



Creative Interaction Design and Technologies  
TANG, Xuetong

Stanford d.school Workshop

# Agenda

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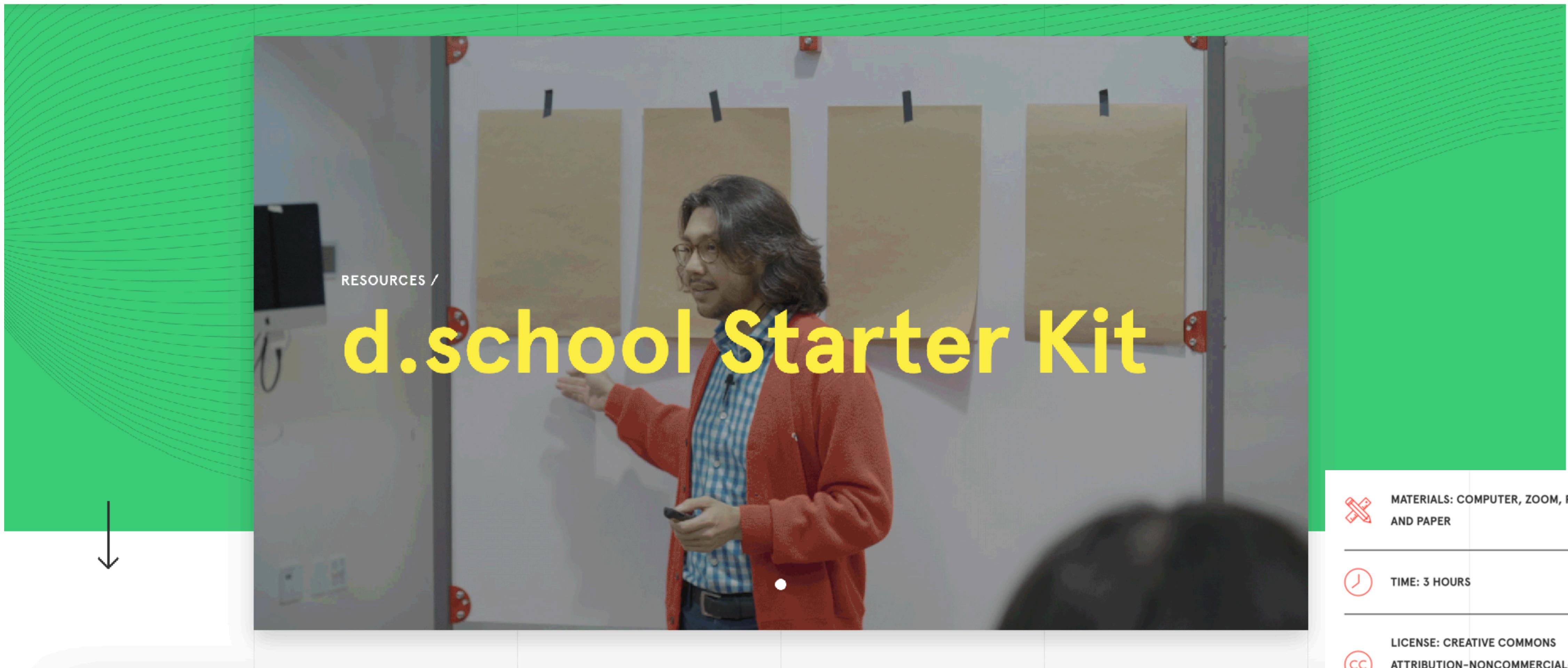
## Lecture

- Design Thinking Workshop
- How AI Will Impact the Future of Work & Life
- From STEM to STEAM

## Lab Time

- HTML Exercise 2
- Get To Know Atom & GitHub Better

Stanford d.school Workshop



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# Workshop先导

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**Let's get started with d.school Starter Kit!**

# Welcome to the d.school Starter Kit

**Mute your audio**

**Show your video**

**This workshop is about DOING design.**



## Watch a video about Navigating Ambiguity

You face a world that is constantly in flux and seems to be more so every day.

Sarah Stein Greenberg (Executive Director) and Scott Doorley (Creative Director) share why equipping students to navigate ambiguity is the most important thing they do at the Stanford d.school.



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# What you'll learn today

## Abilities

Abilities develop over time. Today you'll get a chance to practice some design abilities that can become second nature if you keep developing them.

## Mindsets

A mindset is just an attitude that influences how you approach anything that comes our way. Mindsets can be hard to pin down but may be the most useful thing you will learn today.

## Methods

You'll learn some specific design methods as well. Keep an eye out for the ones that work for you.



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# How you'll learn today

## Learn from others

You will watch some unconventional designers talk about applying design principles to everything from hip-hop to elementary schools.

## Work on your own

You will watch videos of a d.school workshop in session to help you get up to speed.

**Part 1**  
60-80 min

**Break**  
10 min

## Work with a partner\*

You will work with a partner to experience how design work feels by discover a hidden need of theirs and developing an idea to address it.

\*Partner work happens in the breakout rooms.

**Part 2**  
60-80 min

# Learn from others

What does the word  
design mean to you?

How do you think  
design might work  
for you?



Hey, everybody!

Type your answers to  
these questions in the  
chat box.

# Meet Laura & Louie



**Laura McBain**

K12 Lab Director of Community & Implementation.

**What I do**

Unleash educators to change the world.

**Also**

Designer of experiences, systems-thinker and social justice advocate



**Louie Montoya**

Learning Experience Designer

**What I do**

Tear down walls, and use the rubble to build a more equitable education system.

**Also**

Artist, cook, and escape room connoisseur



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**Jump right in as Laura  
and Louie introduce you  
to social entrepreneur  
& educator, Jill Vialet.**

**She'll share some ideas  
about how design works  
for her.**

Hi!

You've stumbled on a video that's part of a series designed to help you teach other people how design works.

If that sounds interesting, learn more by [clicking here](#).



2020 Stanford d.school  
Video 2 (of 10)

## Watch a video about Jill Vialet

What can design look like in practice?

Jill founded several companies & non-profits that focus on learning & schools.

One of them, Substantial, works with school principals to help substitute teachers do their best work.



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Hi!

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## Watch a video and Get Stoked!

Stokes are quick activities that help loosen up and energize teams—both mentally and physically.

It also helps us get in the right mindset for our design work.



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Video 3 (of 10)



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**Blind contour  
portraits look  
something  
like this.**

**4 MINUTES**

# Draw a blind contour portrait

You are going to a break out room for a couple minutes to get to know a partner and try a quick “stoke” with them.

When you get there you will have a minute to introduce yourself.

Include your full name, where you are from, and why you are curious about design work.

After that, you'll have a minute to each do a blind-contour drawing of your partner. Draw a portrait of your partner, looking only at them and not at your paper. (Use only one piece of paper.)

Because you have to look at each other and not at the page while you draw, you can both draw at the same time.



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**Reflect on how that stoke  
made you feel.**

Then share your thoughts by writing a sentence or two in the chat room.

# Learn from others

## **Being uncomfortable.**

You might have felt uncomfortable. Good. Good designers are comfortable being uncomfortable. (Get comfortable with it.)

## **Making messes.**

You might have felt like you just made a mess. Good. Making a mess is part of design work. We hope you've whet your appetite for mess making (but don't forget, it's also your responsibility to clean up).

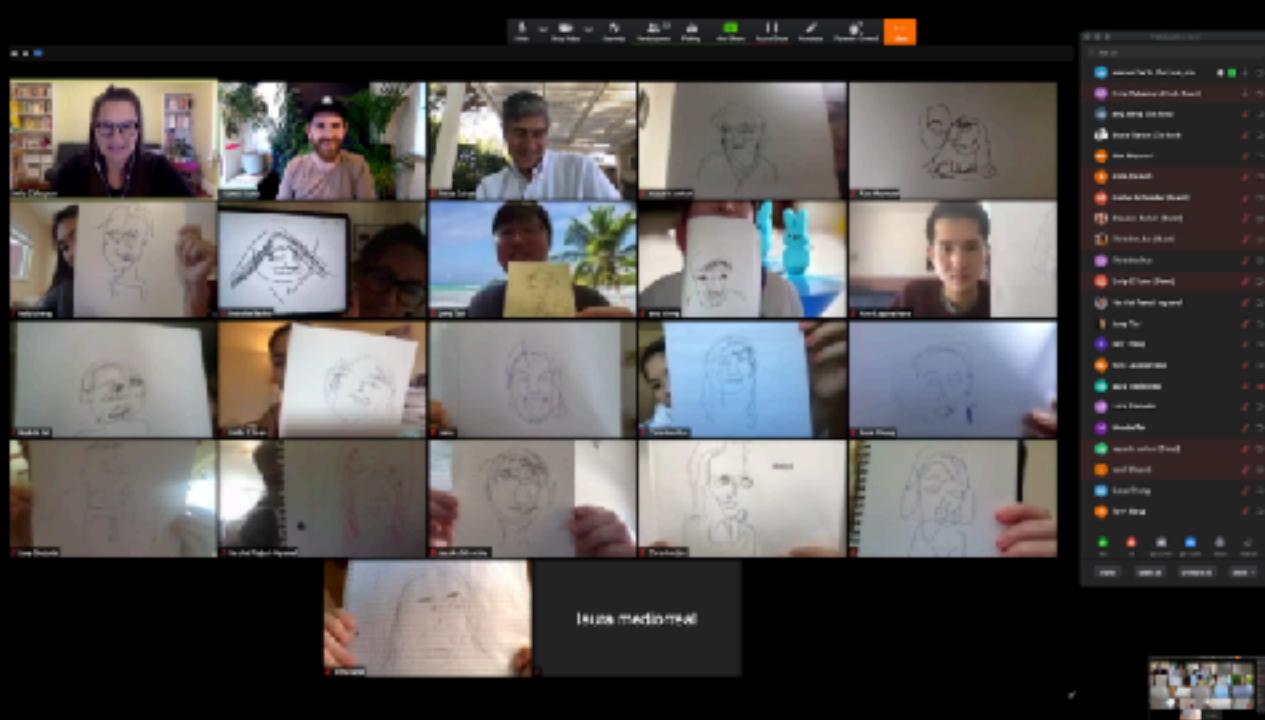
## **Starting now.**

You might have felt like you weren't ready. Good. Good designers start before they're ready. Remember how that feels, you'll be feeling it again soon.



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the Stanford d.school

# Capture your work



**Good designers have a habit of capturing their work-in-progress.**

**Let's start your habit now.**

Hold your blind-contour portraits up to the camera if you'd like to be part of the photo.

If not, please disable your video for a moment.

For Mac users, press CMD+SHIFT+3 at the same time.

For PC users, press PrtScn. (On some notebooks you have to hold Fn and then press PrtScn)



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**6 MINUTES**

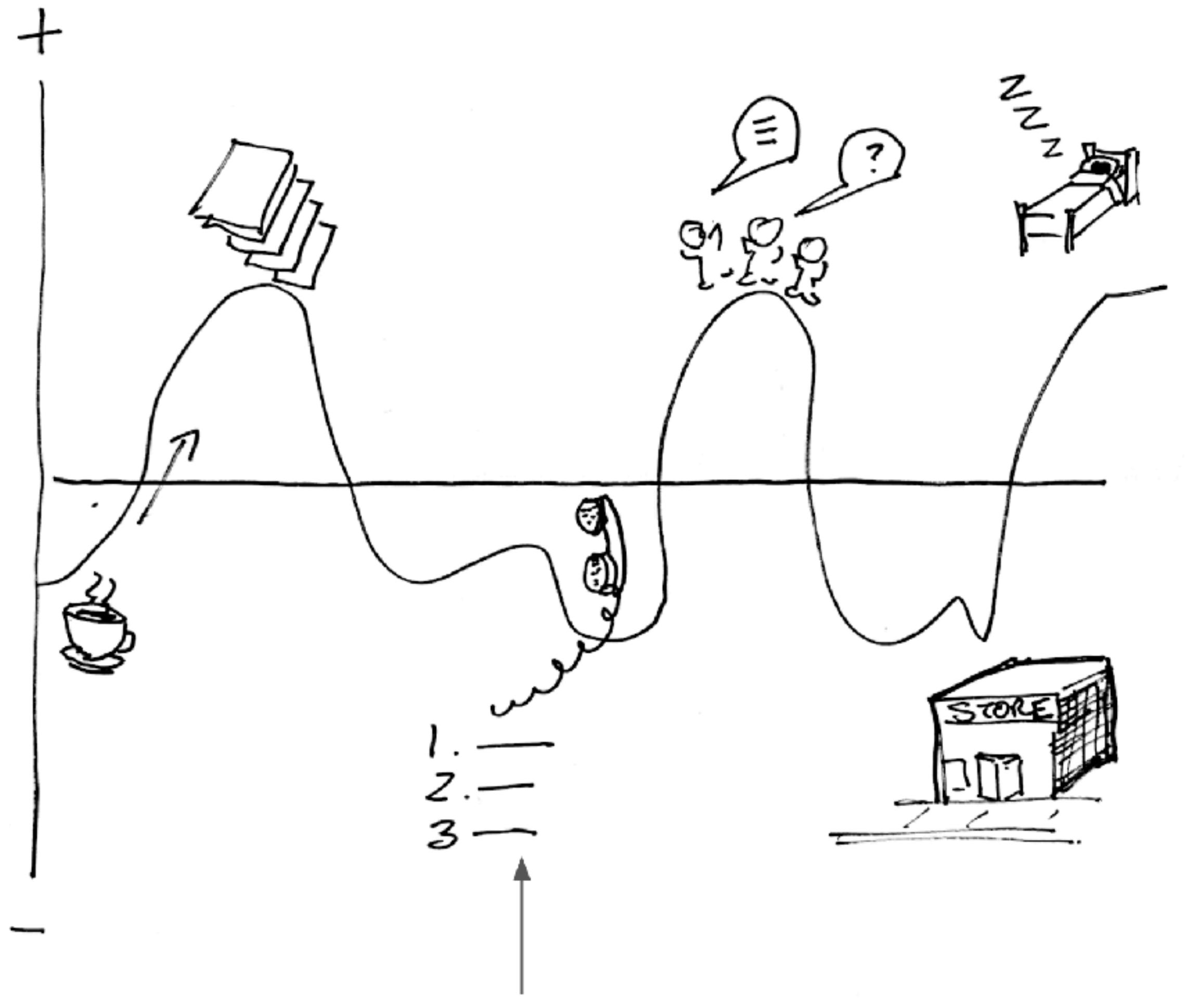
# Work on your own

**It's about getting it  
on the page.**

Louie and Laura are going to show you one method to get to know a user.

It is about quickly getting your experience out onto a piece of paper to help you communicate that experience to a partner.

