Interaction Design

Chapter 3 (May 08, 2013, 9am-12pm):
Approaches to IxD

Approaches to Interaction Design

- The Purpose of Different Approaches
- Four Main Approaches
- User Centered Design (UCD)
- Activity Centered Design
- Systems Design
- Genius Design

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IxDA Sessions with Aarron Walter, Director of UX at MailChimp

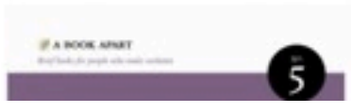
Join us for this IxDA Munich Q&A Session on May 6th, 2013, with the genious designer behind MailChimp, the famous state of the art newsletter service. Aarron will join us live directly from Atlanta via Skype in a conversation about his career, work, his book and designs.

About the Speaker

Aarron Walter is the Director of User Experience at **MailChimp**, where he strives to make software more human. Aarron is the author of **Designing for Emotion** from **A Book Apart**. Aarron taught design at colleges in the US and Europe for nearly a decade, and speaks at conferences around the world. His design guidance has helped the White House, the US Department of State, and dozens of startups and venture capitalists. He tweets about design under the moniker **@aarron on Twitter**.

http://www.ixdamunich.de/ and http://www.ixda.org/

About Aarron's Latest Book



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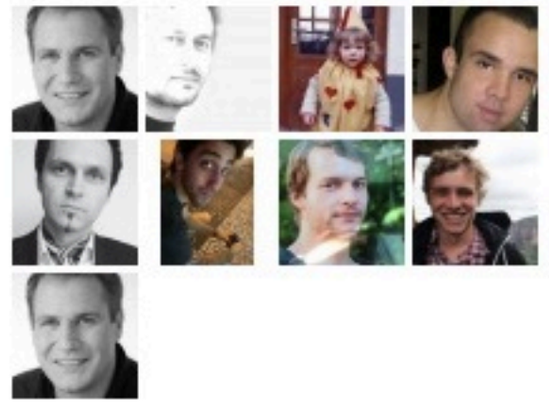

Latest Tweets

- 6 May 2013
  Tonight's IxDA Munich meeting with @aarron about emotional design official hashtag is #ixdaemotion
- 5 May 2013
  TOMORROW: Emotional design with Aarron Walter, director of UX at MailChimp #munich #design http://t.co/LpGQKCKExs
- 11 April 2013
  RT @stadtnomadin: My @ixdamunich

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Source: Carl Liu

Approaches to Interaction Design and the Role of the Users

Design-Led

design-led
with
expert mindset

design-led
with
participatory mindset

Expert Mindset
“users” seen as subjects
(reactive informers)

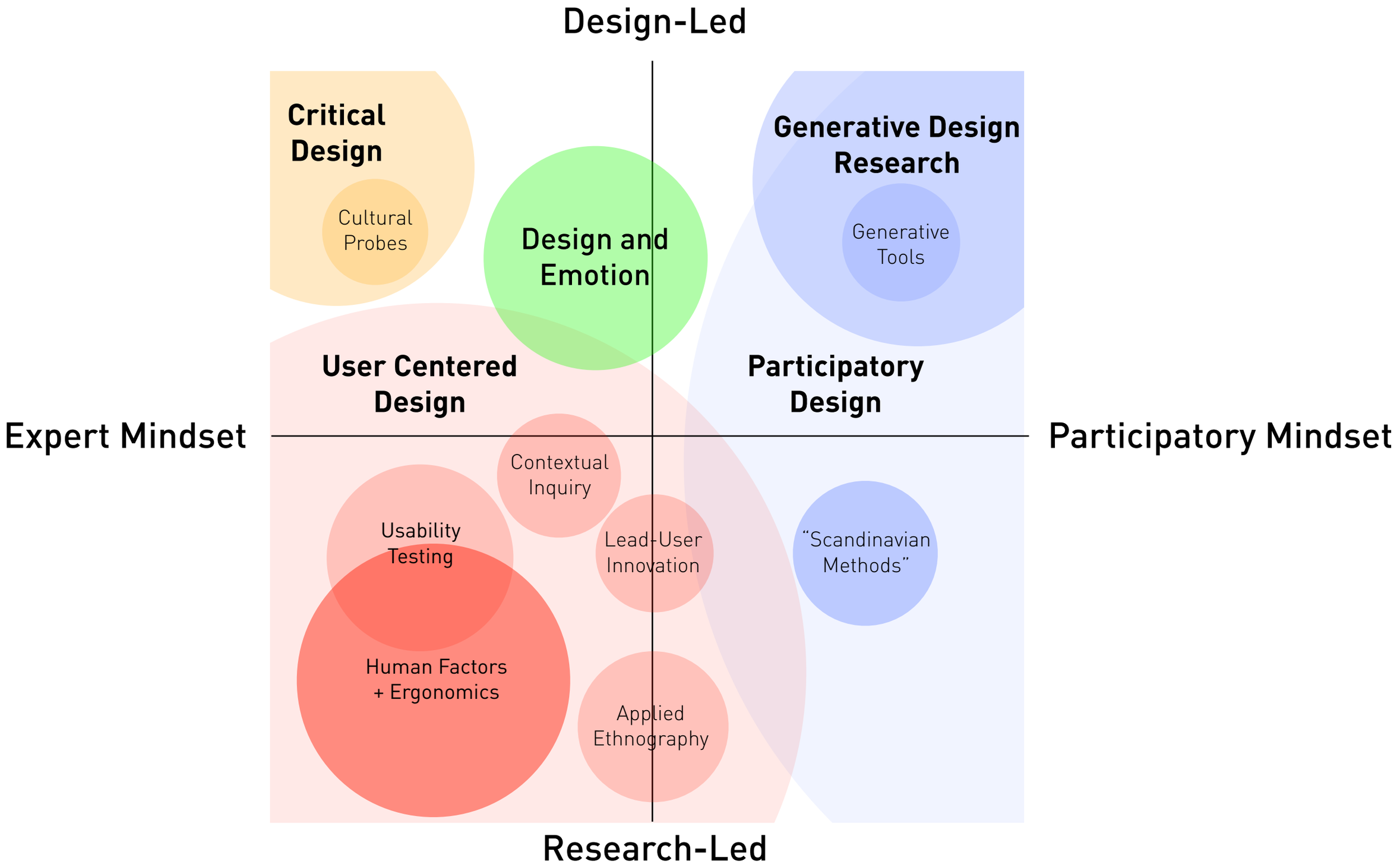
Participatory Mindset
“users” seen as partners
(active co-creators)

research-led
with
expert mindset

research-led
with
participatory mindset

Research-Led

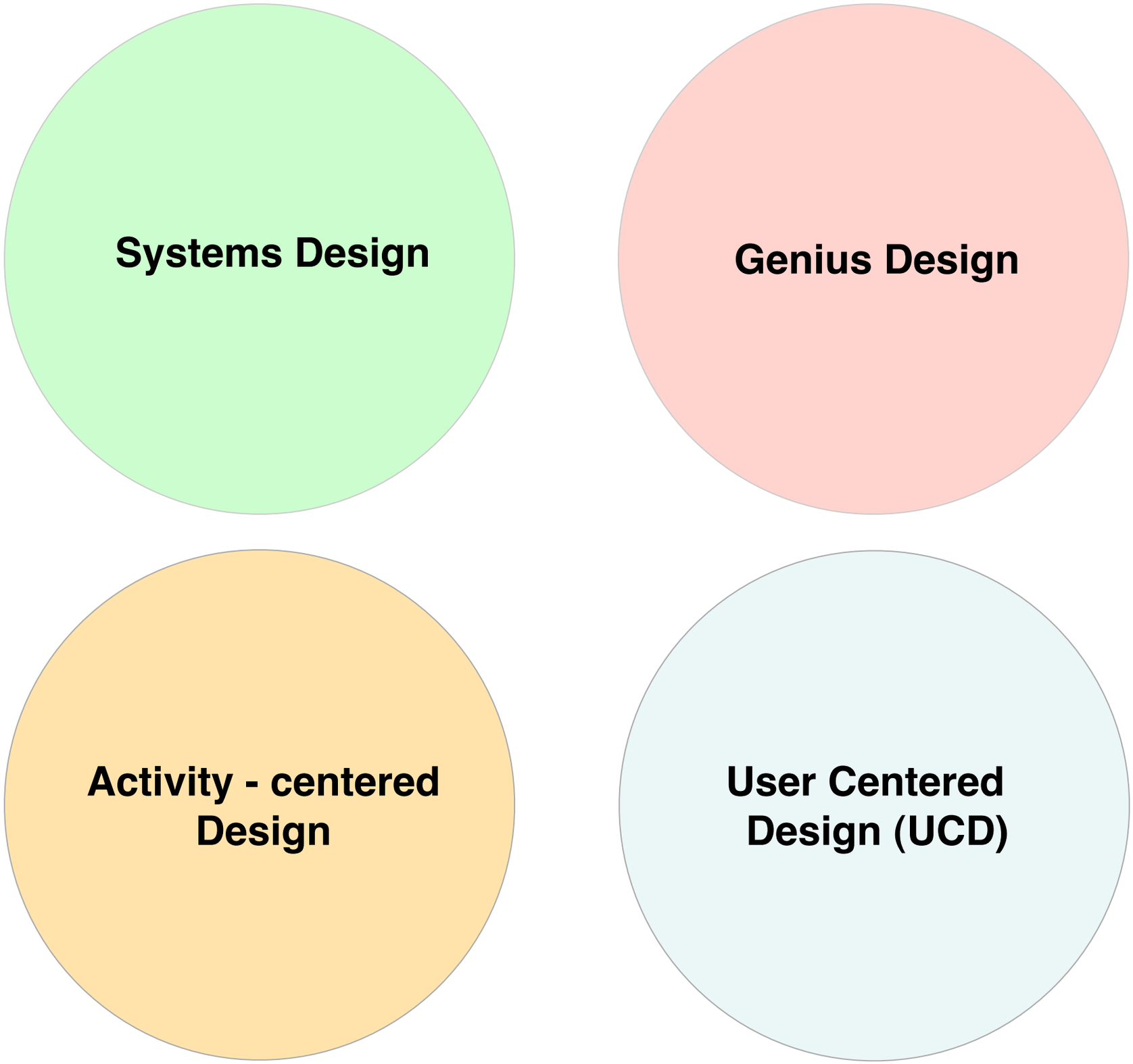
source: [6+7]


