Creative Interaction Design and Technologies

TANG, Xuetong

Stanford d.school Workshop

Agenda

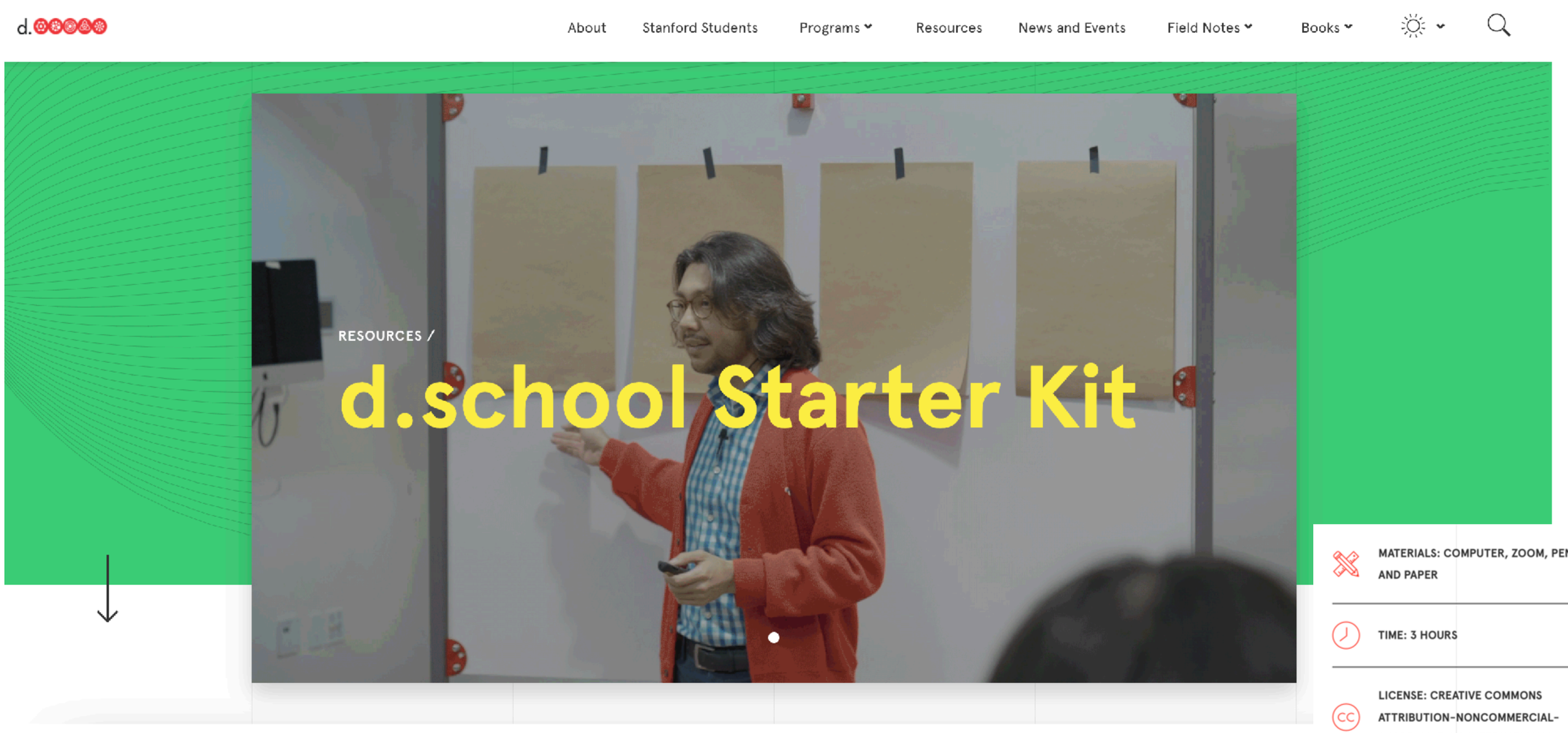
Lecture

- 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

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.

What you'll learn today

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.

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.

Methods

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

How you'll learn today

Work on your own

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

Learn from others

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

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.

Learning Journey

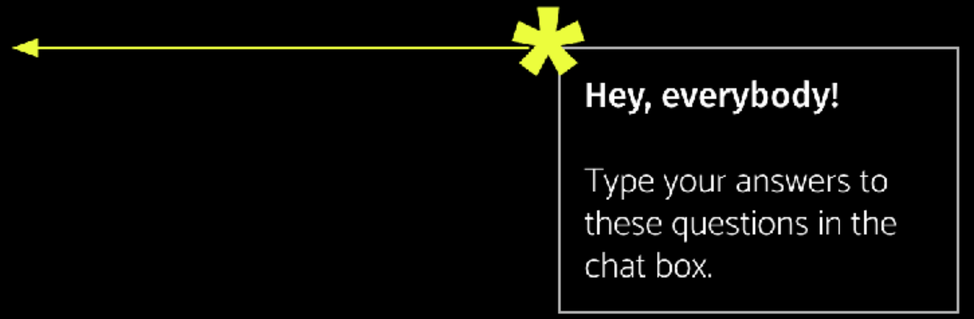
Part 1
60-80 min

Break
10 min

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?

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

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.

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.

Brought to you by
the Stanford d.school.

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Video 3 (of 10)

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.

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.

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.)

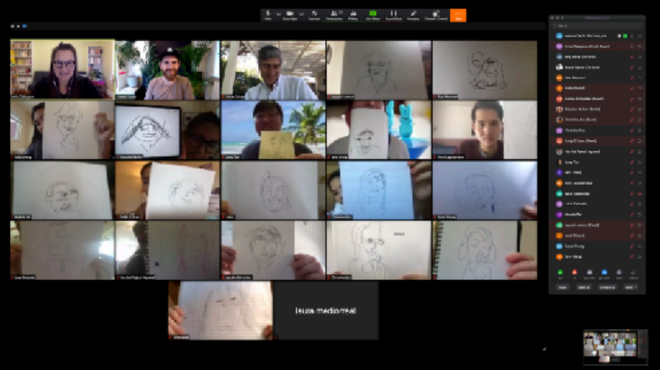
Making messes.

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.