That is to say, this isn't an art activity—it doesn't have to look good. It just has to get done.



\* Be visual and add short descriptive notes for each moment too.

**Your “day in the life” map might look a bit like this.\***

Hi!

You've stumbled on a video that's part of a series designed to help you teach other people how design works.

If that sounds interesting, learn more by [clicking here](#).



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Video 4 (of 10)

## Watch a video about A Day in the Life

Follow along.

Map yesterday's activities and your positive and negative emotional reactions on the graph.

What did you do and how did it make you feel?



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the Stanford d.school.

**8 MINUTES**

# Work with your partner

**You are headed to a  
break out room.**

**Each partner will have a  
chance to share with the  
other—one at a time.**

**Remember to set your  
own timers!**

## **Partner A learns from Partner B**

Partner B listens while making a “mirror map” of what they are hearing.

## **Partner B learns from Partner A**

Partner A listens making a “mirror map” of what they are hearing.



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# Learn from others

## Asking why

Laura and Louie show how the deceptively simple trick of asking why helps us dig down and find the real needs of the people we're designing for.

Hi!

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If that sounds interesting, learn more by [clicking here](#).

**Watch a video and  
Ask  
Why...**

Let's dig deeper. Time to activate your interviewing and listening skills.

Draw a frame around one low point in your partner's day and learn more about that moment by asking why.

d.  
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Video 5 (of 10)

d.  
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the Stanford d.school.

**8 MINUTES**

# Work with your partner

**You are headed to a  
break out room with  
your same partner.**

**Each partner will have  
a chance learn more  
from their partner by  
asking why.**

**Remember to set your  
own timers!**

**Partner A learns from Partner B  
by asking why.**

Partner B listens, takes it in, and is thoughtful with their answer.

**Partner B learns from Partner A  
by asking why.**

Partner A listens, takes it in, and is thoughtful with their answer.



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the Stanford d.school.

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d.  
2020 Stanford d.school  
Video 6 (of 10)

## Watch a video about how to Reframe the problem

Reframe your partner's problem into an open ended question.

How can you help your partner?

Turn your partner's pain point into something you can do to help that allows for several different options.

Make sure your question includes a verb. "How can I help [partner's name] [verb] \_\_\_\_\_?"

# Refresh yourself!

Take a 20 minute break.

**15 MINUTES**

# Work on your own

Laura and Louie are going to introduce you to product designer, Yusuke\* Miyashita.

He'll talk about how he uses sketching as a thinking tool.

Then... get ready to come up with some ideas!

Louie will walk you all through a brainstorming activity. Follow along with him—so make sure your pen and paper are ready to go!

Oh! And he's going to reference a piece of paper with 4 squares on it.

You don't have that—and you don't need it. Just imagine 4 squares on your paper!



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Video 7 (of 10)

## Watch a video about Yusuke Miyashita

Yusuke is a product designer and the founder of Eagle Hunter Studio. He also lectures at the Stanford d.school.

Use sketching as a quick way to get your ideas out and start a conversation.

What opportunities and possibilities might you imagine for your partner?



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the Stanford d.school.

**6 MINUTES**

# Learn from others

**Meet Lecrae and  
Khris Sandifer.**

**They will talk about  
the surprising ways  
prototyping applies  
to creative work of  
all kinds.**

**Then... be ready share!**

Remember when you did the stoke and talked about “Feeling uncomfortable, making messes, and starting now?” Well, we’re going to lean into those mindsets as we get ready to share some unfinished work.

Hi!

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If that sounds interesting, learn more by [clicking here](#).



2020 Stanford d.school  
Video 8 (of 10)

**Watch a video about  
Lecrae &  
Khris Sandifer**

How can you make ideas better?

Early feedback sets you set up for success.

Lecrae is the co-founder of Reach Records and a beloved hip-hop artist.

Khris is a documentary photographer and co-founder of Trilicon Valley.



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the Stanford d.school.

**8 MINUTES**

# Work with your partner

**Next, you'll head to  
your break out room  
to share ideas with  
your partner.**

**Remember to set your  
own timers!**

## **Partner A shares their ideas with Partner B**

Share your question. Put your ideas out quickly and listen to your partner's feedback. Take notes. Try using "I like..." and "I wish...." format for feedback.

## **Partner A shares their ideas with Partner B**

Share your question. Put your ideas out quickly and listen to your partner's feedback. Take notes. Try using "I like..." and "I wish...." format for feedback.

**10 MINUTES**

# Work on your own

## Remix your work.

Now that you've gotten some feedback, it's time to create a remix those ideas into a new and improved solution.

## Be ready to work fast!

Louie and Laura are going to share some thoughts on how to remix—then you'll only have a few minutes to make it happen so have your pen and paper ready!



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Video 9 (of 10)

## Watch a video about how to Remix your work

Synthesize your partner's feedback to reimagine a new concept.

Draw a storyboard and include:

### The Problem

What was the problem you noticed and focused your framing on?

### The Reframe

How did you reframe that problem once you learned more?

### The Solution

What is the name of the solution you designed and how does it work?

### The Benefit

How will that benefit your partner?



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**5 MINUTES**

# Work with your partner

**Time to share your  
new solution in the  
breakout rooms.**

**Partner A, share your story with Partner B**

Partner B, listen and take a moment to thank  
Partner A for designing something just for you.

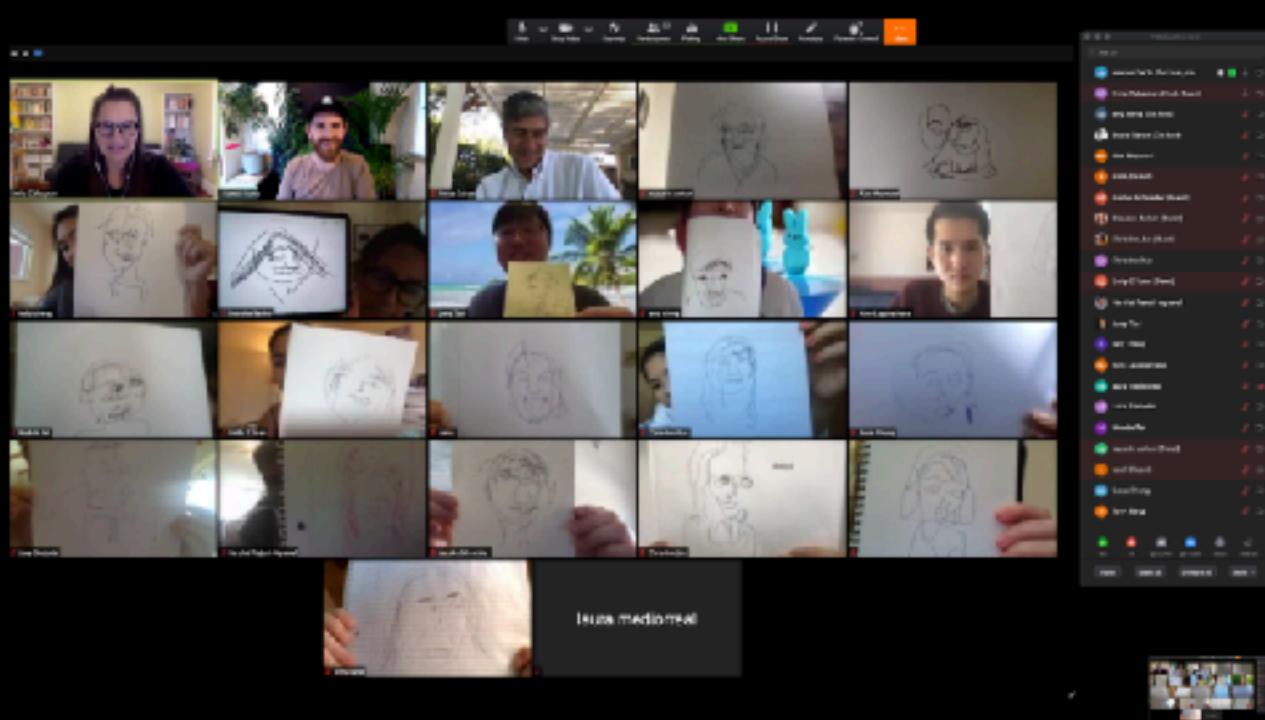
**Partner B, share your story with Partner A**

Partner A, listen and take a moment to thank  
Partner B for designing something just for you.



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# Capture your work



**Good designers have a habit of capturing their work-in-progress.**

**Let's start your habit now.**

Hold your blind-contour portraits up to the camera if you'd like to be part of the photo.

If not, please disable your video for a moment.

For Mac users, press CMD+SHIFT+3 at the same time.

For PC users, press PrtScn. (On some notebooks you have to hold Fn and then press PrtScn)

**6 MINUTES**

# Learn from others

**Reflect with Laura &  
Louie.**

**You've done the work,  
now it's time to revisit  
what you've learned.**

**Be ready to clap!\***

Louie and Laura will close with an activity that makes some noise.

Get ready to join in the fun!

\*This means make sure you're unmuted!



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Video 10 (of 10)

## Watch a video and Wrap Up

You did it! Congrats on completing the d.school Starter Kit.

There are many ways to design, these were just a few that you can start doing today and tomorrow.



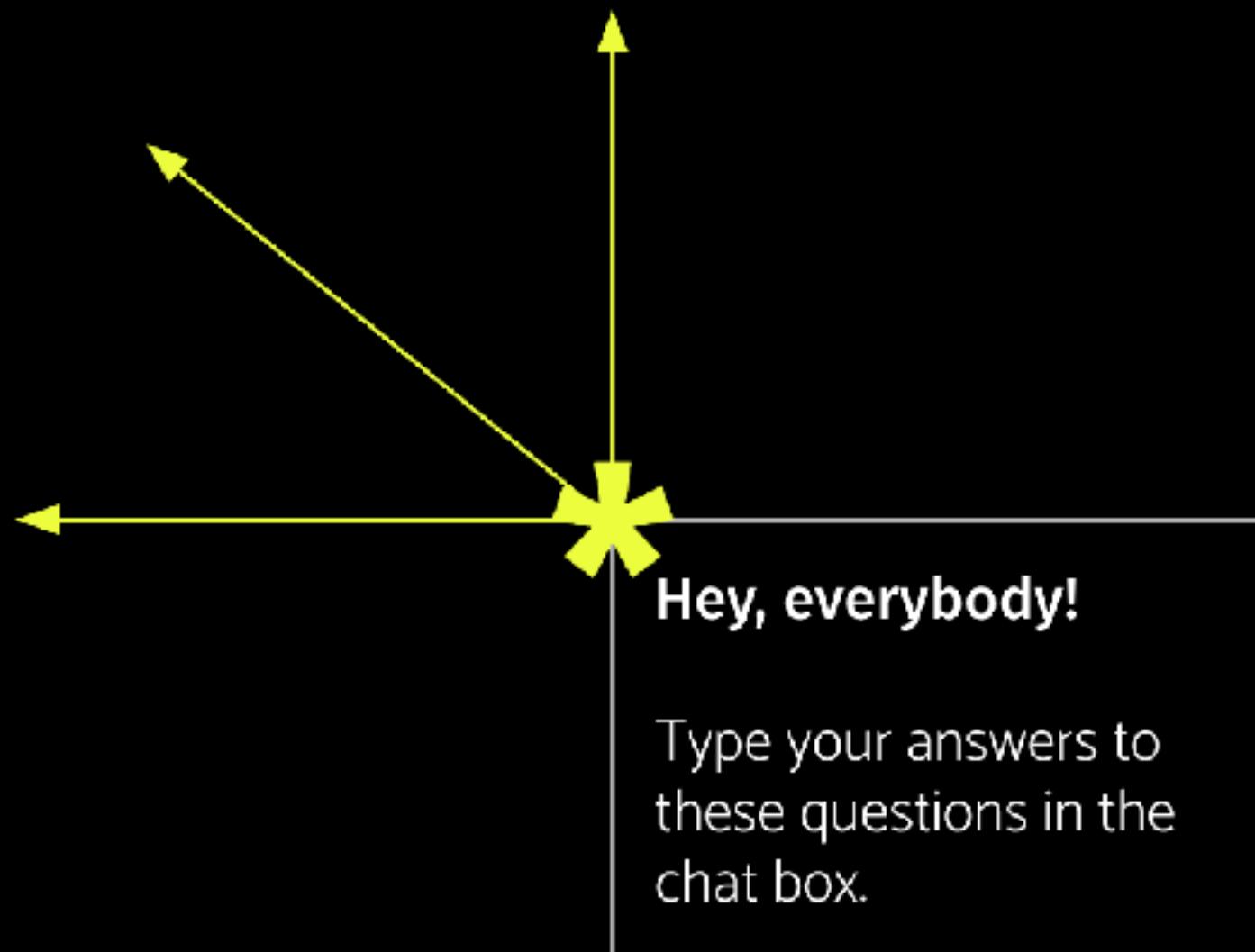
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the Stanford d.school.

# Learn from others

Better yet, how  
might you make  
design work for you?

Looking back, what did  
you notice about how  
design works?

What is one method  
or mindset you could  
use tomorrow?



**2 MINUTES**

# Reflect on what we did.

**During this activity, you tried  
out over 20 human-centered  
design mindsets & methods.**

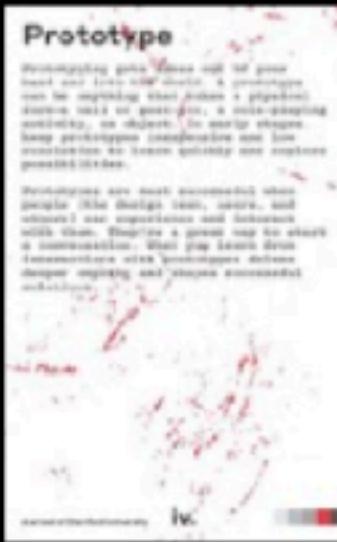
## Things like:

- Assuming a beginner's mindset
- Interviewing for empathy
- Journey mapping
- Why laddering
- Ideation
- Imposing constraints
- Prototyping & testing
- Storytelling

**The next slide will give you a taste of  
just how much ground you covered.**



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### Prototype

Prototyping goes...these out of your comfort zone. Prototyping can be anything that turns a physical action into a prototype: a color-mixing wheel, a paper airplane, or a drawing that helps participants communicate their ideas.

Prototypes are most successful when people like design team, users, and others have experiences and interactions with them. What they learn from interacting with prototypes drives design and informs development.



