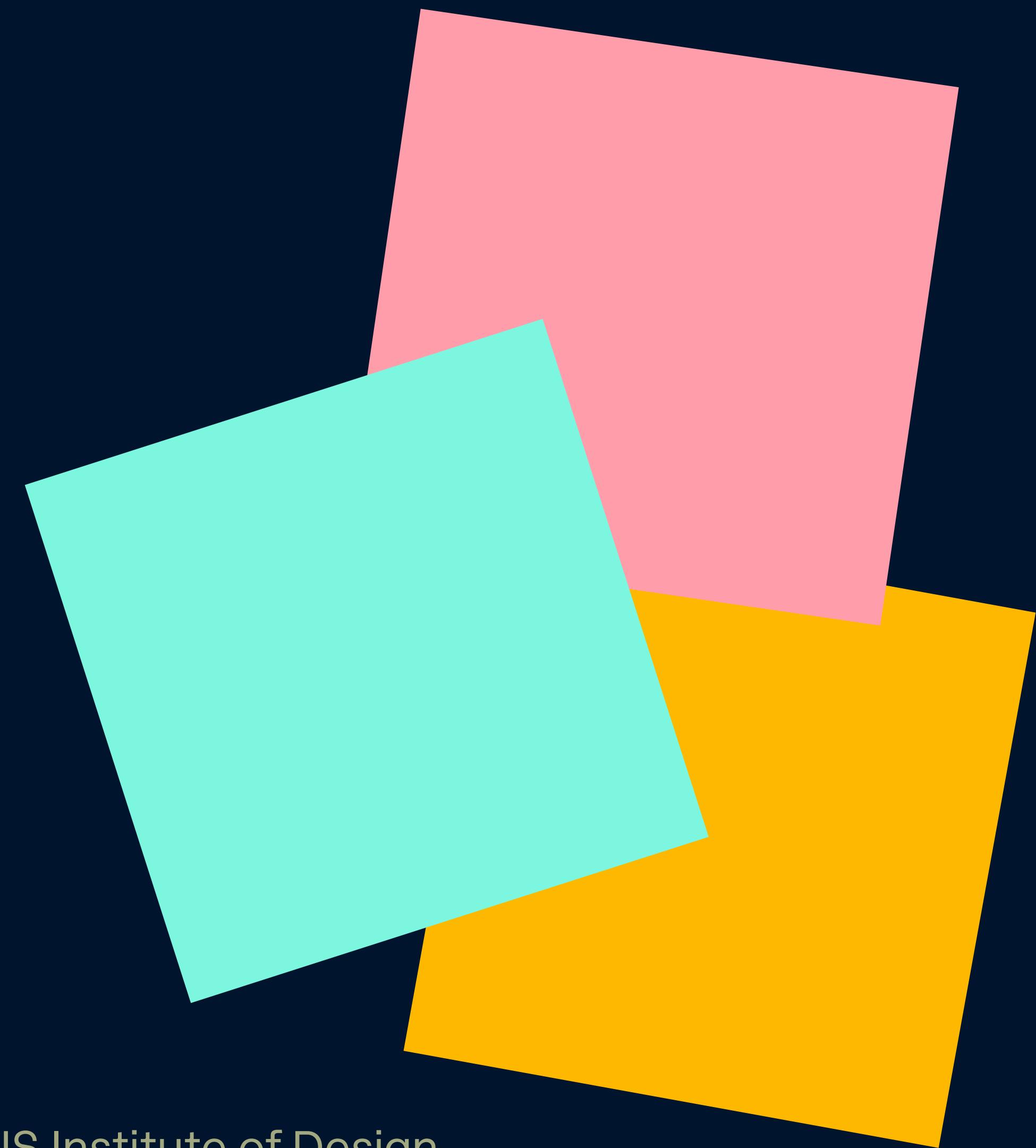


Lecture 1

Ergonomics - Physical and Cognitive

Good design



Ergonomics - Physical and Cognitive

12 Lectures expected

1 mid-semester project

1 end-semester project

About me

- Designer
- Nerd
- Likes bullet points
- Masters in Interaction Design from IDC School of Design
- UX Designer at Microsoft
- Uses Figma (almost) every day