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

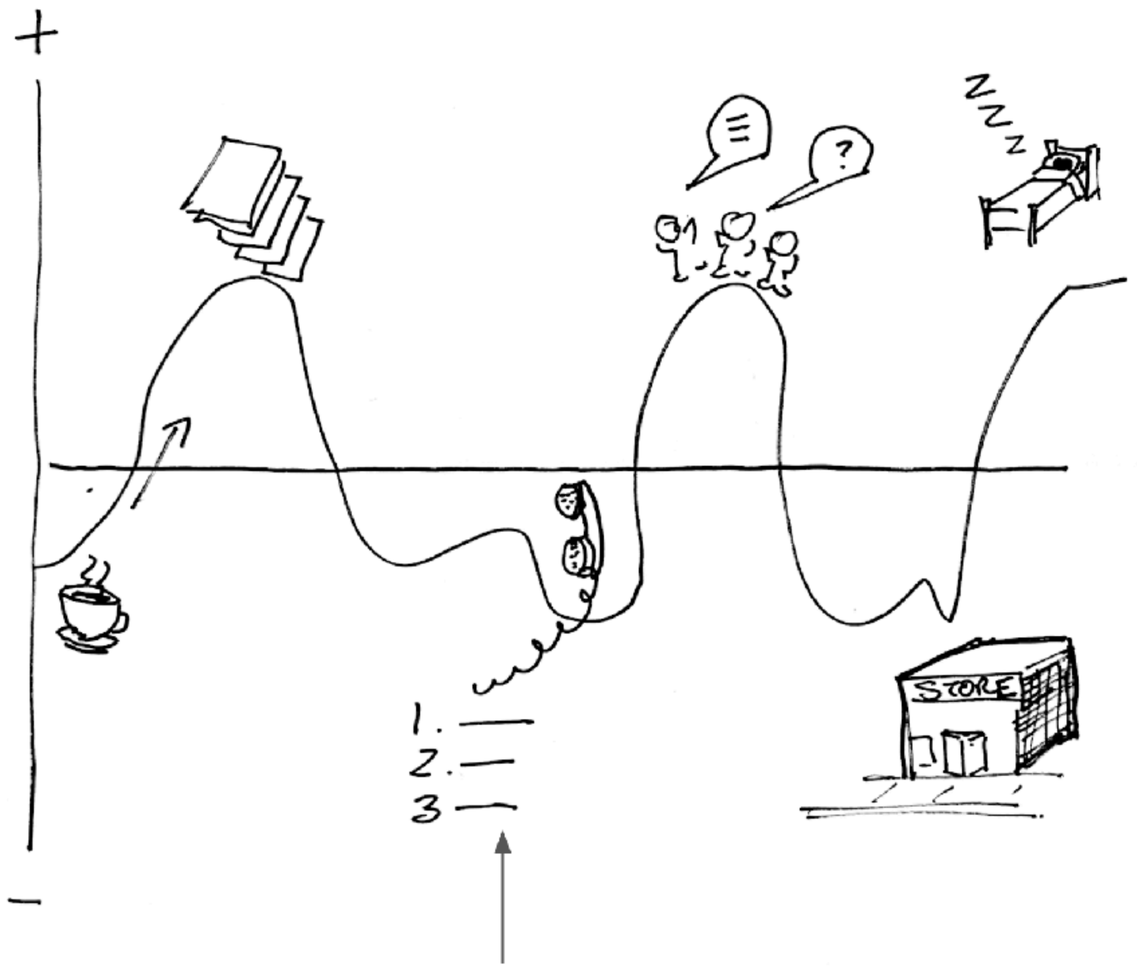
Work on your own

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.*

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If that sounds interesting, learn more by clicking here.

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?

Brought to you by
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.

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.

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If that sounds interesting, learn more by clicking here.

Video 5 (of 10)

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.

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.

Hi!

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If that sounds interesting, learn more by clicking here.

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] _____?"

Brought to you by the Stanford d.school.

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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If that sounds interesting, learn more by clicking here.

d.

Video 7 (of 10)

Watch a video about Yusuke Miyashita

Yusuke is a product designer and the founder of Eagle Hunter Studio. He also lecturers 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?

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.

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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 Trillicon Valley.

Brought to you by
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?

5 MINUTES

Work with your partner

Time to share your new solution in the breakout rooms.

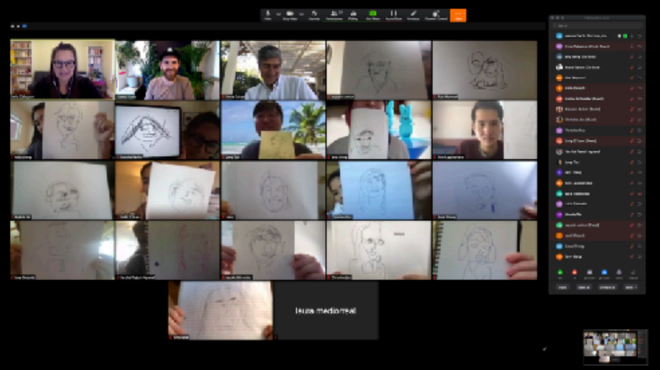
Partner A, share your story with Partner B

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.

Capture your work



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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!

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.

Video 10 (of 10)

Watch a video and Wrap Up

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

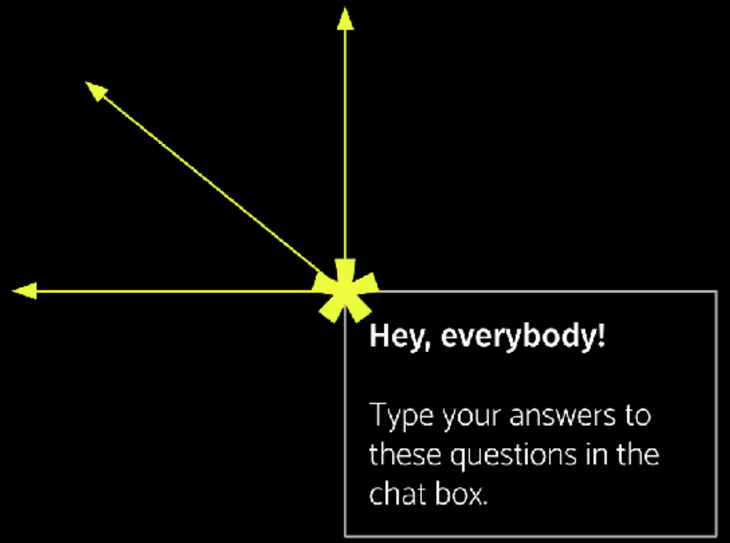
There are many ways to design, these were just a few that you can start doing today and tomorrow.