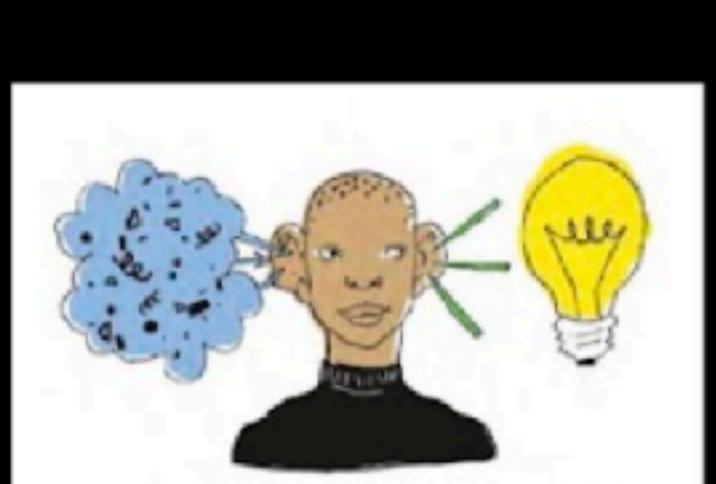
### Assume a beginner's mindset

You carry your own experiences, understandings, and expertise. Your unique perspective is an incredibly valuable asset to bring to any design challenge. At the same time, your viewpoint encodes assumptions and personal beliefs. Your preconceived notions may, in fact, be misconceptions or stereotypes, and can limit the scope of what you can build. To become a beginner's mind is to open up to new biases and approach a design challenge with fresh eyes.



### Storytelling

A well-told story filled with vivid detail, inspiring emotion, and meaningful meaning can move us to tears. Stories are a great way to connect with people and help them see what you want to make happen in your audience (translating ideas, intentions, and goals into a greater narrative arc).



### Impose Constraints

It's a bit counterintuitive, yet imposing constraints (with intention) can actually increase creative potential.

#### Try it!

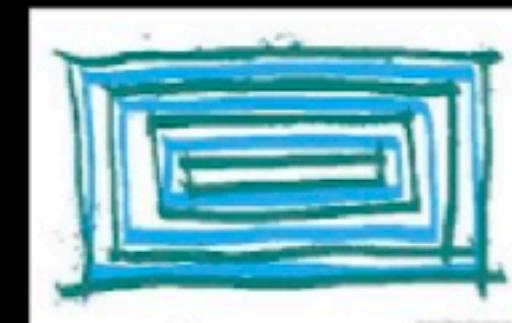
Think of as  
as you can i

Now think of  
kitchen.

Which prompt



# design thinking bootleg



### Describe Your Concept

Many brainstorms end with a team realizing they don't fully understand the ideas they generated. The Describe Your Concept tool helps you distill down what resonated with the team so far, and then help you understand exactly what they need to create during prototyping.

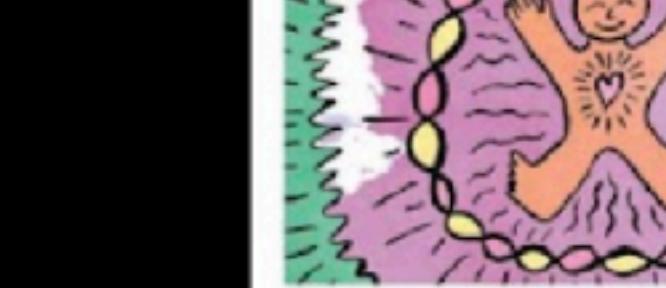
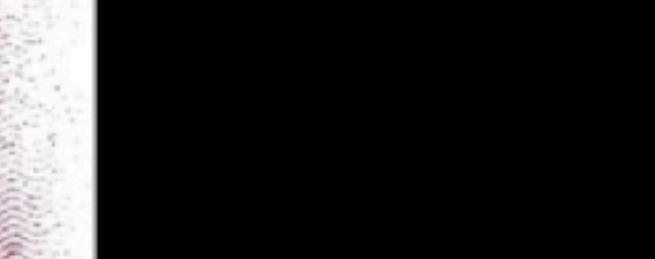


### Improvise to Life

These often get stuck in "analytic paralysis" when deciding what to build. Improvisation is a tool for generating ideas to life in a tool to jump-start your team into action.

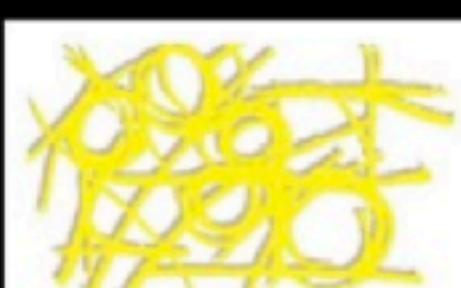
### Test

Testing is your chance to gather feedback, refine solutions, and continue to learn about your users. The tool needs to be an iterative mode in which you place low-maintenance prototypes in the appropriate context of your users' life. Prototypes are great tools for testing, but keep in mind what you're using.



### Stoke

Stoke activities loosen up and energize teams—both mentally and physically. Use stoke activities to wake up in the morning, launch a meeting, or begin a brainstorm. They should be brief and highly active.



### I Like, I Wish, What If

As a designer, you won't rely on personal communication and, personality-based feedback, during design work. Fellow designers give feedback on design documents. These give feedback on solution concepts.



### Empathy Probe

It can be tricky to elicit emotion-rich conversations with users (sometimes total strangers!). It can also be tough to decide what questions to ask.



### Story Share-and-Capture

After interviewing people, bring them together to share stories they've heard. Encourage them to...



### Define

The define card is where you unpack your design discipline into needs and desires and merge a user-centered challenge. Based on your understanding of users and their environments, come up with an articulate problem statement: your Point of View.

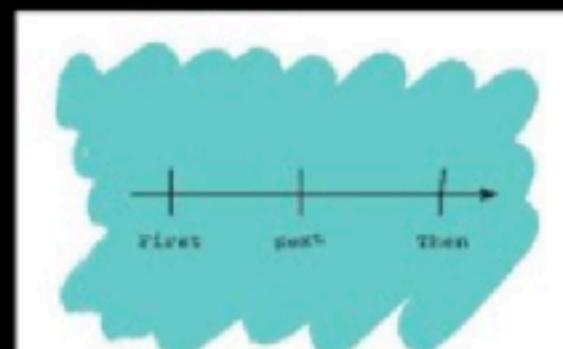
Now that you've defined the problem, your Point of View is a unique design vision that is formed by your specific needs.

Documenting the meaningful exchange you had, and the user feedback you can leverage, is fundamental to developing a successful solution.



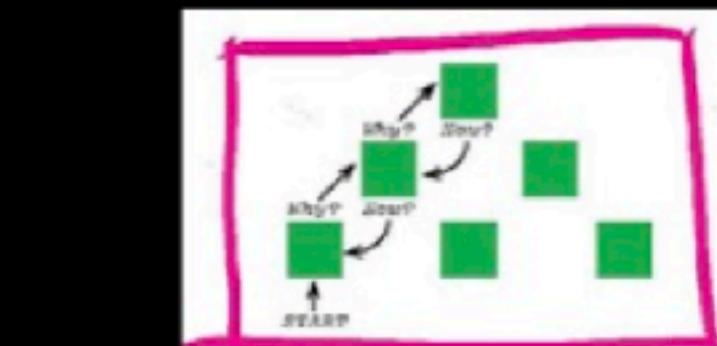
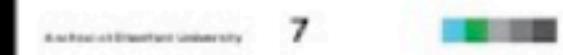
### Brainstorming

Brainstorming conjures tons of ideas all at once. A brainstrom is a distinct segment of time when you tap on the generative parts of your brain and turn those raw creative points. The intention is to leverage the collective thinking of the group. Brainstorming can be used throughout the design process to plan empathy work, to assess processes and services, and to come up with design solutions.



### Journey Map

A journey map is a tool to dissect a process into its moving parts to illuminate areas of potential insights. Don't forget the details when gaining empathy and understanding for user and service experiences. Creating a journey map is an excellent way to systematically think about those detailed steps or milestones. Journey maps can be used for your own empathy work, or to communicate your findings to others.



### Why-How Laddering

Use why-how laddering to flesh out varying user needs and find a middle ground that's both meaningful and actionable.

As a general rule, asking "why" yields abstract statements and asking "how" yields specific statements. Often times abstract statements are more meaningful, but not as actionable. The opposite is true of more specific statements.



### Why-How Laddering

Between the two extreme "WHY" create an ice cream cone that doesn't drip and the too broad "HOW" redesign dessert, is the properly scoped "HOW" redesign ice cream to be more portable."



### Ideate

Start off the mode in which you generate creative design ideas. Encourage the generation and combination mode of "stacking" instead of "dilution". The goal of ideation is to generate a large quantity and broad diversity of ideas. Use this next section of Ideate, you can build prototypes to work with users.



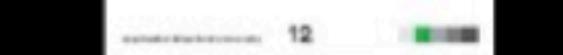
### Design Guidelines

Design guidelines, also known as design directives, are written statements that articulate how to approach a task. When you ask your design challenge, independent of a specific solution, they translate into principles, standards, and guidelines that enable design efficiency.



### Testing with Users

Testing with users is a fundamental part of human-centered design. You test with users to not only refine your solution, but to better understand the people.



# Thank you!

# Recap

What is interaction design?

# Interaction design 交互设计

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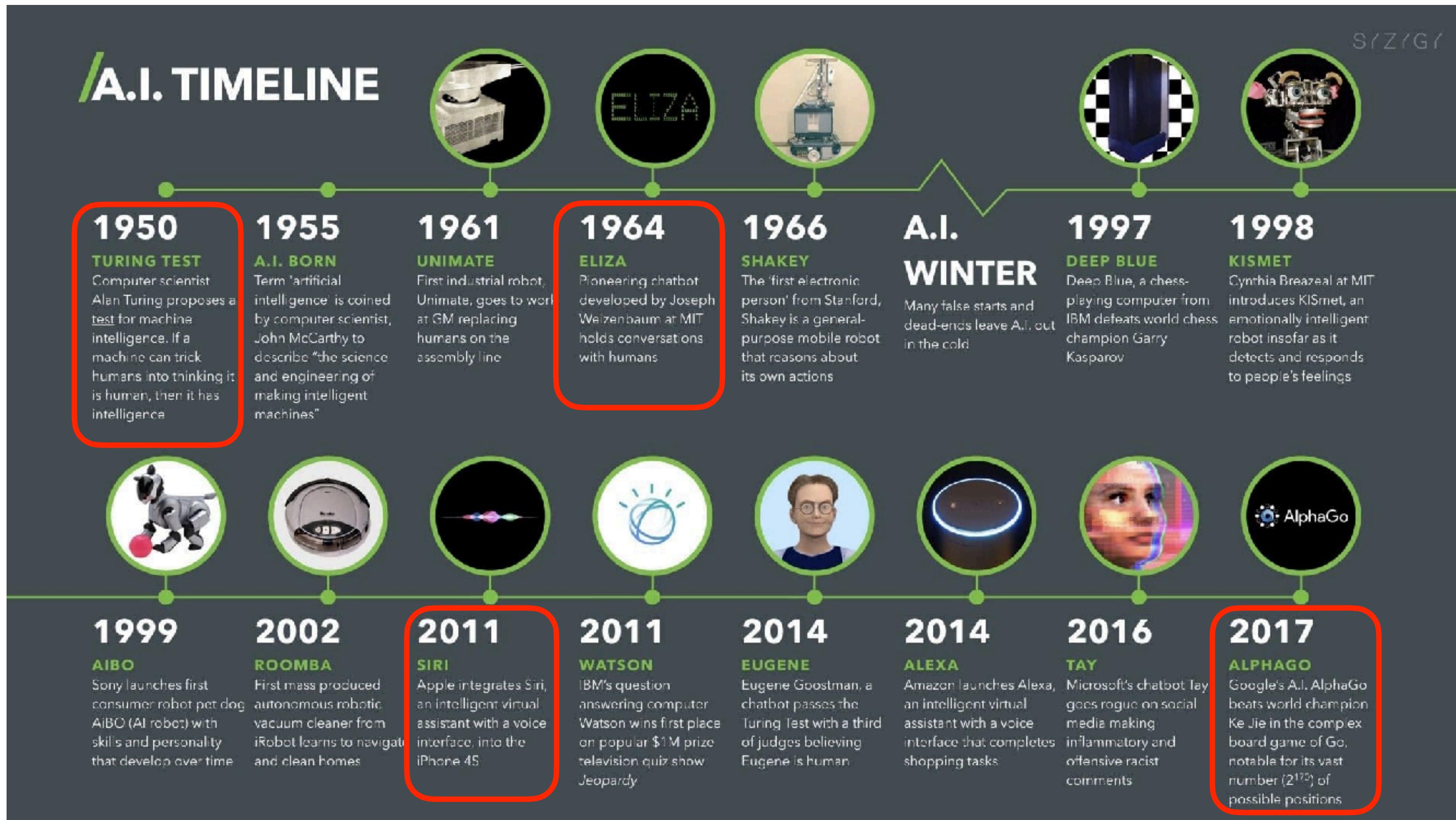
“Interaction Design (IxD) defines the **structure and behavior** of interactive systems. Interaction Designers strive to create **meaningful relationships between people and the products and services** that they use, from computers to mobile devices to appliances and beyond. Our practices evolve with the world” — IxDA  
交互设计定义了交互系统的结构和行为。交互设计师们努力地在人、产品以及他们使用的服务之间创造更有意义的联系，从计算机到移动设备，再到电器等等。— 交互设计协会

Interaction design is concerned with describing possible user behavior and defining how the system will accommodate and respond to that behavior. — Jesse James Garrett

交互设计一方面关注用户可能发生的行为，另一方面定义（计算机）系统如何适应用户的这种行为并做出反应。— 杰西·詹姆斯·加勒特

Is AI a new technology?

