

Design Process

1 Understand the Problem Study the users, tasks and context

2 Generate possible solutions Sketch, storyboard, wireframe

3 Analyze & Select Apply UX criteria / heuristics

4 Embody solutions Build prototype

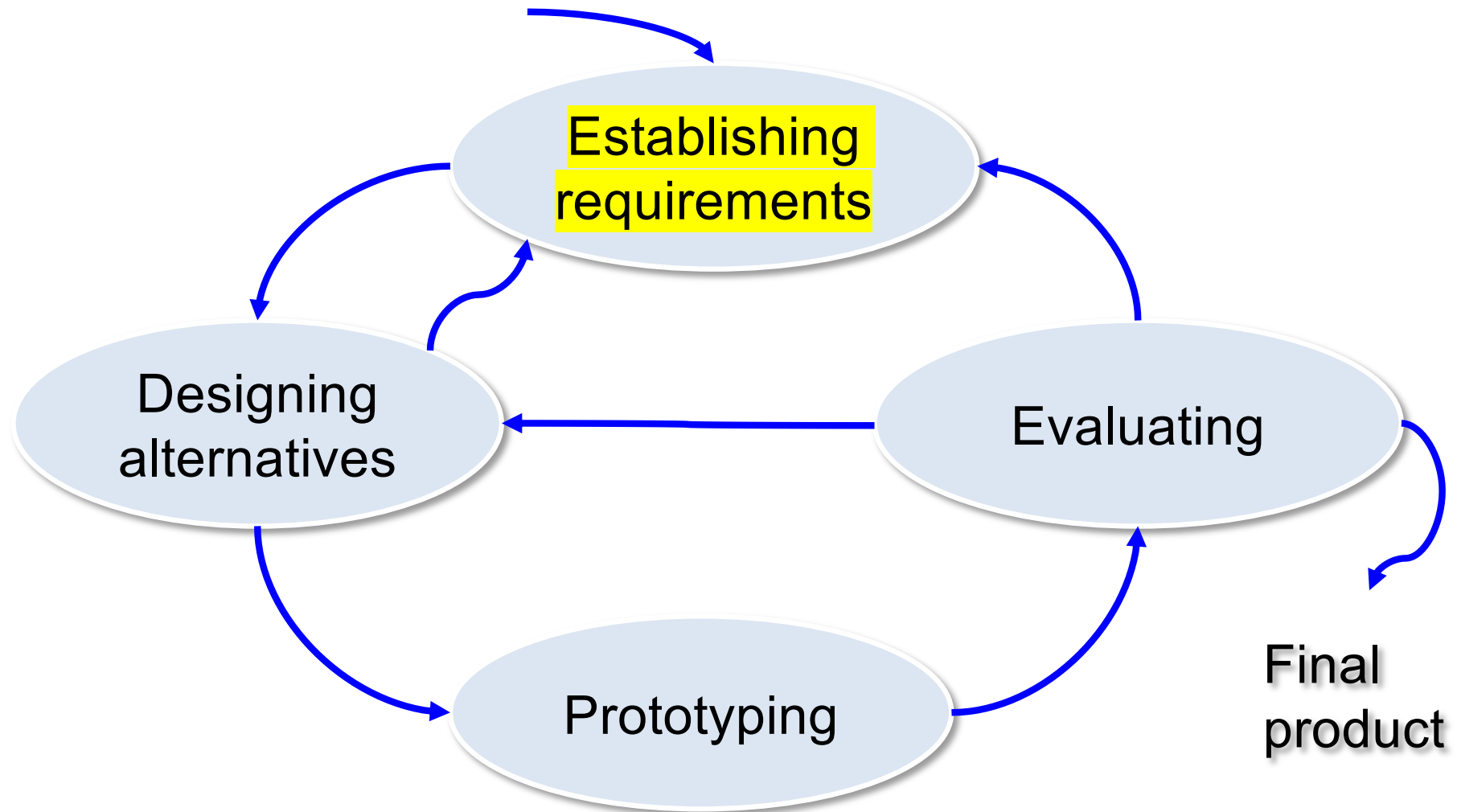
5 Assess (find new problems) Apply UX research methods



Establishing Requirement



A simple interaction design lifecycle model



Overview

- The importance of requirements
- Different types of requirements
- Data gathering for requirements
- **Bringing requirements to life**
 - **Personas**
 - Scenarios / Customer Journey Maps
- Capturing interaction with user cases

Persona

User Case

What, how and why?

- What is the purpose of the requirements activity?
 - Explore the problem space
 - **Establish a description of what will be developed**
- How to capture requirements once discovered
 - In **prototypes** or operational product
 - Through structured or rigorous notations
 - Different capturing mechanisms emphasize and de-emphasize different aspects

What are requirements?

A statement about an intended product that specifies what it is expected to do and/or how it will perform

- Different forms and different levels of abstraction
 - **User stories** (most prevalent in agile development contexts)
 - **Format:**
As a <role>, I want <behavior> so that <benefit>
 - **Example user stories for a travel organizer might be:**
As a <traveler>, I want <to save my favorite airline for all my flights> so that <I will be able to collect air miles>
As a <travel agent>, I want <my special discount rates to be displayed to me> so that <I can offer my clients competitive rates>

Establishing Requirement

Requirements

A statement about an **intended product** that specifies **what** it should do or **how** it should perform.

Functional Requirement

What the system should do

Non-functional Requirement

What constraints there are on the system and its development

Establishing Requirements (for your design)

- **Functional Requirements**
 - What the product should do
- **Data Requirements**
 - Type, volatility, size/amount, persistence, accuracy and value of the required data
- **Environmental requirements** (Context of use)
 - Physical environment
 - Social environment
 - Organizational environment
 - Technical environment
- **User characteristics**
 - The key attributes of the intended user group
 - *Persona*

Users — Who are they?

- **Characteristics:** nationality, educational background, attitude to computers
- **System use:** novice, expert, casual, frequent
 - Novice:** prompted, constrained, clear
 - Expert:** flexibility, access/power
 - Frequent:** shortcuts
 - Casual/infrequent:** clear menu paths
- User profile

Persona

- Capture a set of user characteristics
 - User skills, attitudes, tasks and environment
- **NOT real people**, Synthesized from real people based on user research
- **Should NOT be idealised**, be **Realistic**
- Bring them to life with a name, characteristics, goals, personal background
 - Relevant to product under development
- Develop a small set of multiple personas with one primary

Persona


Good persona helps designer with design decisions and reminds team about who will use the product



<https://spotify.design/article/the-story-of-spotify-personas>

Example Persona #2

Family traveler



Organised **Practical** **Expects high standard**

Goals

- To book comprehensive travel quickly
- To find a trip that meets the needs of the whole family
- To feel supported and guided from the beginning of the booking experience right to the end.