Design-Led
Critical Design
Cultural Probes
Design and Emotion
Generative Design Research
Generative Tools
User Centered Design
Participatory Design
Expert Mindset
Participatory Mindset
Contextual Inquiry
Usability Testing
Lead-User Innovation
"Scandinavian Methods"
Human Factors + Ergonomics
Applied Ethnography
Research-Led

source: [6]

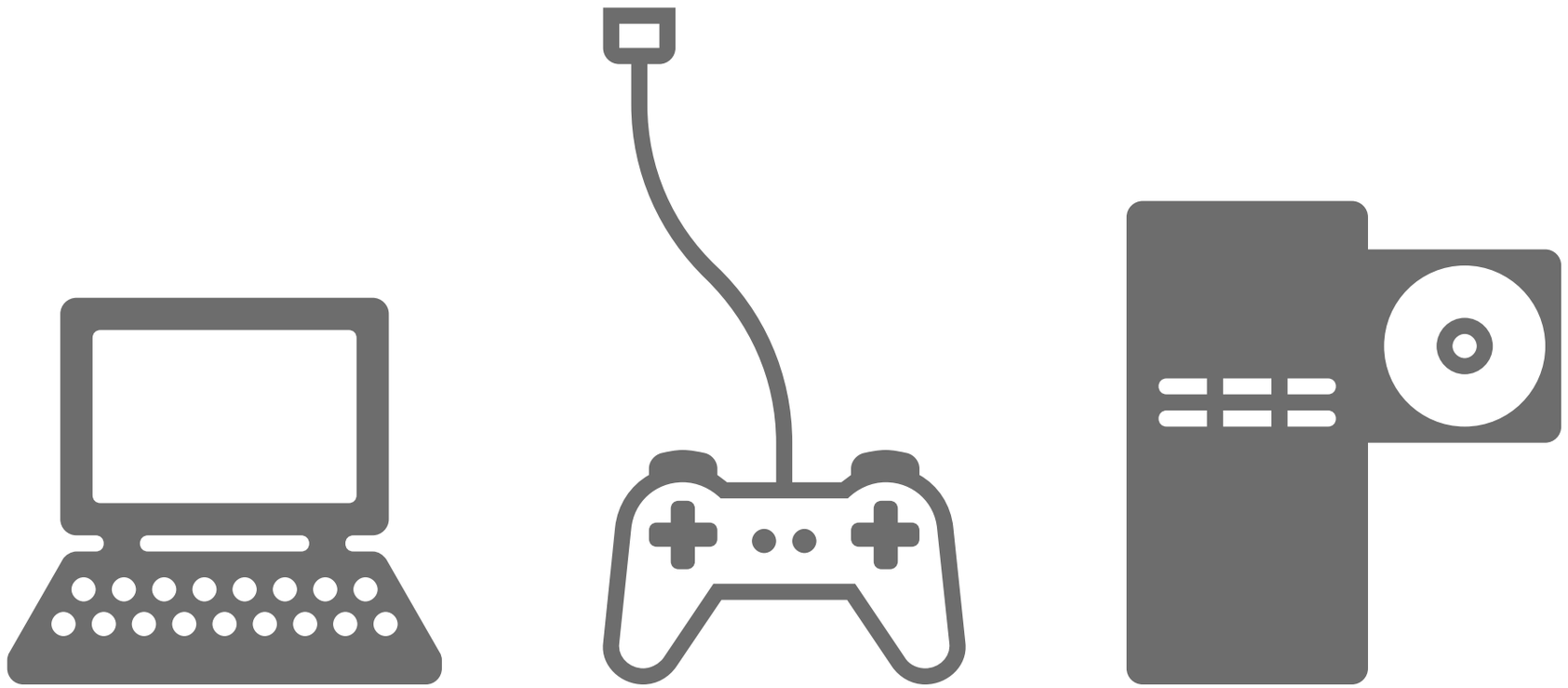
Approaches to Interaction Design

- The Purpose of Different Approaches
- Four Main Approaches
- User Centered Design (UCD)
- Activity Centered Design
- Systems Design
- Genius Design


Systems Design
Genius Design
Activity - centered Design
User Centered Design (UCD)

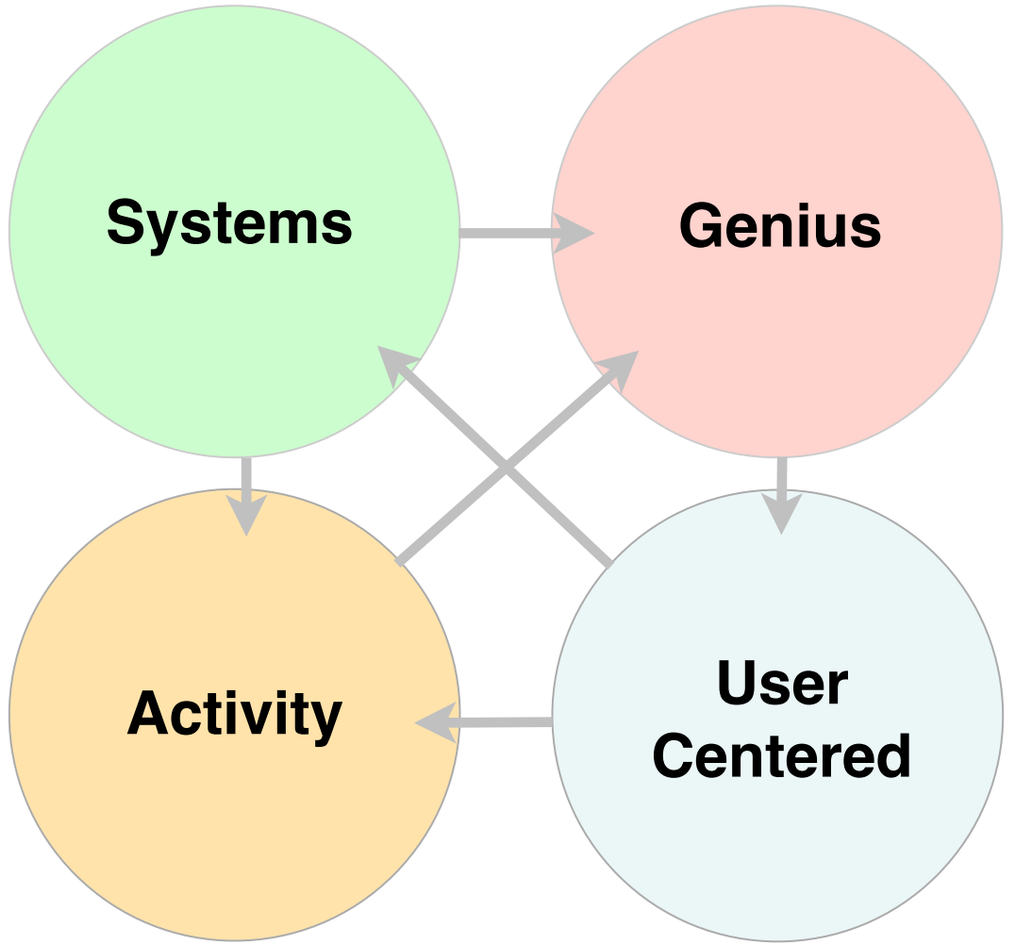
source: [5]

• can be used in many different situations to crate vastly different products and services,
• e.g. Web sites, consumer electronics or nondigital services.



source: [5]

• move between approaches, applying the best approach to the right context
• sometimes applying multiple approaches even within a single project.



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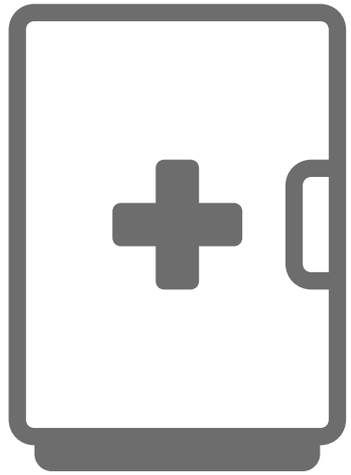
• problematic situations can be improved by developing at least one of these approaches



source: [5]

Four Approaches to Design

Approach	*Overview*	*Users*	*Designer*
User-Centered Design	Focuses on user needs and goals	Guide the design	Translates user needs and goals
Activity-Centered Design	Focuses on the tasks and activities that need to be accomplished	Perform the activities	Creates tools for actions
Systems Design	Focuses on the components of a system	Set the goals of the system	Makes sure all the parts of the system are in place
Genius Design	Relies on the skill and wisdom of designers used to make products	Source of validation	Is the source of inspiration

source: [5]