# History of Artificial Intelligence - it's not a brand new thing!



- Eliza
- Alice
- Smarter child
- ChatGPT
- Voice recognition
- Image recognition
- Natural Language Processing
- Bert

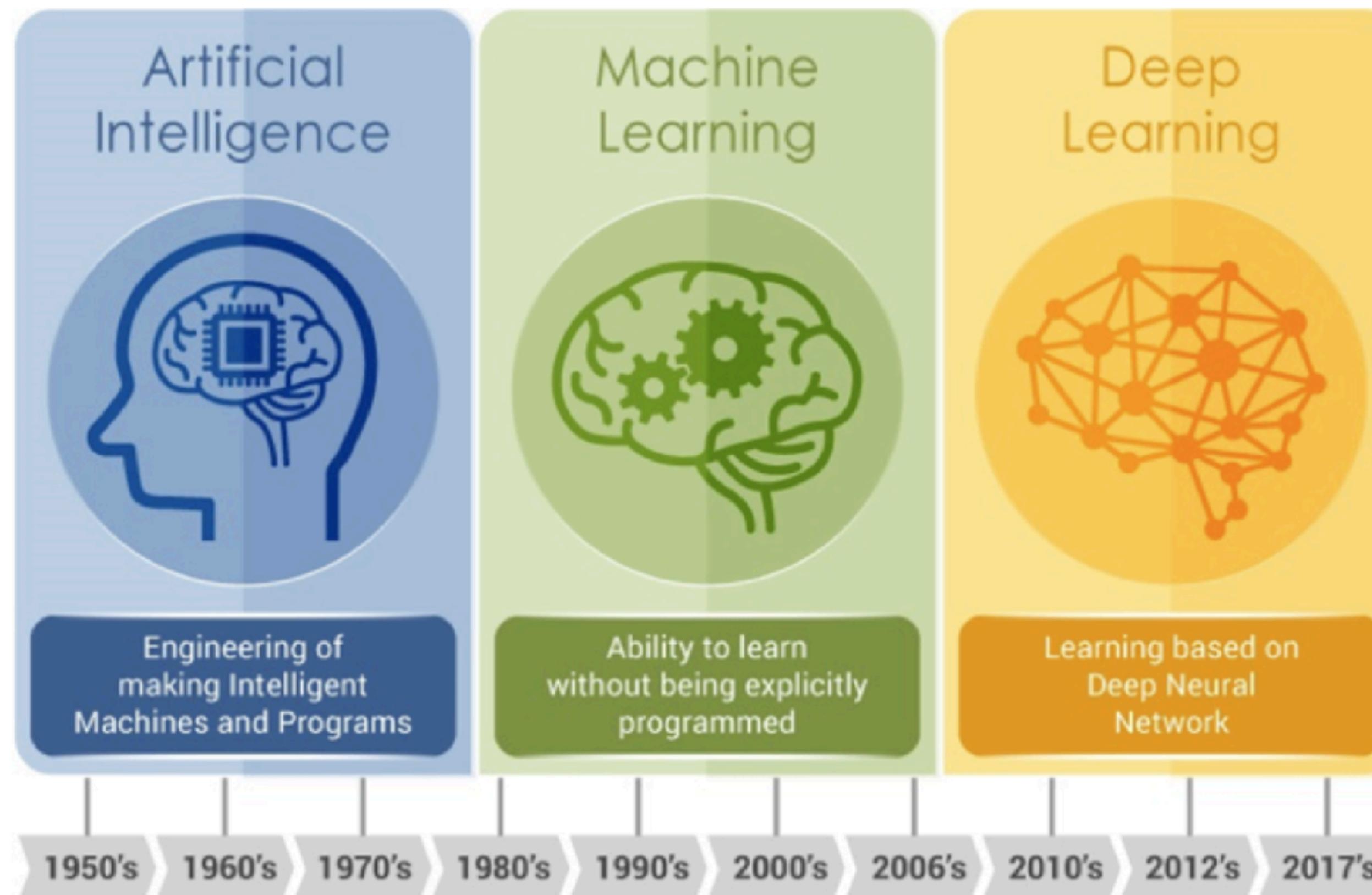
# AI in Three Waves 人工智能三次发展浪潮

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- 1st Wave ( Non-intelligent Dialogue Robot 非智能对话机器人 )  
20 century 50 era to 60 era  
e.g. robot ELIZA, Shakey
- 2nd Wave ( Speech Recognition 语音识别 )  
20 century 80 era to 90 era
- 3rd Wave ( Deep Learning + Big Data 深度学习与大数据)  
21 century  
e.g. AlphaGo

Source: 李开复, 《人工智能》

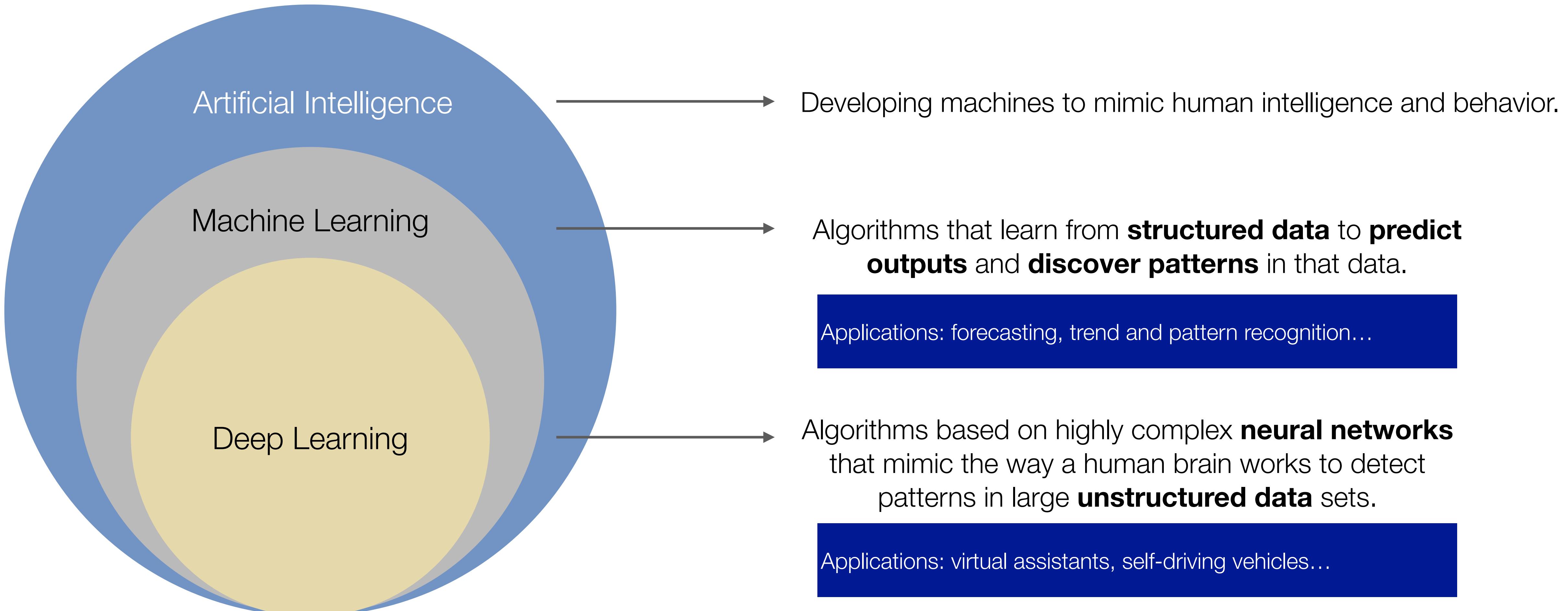
# Difference Between AI, ML and DL



Traditional Softwares based on condition: if...then...  
Input (X) → System → Output (Y)  
programmed by human

Evolution of AI — Source: <https://www.embedded-vision.com/>

# Difference Between AI, ML and DL



Structured data: phone numbers, customer names, and product names, etc.

Unstructured data: photos, audio, and video files, etc.

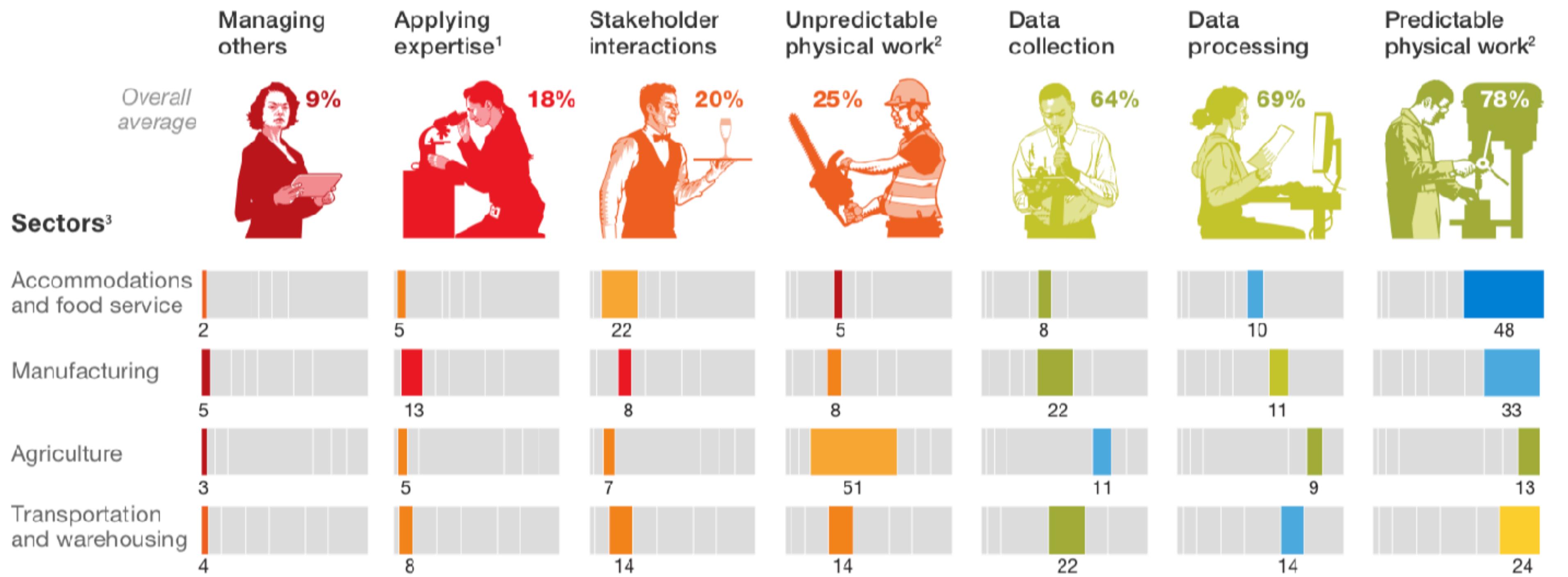
**WILL CHATGPT STEAL OUR JOBS?**

# What Jobs Will Be Replaced by AI?

## The technical potential for automation in the US

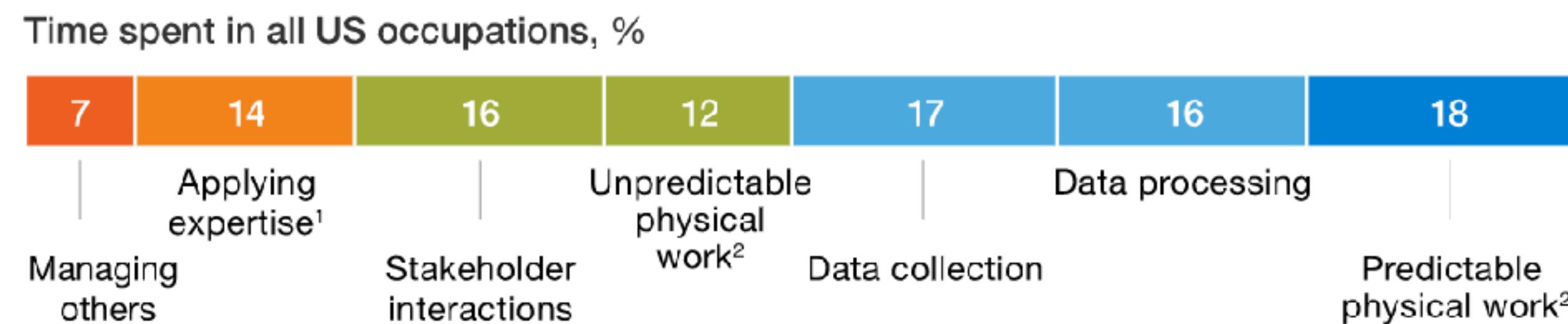
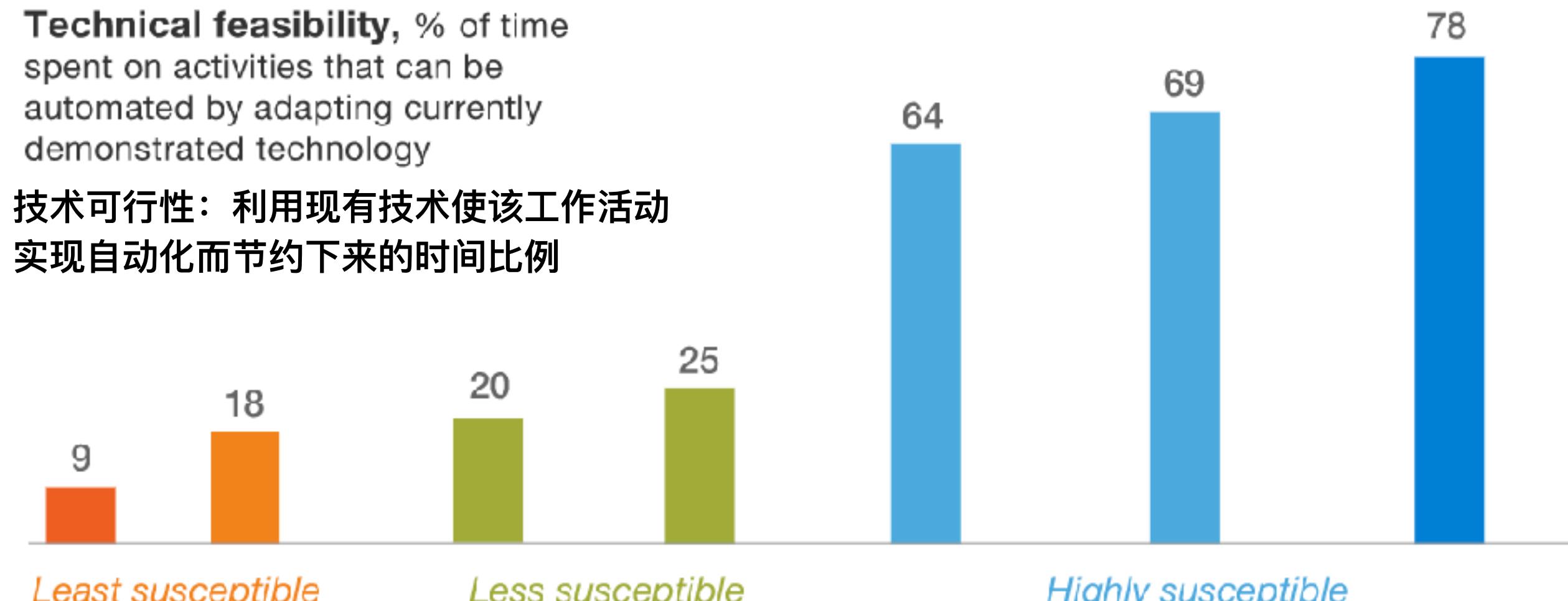
Many types of activities in industry sectors have the technical potential to be automated, but that potential varies significantly across activities.