Frustrations

- Wasting time filling in forms
- Too much irrelevant information
- Existing systems tend to be too diverse and complicated

Bio

Will loves to take his family on adventure holidays to explore new challenges. His children, Sky (8) and Eamonn (15) are old enough to take part in several sporting activities and he wants to make the most of this before they no longer want to go on trips with him and his wife, Claire. He likes the fact that choosing travel options is so much easier than it used to be, but is frustrated by the many different sources and disjointed options that this can result in. He wants a travel organiser that can provide clear support for family holidays while offering as wide a choice as possible.


Motivation

Price

Comfort

Choice

Favourite destinations



"I want a travel organiser that will offer me a range of potential vacations that suit our needs"

Age: 35
Work: Plumber
Family: Married, two children

Personality

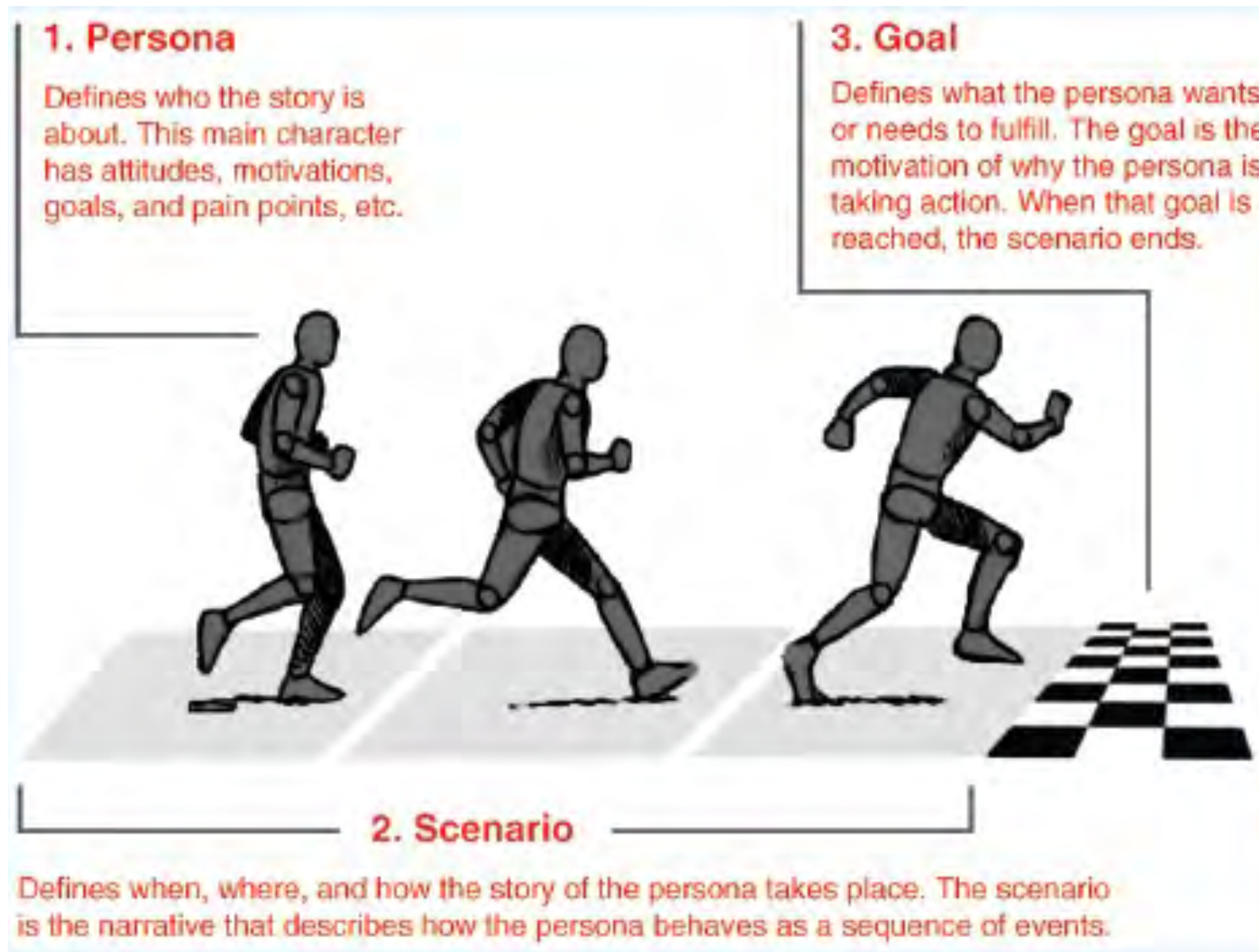
Introvert Extrovert

Thinking Feeling

Sensing Intuition

Developed using [Xtensio Templates](#)

Scenarios and personas



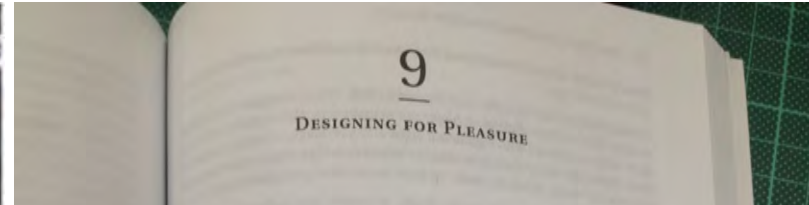
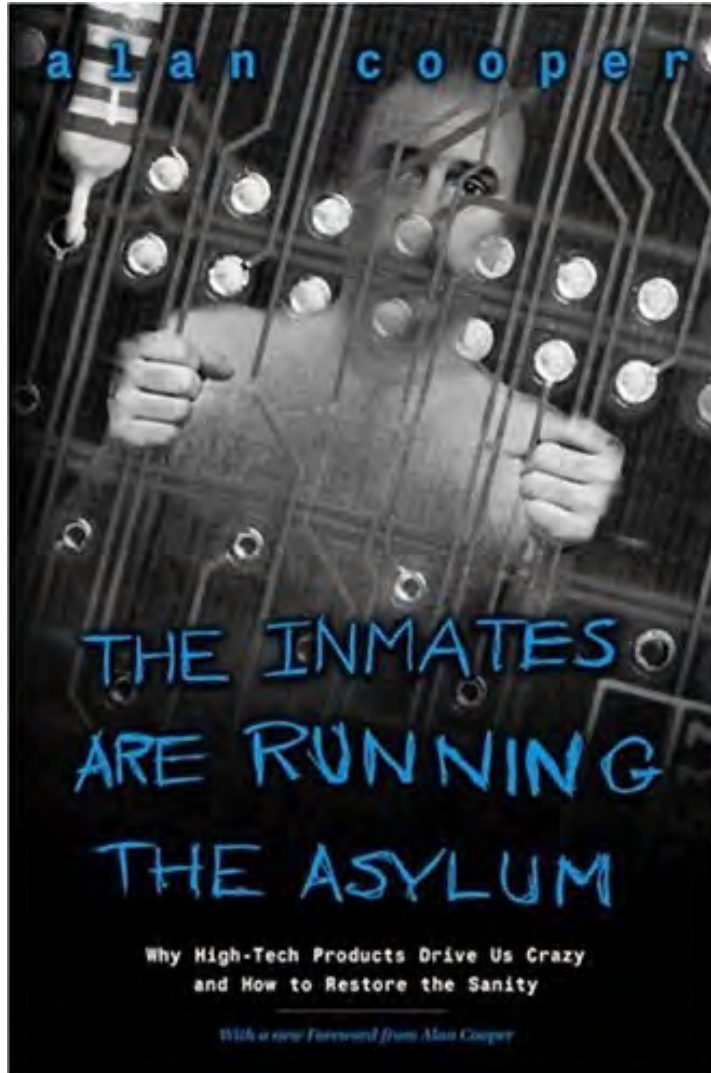
Persona 人物誌