Brought to you by
the Stanford d.school.

Learn from others

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

What is one method or mindset you could use tomorrow?



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

2 MINUTES

Reflect on what we did.

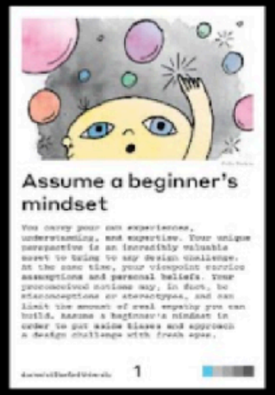
During this activity, you tried out over 20 human-centered design mindsets & methods.

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.


Prototype
iv.


Assume a beginner's mindset
1


Storytelling
28


Impose Constraints


Define
ii.

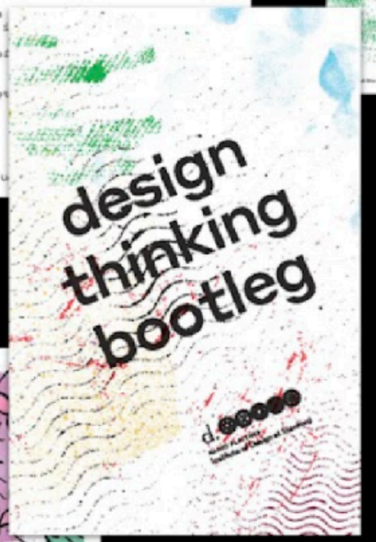

Brainstorming
15


First
Then
Journey Map
7


Describe Your Concept


Interview for Empathy
4

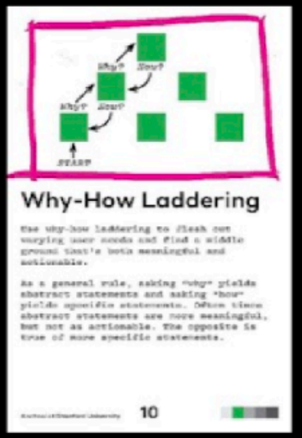

Improvise to Life
20


design thinking bootleg


Test
v.


Stoke


"How Might We" Questions
13


Why-How Laddering
10


Ideate
iii.


I Like, I Wish, What If


Empathy Probe


Story Share-and-Capture


Empathize


Testing with Users


Design Guidelines
12

Thank you!

Recap

What is interaction design?