Approaches to Interaction Design

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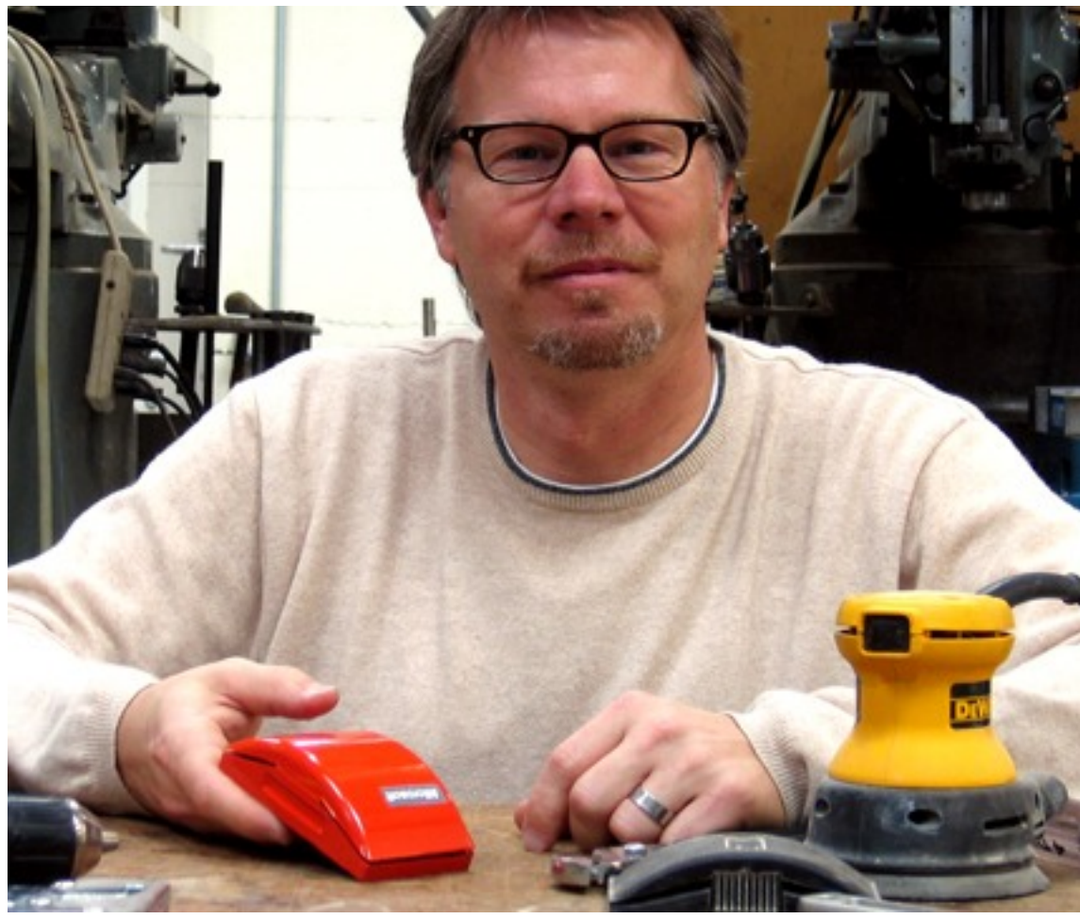
Case Study:

Paul Bradly

-designed the “Microsoft Mouse”
-followed an established “User-Centered Design Process” (UCD)
-helps Interaction Designers at IDEO developing their prototypes

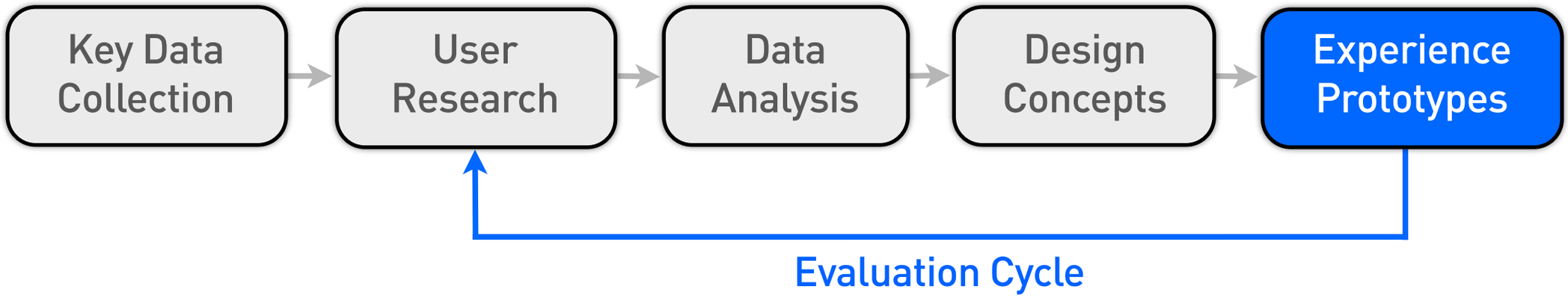


http://www.designinginteractions.com/interviews/PaulBradly

source: [3]

Microsoft

Looking back...


Key Data Collection
User Research
Data Analysis
Design Concepts
Experience Prototypes
Evaluation Cycle

User Centered Design (UCD)

Philosophy: Users know best

- People who will be using a product or service know what their **needs**, **goals** and preferences are

- Designers aren't the users.

- Participation from users at every stage of the design process.

- Roots in industrial design and ergonomics:
Industrial designer Henry Dreyfuss (Bell) popularized the method with his 1955 book "Designing for People".

- Software designers were long time unaware of the method

source: [5]

• With increased memory and processor powers and color monitors different forms of interfaces were now possible
• In the early 1980´s a movement began **focusing on the users** not on computers.

source: [5]

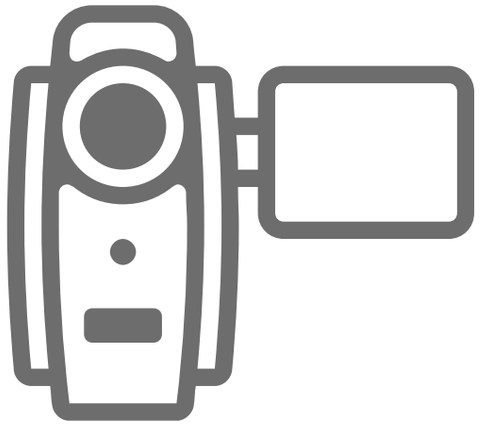
What is a user-centered approach?

- User-centered approach is based on:
  - **Early focus** on users and tasks: directly studying cognitive, behavioral, anthropomorphic & attitudinal characteristics

source: [4]

What is a user-centered approach?

- User-centered approach is based on:
  - **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



source: [4]

What is a user-centered approach?

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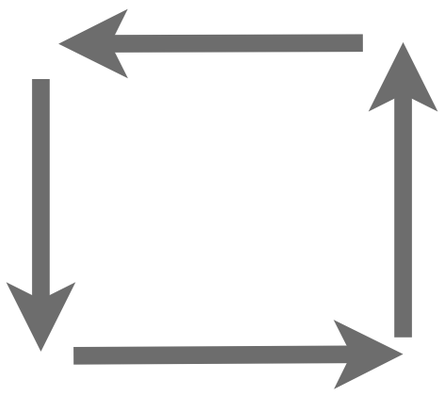
  - **Early focus** on users and tasks: directly studying cognitive, behavioral, anthropomorphic & attitudinal characteristics
  - **Empirical measurement:** users' reactions and performance to scenarios, manuals, simulations & prototypes are observed, recorded and analyzed
  - **Iterative design:** when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



source: [4]

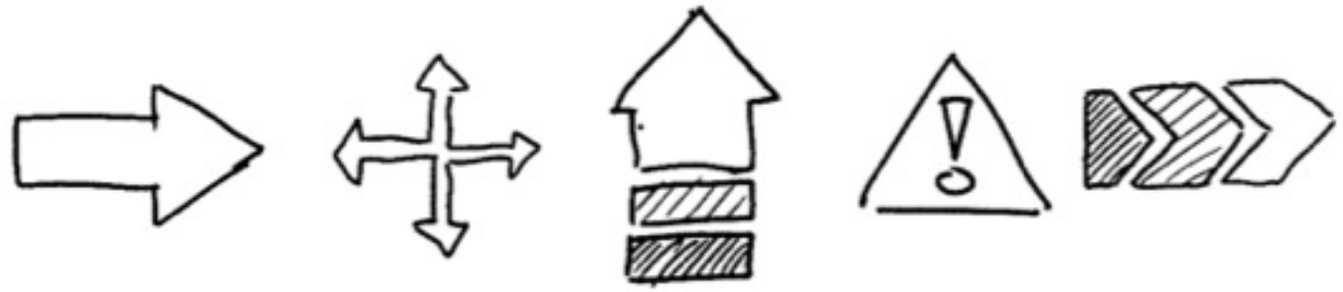
Four basic activities

- **Identifying needs and establishing requirements**

source: [4]

Four basic activities

- Identifying needs and establishing requirements
- Developing alternative designs



source: [4]

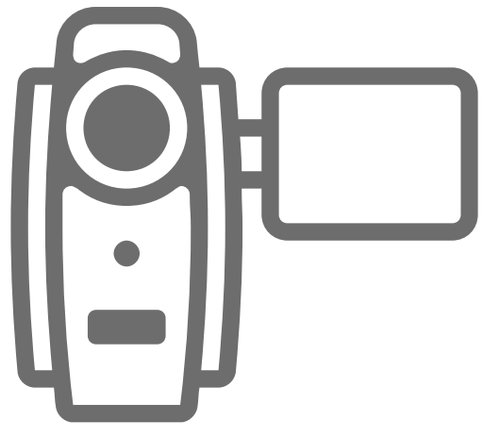
Four basic activities

- Identifying needs and establishing requirements
- Developing alternative designs
- Building interactive versions of the designs

source: [4]

Four basic activities

- Identifying needs and establishing requirements
- Developing alternative designs
- Building interactive versions of the designs
- Evaluating designs



source: [4]

Summary:

• **Goals** are important in UCD -> interaction designer focus on what the user ultimately wants to accomplish.