- Originally introduced in the HCI field by Alan Cooper
- To create **hypothetical archetypes of real users** in order to avoid designing systems that supposedly fit everyone but in the end fit no one
- Personas are based on actual users, and represent them in the development project
- Personas should be precise and specific
- Personas are both a communication tool and a design aid

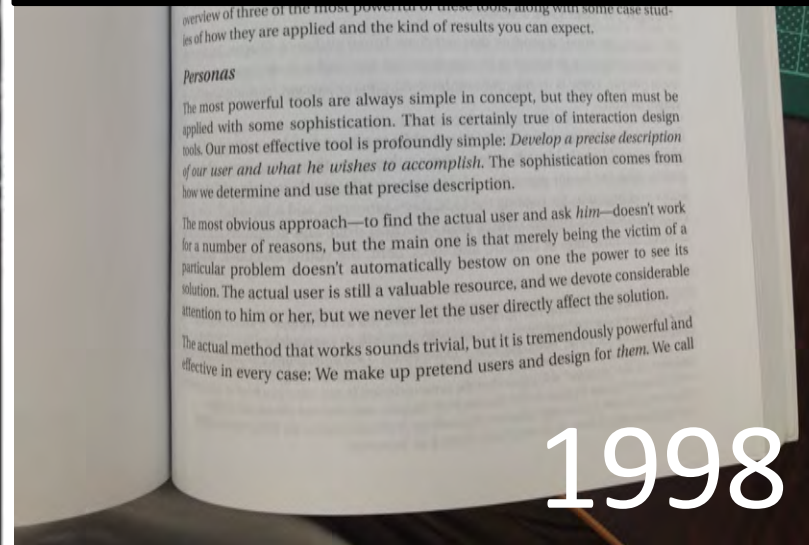