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Gyan Lakhwani (@gyanl) • Instagram

gyanl Edit profile

373 posts 1,174 followers

Gyan Lakhwani

@gyanl Designer, illustrator, nerd | UX @ www.gyanl.com

Instagram

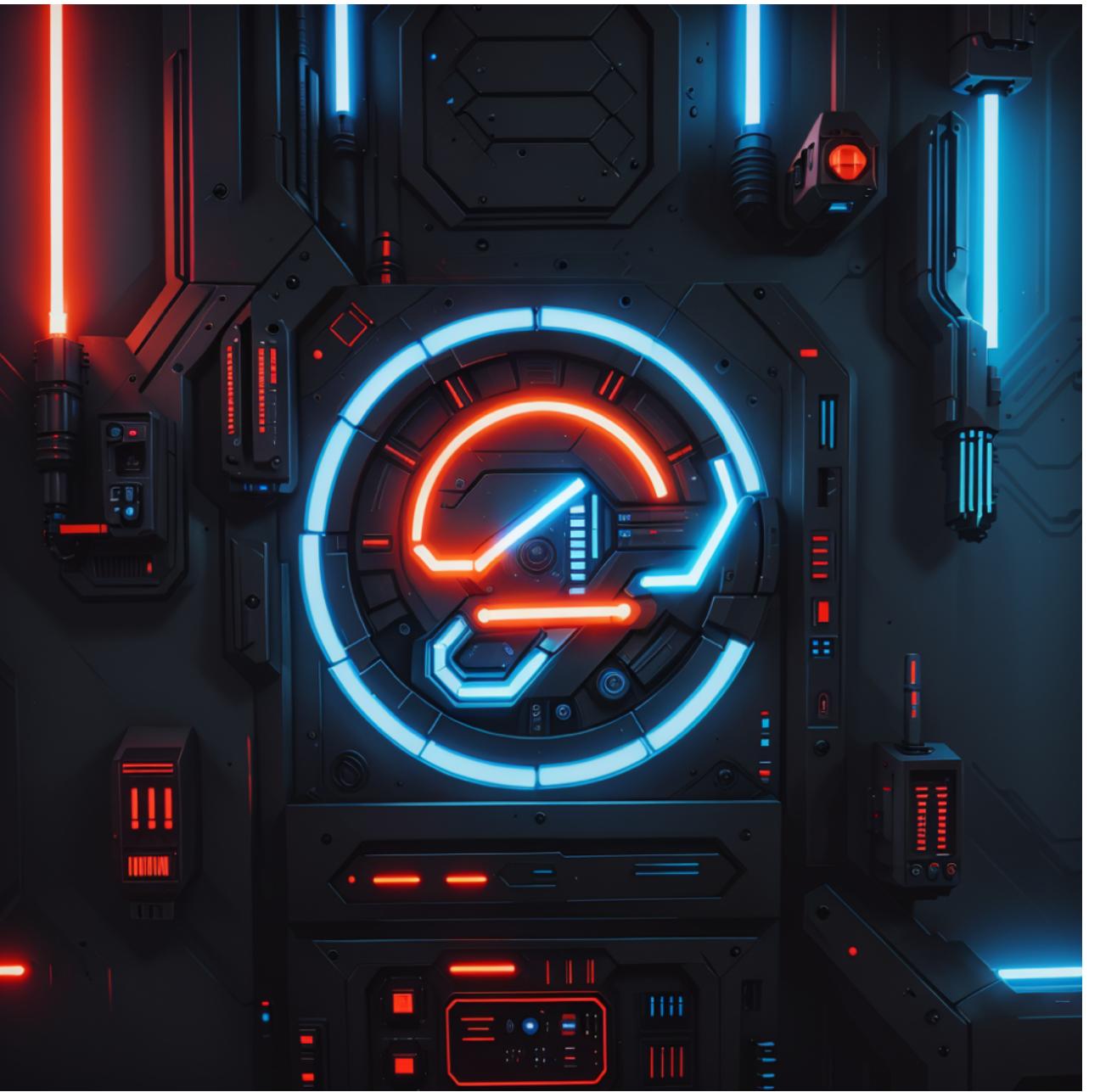
- Home
- Search
- Explore
- Reels
- Messages (3)
- Notifications
- Create
- Profile
- Threads (9+)
- More

