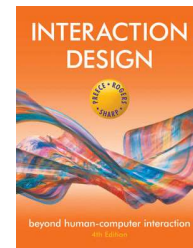


Chapter 9

The Process of ID



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2018



Overview

❖ What is involved in ID?

- Importance of involving users
- Degrees of user involvement
- What is a user-centered approach?
- Four basic activities

❖ Some practical issues:

- Who are the users?
- What are 'needs'?
- Where do alternatives come from?
- How do you choose among alternatives?



What is Involved in ID?

❖ It is a 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.

❖ 4 approaches:

- **user-centered design,**
- **activity-centered design,**
- **systems design,**
- and **genius design.**



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Importance of involving users

❖ Expectation management:

- Realistic expectations.
- No surprises, no disappointments.
- Timely training.

❖ Ownership:

- Make the users active stakeholders.
- More likely to forgive or accept problems.
- Can make a big difference to acceptance and success of product.



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Degrees of user involvement

❖ Member of the design team:

- **Full time:** constant input, but lose touch with users.
- **Part time:** partial input, and very stressful.
- **Short term:** inconsistent across project life.
- **Long term:** consistent, but lose touch with users.

❖ Newsletters and other broadcasting devices:

- Reach wider selection of users.
- Need communication both ways.

❖ User involvement after product is released.

❖ Combination of these approaches.



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What is a User-Centered Approach?

User-centered approach is based on:

- **Early focus on users and tasks:**
 - Who the users will be.
 - Studying cognitive, behavioural & attitudinal characteristics.
- **Empirical measurement:** users' reactions and performance to scenarios, manuals, simulations & prototypes are observed, recorded and analysed.
- **Iterative design:** when problems are found in user testing, fix them and carry out more tests.



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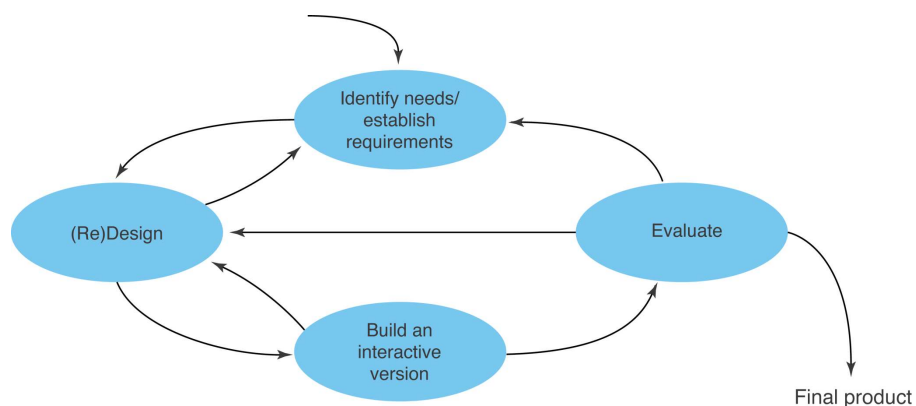
4 Basic Activities in ID

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



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A Simple ID Lifecycle Model



Demonstrates a user-centered design approach



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Some Practical Issues

- ❖ Who are the users?
- ❖ What do we mean by 'needs'?
- ❖ How to generate alternatives.
- ❖ How to choose among alternatives.



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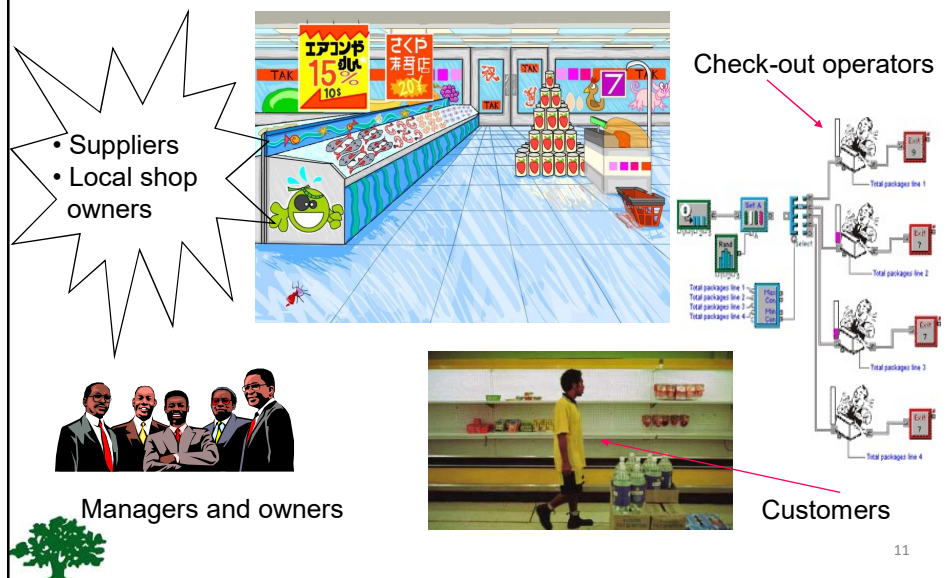
Who are the users/stakeholders?

- ❖ **Not as obvious as you think:**
 - Those who interact directly with the product.
 - Those who manage direct users.
 - Those who receive output from the product.
 - Those who make the purchasing decision.
 - Those who use competitor's products.
- ❖ **Three categories of user (Eason, 1987):**
 - **Primary:** frequent hands-on.
 - **Secondary:** occasional or via someone else.
 - **Tertiary:** affected by its introduction, or will influence its purchase.



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Who are the Stakeholders?



What do we mean by 'needs'?

- Users rarely know what is possible.
- Users can't tell you what they **'need'** to help them achieve their goals.
- Instead, look at existing tasks:
 - their context.
 - what information do they require?
 - who collaborates to achieve the task?
 - why is the task achieved the way it is?

How to Generate Alternatives

- ❖ Humans stick to what they know works.
- ❖ But considering alternatives is important to **'break out of the box'**.
- ❖ **Designers** are trained to consider alternatives, **software** people generally are not.
- ❖ How do you generate alternatives?
 - **Creativity**: research and synthesis (تأليف).
 - **Inspiration**: look at similar products or look at very different products. (**is it legal?**)



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How to Choose Among Alternatives

- ❖ **Evaluation** with users or with peers, e.g. prototypes.
- ❖ **Technical feasibility**: some not possible.
- ❖ **Quality thresholds**: Usability goals lead to usability criteria set early on and check regularly.
 - **Safety**: how safe?
 - **Utility**: which functions are unnecessary?
 - **Effectiveness**: appropriate support? task coverage, information available.
 - **Efficiency**: performance measurements.
 - **Learnability**: is the time taken to learn a function acceptable to the users?
 - **Memorability**: can infrequent users remember how to achieve their goal?



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Testing Prototypes to Choose Among Alternatives



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Summary

- ❖ Four basic activities in the design process:
 1. Establishing **requirements**.
 2. Designing **alternatives**.
 3. **Prototyping**.
 4. **Evaluating**.
- ❖ User-centered design rests on three principles:
 1. Early **focus on users** and tasks.
 2. **Empirical measurement** using quantifiable & measurable usability criteria.
 3. **Iterative** design.

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