人 : Alan Cooper



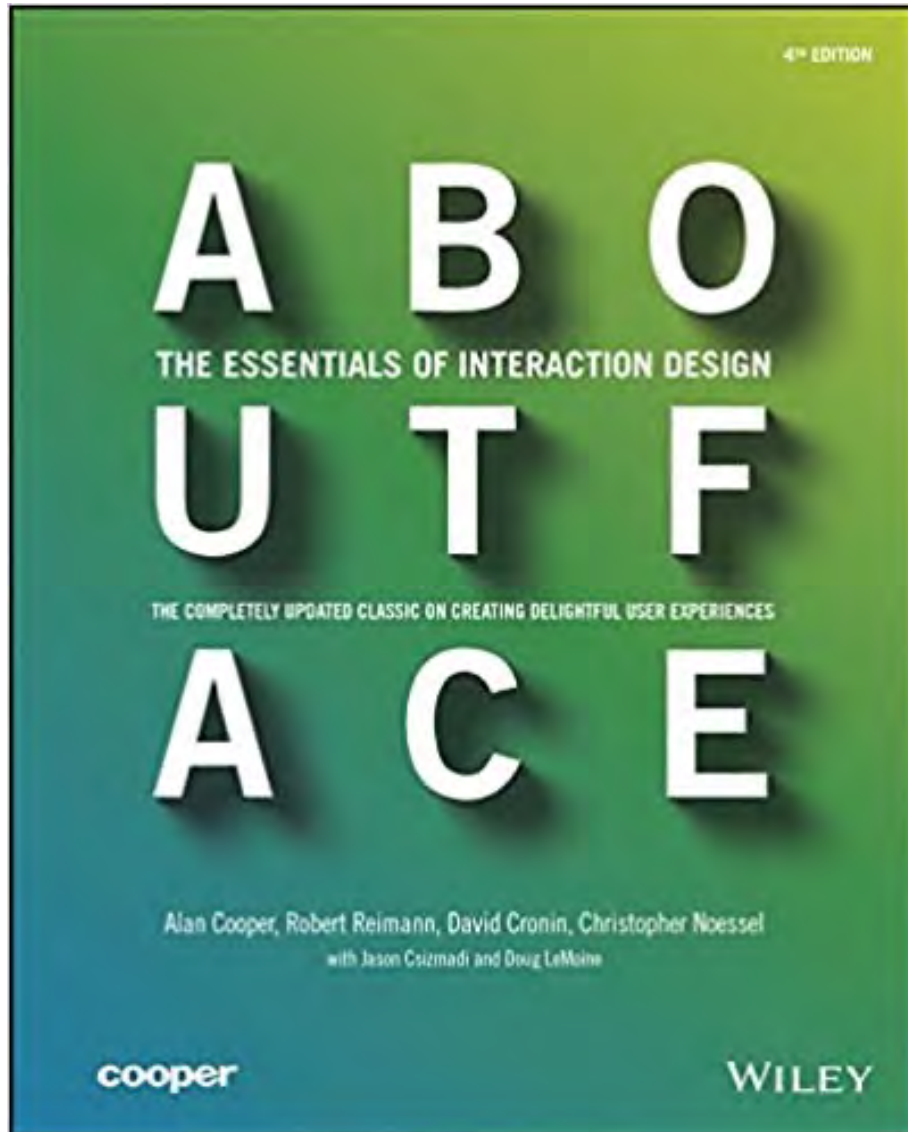
書：The Inmates are Running the Asylum



精神病人管理病院 / 互動設計之路
為什麼高科技產品讓我們發瘋 & 如何重回正常？

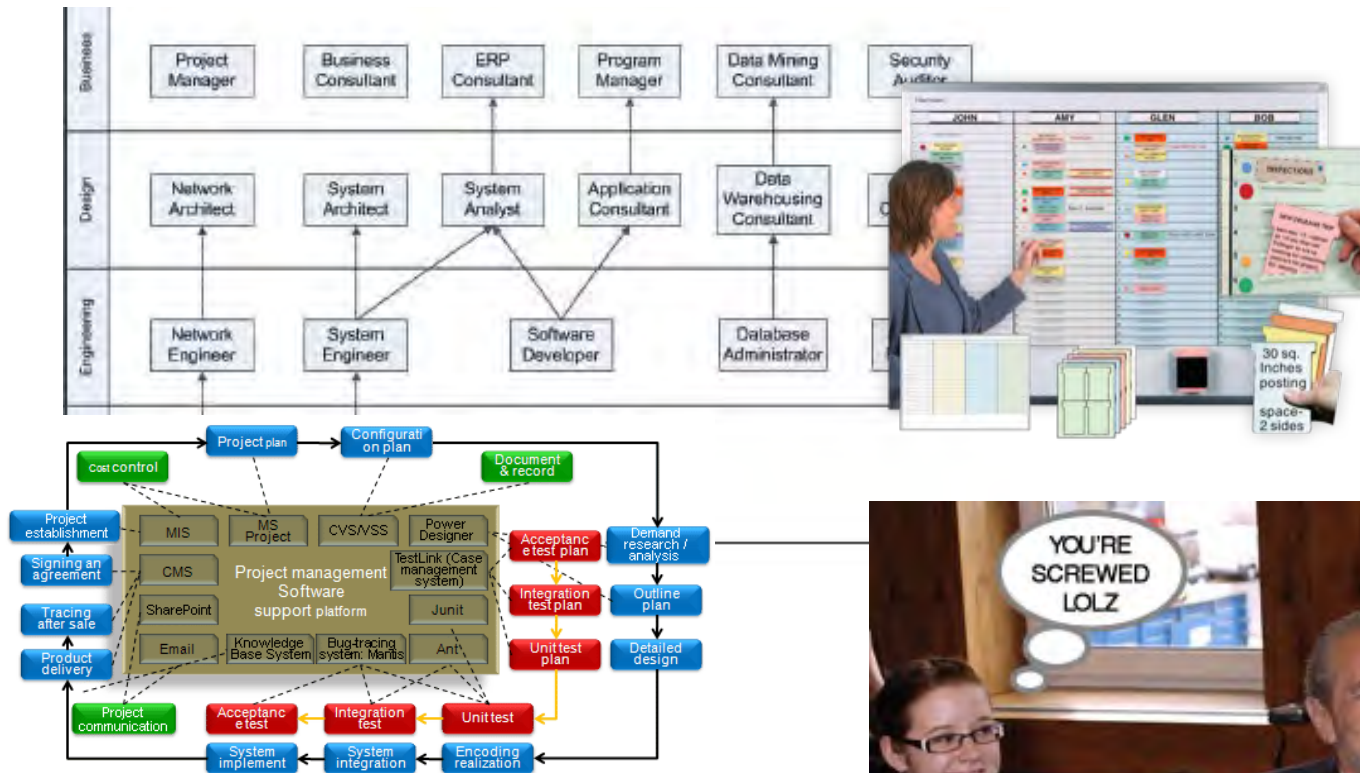


書 : About Face (2014)



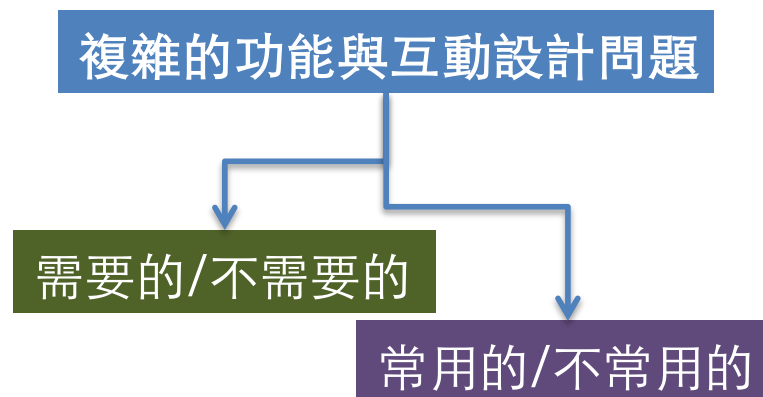
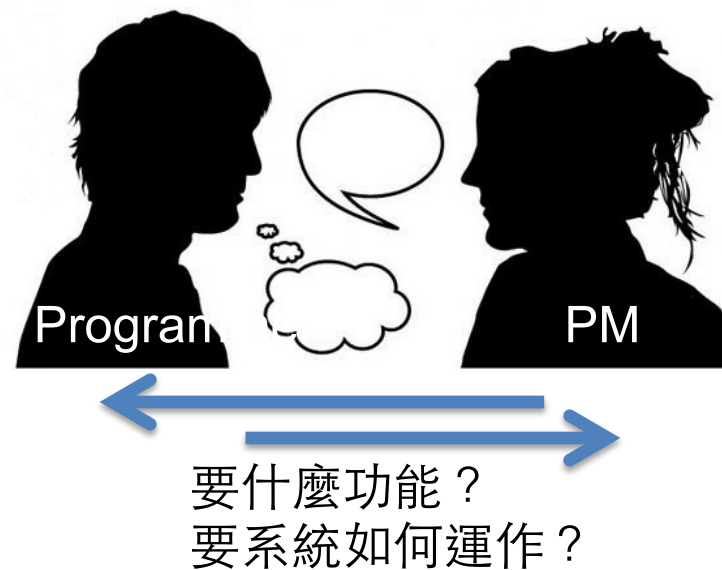
Cooper, A., Reimann, R., Cronlin, D., & Noessel, C. (2014). About Face: The Essentials of Interaction Design, 4th Edition. Wiley.