Draw Reqs Summer Flo... Screenshots Typoday Talks

POSTS REELS SA

A screenshot of a digital drawing application interface. At the top, there's a toolbar with icons for selection, eraser, text, shapes, and other drawing tools. Below the toolbar, a header bar shows the text "View archive" and a circular profile icon. The main workspace displays a dark background with several circular thumbnails arranged horizontally. From left to right, the thumbnails represent: a black and white abstract design, a yellow star with a face, a landscape scene with a small figure, and a cartoon character. Below these thumbnails, there are labels: "day Talks", "V-day", "XStressX", and "Doodle Req...". At the bottom of the screen, there are two buttons: "SAVED" and "TAGGED".





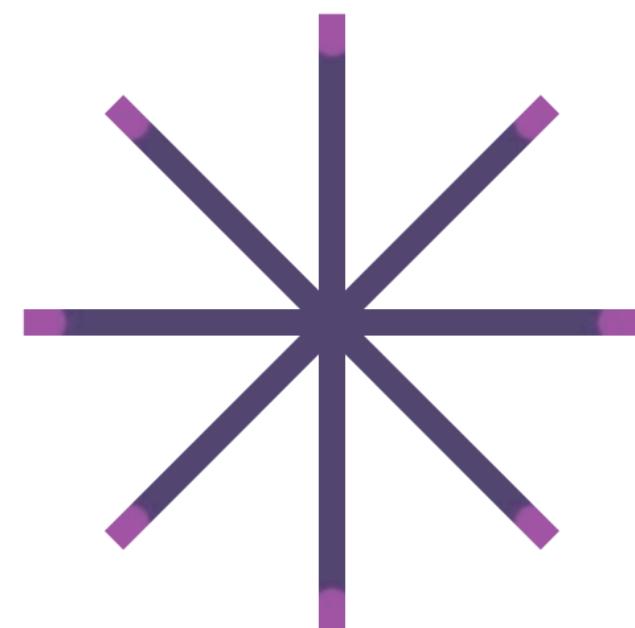


studio*
/ public
knowledge

Public Knowledge Studio is an India-based design studio focused on crafting technology with care. We build interfaces and experiences with precision, personality, and purpose.

Talk to us about your project

2 Slots left for Oct 2025!



[SCROLL TO START]



**So Gyan,
what is design?**

IDC School of Design
अभिकल्प विद्यालय

**What makes
something well
designed?**

Lets play a game.

I will show you some objects. If you think the object is well designed, say good design. If you think it's poorly designed, say bad design.