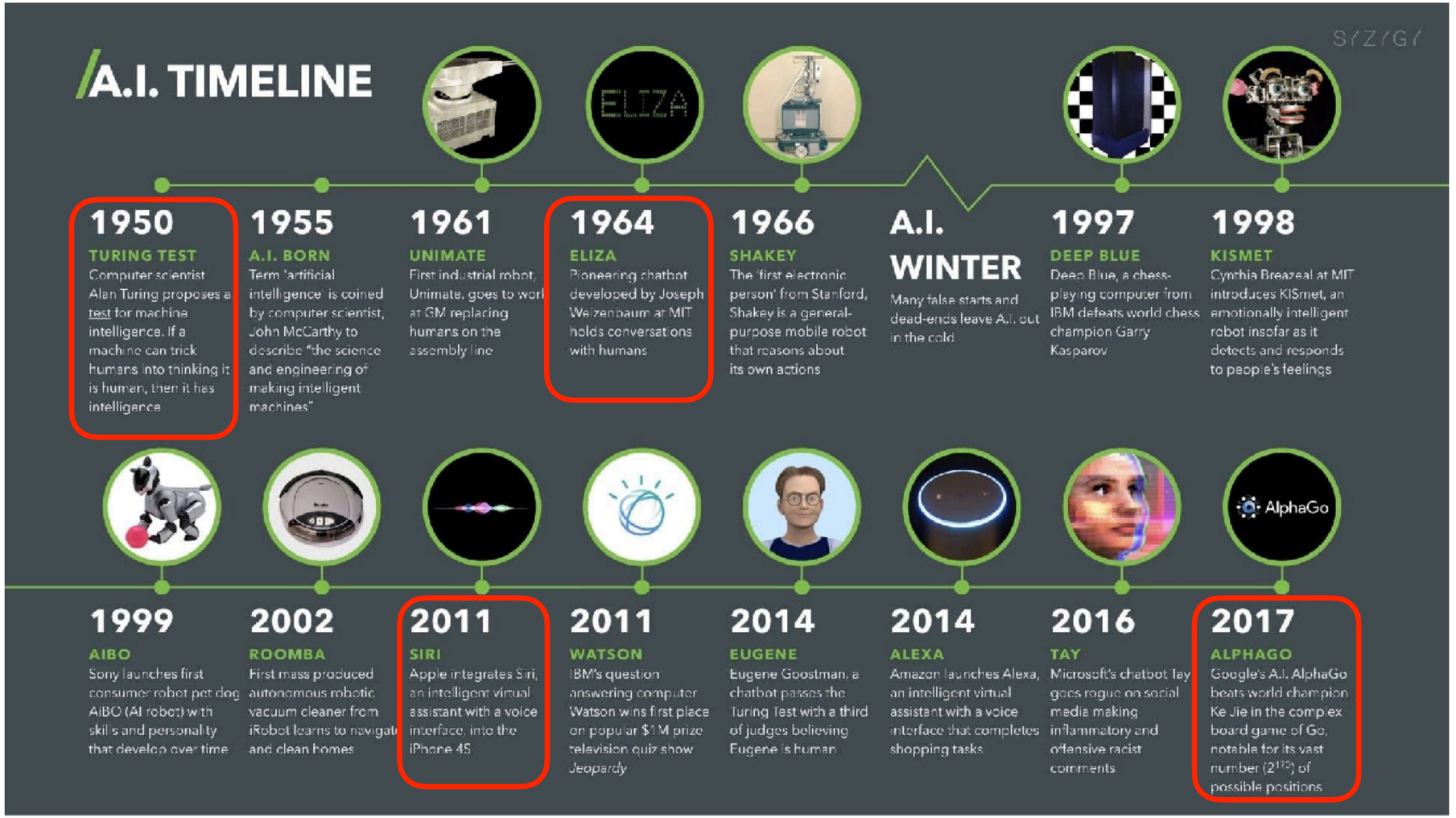
Interaction design 交互设计

“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

Source: easyai.tech

AI in Three Waves 人工智能三次发展浪潮

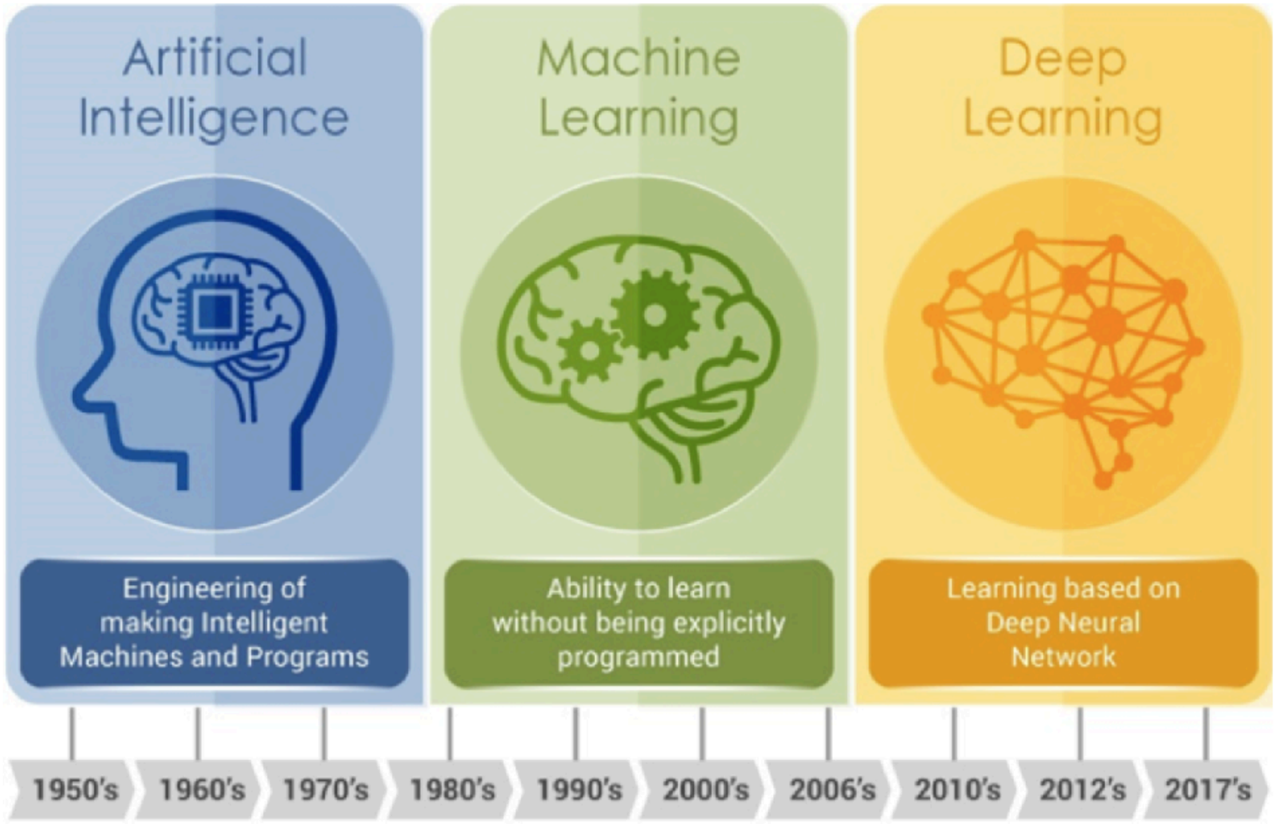
- 1st Wave (Non-intelligent Dialogue Robot 非智能对话机器人)
  20 century 50 era to 60 era
  e.g. robot ELIZA, Shakey

- 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



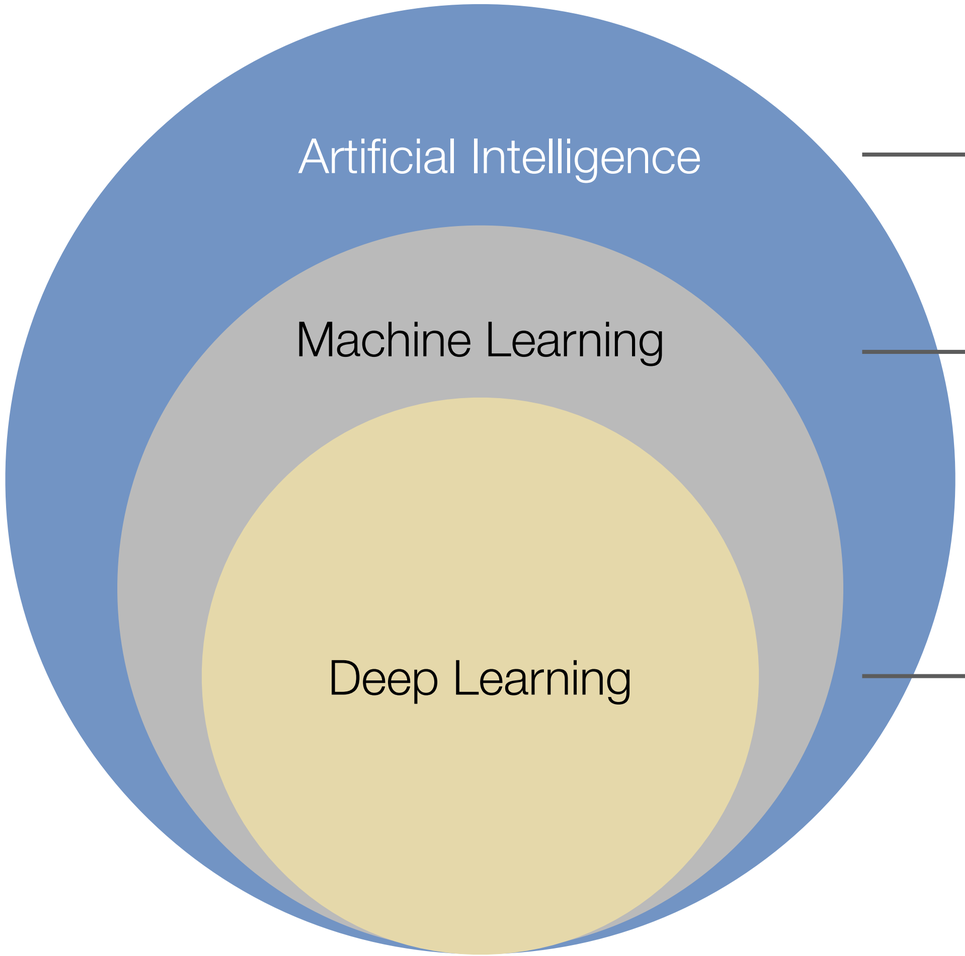
Evolution of AI — Source: https://www.embedded-vision.com/