故事：Plan*It → SuperProject®

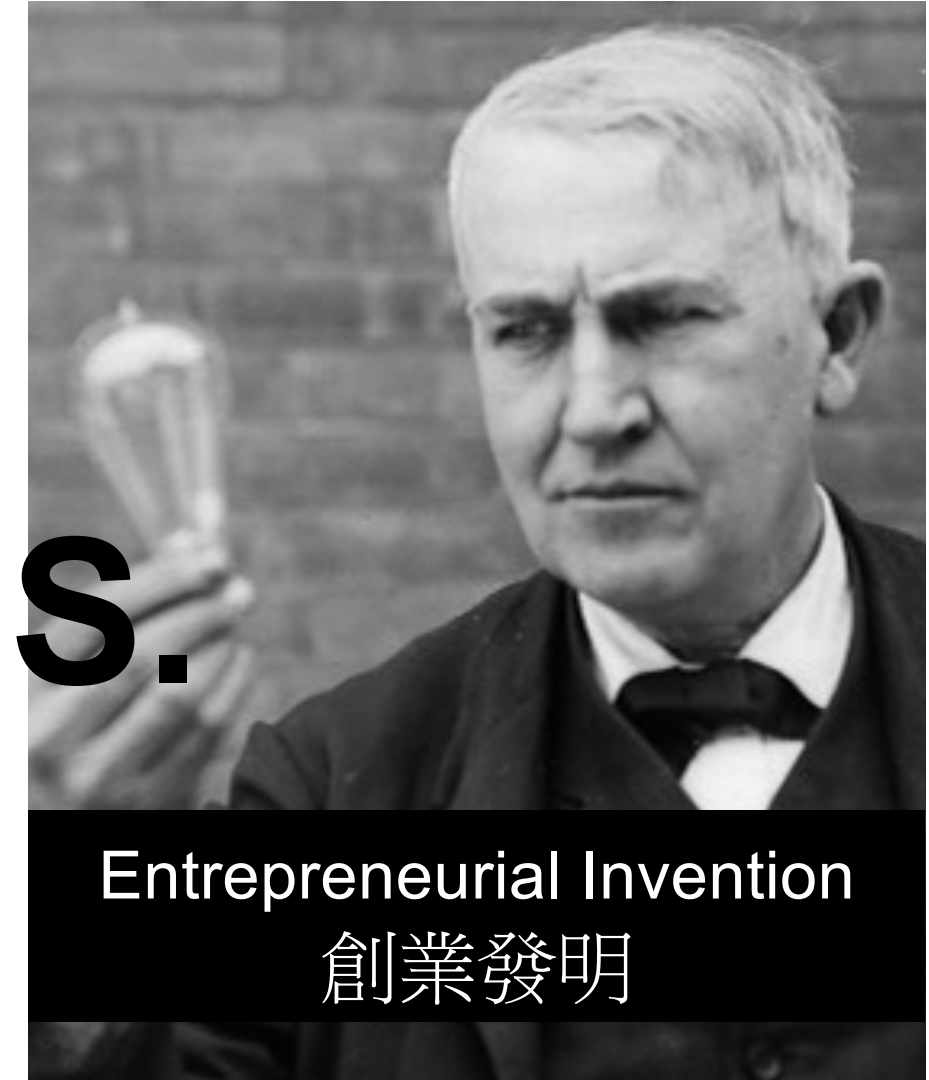


一開始訪談了7-8位專案管理系統的潛在使用者

和其中一位廣告公司流程經理長談



1990 純工程師→工程師顧問



V.S.

Goal-Directed Personas

Chuck



分析師，經常使用表單與報告範本

可以選擇並使用表單報告範本的介面

Cynthia



分析師，經常使用表單與報告範本。
但是也會建立自訂範本，還會分享給Chuck用。

設計與發佈範本的介面

Rob



資訊管理師，支援Chuck和Cynthia。可以修正Cynthia的自訂範本，可是不曾創造或是使用範本。

在不干擾使用者操作下，最佳化使用者範本的效能

Persona

Counter-Intuitive 反直覺

使用者通常不是工程師想的那樣

Counter-Logical 反邏輯

邏輯是有效的程式工具，但卻不是合適的互動設計工具。

顛覆固有設計流程

- ~~1. 調查使用者族群~~
- ~~2. 收集所有使用者對功能的要求~~
- ~~3. 提供使用者一個具有上述所有功能的產品（所有想望的總和）~~



結果反而不能滿足任一使用者的需求。

Persona vs. Market Segmentation

PERSONAS AT A GLANCE

<p>Christina Moletti Freelance Graphic Designer</p> <p><i>"Living life is a creative process too!"</i></p> <ul style="list-style-type: none">- Has enough money but not much more- Works hard during the day but on her own hours- Walking is her main way to travel, day or night <p>Personal Information</p> <p>Age: 25 Location: Pittsburgh, PA Education: BA Graphic Design NC State University, Part-Time Student Home life: Lives with a roommate (Eva 25), Hobbies: Playing guitar and xylophone, reading, drawing, sewing, watching movies, sleeping Favorite TV shows: Doesn't watch much TV Personality: Easygoing, outgoing, try new things</p> <p>User Goals</p> <p>Christina uses this information system to...</p> <ul style="list-style-type: none">- Give her reasons to go out walking at night- To be active and aware of her surroundings at night- To find the safest places to go at night- Make walking and being out at night more social with her friends	<p>Maria Nantes Newspaper Editor</p> <p><i>"I want to stay healthy both mentally and physically always"</i></p> <ul style="list-style-type: none">- Health Conscious- Use basic technology for day to day activities- Enjoy Social groups <p>Personal Information</p> <p>Age: 31 Location: Ann Arbor, MI Education: Master's in English from U of Michigan Profession: Newspaper Editor Home life: Married, no children Hobbies: Walking, making friends, Yoga Favorite TV shows: Desperate Housewives Personality: Outgoing, Passionate, Social, Cheerful, Sophisticated</p> <p>User Goals</p> <p>Maria uses this information system to...</p> <ul style="list-style-type: none">- Connect and coordinate with friends- Find safe walking routes at night- Get a sense of safety by getting more info- Find out about social events taking place at night, which might be of potential interest- Wants to get emotional and mental relaxation by walking	<p>James Guertler Senior Engineer</p> <p><i>"I know what I'm doing, I'm willing to try everything new."</i></p> <ul style="list-style-type: none">- is willing to spend money on that- Likes to chat with others online- Knows that health is very important & work out <p>Personal Information</p> <p>Age: 37 Location: San Francisco, CA Profession: Cellphone Interface Developing Education: Master's Home life: Single Hobbies: Surfing online to look for new electronic products, working out at gym Favorite TV shows: Friends, Heroes Personality: knowledgeable in popular stuffs, talkative, keeping things on schedule</p> <p>User Goals</p> <p>James uses this information system to...</p> <ul style="list-style-type: none">- Stay ahead of latest trends on mobile devices- Take more time to walk as the substitute for exercise- Meet new friends through this application- Feel free to walk at night- Discuss the new interaction- Try to figure out a method for socializing and also provide a feeling of security
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方法

人物誌能將**使用者的共同行為**集結成有意義且相關的人物描述，據此提供理想的解決方案。



結果

市場區隔描繪的是人口組成，而非行為的總體。

Persona

- Cooper 自1983年起構思Persona方法與技術。**由實務經驗出發**，他認為若能從使用者的行為著手，便能設計出滿足他們主要目標的產品，這樣的設計方法應該是最容易成功的

Persona 方法原始是由實務工作中發展而來的，並非由學術或理論推演而成。

Persona



Develop a precise description of our user and what he wishes to accomplish

- Persona是一種從使用者為中心出發的設計方法，利用角色描寫的方式，先建構出目標使用者的模樣與細節，並以此為基礎，設計符合目標使用者需求的產品。
- 操作Persona的難度是在我們如何「決定」以及「使用」這些使用者描述。

- 互動設計常發生的兩大通病：
 - 誤以為設計者(自己)所想的等同於使用者想的
 - 應該要從使用者角度出發
 - 設計師往往想設計出所有族群適用的產品
 - 應該要找到目標使用者
- 因此當
 - 要設計出一項新的產品時(設計出使用者導向的產品)
 - 要找出一項產品的潛在顧客時(有利於行銷工作的進行)