Koenigsegg Jesko Absolut 2020

**Rabbit R1
2024**



IRCTC Next Generation eTicket X

irctc.co.in/nget/train-search

LOGIN REGISTER AGENT LOGIN CONTACT US DAILY DEALS ALERTS 19-Jan-2024 [01:14:57] A- A A+ हिंदी

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Azadi Ka Amrit Mahotsav G20

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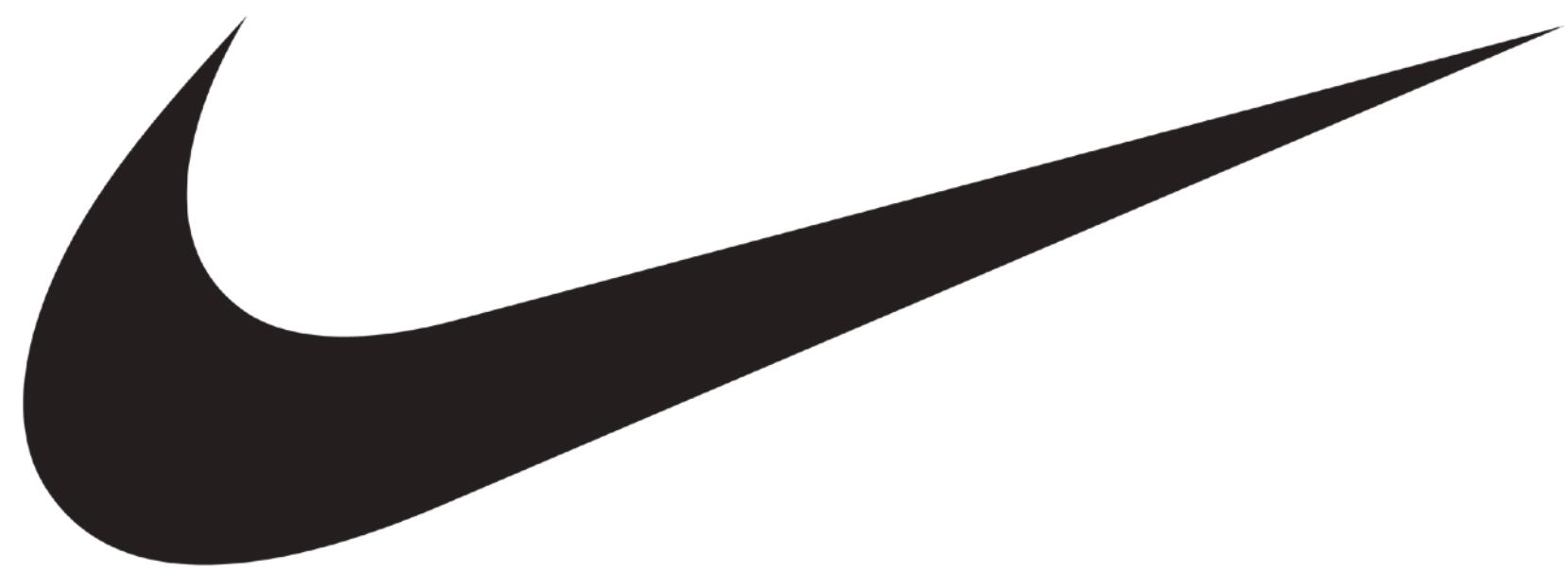
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IRCTC

Figma (2025)

The screenshot shows a Figma workspace titled "Mercury Lawyer". The left sidebar contains a navigation menu with sections like "File", "Assets", "Pages", "Components", "Website", "New Logo", "Archive", "Layers", and "Text styles". The main canvas displays various wireframes and designs, including a "Current Screens" section, a "Feature Spec: Mercury Draft" document, "Sample Court Docs", a "Proof of Concept Build" screen, and several "Drafting - Landin..." screens. A central diagram illustrates a flow or process. The right sidebar includes tabs for "Design" and "Prototype", and sections for "Page", "Variables", "Styles", "Effect styles", "Export", "Plugin", and a link to "Open html.to.design". The bottom of the screen features the Figma toolbar with icons for selection, text, shapes, and other tools.



**Nike Swoosh
1971**



TV Remote



TV Remote “Improved”

Airbus A380 Cockpit 2010s



**Juicy Salif
1990**





Casio F-91W
1989



Apple Watch Series 9
2023



**Safety Pin
1849**

Dieter Rams Industrial Designer



**Braun Pocket Radio
1958**





**Braun Pocket Radio
1958**



**iPod Classic
2014**

**Zips
1891**



**Herman Miller Aeron
1994**





Monobloc
1970s

What's something that you
used recently that felt
uncomfortable or confusing?

Take a minute or two to think if you need.