Traditional Softwares based on condition: if…then…

Input (X) → System → Output (Y)

programmed by human

Difference Between AI, ML and DL



Developing machines to mimic human intelligence and behavior.

Algorithms that learn from **structured data** to **predict outputs** and **discover patterns** in that data.

Applications: forecasting, trend and pattern recognition…

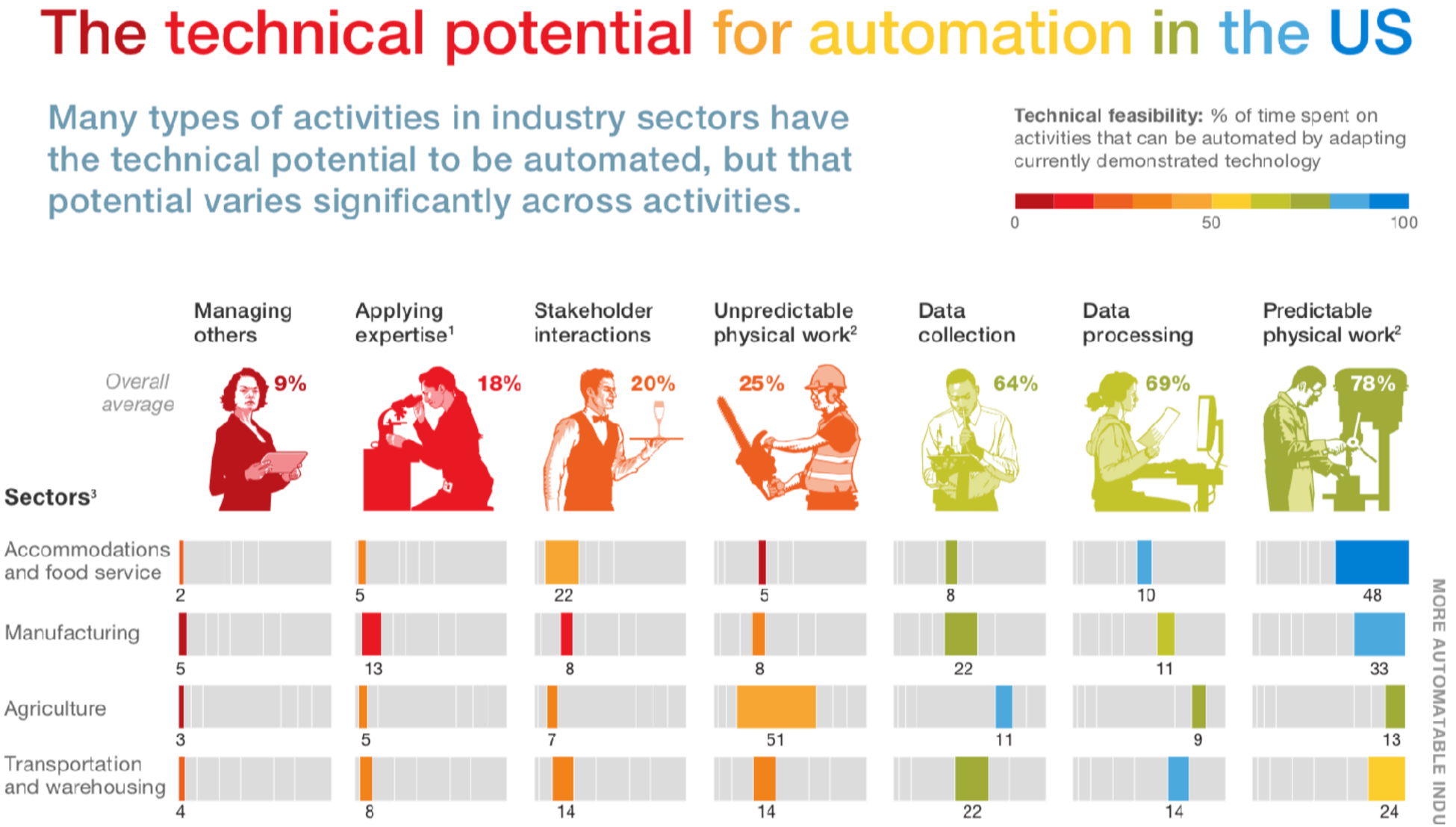
Algorithms based on highly complex **neural networks** that mimic the way a human brain works to detect patterns in large **unstructured data** sets.

Applications: virtual assistants, self-driving vehicles…

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?