Technical feasibility: % of time spent on activities that can be automated by adapting currently demonstrated technology



Source: McKinsey&Company

Analyzing work activities rather than occupations is the most accurate way to examine the technical feasibility of automation.  
应从分析具体工作活动而非某一职业来准确判断其被自动化技术替代的可行性



In practice, automation will depend on more than just technical feasibility. Five factors are involved: technical feasibility; costs to automate; the relative scarcity, skills, and cost of workers who might otherwise do the activity; benefits (eg, superior performance) of automation beyond labor-cost substitution; and regulatory and social-acceptance considerations.

<sup>1</sup>Applying expertise to decision making, planning, and creative tasks.

<sup>2</sup>Unpredictable physical work (physical activities and the operation of machinery) is performed in unpredictable environments, while in predictable physical work, the environments are predictable.

“

麦肯锡认为，5中因素共同决定某项工作活动被自动化取代的潜力或可能性：

- 技术可行性
- 自动化成本
- 相对稀缺性，如劳动力充足，则其成本低于自动化成本
- 自动化替代人工成本的好处
- 制度与社会接纳度

”

**CAN STUDENTS COPE WITH THESE CHANGES?**

# “STEM” Education



U.S. Department of Education

Search...



Student Loans

Grants

Laws

Data

## Science, Technology, Engineering, and Math, including Computer Science

### Background

In an ever-changing, increasingly complex world, it's more important than ever that our nation's youth are prepared to bring knowledge and skills to solve problems, make sense of information, and know how to gather and evaluate evidence to make decisions. These are the kinds of skills that students develop in science, technology, engineering and math—disciplines collectively known as STEM. If we want a nation where our future leaders, neighbors, and workers have the ability to understand and solve some of the complex challenges of today and tomorrow, and to meet the demands of the dynamic and evolving workforce, building students' skills, content knowledge, and fluency in STEM fields is essential. We must also make sure that, no matter where children live, they have access to quality learning environments. A child's zip code should not determine their STEM fluency.

### Charting a Course for Success: America's Strategy for STEM Education

This Plan was published in December 2018 and sets out a Federal strategy for the next five years based on a vision for a future where all Americans will have lifelong access to high-quality STEM education and the United States will be the global leader in STEM literacy, innovation, and employment. It represents an urgent call to action for a nationwide collaboration with learners, families, educators, communities, and employers—a "North Star" for the STEM community as it collectively charts a course for the Nation's success. Read more about this strategy and what the U.S. Department of Education (Department) plans to do to support by going [here](#).

In October 2019, the Office of Science and Technology Policy at The White House issued the *Progress Report on The Federal Implementation of The STEM Education Strategic Plan*. This Progress Report provides an update on how federal agencies are implementing the STEM Strategic Plan and what activities are they doing. Organizations from across the country are aligning their

### How Do I Find...?

- Student loans, forgiveness
- College accreditation
- Every Student Succeeds Act (ESSA)
- FERPA
- FAFSA
- 1098, tax forms
- More...

### Information About...

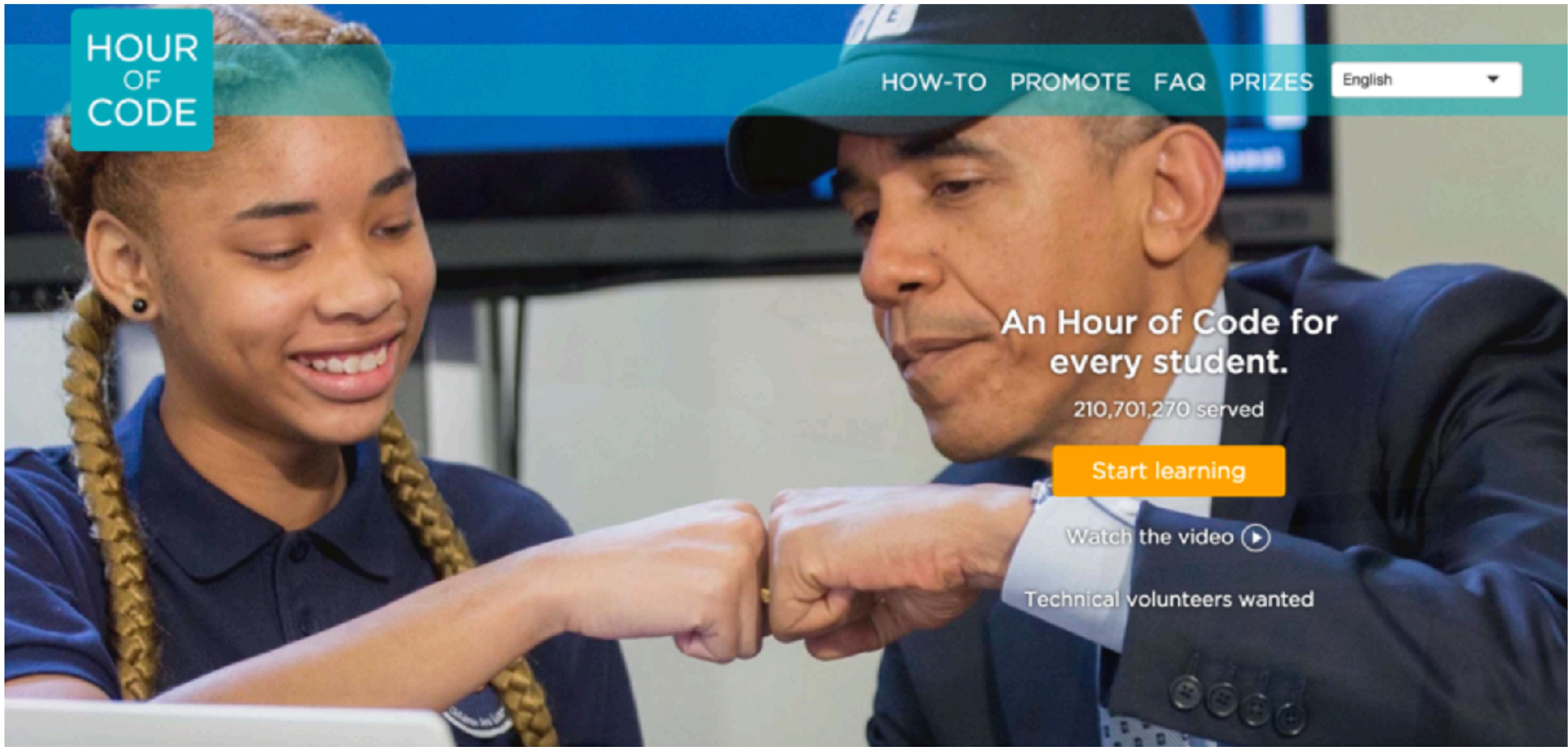
- Transforming Teaching
- Family and Community Engagement
- Early Learning

Source: <https://www.ed.gov/stem>



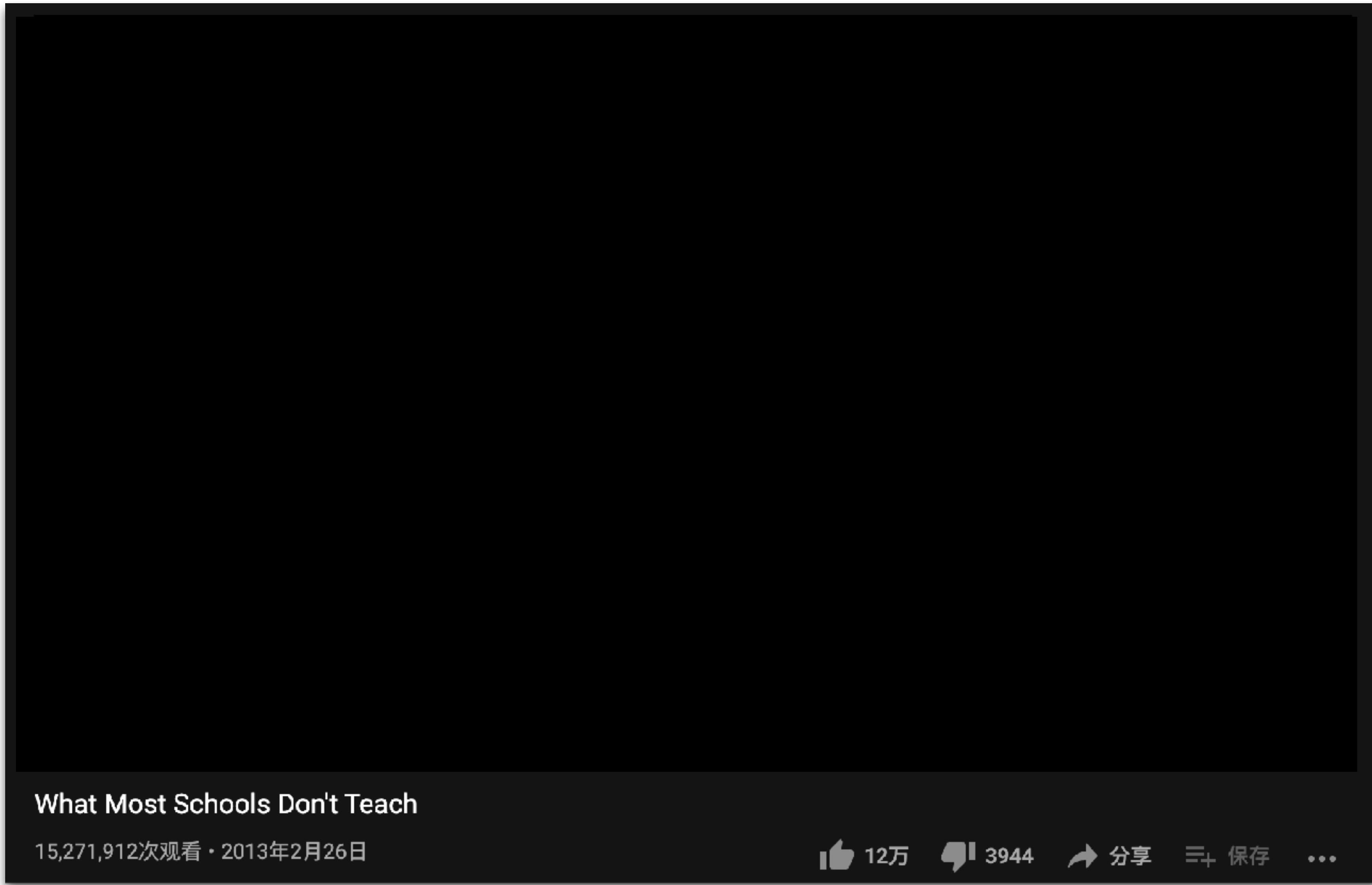
Response From HKSAR

November 2015



The Hour of Code is a global movement reaching tens of millions of students in 180+ countries. Anyone, anywhere can organize an Hour of Code event. One-hour tutorials are available in over 40 languages. No experience needed. **Ages**

Q&A 58



Source: <https://www.youtube.com/watch?v=nKlu9yen5nc>



McKinsey Quarterly

# Where machines could replace humans—and where they can't (yet)

July 2016 | Article

Source: *where machines could replace humans-and where they can't (yet)*

Scientists have identified three skills that are difficult to replace with artificial intelligence:

- Social wisdom (insight, negotiation skills, empathy ...) 洞察, 谈判技巧, 同理心
- Creativity (original power, artistic aesthetic ...) 创造力, 艺术审美
- Perception and operation ability (finger sensitivity, ability to coordinate operation, ability to cope with complex environments ...) 感知与操作能力, 协作, 复杂环境应对

Source: easyai.tech

While, Google learned that top characteristics of success are soft skills!  
然而， STEM教育足够了吗？谷歌发现， 占据最顶端的人往往是软性技能专家

The Washington Post  
*Democracy Dies in Darkness*

# The surprising thing Google learned about its employees – and what it means for today's students

By Valerie Strauss December 20, 2017 Email the author



"In 2013, Google decided to test its hiring hypothesis by crunching every bit and byte of hiring, firing, and promotion data accumulated since the company's incorporation in 1998. Project Oxygen shocked everyone by concluding that, among the eight most important qualities of Google's top employees, STEM expertise comes in dead last. The seven top characteristics of success at Google are all soft skills: being a good coach; communicating and listening well; possessing insights into others (including others different values and points of view); having empathy toward and being supportive of one's colleagues; being a good critical thinker and problem solver; and being able to make connections across complex ideas."

(Marcio Jose Sanchez/AP)

# What are soft skills?

CREATION

Critical thinker

Empathy

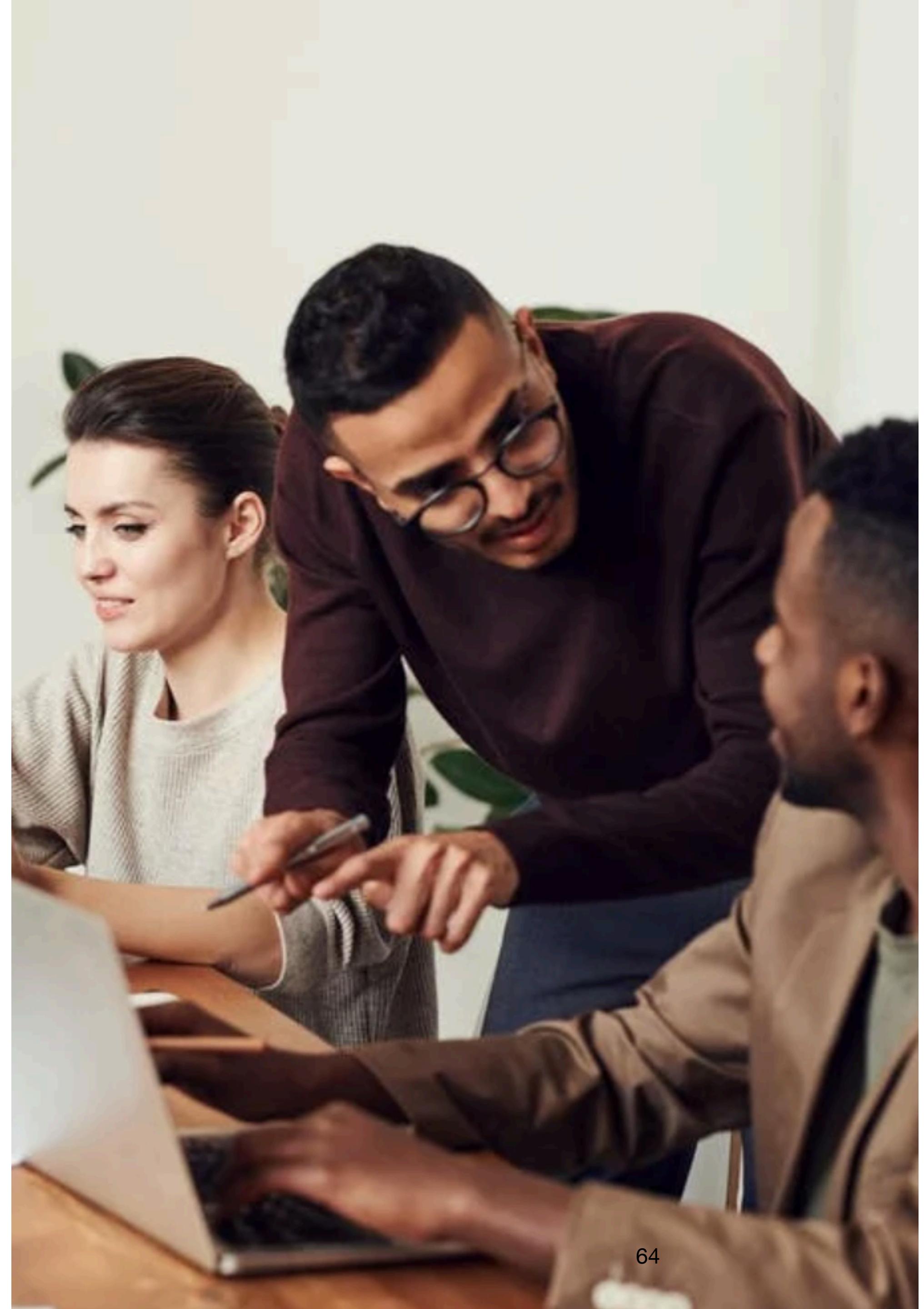
Communication

Listening

Collaboration

Problem solver

...



