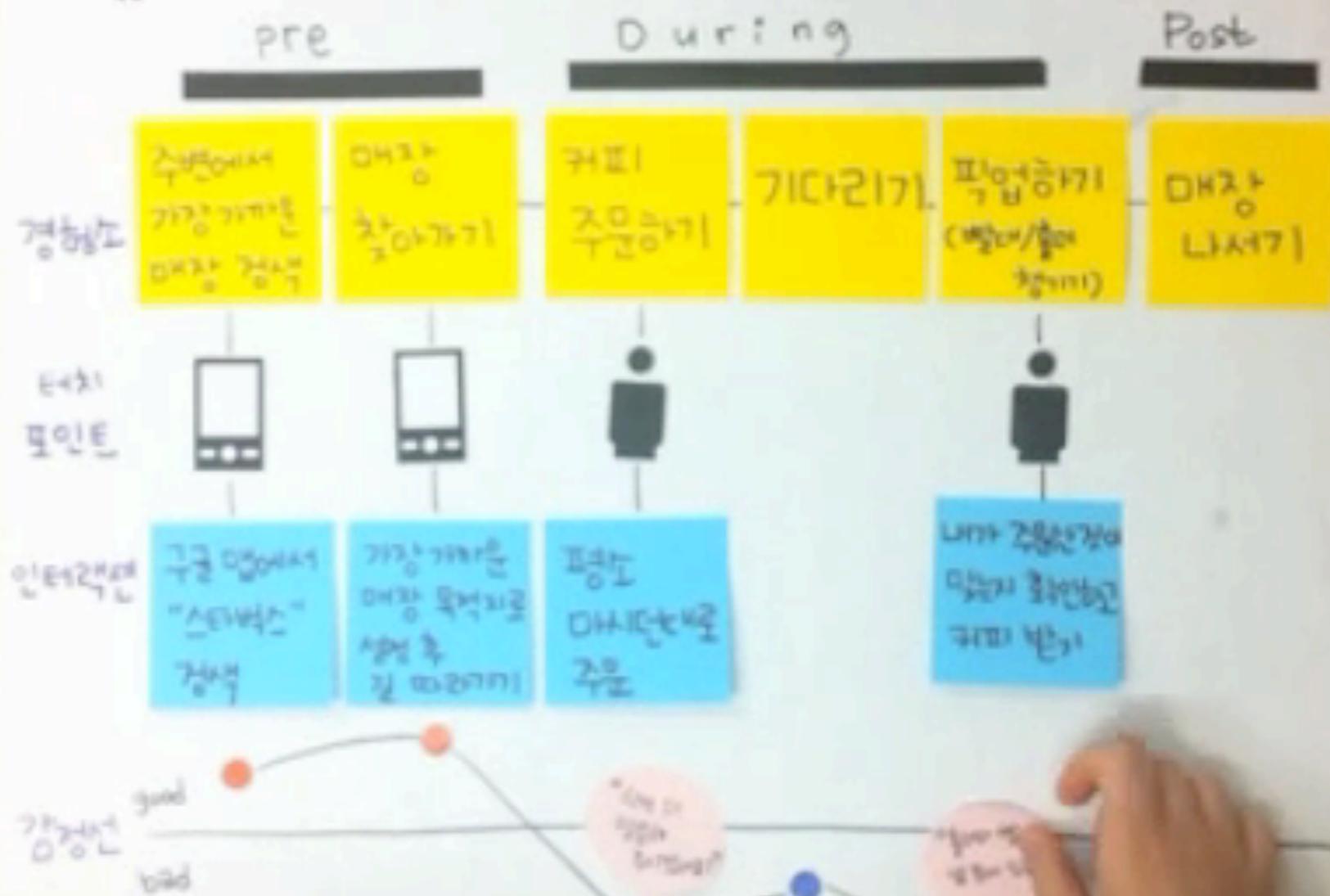
Customer Service is only one small part of the Customer Experience