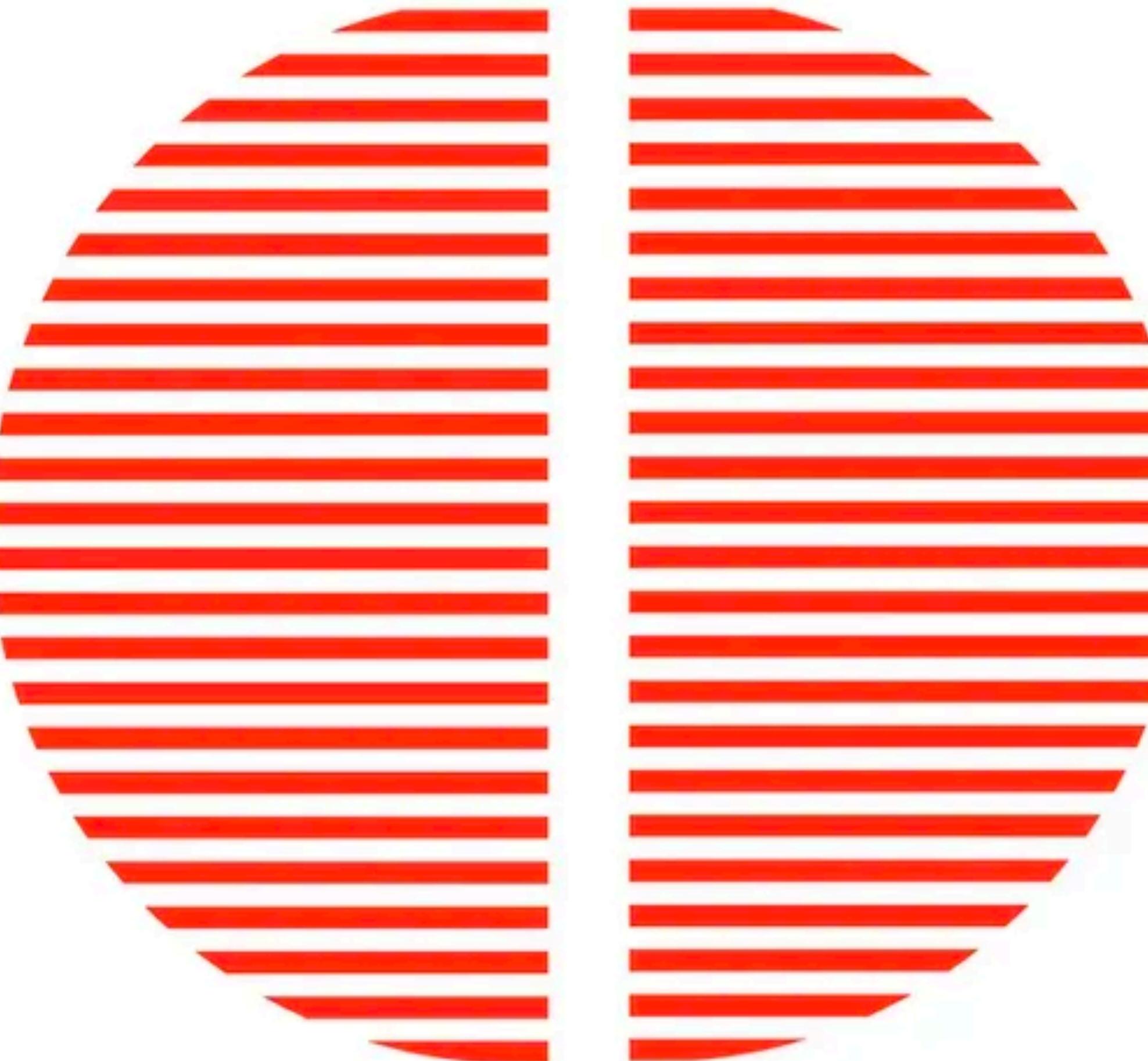
1 Good design is
innovative.