可以使用persona來完成任務

為一個人設計



媽媽想要一輛安全、穩定、大空間、大車門...的車。

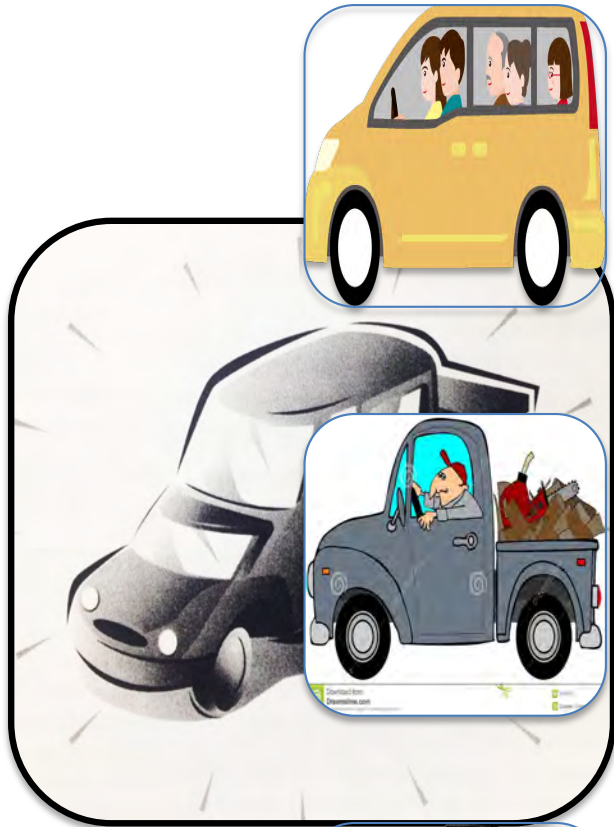


木工師傅想要耐操、四輪驅動、可以放置大型工具或梯子的車。



年輕的總經理想要強引擎、主動式懸吊、敞篷、兩人座的車。

為一個人設計



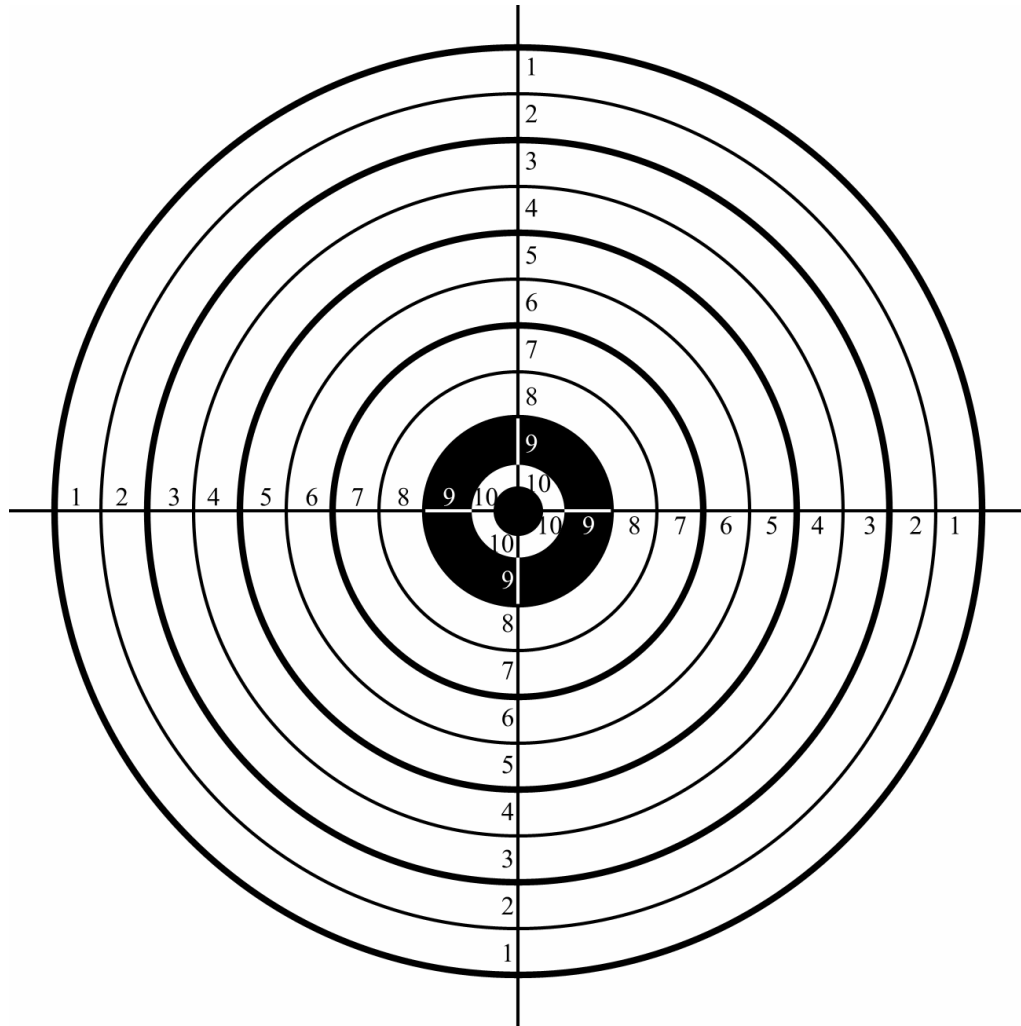
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靶越大，目標越廣泛，打不中靶心的機率就越高。

If 想達成50%的產品滿意度

選出50%的人

讓他們100%滿意

選出10%的人

讓他們100%著迷

為一個人設計



輪子拉桿箱 (Rolling luggage)
造成整個行李箱產業的革命

一開始並不是為大眾，而是
專為「機組人員」所設計

快速通關、集體
移動的需求

目標市場

- 這個設計滿足了機組人員的需要。
- 民眾看到也覺得可以解決他們的行李問題！

市場擴充

- 超大行李箱、設計師行李箱、兒童行李箱、裝甲行李箱….

Design for ONE (persona) vs. Design for All (real users)



- 人適應產品？還是產品適應人？
 - 靈活的使用者：會調整自己滿足當下需求
 - 產品設計目標：可以因應使用者需求調整

真實的使用者並非靈活的使用者

在設計過程中，使用「Persona」作為特定的個人

為什麼使用Persona

為什麼不直接找到某個使用者，然後問他？

- 一個特定問題的受害者，並不自動有能力能看到問題的解決方案。
- 實際使用者是重要的資源，必須被關注與考量，但並不直接影響解決方案
 - 創造一個假想使用者Pretend User → Persona，
 - 為他們設計

Persona 重點摘要

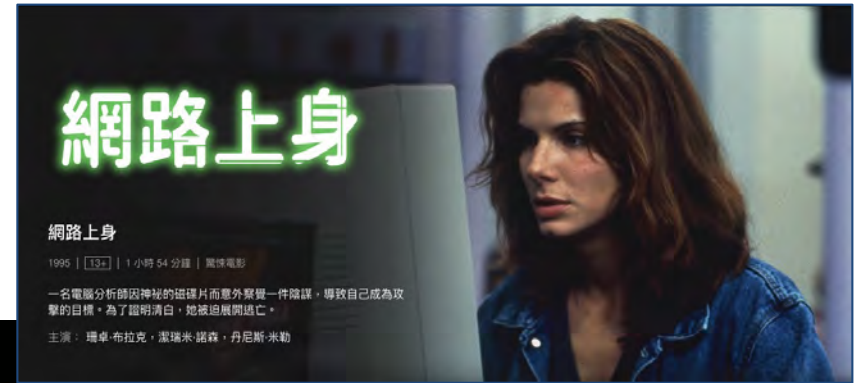
- Persona不是真人
 - 是一個真實使用者的假設典型(Hypothetical Archetypes)
- 雖然是想像的，但必須有根據
 - 必須嚴格而精準定義
- 依據「目的」來定義Persona
 - Persona是在我們研究與分析的過程中逐漸浮現的
 - 持續修正一開始所觀察到的問題，決定相關的Persona與它的目標。