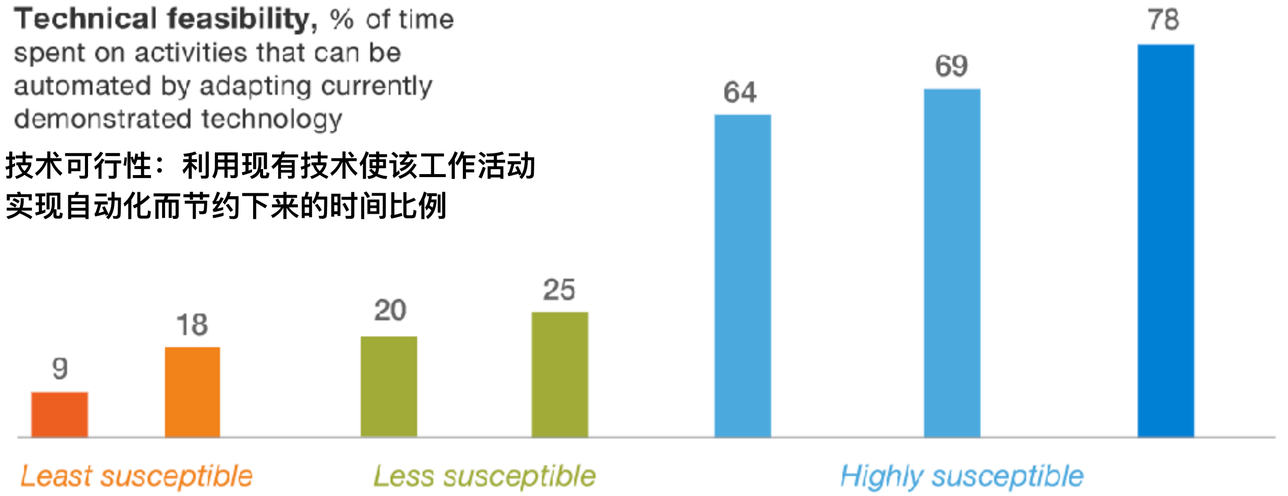
Source: McKinsey&Company

Analyzing work activities rather than occupations is the most accurate way to examine the technical feasibility of automation.

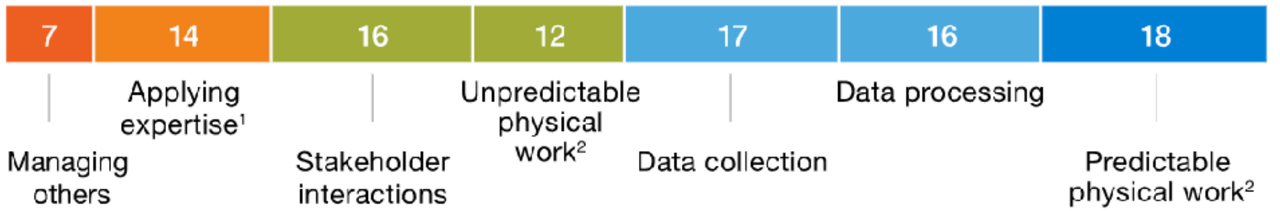
应从分析具体工作活动而非某一职业来准确判断其被自动化技术替代的可行性

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

技术可行性：利用现有技术使该工作活动实现自动化而节约下来的时间比例



Time spent in all US occupations, %



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.

[1]Applying expertise to decision making, planning, and creative tasks.
[2]Unpredictable physical work (physical activities and the operation of machinery) is performed in unpredictable environments, while in predictable physical work, the environments are predictable.

McKinsey&Company

“

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

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...

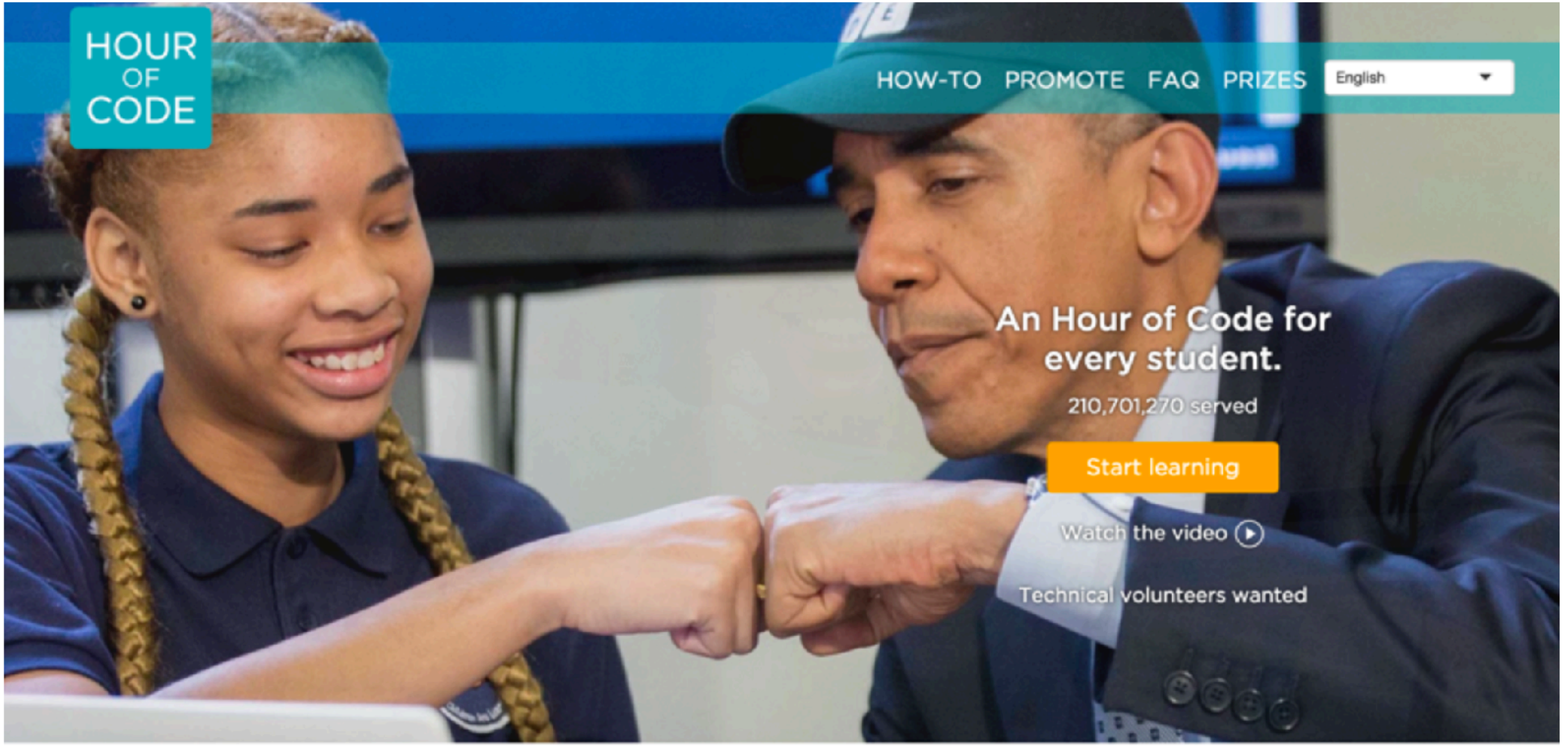
Information About...