2 Good design
makes a product
useful.

3 Good design is
aesthetic.

4 Good design is
makes a product
understandable.

5 Good design is
unobtrusive.



6 Good design is
honest.

7 Good design
makes a product
long-lasting.

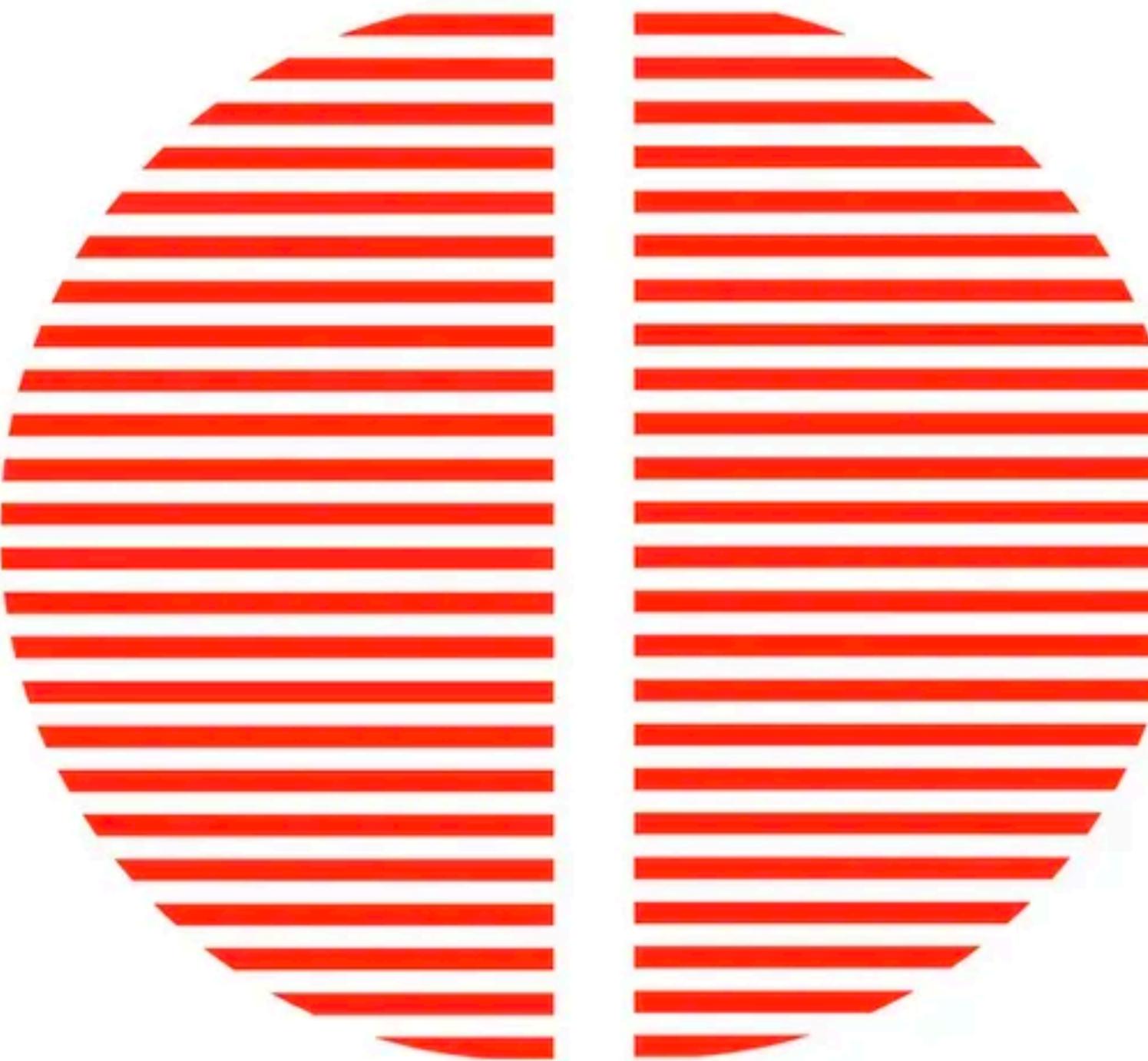
8 Good design is
thorough.

9 Good design is
**environmentally
friendly.**

10 Good design is
**as little design
as possible.**



- 1 Good design is innovative.
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Safety Pin
1849

- 6 Good design is honest.
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“Don’t make something unless it is both necessary and useful; but if it is both, don’t hesitate to make it beautiful.”

“Don’t make something unless it is both **necessary** and **useful**; but if it is both, don’t hesitate to make it **beautiful**.”

Need + **Function** + **Form**
A use case What it does How it looks

Does form affect function?



Can the shape of an object tell me something about how it should be used?

Signifiers

Cues or signals that communicate where and how an action should be performed.

- A chair's flat seat surface invites you to sit on it
- A blinking cursor in a text box signals you can type.
- An underline on a hyperlink indicates that you can click it

Affordances

The action possibilities of an object — what the object allows you to do.

- A chair affords sitting.
- A button affords pressing.
- A text field affords typing.

Affordances + Signifiers

Together

- **Affordance:** What can be done.
- **Signifier:** How you know what can be done.





What is Ergonomics?

Ergonomics is a scientific discipline that addresses the effective design of products, work environments and more.

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Ergonomics is a scientific discipline that addresses the effective design of products, work environments and more.

In user experience (UX) design, it refers to how designers streamline digital products to minimize effort, movement and cognitive loads for users, so lessening their fatigue while improving productivity and—by association—a product's desirability.

What is Ergonomics?