www.delightability.com

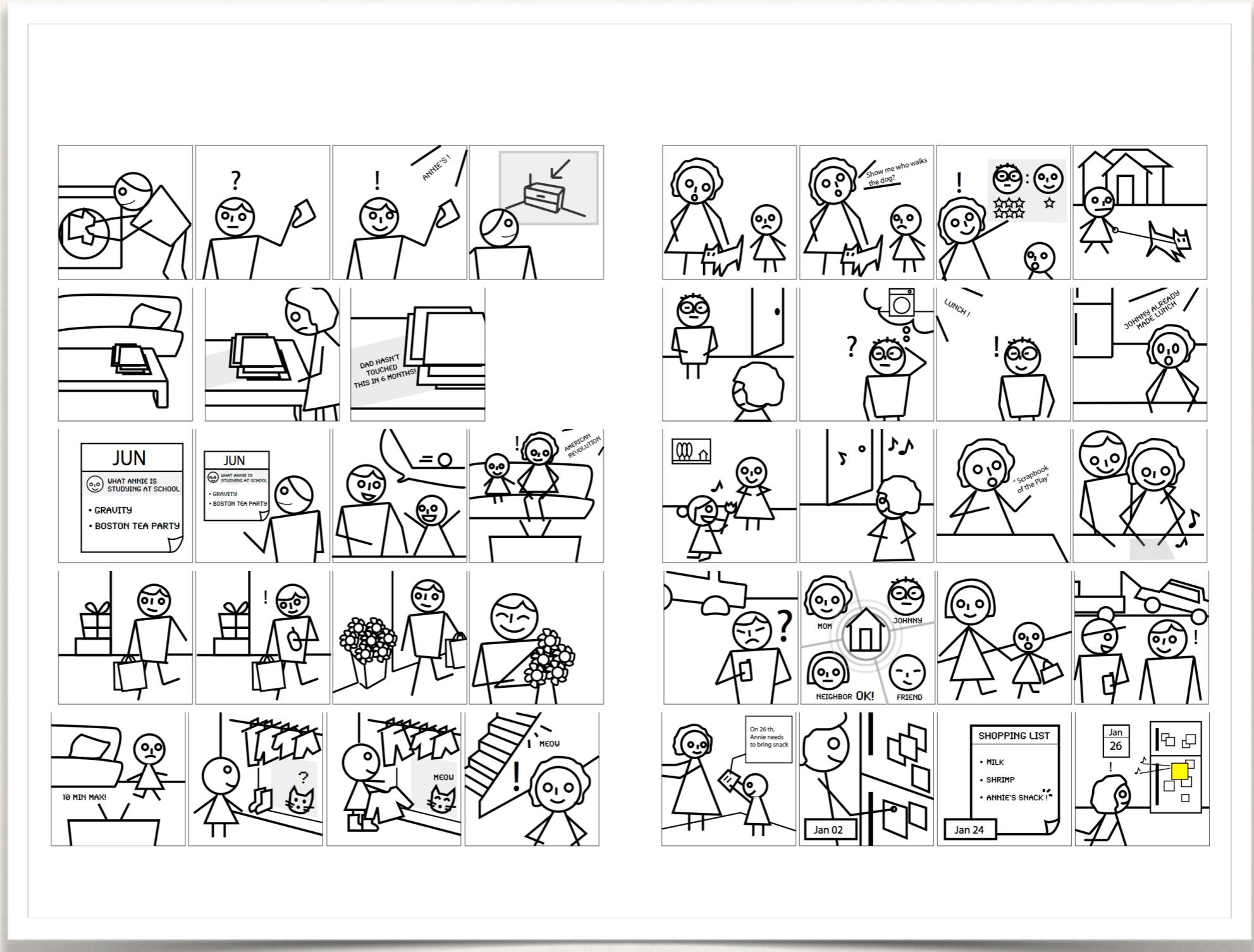


‘호비진’이의 커피사토기 EJM



Design Scenarios

Concept Validation



Design Scenarios

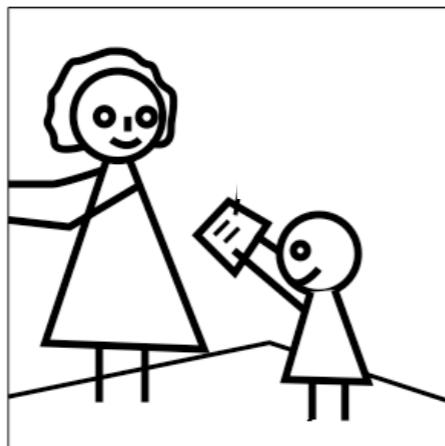
- ◆ 디자인 시나리오는 서비스의 특정 측면을 조사하기 위해 상세한 정보가 더해진 가설
- ◆ 만드는 방법
 - ◆ 글이나 스토리보드, 영상 등으로 제작.
 - ◆ 사용자 조사를 통해 수집한 자료들은 시나리오를 뒷받침하는 그럴듯한 상황을 만드는데 사용.
 - ◆ 상황을 좀 더 현실적으로 만들기 위해서는 시나리오에 persona를 포함하여 명확하게 정의된 캐릭터를 중심으로 특정 상황을 만든다.

Design Scenarios

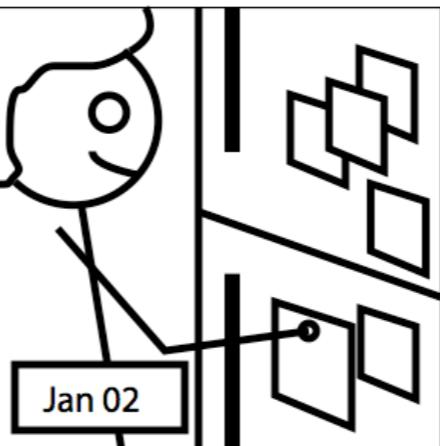
- ◆ 시나리오를 사용하는 이유
 - ◆ 시나리오는 어떤 단계에서나 사용 가능.
 - ◆ 현재 서비스가 지닌 문제들에 대한 해결책 제시.
 - ◆ 새로운 서비스 아이디어가 직면할 잠재적 문제점 파악 가능.
 - ◆ 전체 워크플로어 대한 시각적인 이해 도출.
 - ◆ 팀 내의 다양한 이해관계자를 참여하게 하여 그룹별로 시나리오를 도출하게 하면 보다 명확한 이해를 만들어 낼 수 있다.
 - ◆ 팀 간의 이해 도모를 통해 구성원 간의 원활한 커뮤니케이션.
 - ◆ 공통되고 공유되는 다양한 지식 구축.