# Steve Jobs: Technology & Liberal Arts

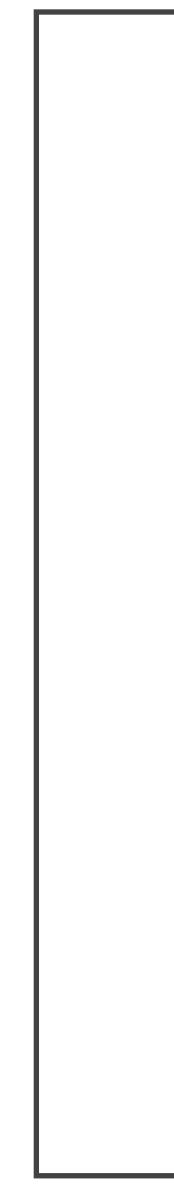
---



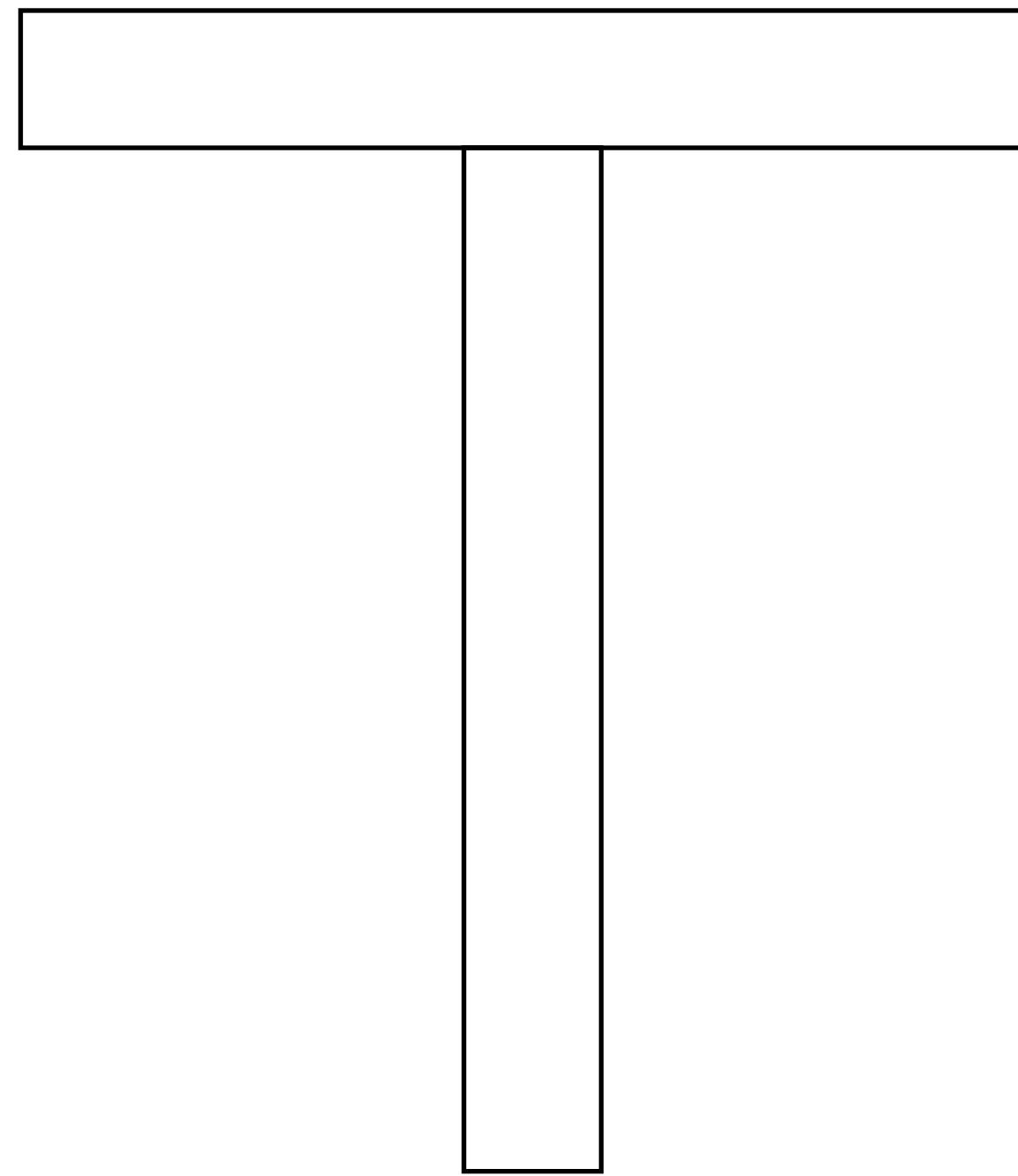
Steve Jobs: Technology & Liberal Arts

Source: <https://www.youtube.com/watch?v=KII1MR-qNt8>

# From I-Shaped to T-Shaped Person



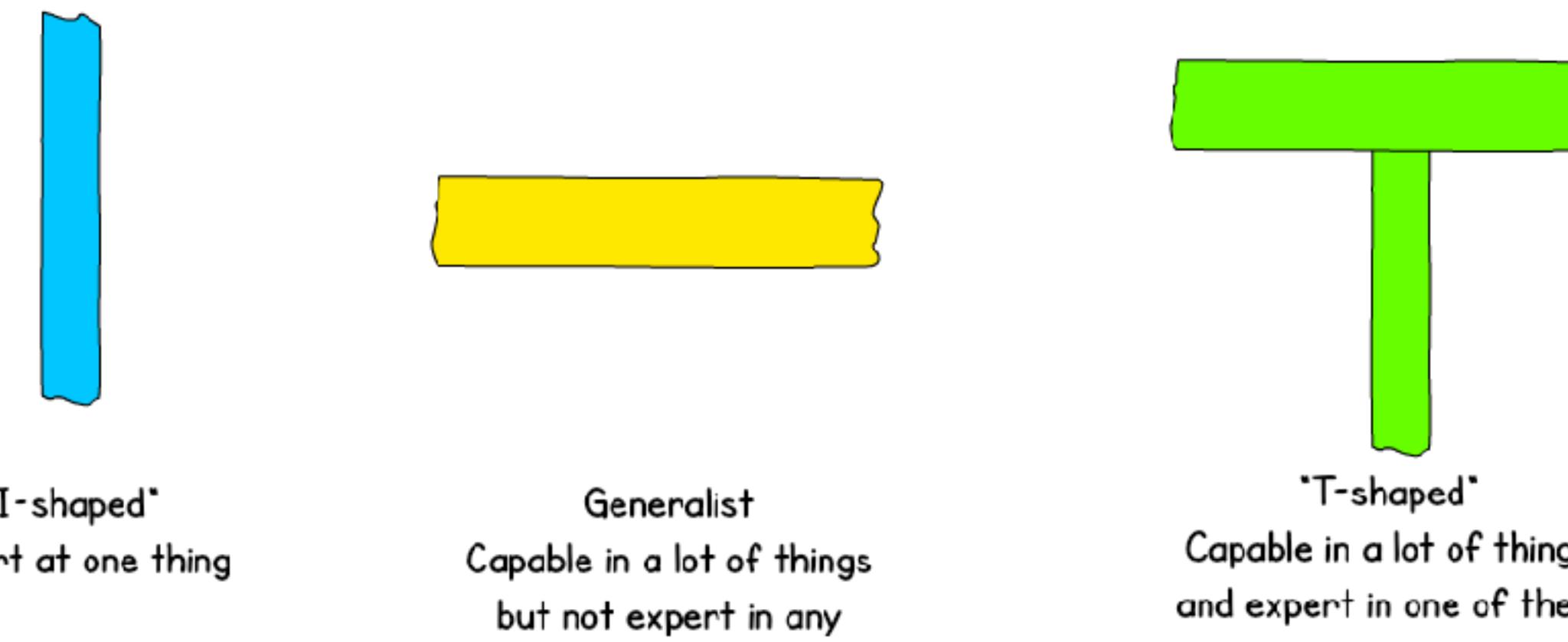
I-Shaped Talent of Industrial Age



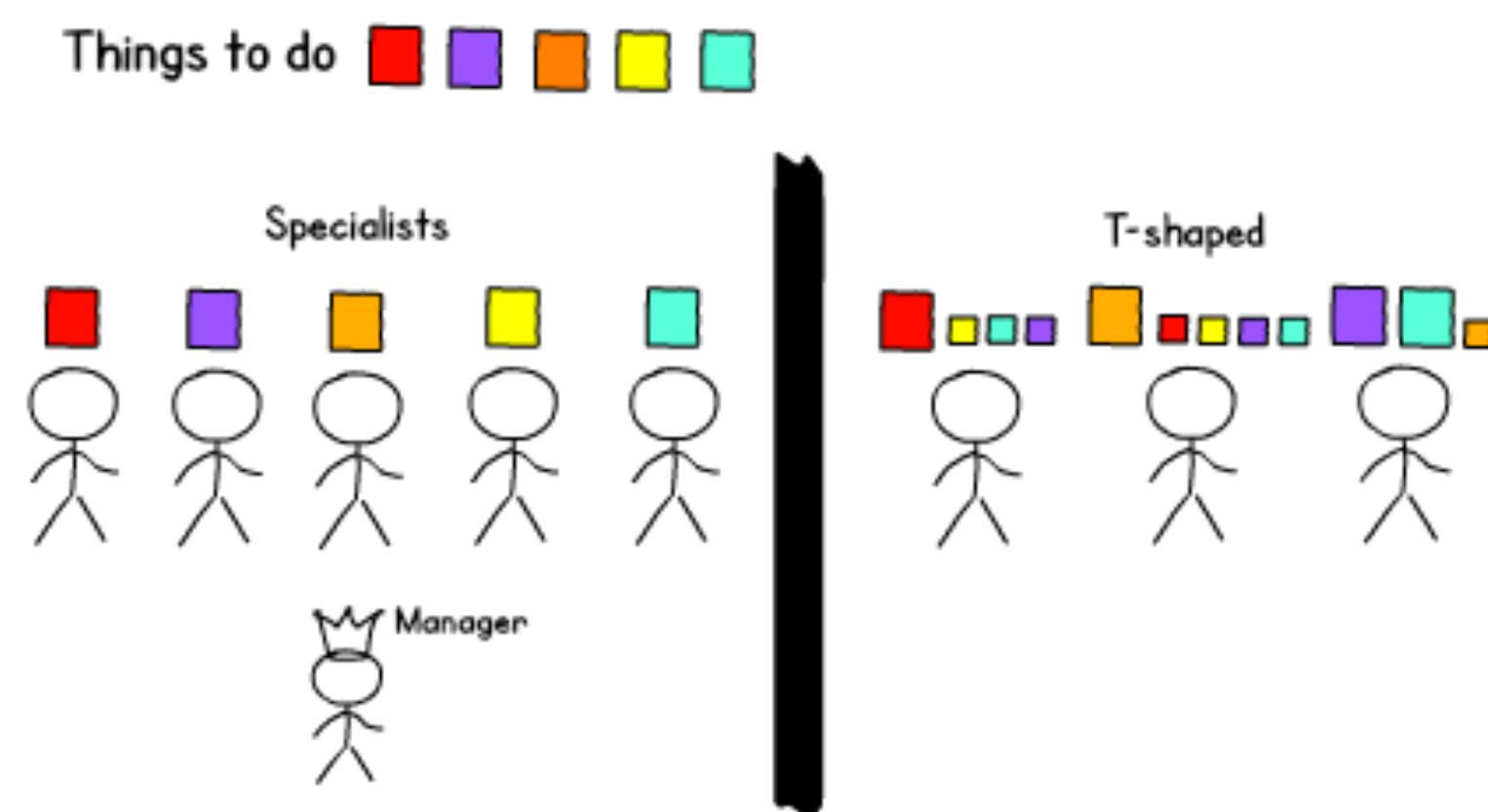
T-Shaped Talent of Information Age

Interdisciplinary Team

# Why T-Shaped People?

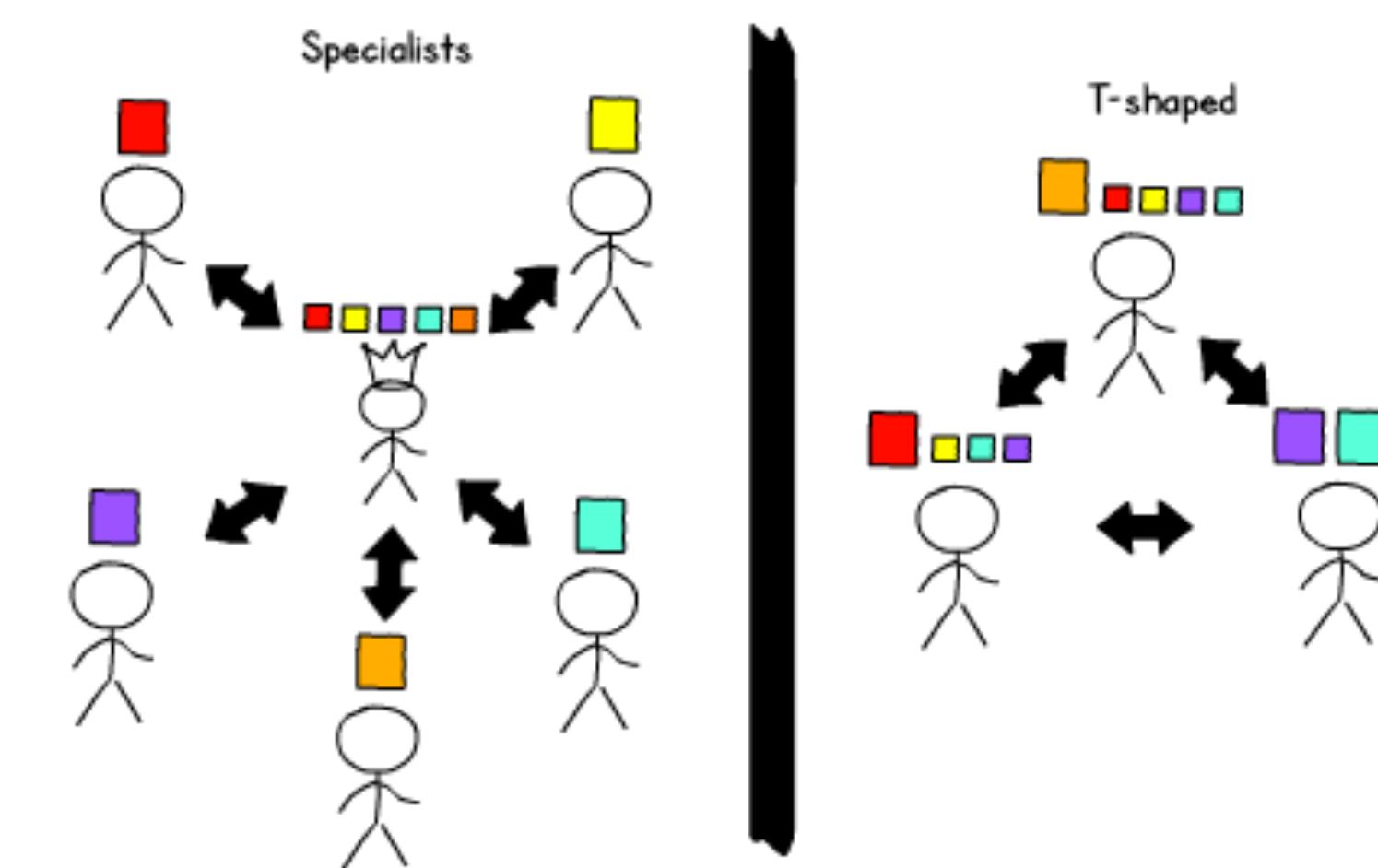


We can do more with the same number of people (or do the same with less people).



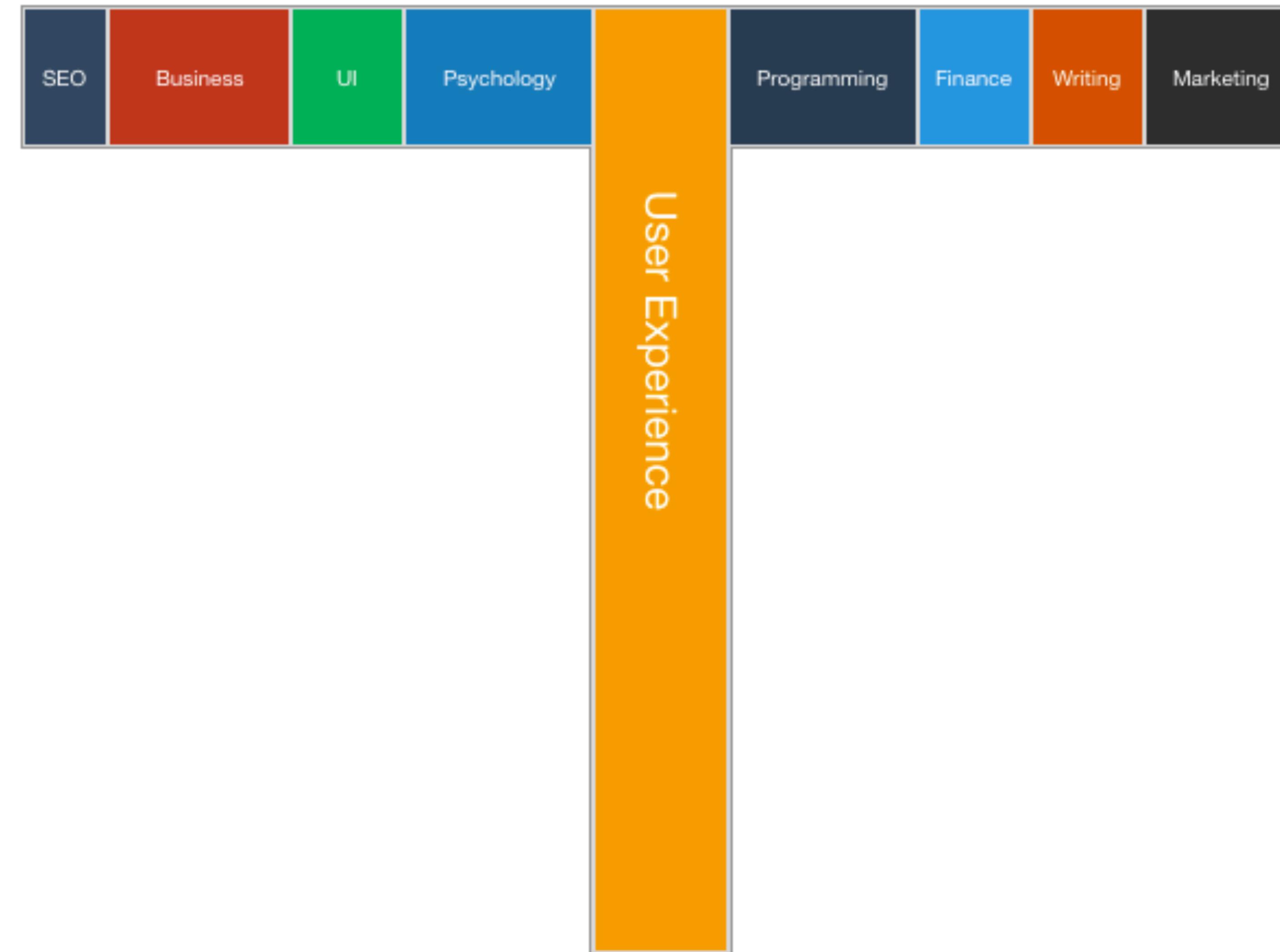
Source: Jason Yip, Medium

T-shaped people help us communicate more effectively.



# How Can You Become T-Shaped?

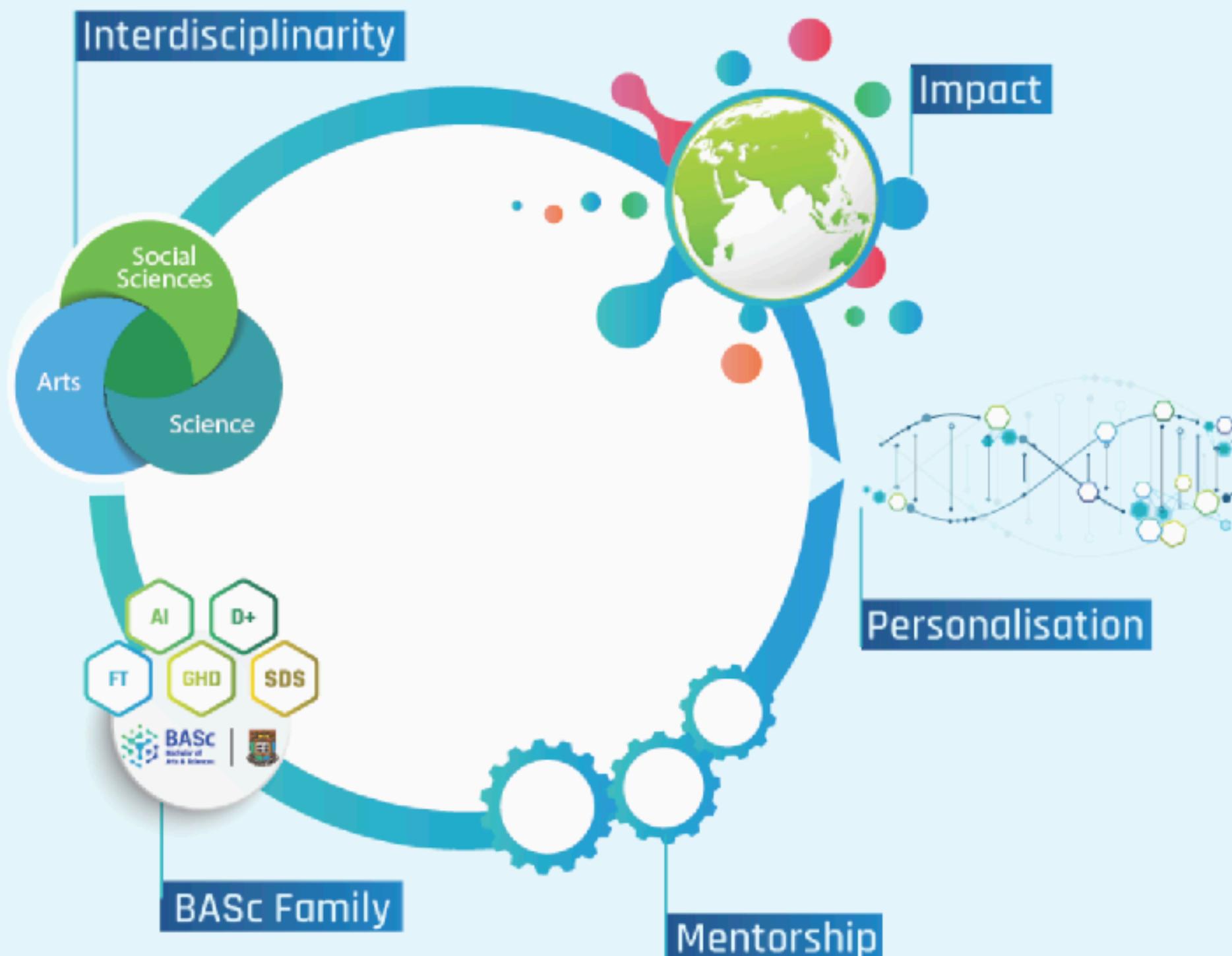
---



**From Stem To Steam**

**From I-Shaped To T-Shaped**

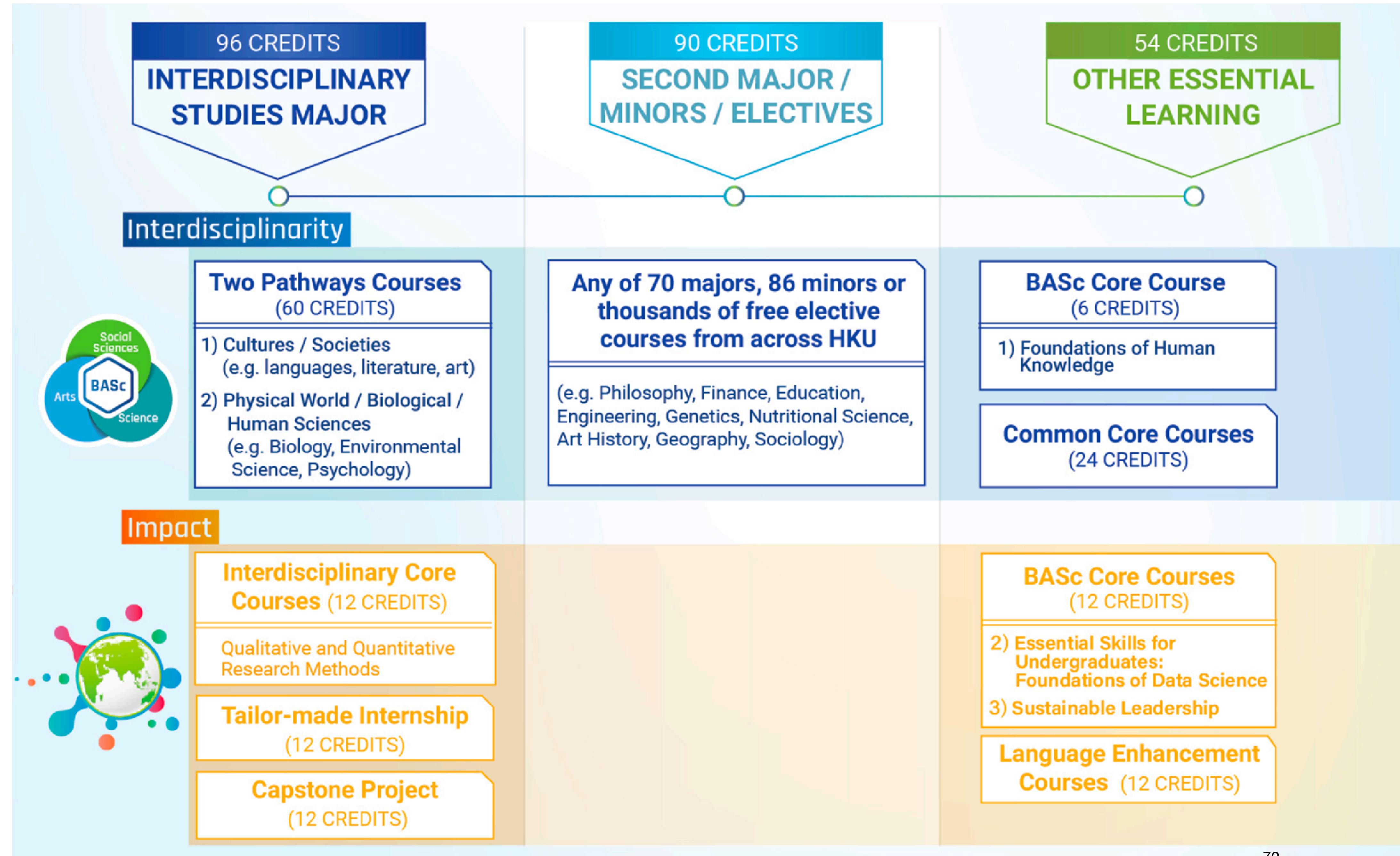
# **The Power Of An Interdisciplinary Study**



## Interdisciplinarity

Students are given **unprecedented access** to the full range of subjects across the Arts, Science and Social Sciences faculties. We encourage students to acquire and combine insights from across different subject areas in order to find novel ways to think about and solve the world's problems.





# A place for explorers & experimenters at Stanford University.

[What We Do](#)

[How We Do It](#)

[Our Impact](#)

[The Home Team](#)

[How to start a d.school](#)





## UNLEASHING CREATIVITY

Here's what that looks like at the d.school

## OUR WAY OF WORKING

Radical collaboration. To inspire creative thinking, we bring together students, faculty, and practitioners from all disciplines, perspectives, and backgrounds

—when we say radical, we mean it!