The study of people's efficiency in their working environment.

Ergon: work

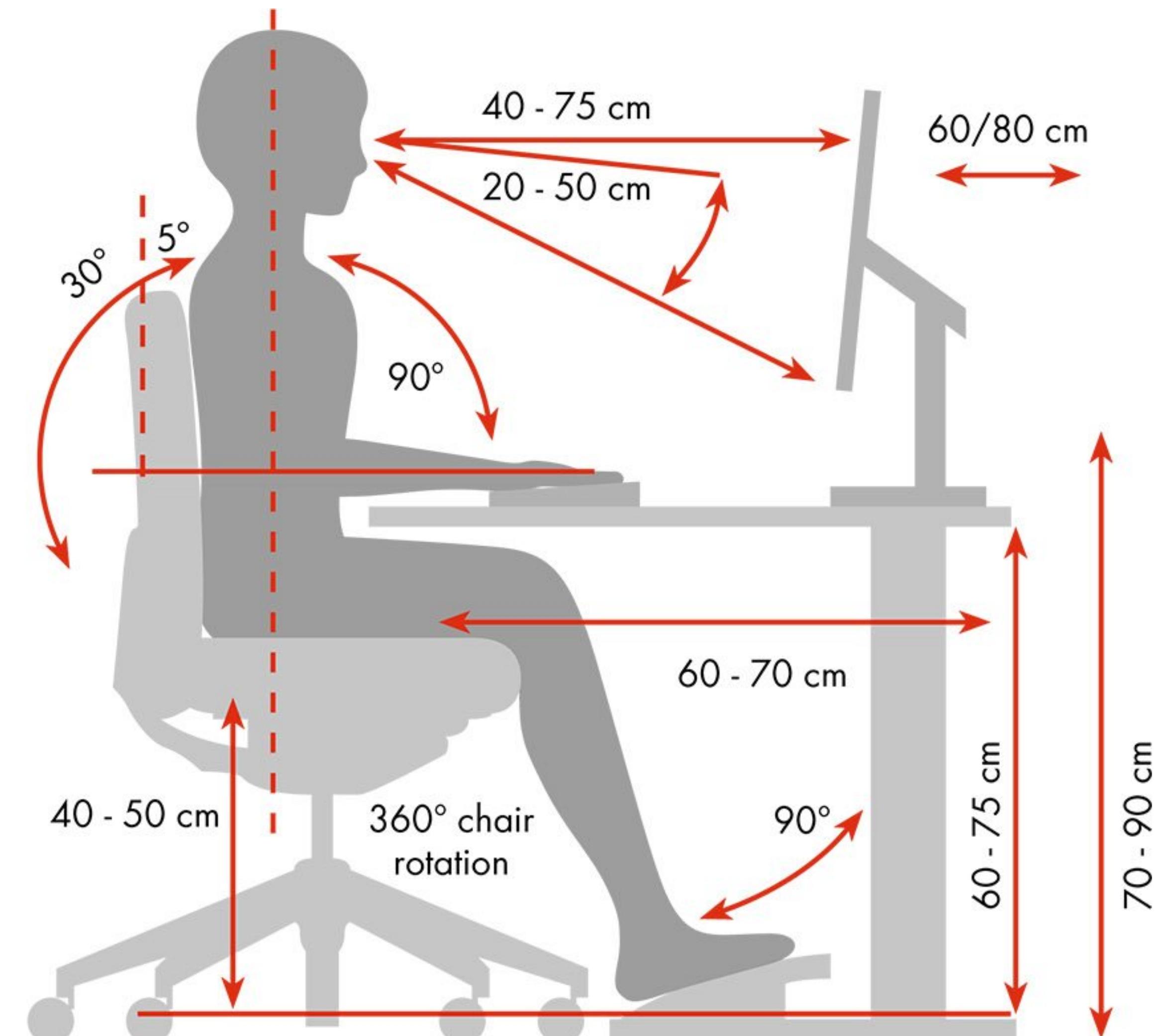
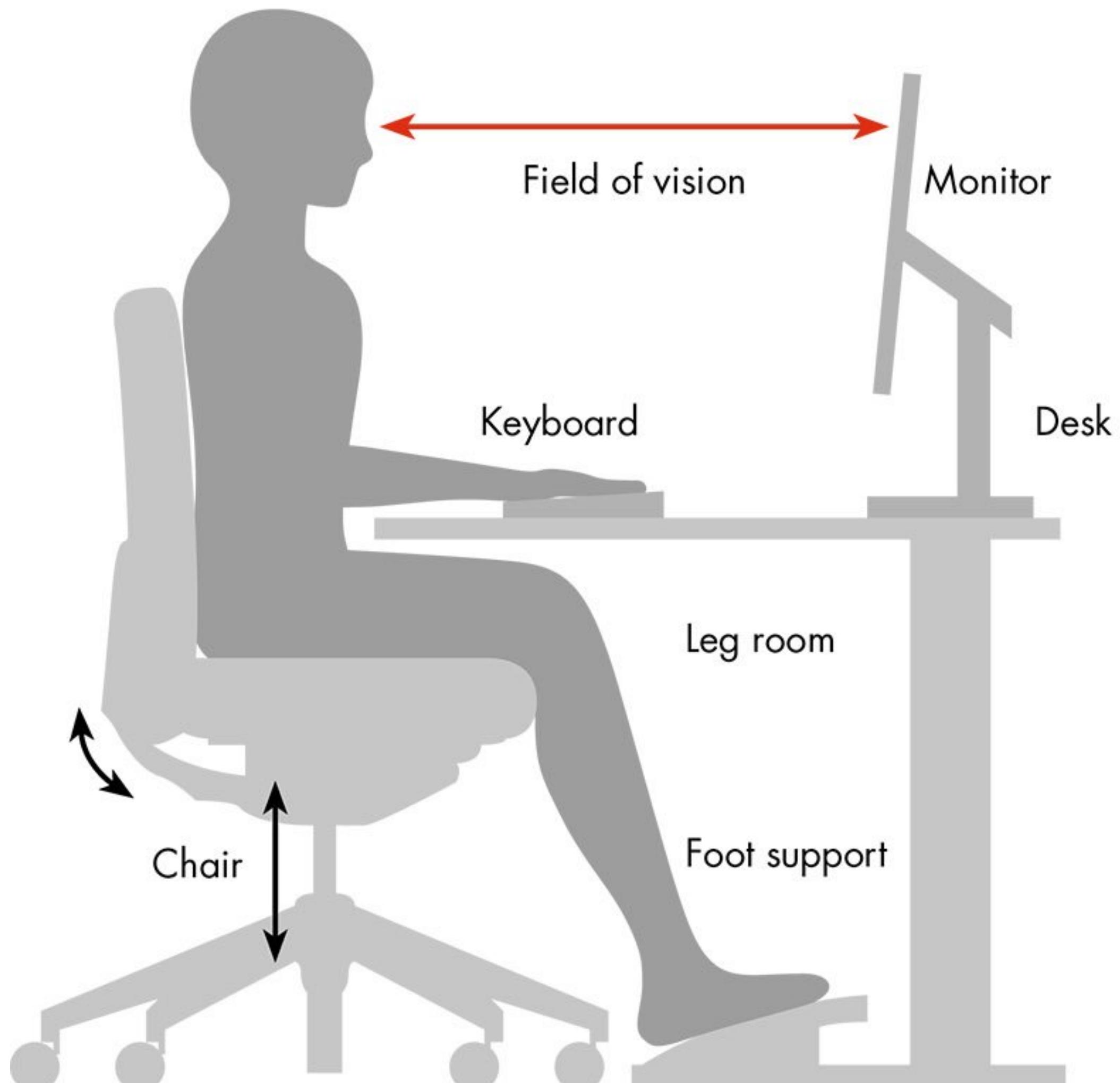
Economos: economics

Good ergonomics reduces user fatigue, errors, and injuries, and improves efficiency and satisfaction.

Why bother studying Ergonomics?

**What would I need to
know to design the
Aeron chair so that it
is comfortable for
everyone?**





Class Objectives

By the end of this course, you should be able to:

1. Identify ergonomic issues
2. In physical and digital interfaces
3. Apply human factors principles to design decisions
4. Design interfaces and products that align with human capabilities and limitations
5. Perform usability audits and evaluations on products for ergonomics issues and propose solutions