Design Scenarios 예

Snack day at school



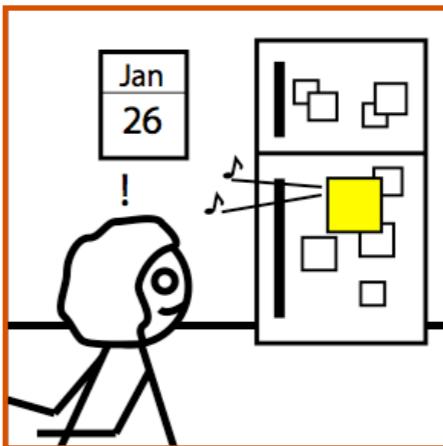
Annie brings home a note from school. It's her turn to bring in snack on the 26th



Today is the 2nd and Mom doesn't want to forget. She puts a note on the fridge, but it gets lost in a sea of notes



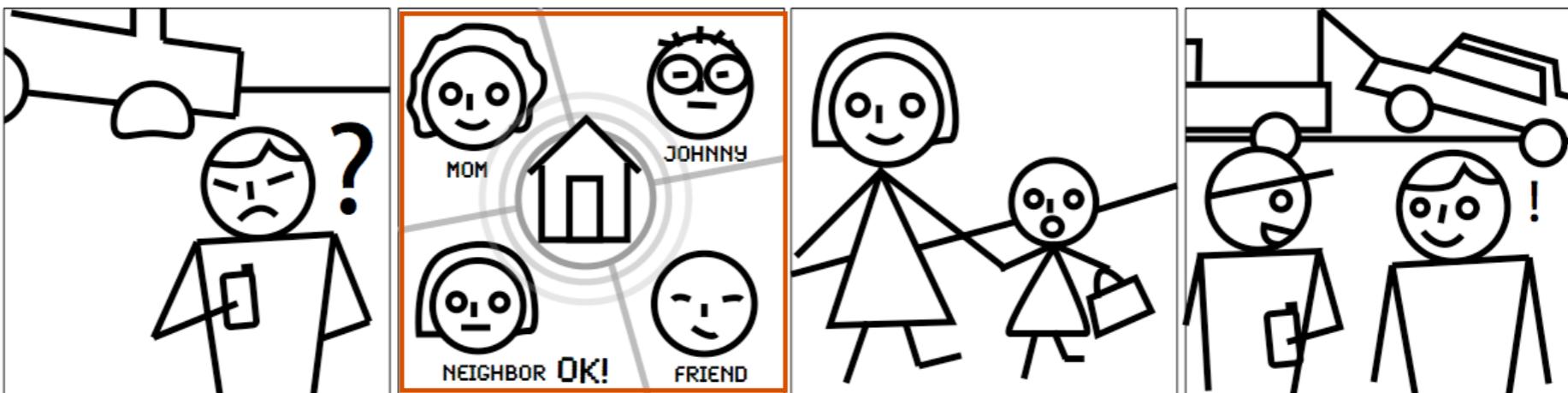
On the 24th, the smart home adds Annie's snacks to Mom's shopping list



The smart home rings a reminder sound as Mom walks past the fridge on the 26th. She sees her note and remembers Annie's cookies

Design Scenarios 예

Dad's in trouble



"I feel so helpless."

The smart home senses
that Dad's going to miss
Annie, and pings people he
can count on in a pinch

The neighbor's not far from
Annie. She agrees to get
her.

Workshop: Persona & Scenario

♦ Persona & Scenario Workshop

- ♦ 팀별로 persona 를 2~3개 정도 만들기 (과제)
- ♦ 만든 persona의 task를 고려하여 scenario 개발
- ♦ 다음 시간 수업 중 발표:
 - ♦ persona 한개와 해당되는 시나리오를 발표 (팀별로 5분)
- ♦ 과제 제출: 5/3에 보고서 제출 (다음 시간에 팀별로 퍼소나 하나 발표)
 - ♦ persona & 시나리오 2~3개
- ♦ 샘플
 - ♦ <https://www.usability.gov/how-to-and-tools/methods/personas.html>
 - ♦ http://hcid.snu.ac.kr/~joonhwan/courses/hciu2018/persona_example.pdf

Reading Assignment

- Chapter 9: The Process of Interaction Design
- Chapter 10: Establishing User Requirements
- Chapter 11: Design, Prototyping and Construction

Questions...?