Persona (User Profile with a Story)

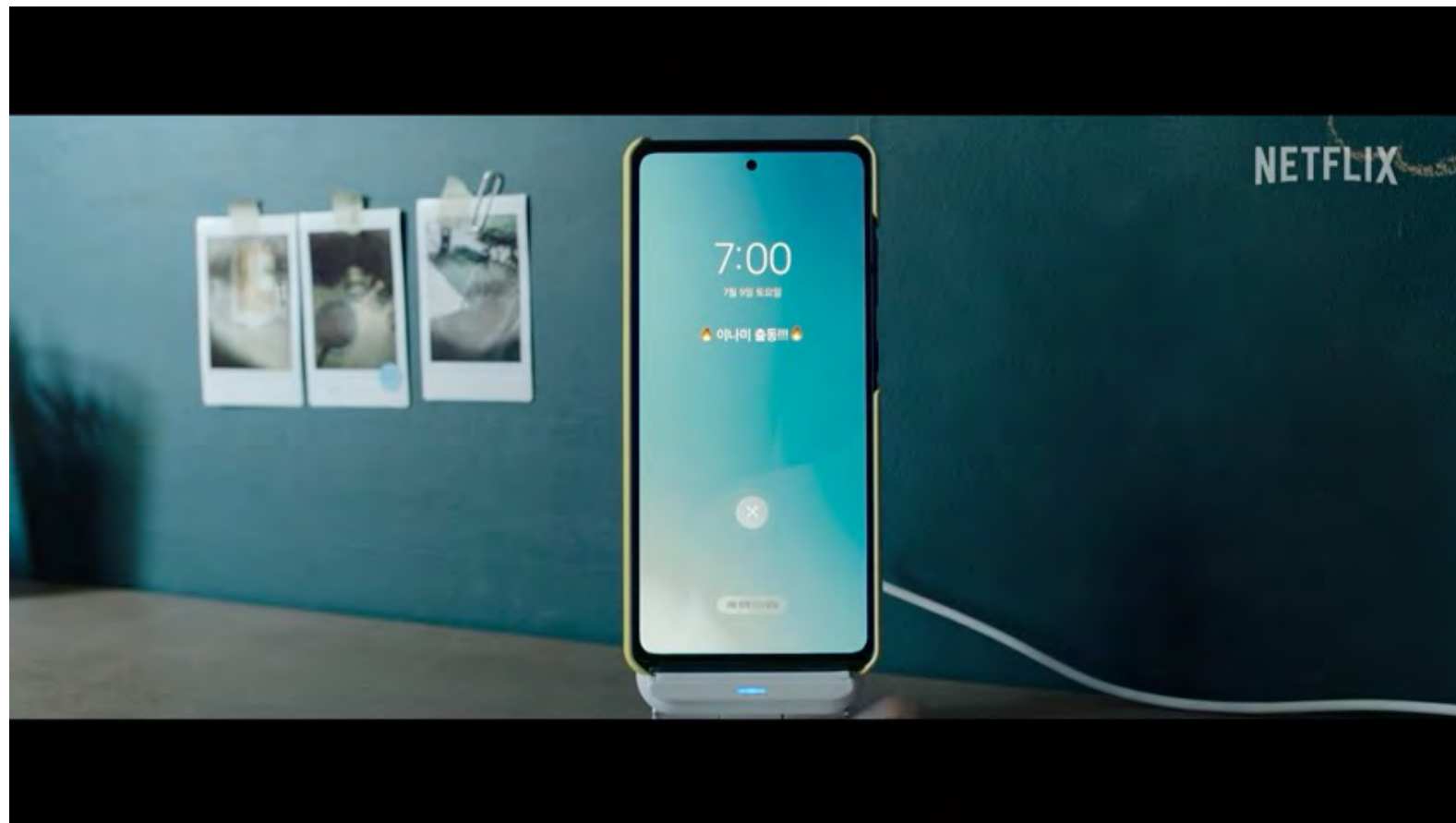
- **Story:** Stories in user experience are not made up fairy tales; they are grounded in good user research and other data.
- **Persona start with data, organized into user profiles. It is the stories that turn a good user profile into a persona,** that is, adding the emotions, detailed personal characteristics, and specific background or goals that make a persona come alive.

You cannot tell much of a story about a stick figure. However, if you imagine Jason, who is leaving high school, is interested in computers, and loves his local sports team, you can begin to think about what kind of experience will work well for Jason and how he might interact with the product you are designing.

Persona



Persona



Misuse / Myth of Persona

- It's a technique to “Facilitate” design instead of ~~guiding the design~~
 - In many occasions, more consideration should be taken ahead (e.g. launching pressure, marketing competition)
 - You're not doing a user research only for persona, you're **doing a user research for business.**

Persona How-To

如何製作Persona



特定 Be Specific

Intentionally eliminate flexibility

■ Persona 越特定，作為設計工具就越有效

~~黃麗珍用商業軟體~~

黃麗珍用Word 2010來寫信給她的客戶

~~黃麗珍開車上班~~

黃麗珍開Toyota Camry上班，後座有兒童安全座椅，油箱蓋旁邊有個刮痕

~~黃麗珍是職業婦女~~

黃麗珍在華航擔任記帳員。

假設 Hypothetical

- 不要搞混「精準的使用者類型」和「真人」
 - 真人as 重要的原始資料
but not 有用的設計資源
 - 真人有「癖」、有「不規則」

↓
干擾設計流程

↘
無法推論類化

精準(Precision)，而非正確(Accuracy)

- Persona作為一種設計工具，追求精準更勝於正確
 - 使用龐大且特定的細節來定義Persona，勝過定義出一個絕對正確的Persona



陳飛鵬機長
資深機長
從臺北經曼谷飛維也納



實習機長張曉嵐
只飛國內線、螺旋槳飛機
每天飛

精準(Precision)，而非正確(Accuracy)

- 工程師依賴/過度依賴邊緣值，他們在選擇Persona的過程中會不自覺地帶入邊緣值
 - 工程、編程是依據邊緣值來定義範疇（要做到的事情有哪些）
 - 但是設計是根據「中心」來定義（要做對的事情有哪些）
 - 如果一個persona偏離中心，那就應該刪掉
 - 沒有average user（平均使用者）

Persona讓我們看到設計問題的範疇和本質

Persona終結對功能的辯論

- Persona是一種溝通的工具
 - 對這些角色的選擇，代表了設計的類別，也解釋了設計決策
 - 呈現出設計決策是明顯正確的

With Persona

程式：如果使用者想要把它印出來呢？

經理：張雅玲不需要列印功能。

程式：但可能會有人想要列印啊

經理：但我們現在是為張雅玲設計，不是為有人設計

Persona終結對功能的辯論

- Persona是一種溝通的工具
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程式：張雅玲會需要把這個印出來嗎？ **Persona Works**