• Interaction designer determines the user´s task and means necessary to achieve those goals -> always with the users needs and preferences in mind
• Interaction designers involve users at every stage of the process
• Users are consulted of the very beginning of a new project
• Interaction designers conduct extensive research (Chapter 4) up front to determine what the users goals are in the current situation
• Interaction Designers test and try prototypes of a system with users

• **User data is a determining factor throughout the project when making decisions**

source: [5]

Designing for Interaction: Cr

www.amazon.de/Designing-Interaction-Creating-Innovative-Applications/dp/0321643399/ref=sr_1_2?ie=UTF8&qid=1297680244&sr=8-2

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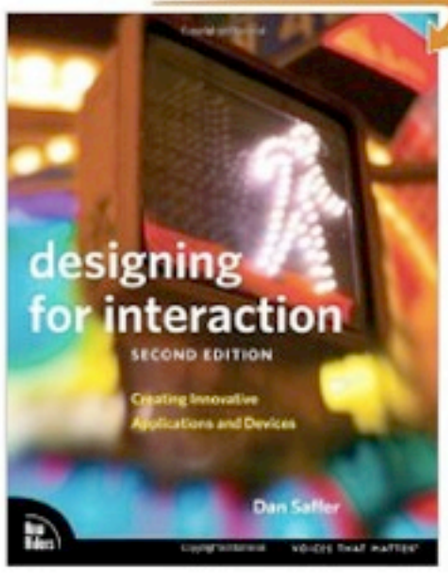

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Approaches to Interaction Design

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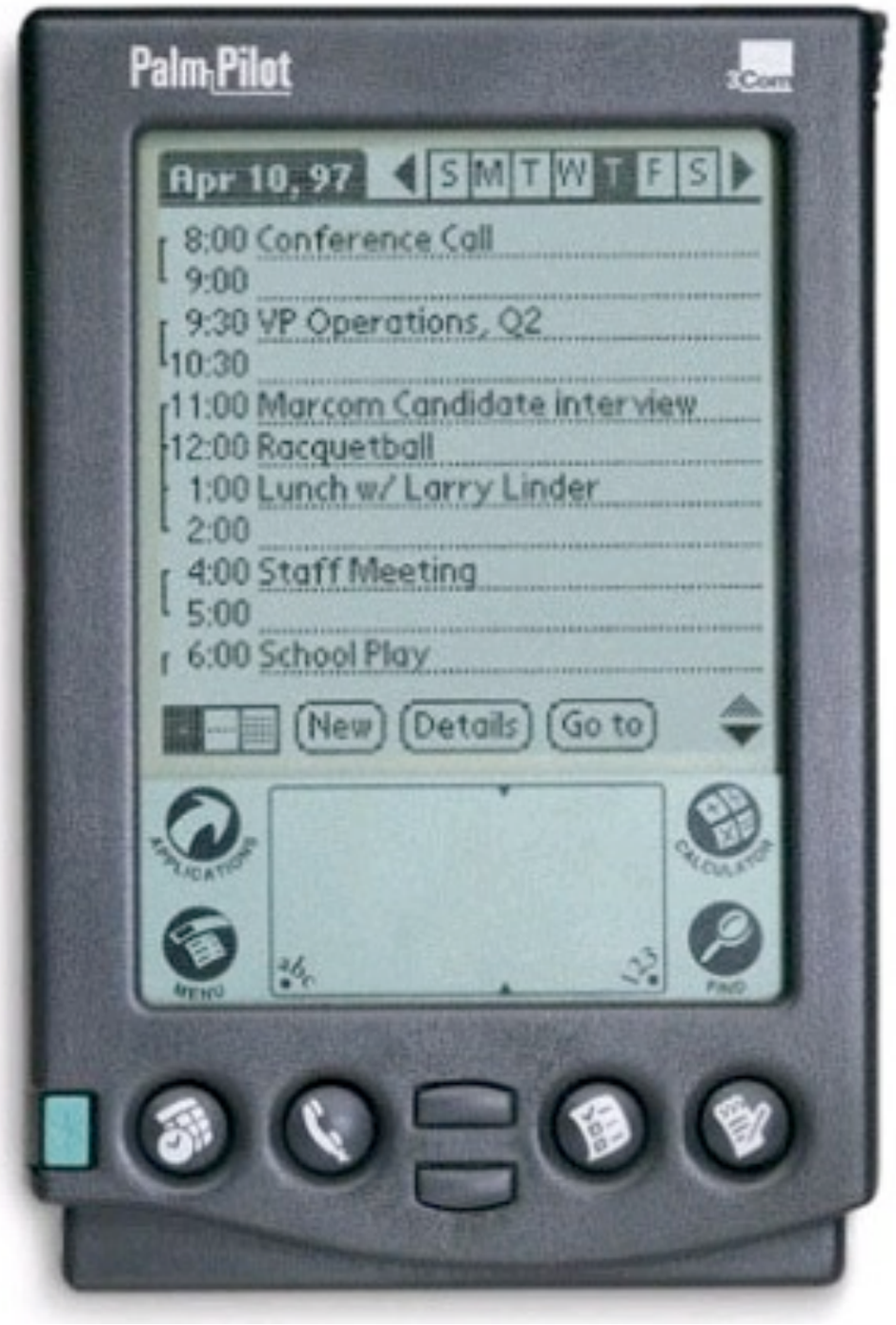


http://www.computerwoche.de/i/detail/artikel/199577/1/2025886/EL_124634802131280312731/

Case Study:

Jeff Hawkins

-worked with the team that developed the first laptop, the Compass by GRID
-developed the first tablet PC, the GRIDpad
-started PALM computing

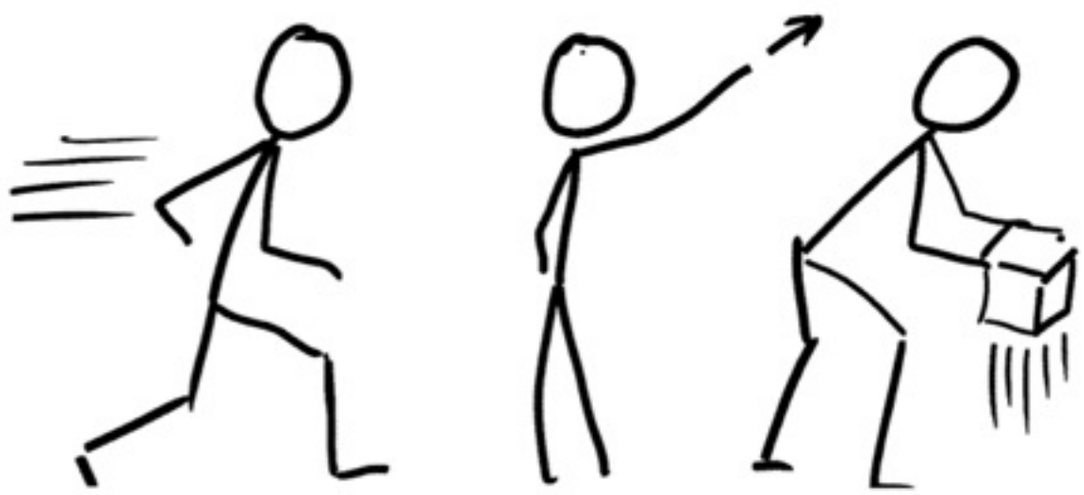
http://www.designinginteractions.com/interviews/JeffHawkins

source: [3]

Looking back...

Activity Centered Design

• Philosophy: Activities as the main design focus
• Activities are a **cluster of actions and decisions** that are done for a purpose (**tasks**)
• The purpose of an activity is not necessarily a goal
• Purposes are more focused and tangible than goals



source: [5]

Case Study:

Dennis Boyle

-worked for a tech-consulting firm later known as the interaction design consultancy IDEO
worked on the PalmPilot Os & Graffiti
-introduced the “Tech Box”

http://www.designinginteractions.com/interviews/DennisBoyle

source: [3]

PalmPilot
3Com
Address
Calc
Date Book
Expense
Giraffe
HotSync
Mail
Memo Pad
Memory
Prefs
Security
To Do List
10:41 am Battery

http://www.flickr.com/photos/youraccount/5594455000/

http://www.ideo.com

Summary:

- The difference between a task and an activity can be fairly minor
- Some tasks have enough parts to be considered as sub activities themselves
- Like UCD, activity centered design relies on research as the basis for its insights, albeit not as heavily
- Interaction designers catalog users´ activities and tasks which leads to a specific design solution to help users accomplish the task, not to achieve a goal per se
- The **activity**, not the people doing the activity **guides the design process**

source: [5]

A danger in **activity-centered design**
is that designers might not look for solutions for the
problem as a “whole”

(Not see the forrest for the trees)

source: [5]

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Systems Design

• Analytical method of approaching design problems

• A set of entities that act upon each other is center of the design process

• Systems can range from simple (heating system in a house) to the enormously complex (power-plant)