- Transforming Teaching
- Family and Community Engagement
- Early Learning

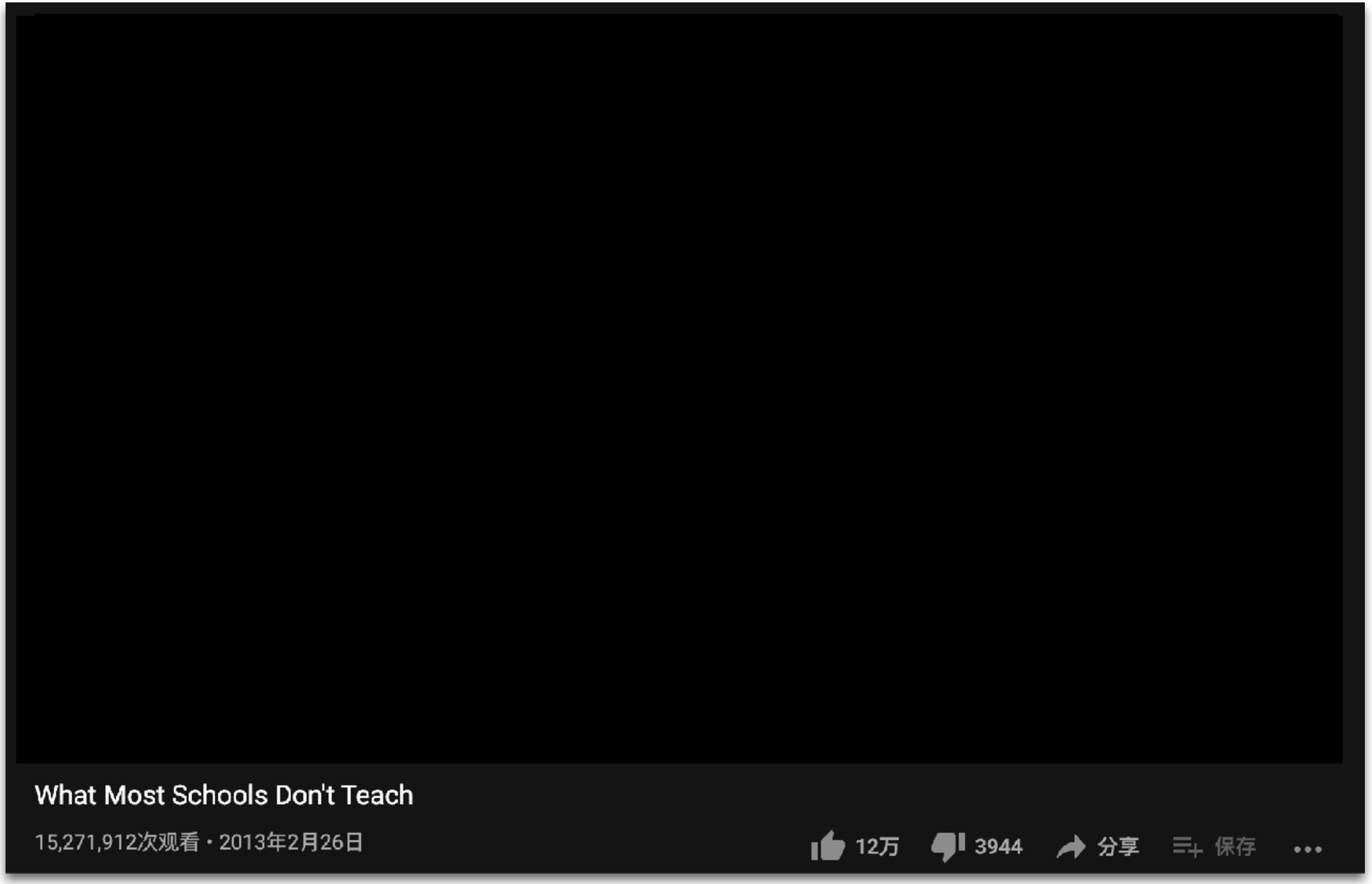
Source: https://www.ed.gov/stem

Response From HKSAR

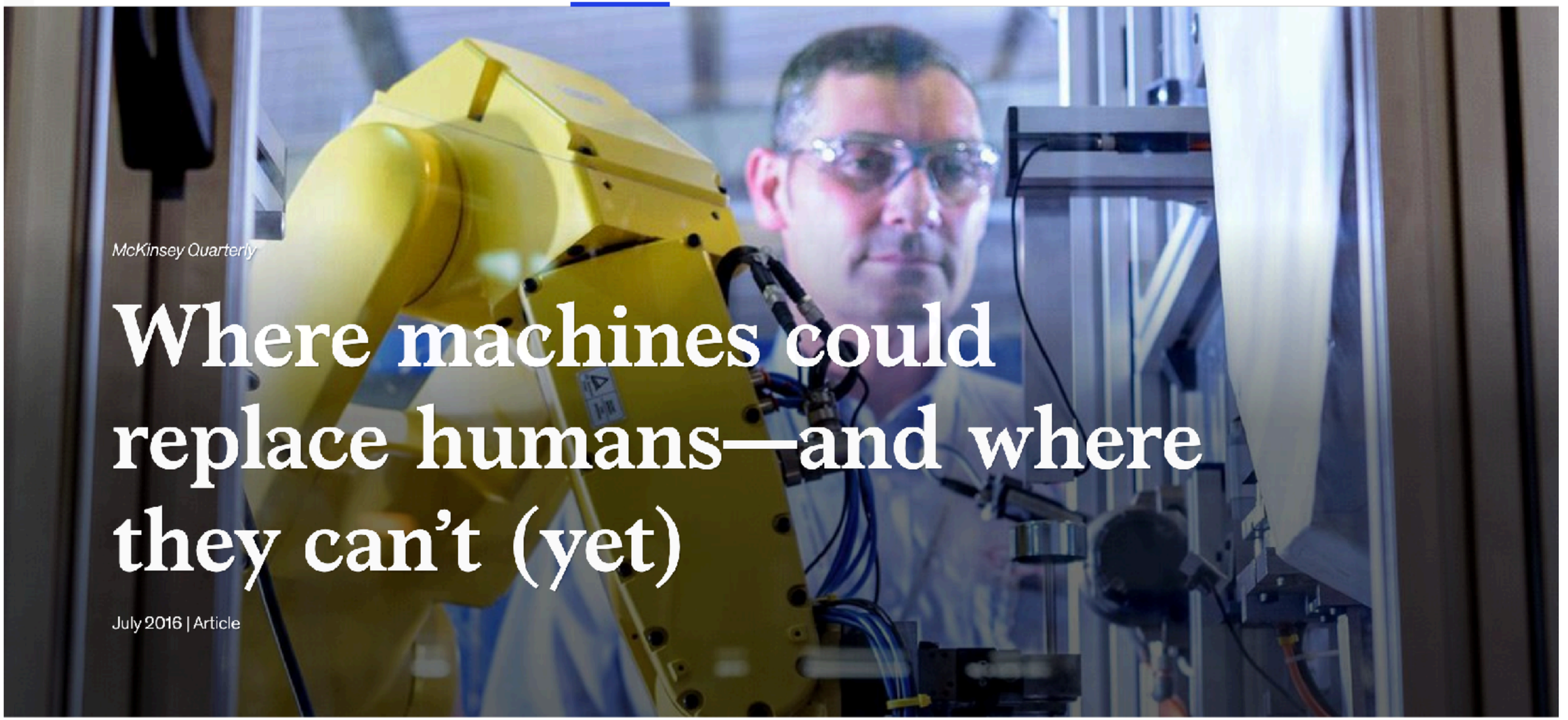
November 2015



Source: https://hourofcode.com/



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



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

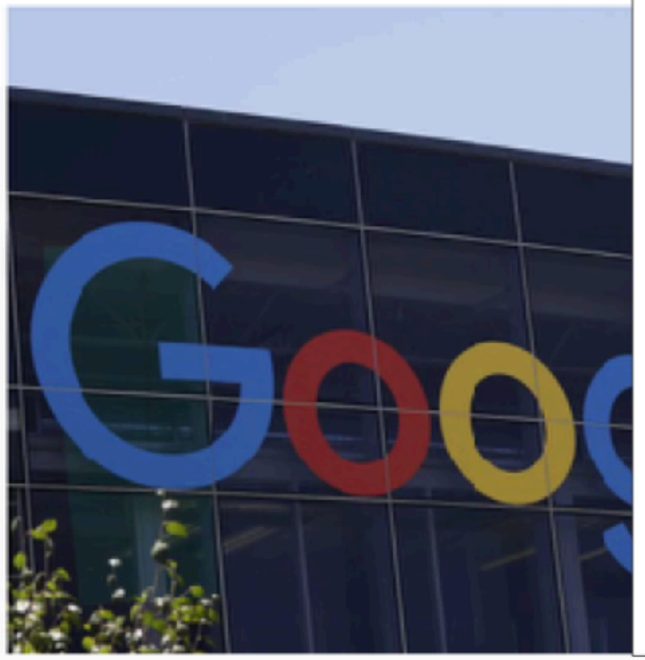
While, Google learned that top characteristics of success are soft skills!
然而，STEM教育足够了吗？谷歌发现，占据最顶端的人往往是软性技能专家