經理：不會。但是石信昌每一季會需要印報告。

程式：如果是這樣的話，我們可能不需要自己做出列印功能，而找現成的工具就可以了。

經理：那這樣可以節省至少兩個星期的製作時間。

Persona 元素

名字

- 背景資料
 - 基本資料、個性與喜好、日常生活情形、遭遇到的困難
- 使用產品的動機、目標
- 工作描述
- 使用產品的故事情境



符合描述形象的照片

摘要（一句話）

Primary Persona

- 設定角色時，至少要有一個Primary Persona
 - 這個人是設計的主要焦點
 - 必須讓這個人滿意（現在不滿意）
 - 通常會為這個人提供獨一無二的介面
- 如果有3個以上的primary persona
 - 可能代表設計問題/範疇太大，一次要達成太多目標

P.3 Exercise

1. Think of all possible users who will be interested in your design. Write them down on page 3 individually.



10 minutes

P.4 Exercise

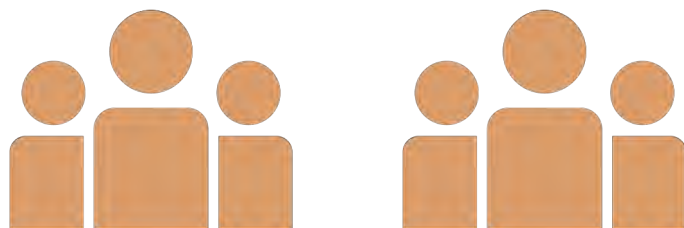
2. Talk to your group members about the users goals (explain why your users would have interests in your design, what do they want from it).

2.1 Check if any user goal is common among different users types. If yes, merge users.

2.2. List 3-4 kinds of users. And decide what is the most important type of users?

25 minutes

候選Persona



包含情境中所有角色與使用者類別

目標導向、合併資料



個別的Persona



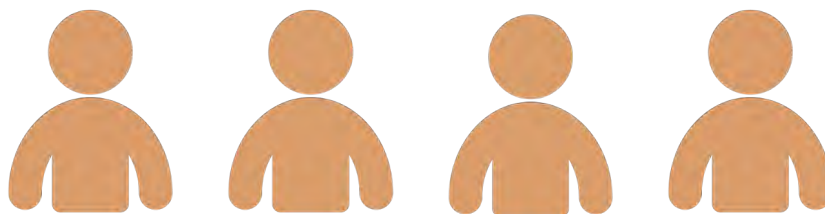
P1

P2

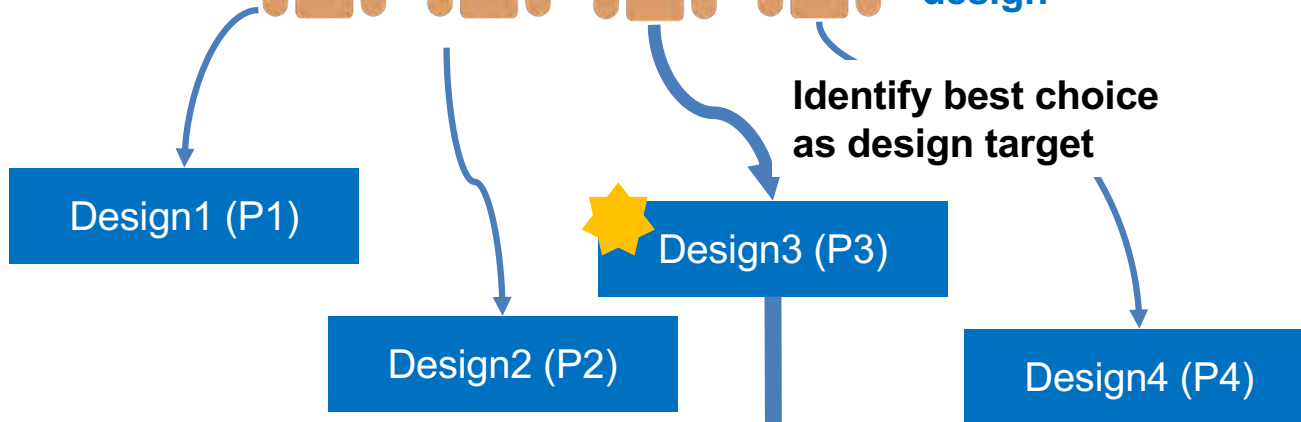
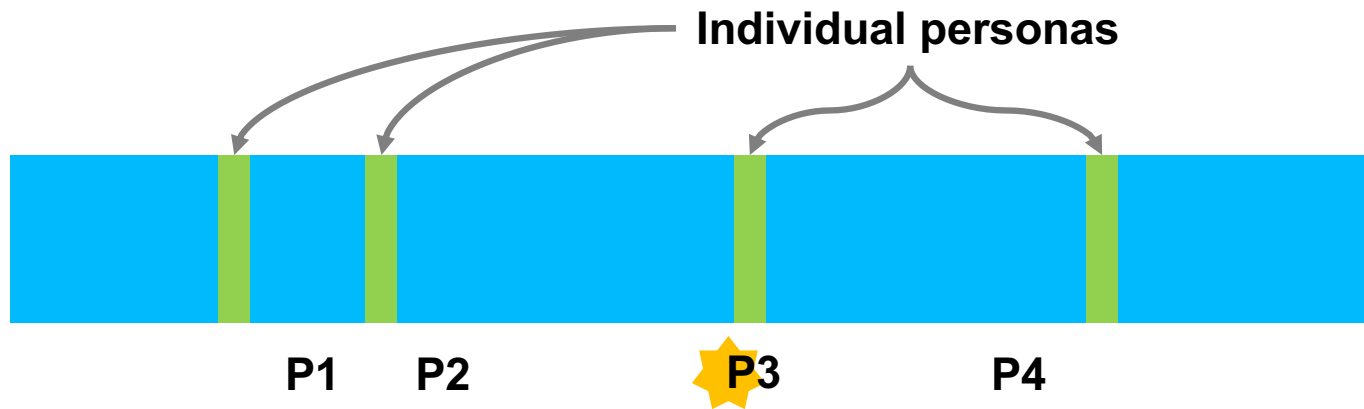
P3

P4

選擇Persona



選出設計所要考慮的對象



Primary Persona
Primary focus of specific design



P.10 After-class verification

3. Use your **data** to support if the needs and goals of the primary users represent typical.

After-class

P.11 Construct your primary persona (profile)

4. Describe in details about this typical user.

4.1 How do people know of this person (first impression)

4.2 What are this typical user's motivation and ability to interact with our design?

4.2.1 Any current **workarounds** that proves his/her motivation? (journey)

25 minutes

P.12 Construct your primary persona (scenario)

5. Any stakeholders who will influence/interfere/impact the primary user's use? How?

6. What is the context / environment / settings of the primary user's use? (write a story)

7. How this primary user is related to other types of users?

After class