• Systems design is a structured, rigorous design methodology

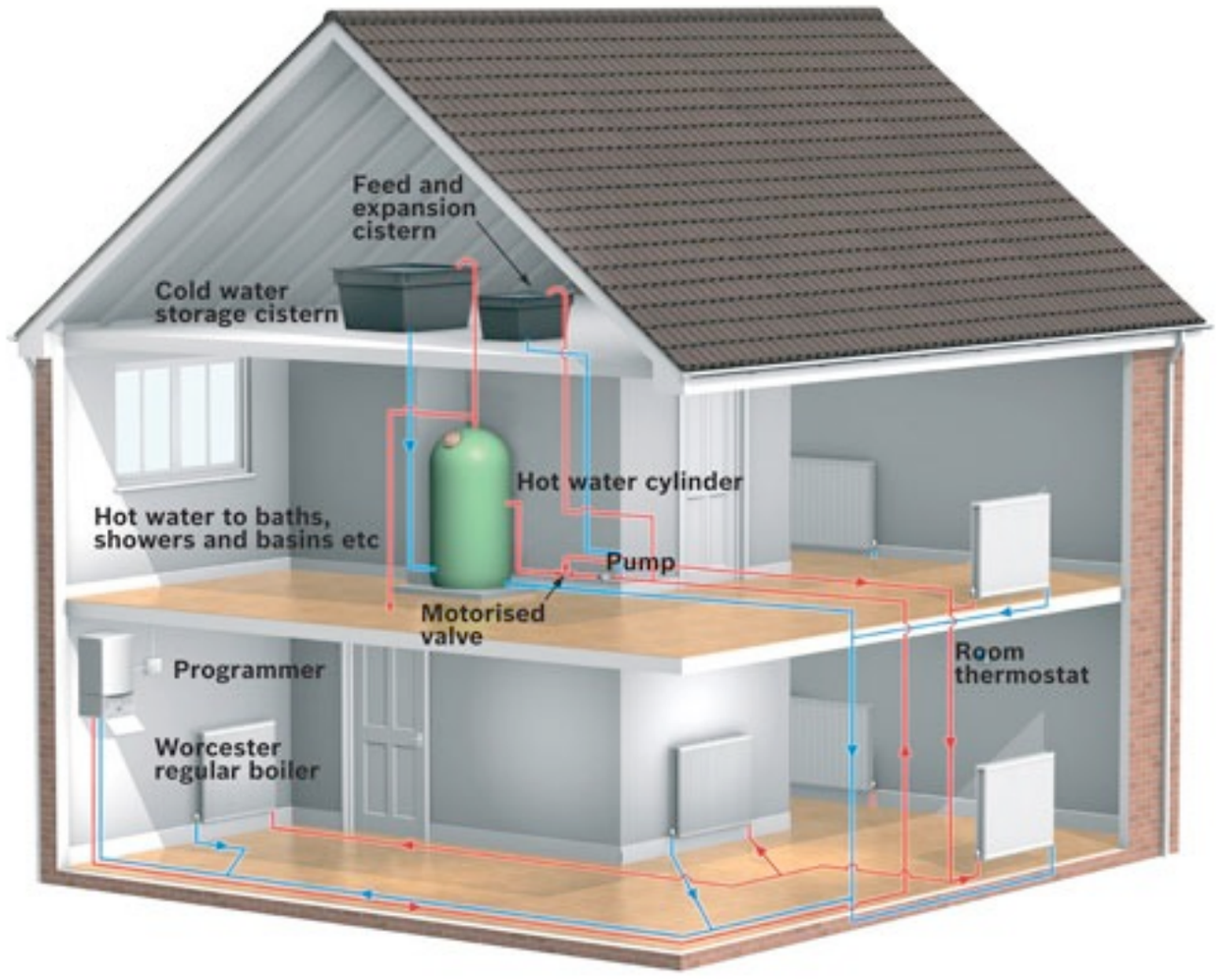
• Excellent for tackling complex problems

• Holistic design approach (focus on the context of use)

• Systems design outlines the components that systems should have:
A **goal**, a **sensor**, a **comparator** and an **actuator** (these parts are shaped by the interaction designer)

• Compared to other approaches systems design provides a clear roadmap for designers to follow

source: [5]



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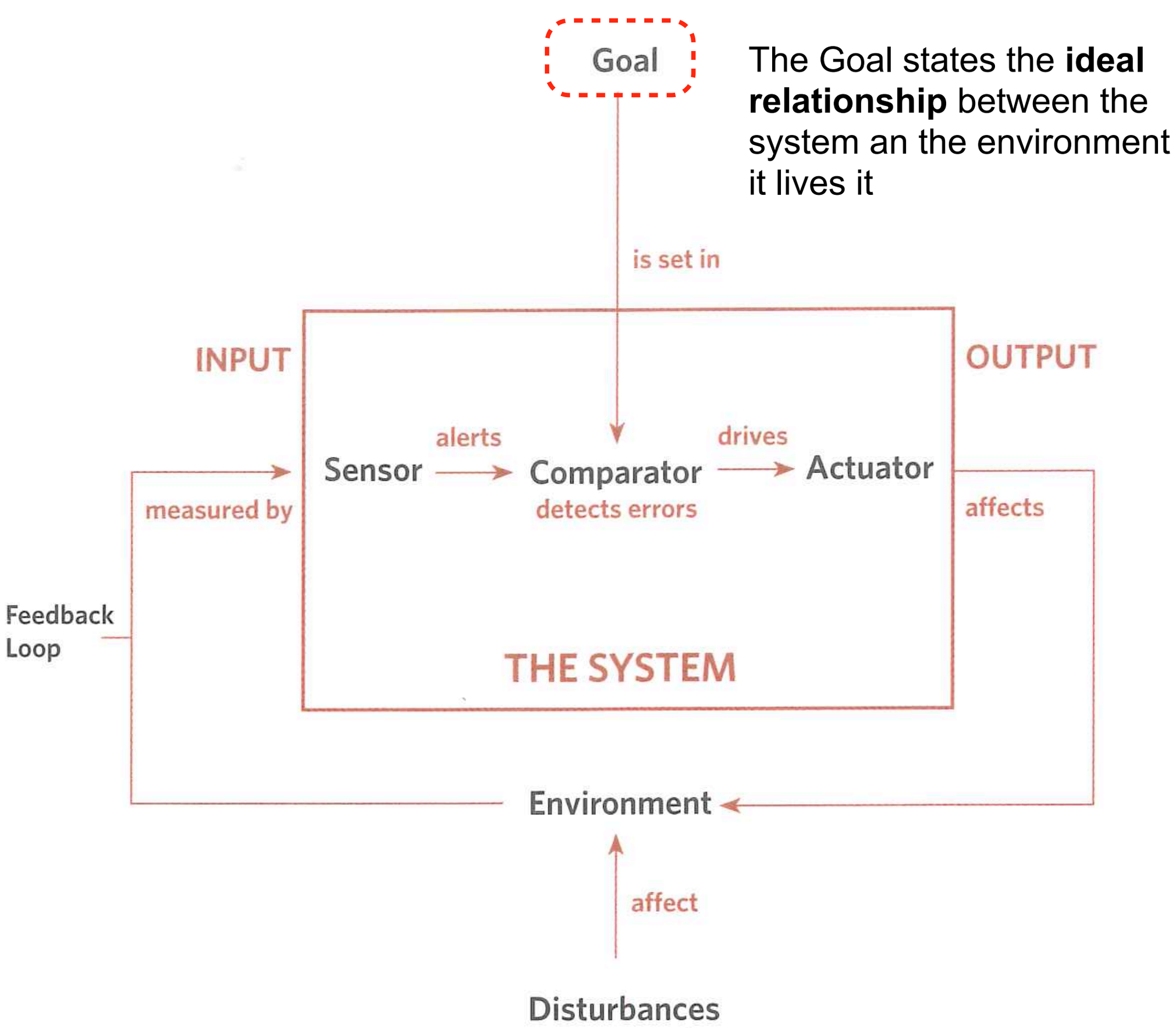
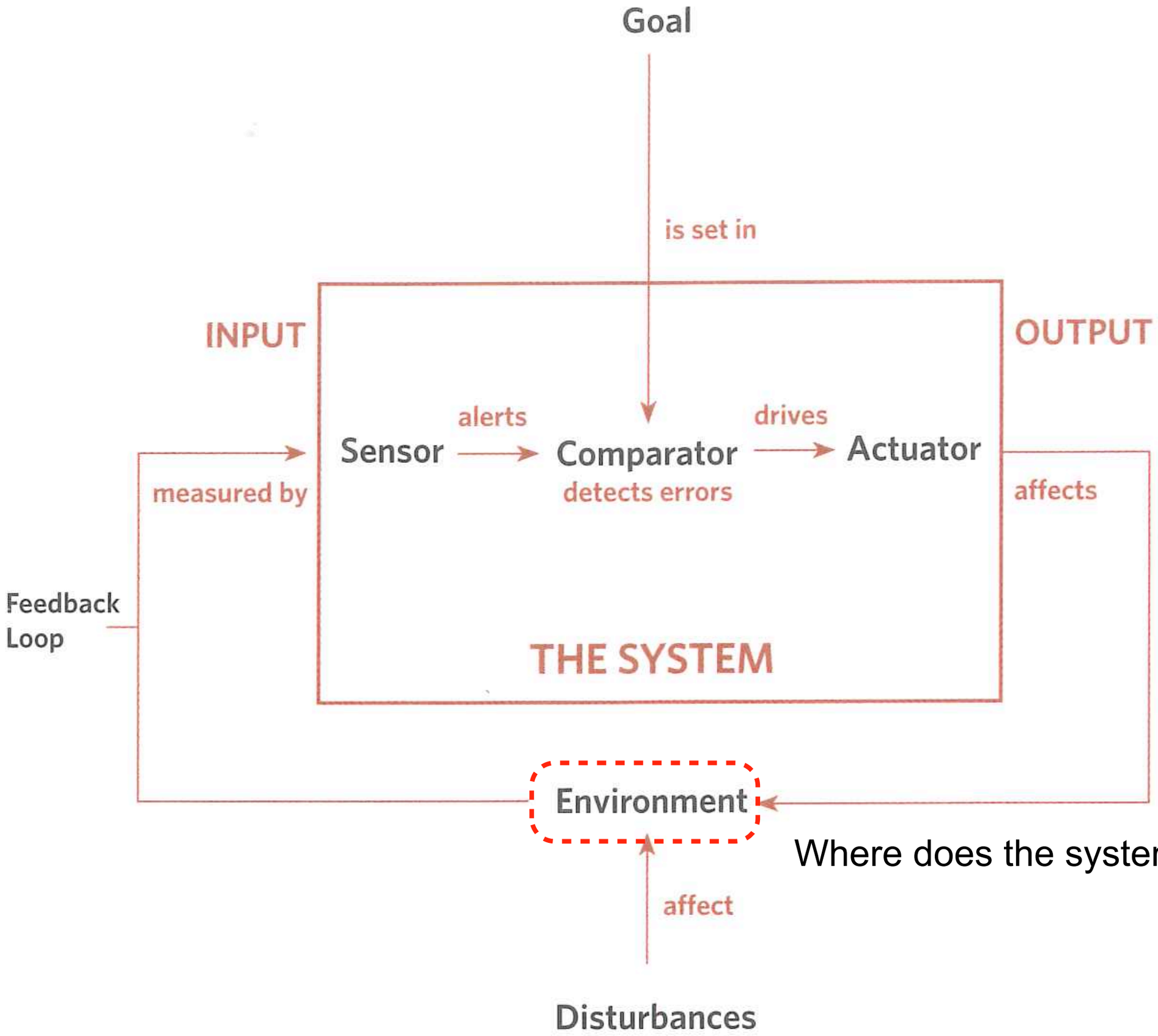