Different points of view are key in pushing students to advance their own design practice. Our methods become a shared language for groups to navigate the ups and downs of messy challenges.

**Real-world projects.** Students want to make real impact in the world. We think they can start immediately. Our classes challenge them to tackle problems that are happening right now, not the ones from a textbook page. We work with partners from non-profit, corporate, and government

# Yeap! Finland Will Become The First Country In The World To Get Rid Of All School Subjects

By Elizabeth Williams

SHARE  Facebook  Twitter  G+  P



In an era of technology and easily accessible information, our schools still expect from us to know everything from the books, without considering whether this is going to be what we will actually need in our professional development.

How many times have you wondered if you were going to need subjects you were made to learn because the curriculum said so? Finland has decided to change this in their educational system and introduce something which is suitable for the 21st century.

Source: <https://curiousmindmagazine.com/goodbye-subjects-finland-taking-revolution-education-step/>.

# **What Are The Implications Of These Shifts For This Course?**



about    featured    portfolio    blog    contact



# designer

UI/UX Designer with a passion for designing beautiful and functional user experiences.



# <coder>

Front End Developer who focuses on writing clean, elegant and efficient code.

```
<html>
height:184px; }
class="jedi">
S3 HTML5
color:#000;
jQuery
```

Image credit: Adham Dannaway



LAB TIME

# Recap

**Exercise 1**

```
<!DOCTYPE html> ----- Doctype tag, it tells the browser that this is an HTML5 document
<html lang="en"> ----- Html tag, it tells the browser that everything inside is html
  <head> ----- Head tag contains information about the website
    <meta charset="UTF-8"> ----- Meta tag sets the character encoding
    <title>My Web Page</title> ----- Title tag sets title of the web page
  </head>
  <body> ----- Body tag controls the main content of the web page
    <h1>My First Website</h1>
    <h2>I hope you like it here.</h2>
    <h3>I hope you like it here.</h3>
    <h4>I hope you like it here.</h4>
    <h5>I hope you like it here.</h5>
    <h6>I hope you like it here.</h6>
    <p>This is my paragraph.</p><br> ----- Break tag creates line breaks
    <p>This is another paragraph.</p> ----- Paragraph tag separates the content
    <b>Bold text</b>
    <i>Italic text</i>
    <u>Underlined text</u>
    <em>Emphasized text</em>
    <strong>Strong text</strong>
    <sub>Subscript text</sub>
    <sup>Superscript text</sup>
  </body>
</html>      "Anchor" tag has the attribute of href, whose value is the URL of the destination website
```

src meaning the source of the image

Image tags,  src meaning the source of the image

Header tags, they range from `<h1>` to `<h6>`  
The `<h1>` tag is the highest in priority

Style tags, they add styles to the text

80

## Code View

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <title>My Web Page</title>
  </head>
  <body>
    <h1>My First Website</h1>
    <h2>I hope you like it here.</h2>
    <h3>I hope you like it here.</h3>
    <h4>I hope you like it here.</h4>
    <h5>I hope you like it here.</h5>
    <h6>I hope you like it here.</h6>
    <p>This is my paragraph.</p><br>
    <p>This is another paragraph.</p>
      <b>Bold text</b>
      <i>Italic text</i>
      <u>Underlined text</u>
      <em>Emphasized text</em>
      <strong>Strong text</strong>
      <sub>Subscript text</sub>
      <sup>Superscript text</sup>
    <link>
      
      <a href="http://by.cuc.edu.cn/">This is the link to CUC's website</a>
    </body>
</html>
```

Let's apply some styles to example.1 html you wrote last class.

## Exercise 1

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <title>My Web Page</title>
  </head>
  <body style="background-color:lavender;">
    <h1 style="background-color:lightskyblue;">My First Website</h1>
    <h2>I hope you like it here.</h2>
    <h3>I hope you like it here.</h3>
    <h4>I hope you like it here.</h4>
    <h5>I hope you like it here.</h5>
    <h6>I hope you like it here.</h6>
    <p style="color:midnightblue;">This is my paragraph.</p><br>
    <p>This is another paragraph.</p>
    <b>Bold text</b>
    <i>Italic text</i>
    <u>Underlined text</u>
    <em>Emphasized text</em>
    <strong>Strong text</strong>
    <sub>Subscript text</sub>
    <sup>Superscript text</sup>
    </img>
    <a href="http://by.cuc.edu.cn/" target="_blank">This is the link to CUC's website</a>
  </body>
</html>
```

Set the web page background color to lavender by adding the style attribute to the <body> tag.

Set the background color of an H1-style header lightskyblue.

Make the text in one of <p> tags midnightblue.

By default anchor tag will open the link in the same page. If you want the link to open in a new page, set target to “\_blank.”

The World Wide Web Consortium (W3C) manages an official list of colors:

W3C

Page Discussion Read View source View history Search

## CSS/Properties/color/keywords

< CSS | Properties | color

Main Page Browse categories Recent changes

Tools What links here Related changes Special pages Printable version Permanent link Page information

**Contents [hide]**

- 1 Color keywords
  - 1.1 Basic Colors
  - 1.2 Extended colors
  - 1.3 System Colors

### Color keywords

#### Basic Colors

Named	Numeric	Color name	Hex	rgb	Decimal
		black	#000000	0,0,0	
		silver	#C0C0C0	192,192,192	
		gray	#808080	128,128,128	
		white	#FFFFFF	255,255,255	
		maroon	#800000	128,0,0	
		red	#FF0000	255,0,0	
		purple	#800080	128,0,128	

You can find at: <https://www.w3.org/wiki/CSS/Properties/color/keywords>

Not let's try out the relative path of images in HTML.

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <title>My Web Page</title>
  </head>
  <body style="background-color:lavender;">
    <h1 style="background-color:lightskyblue;">My First Website</h1>
    <h2>I hope you like it here.</h2>
    <h3>I hope you like it here.</h3>
    <h4>I hope you like it here.</h4>
    <h5>I hope you like it here.</h5>
    <h6>I hope you like it here.</h6>
    <p style="color:midnightblue;">This is my paragraph.</p><br>
    <p>This is another paragraph.</p>
    <b>Bold text</b>
    <i>Italic text</i>
    <u>Underlined text</u>
    <em>Emphasized text</em>
    <strong>Strong text</strong>
    <sub>Subscript text</sub>
    <sup>Superscript text</sup>
    </img> -----> The absolute path.
    <a href="http://by.cuc.edu.cn/">This is the link to CUC's website</a>
    </img> -----> The relative path.
  </body>
</html>
```

## Exercise 1

# HTML File Path Examples

---

Path	Description
<code>&lt;img src="picture.jpg"&gt;</code>	The "picture.jpg" file is located in the same folder as the current page
<code>&lt;img src="images/picture.jpg"&gt;</code>	The "picture.jpg" file is located in the images folder in the current folder
<code>&lt;img src="/images/picture.jpg"&gt;</code>	The "picture.jpg" file is located in the images folder at the root of the current web
<code>&lt;img src="../picture.jpg"&gt;</code>	The "picture.jpg" file is located in the folder one level up from the current folder

Learn more about HTML file paths: [https://www.w3schools.com/html/html\\_filepaths.asp](https://www.w3schools.com/html/html_filepaths.asp)

# My First Website

**I hope you like it here.**

This is my paragraph.

This is another paragraph.

**Bold text** *Italic text* Underlined text **Emphasized text** **Strong text** Subscript text



中國傳媒大學  
COMMUNICATION UNIVERSITY OF CHINA

[This is the link to CUC's website](#)



Add the list and table codes into example2.html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>My Web Page</title>
</head>
<body>
  <h1>My First Website</h1>
  <h2>My favorite fruit.</h2>
  <ul> —————> List tag, <ul> for making unordered list; <ol> for making ordered list
    <li>apples</li>
    <li>oranges</li>
    <li>pineapples</li>
  </ul>
  <table> —————> Table tag for building a table
    <tr> —————> <tr>tag for building the first table row
      <th>Month</th> —————> Table header tags to put column headers
      <th>Rent</th>
      <th>Eating Out</th>
      <th>Groceries</th>
    </tr>
    <tr>
      <td>August</td> —————> Table data tags to add table data
      <td>$1500</td>
      <td>$150</td>
      <td>$350</td>
    </tr>
  </table>
  </img>
  <a href="http://by.cuc.edu.cn/">This is the link to CUC's website</a>
</body>
</html>
```

**Exercise 2**  
(Add list and table)

**Exercise 2**  
(Add list and table)

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <title>My Web Page</title>
  </head>
  <body>
    <h1>My First Website</h1>
    <h2>My favorite fruit.</h2>
    <ul>
      <li>apples</li>
      <li>oranges</li>
      <li>pineapples</li>
    </ul>
    <table border="1" cellpadding="10" cellspacing="0">
      <tr>
        <th>Month</th>
        <th>Rent</th>
        <th>Eating Out</th>
        <th>Groceries</th>
      </tr>
      <tr>
        <td>August</td>
        <td>$1500</td>
        <td>$150</td>
        <td>$350</td>
      </tr>
    </img>
    <a href="http://by.cuc.edu.cn/">This is the link to CUC's website</a>
  </body>
</html>
```

**Styling the table:**

- Setting **border** attribute to add lines to the table;
- Using **cellpadding** to control the amount of extra space inside each cell;
- Using **cellspacing** to control the amount of extra space between cells.

## Code View

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <title>My Web Page</title>
  </head>
  <body>
    <h1>My First Website</h1>
    <h2>My favorite fruit.</h2>
    <ul>
      <li>apples</li>
      <li>oranges</li>
      <li>pineapples</li>
    </ul>
    <table>
      <tr>
        <th>Month</th>
        <th>Rent</th>
        <th>Eating Out</th>
        <th>Groceries</th>
      </tr>
      <tr>
        <td>August</td>
        <td>$1500</td>
        <td>$150</td>
        <td>$350</td>
      </tr>
    </table>
    <link>
      </img>
      <a href="http://by.cuc.edu.cn/">This is the link to CUC's website</a>
    </body>
  </html>
```

Browser View

# My First Website

## My favorite fruit.

- apples
- oranges
- pineapples



中國傳媒大學

COMMUNICATION UNIVERSITY OF CHINA

[This is the link to CUC's website](#)

## Month Rent Eating Out Groceries

August	\$1500	\$150	\$350
--------	--------	-------	-------

Style the table with built-in table attributes

# My First Website

## My favorite fruit.

- apples
- oranges
- pineapples



中國傳媒大學

COMMUNICATION UNIVERSITY OF CHINA

[This is the link to CUC's website](#)

Month	Rent	Eating Out	Groceries
August	\$1500	\$150	\$350

Please save your 2nd html document as example2.html.

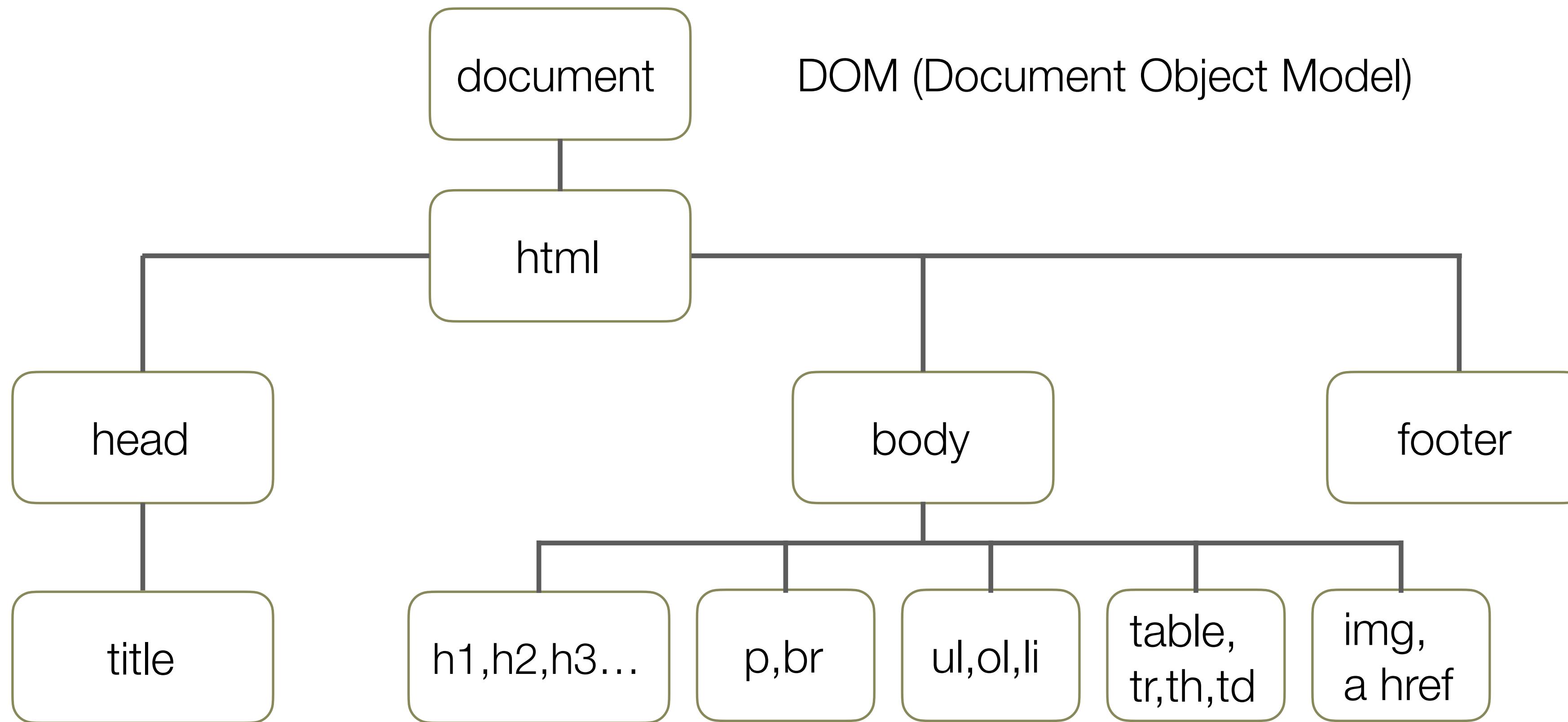
And then uploading it to your remote Github account space.

For more practice, please check the link below:

<https://coder-coder.com/how-to-make-simple-website-html/>

# HTML as Document Object Model

---



# The grammar of HTML elements

---

- Starts with a start/opening tag (e.g. <p>)
- Ends with an end/closing tag (e.g. </p>)
- Elements content is everything between the start and end tags
- Void elements don't require a closing tag (e.g. <br>)
- Most elements have attributes

**Thanks!**