The Goal states the **ideal relationship** between the system an the environment it lives it

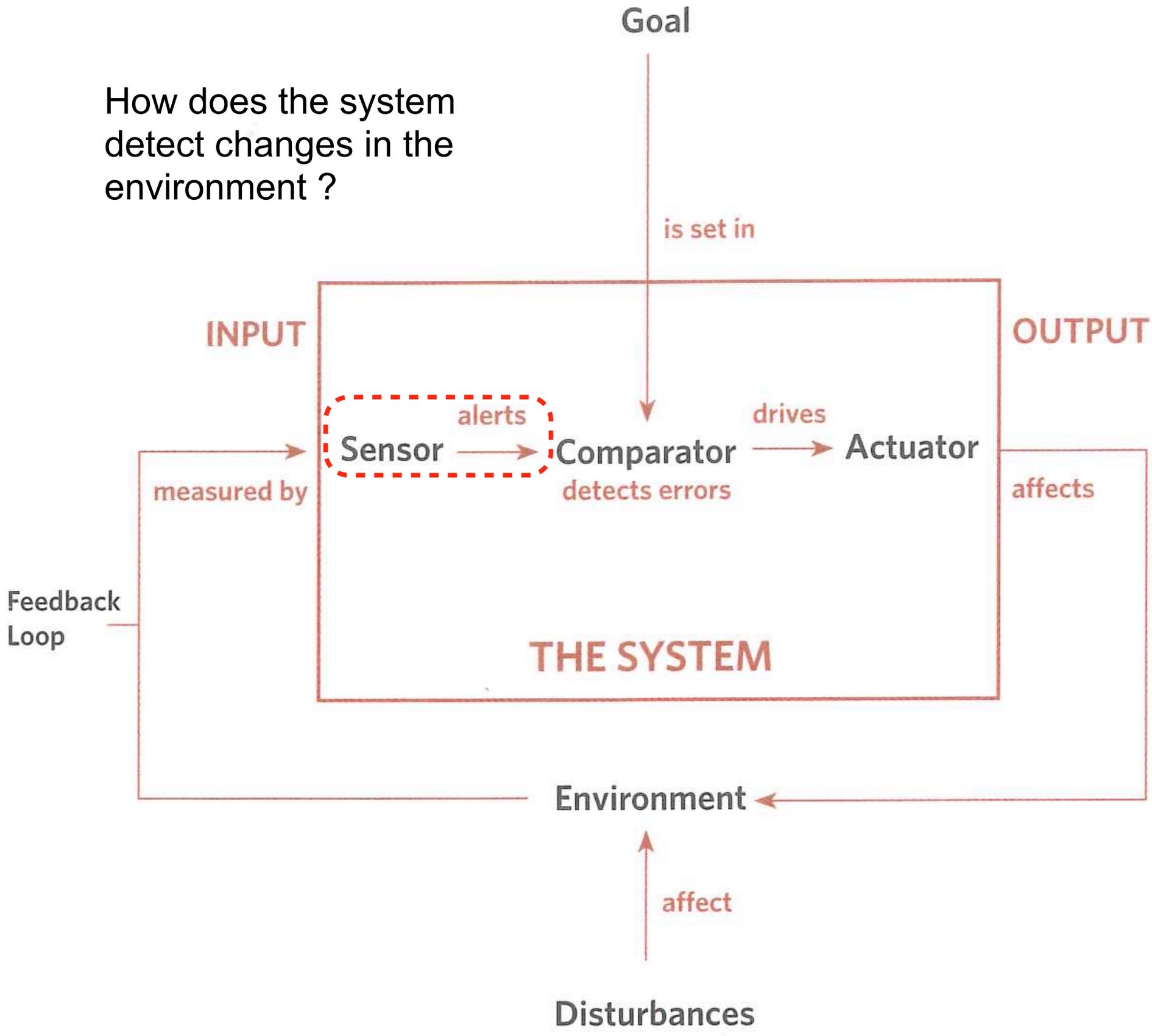
source: [5]



Where does the system “live” ?

source: [5]

How does the system detect changes in the environment ?



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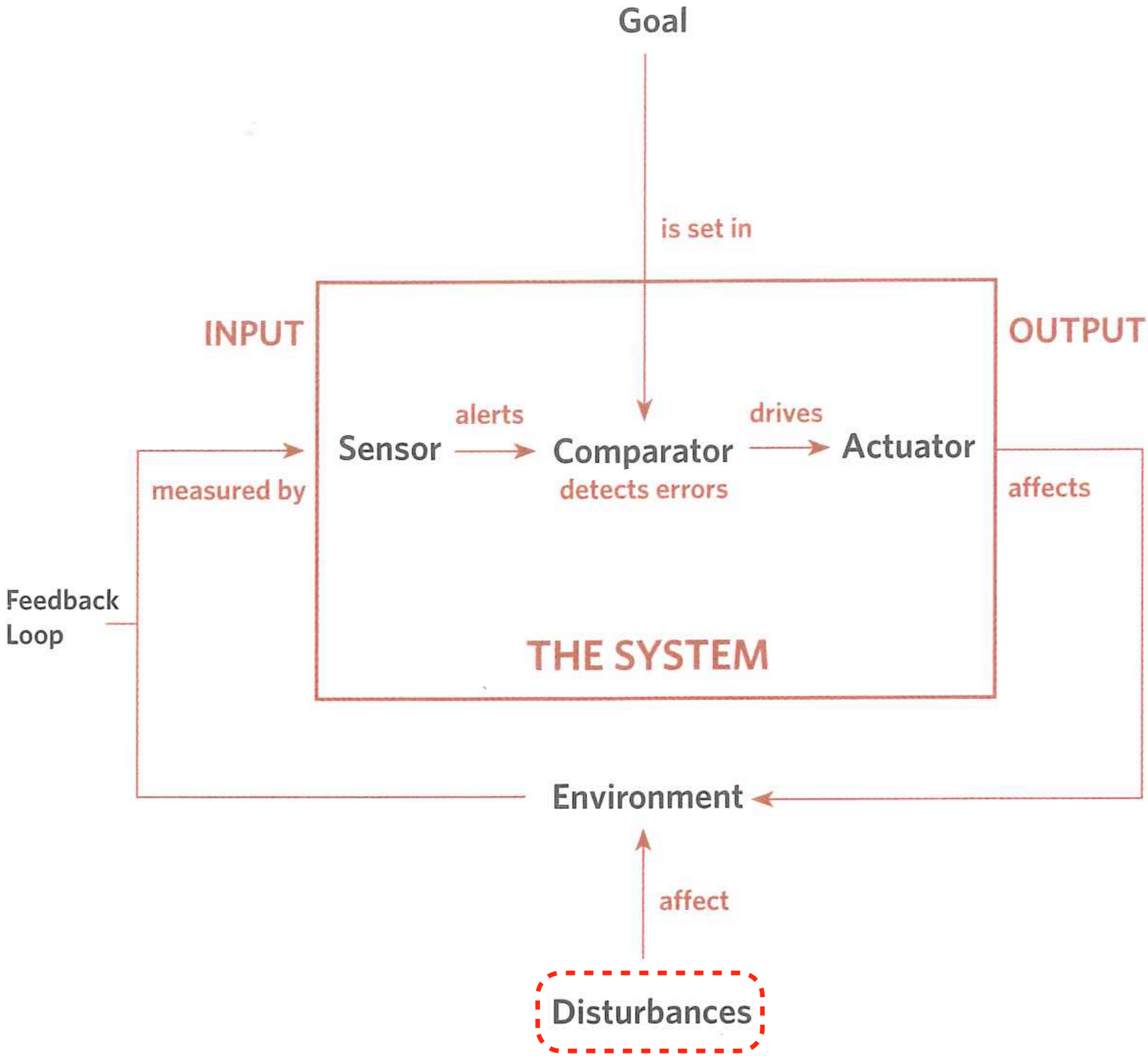
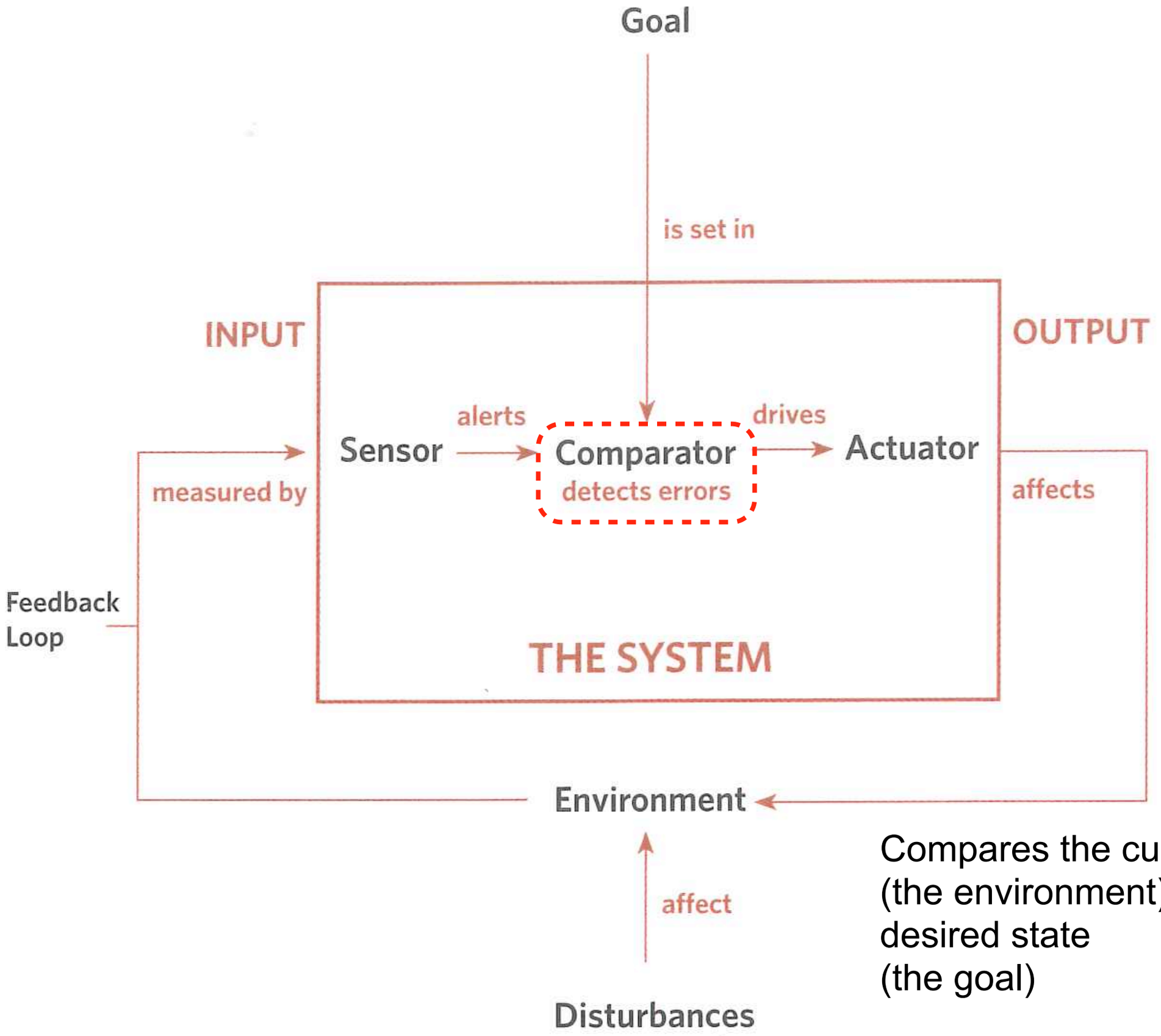
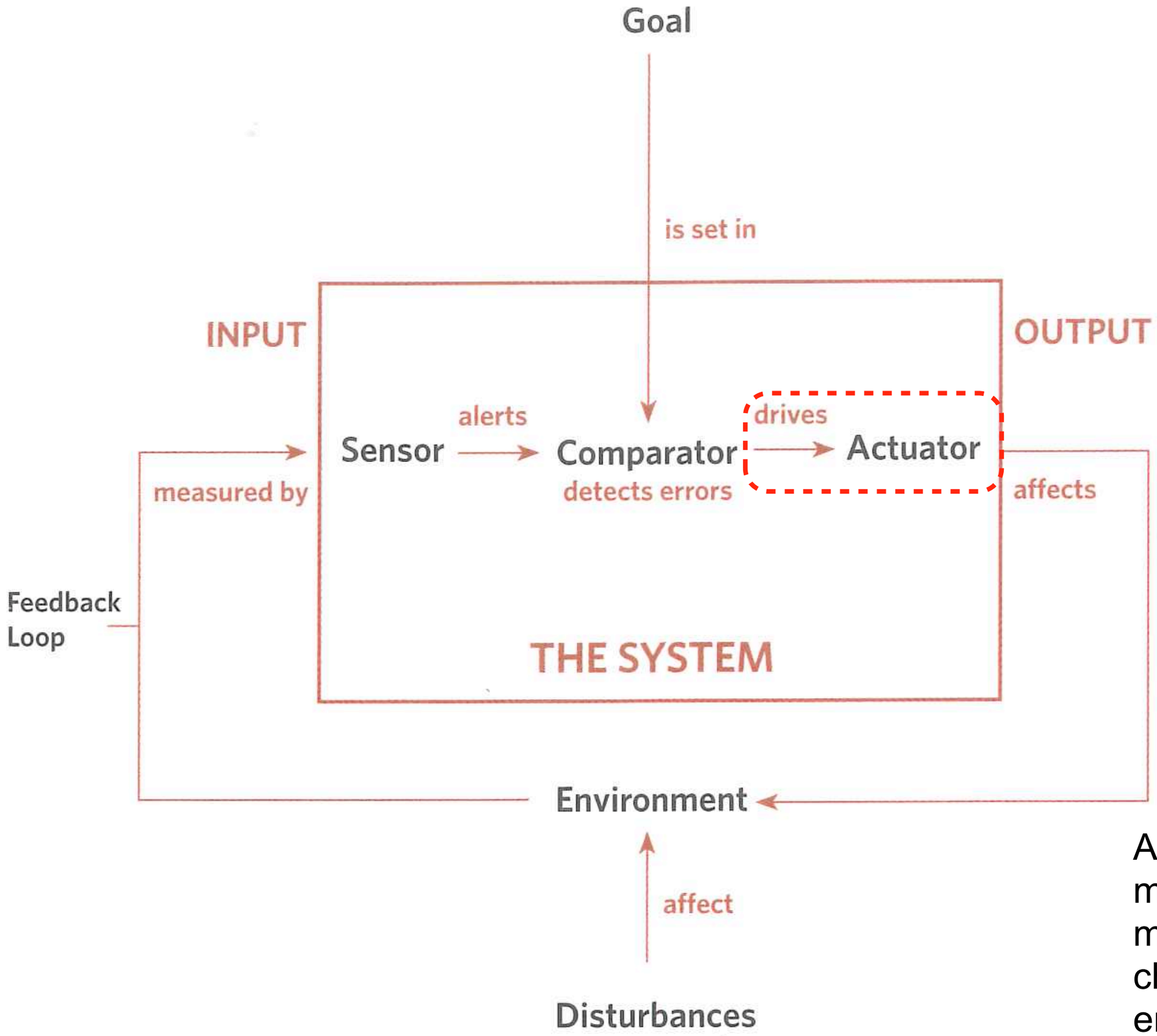

Goal
is set in
INPUT
OUTPUT
alerts
drives
Sensor
Comparator
Actuator
measured by
detects errors
affects
Feedback
Loop
THE SYSTEM
Environment
affect
Disturbances

source: [5]



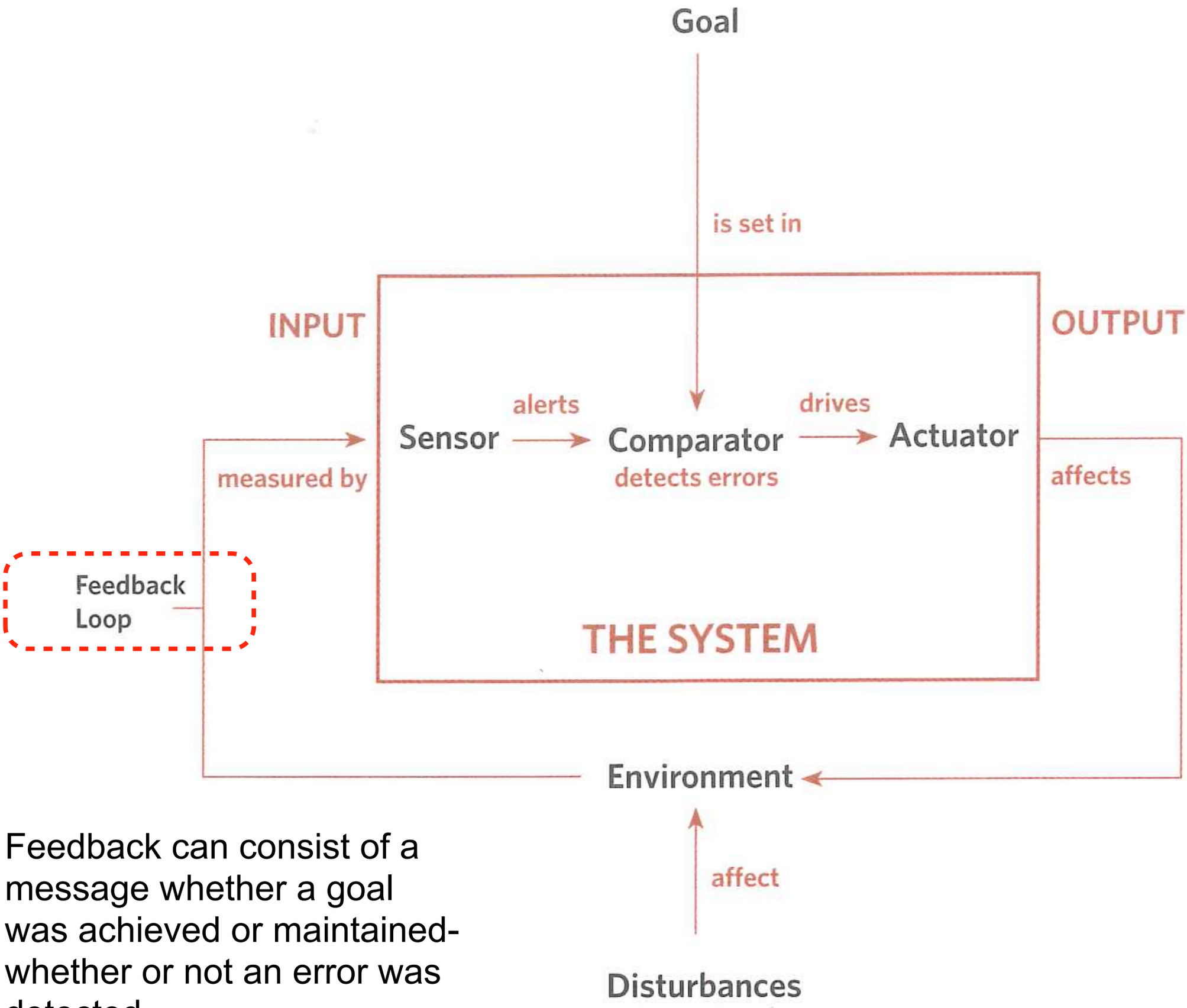
Compares the current state (the environment) to the desired state (the goal)

source: [5]



Actuators are means of making changes to the environment

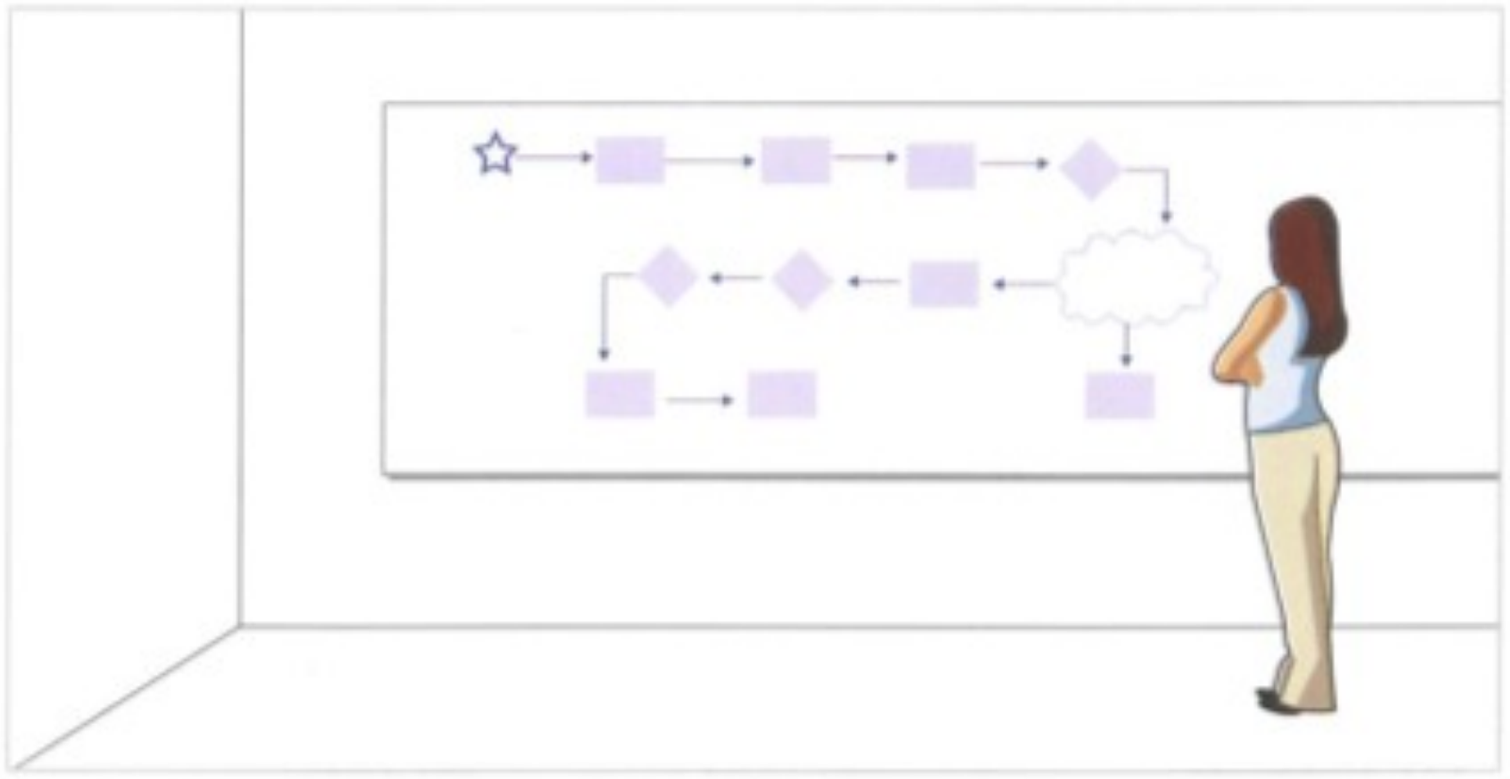
source: [5]



Feedback can consist of a message whether a goal was achieved or maintained- whether or not an error was detected

source: [5]

Flow Diagram



Represent a series of events, actions or processes of different actors.
Usually have a beginning and an end point.

Unexpected disturbances

• things that fall outside of the expected range of input

• to make unexpected disturbances expected (and thus make the system more stable), systems need what´s called ***requisite variety***

• the system needs an assortment of responses to deal with a range of situations to prevent the system from failing

• systems without requisite variety can crash

source: [5]

By focusing on the broad context of use and the interplay of the components,
interaction designers gain a **better understanding** of a product or a service

source: [5]

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Genius Design

• Philosophy: Design relies almost solely on the wisdom and experience of the interaction designer making the design decisions.

• Probably best practiced by experienced designers who have encountered several types of problems and can draw solutions from
previous design issues

source: [5]

http://upload.wikimedia.org/wikipedia/commons/1/11/IPod_family.png

http://www.flickr.com/photos/moparx/5321857668/sizes/l/in/photostream/

JONATHAN IVE

http://www.loopinsight.com/wp-content/uploads/ive.jpg

"Great design is as much about prospecting in the past as it is about inventing the future."

Bill Buxton

[2]

Beau Brownie Camera 1930

iPod Shuffle 2004

http://wwwapple.com
http://www.businessweek.com/innovate/next/archives/kodak_ipod.jpg

source: [8]

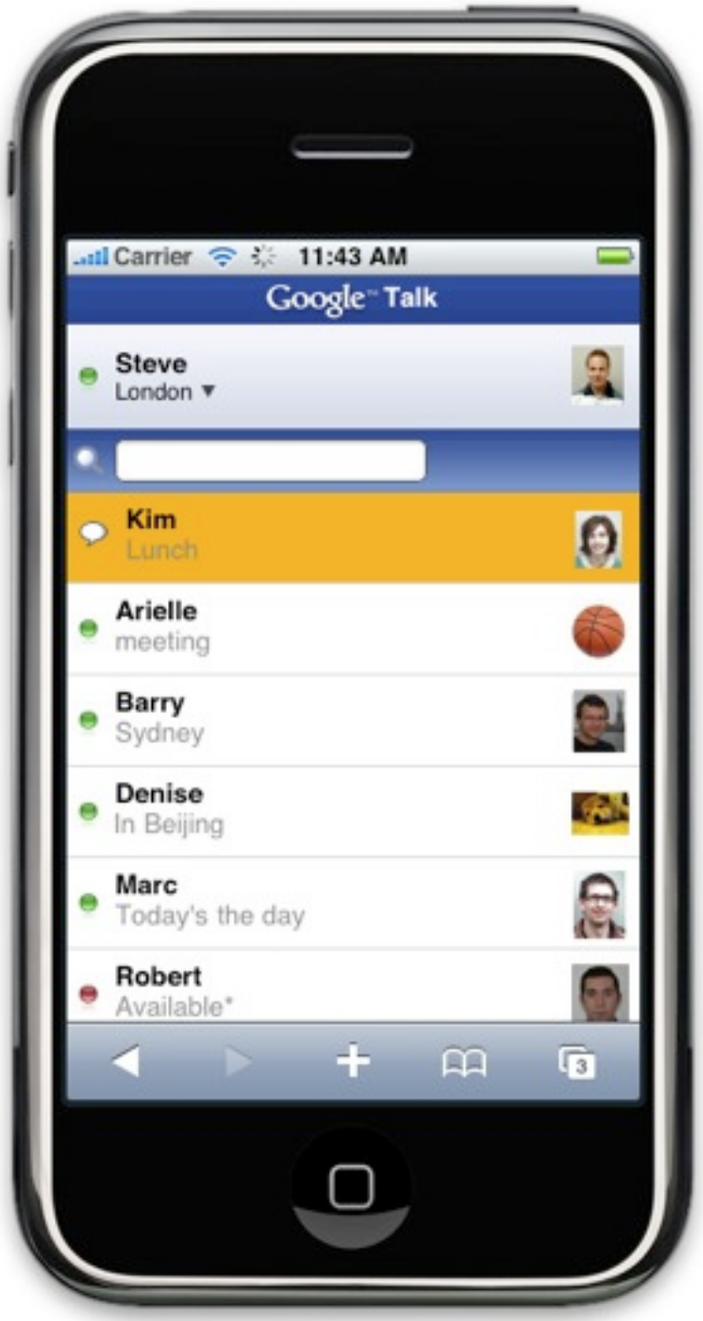
http://www.businessweek.com/innovate/next/archives/kodak_ipod.jpg

source: [8]

"A mobile device with a touch interface and only one physical button ?”

[2]

IBM Simon 1993



Apple iPhone 2007

source:[8]

http://upload.wikimedia.org/wikipedia/commons/0/0c/IBM_SImon_in_charging_station.png

References (Books):

[1] Buxton, W. Sketching User Experiences, *Morgan Kaufmann 2007.*
[2] Norman, D. The Psychology of Everyday Things, *Basic Books 1988.*
[3] Moggridge, B. Designing Interactions, *MIT Press, 2006.*
[4] Rogers, Y., Preece, J. & Sharp, H. Interaction Design, *Wiley & Sons 2011.*
[5] Saffer, D. Designing for Interaction, *New Riders 2009.*

References (Papers):

[6] Sanders, E. An Evolving Map of Design Practice and Design Research. *In ACM Interactions 15,6 2008*
[7] Sanders, E. Stepping Stones Across the Gap.Essay in DAIM – Rehearsing the Future, *DKDS Press 2010.*

Articles:
[8] http://www.businessweek.com/innovate/next/archives/2008/12/what_apple_lear.html