Sections

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



(Marcio Jose Sanchez/AP)

"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."

What are soft skills?

Communication

Empathy

Listening

Critical thinker

Collaboration

CREATION

Problem solver

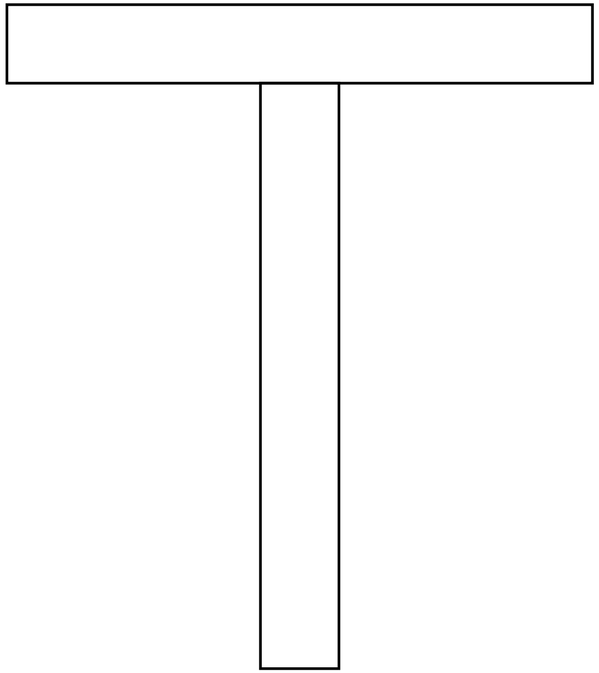
...

Steve Jobs: Technology & Liberal Arts

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

From I-Shaped to T-Shaped Person

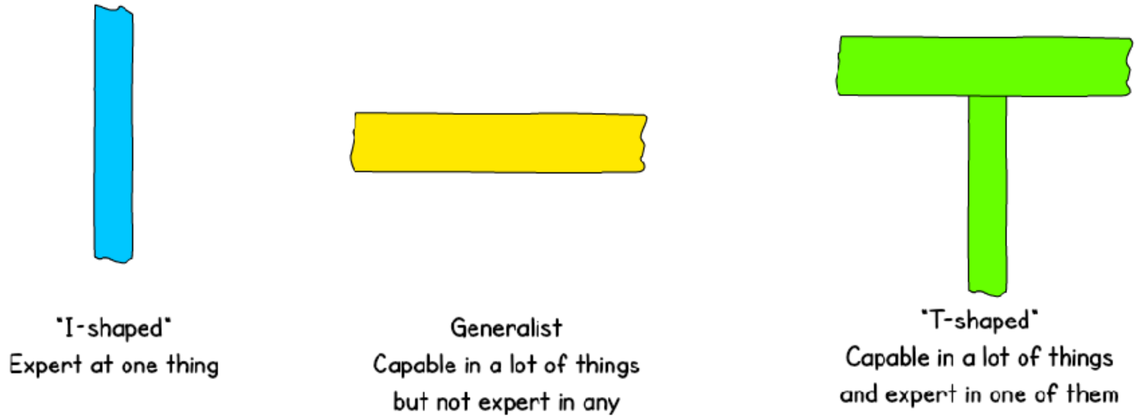
I-Shaped Talent of Industrial Age



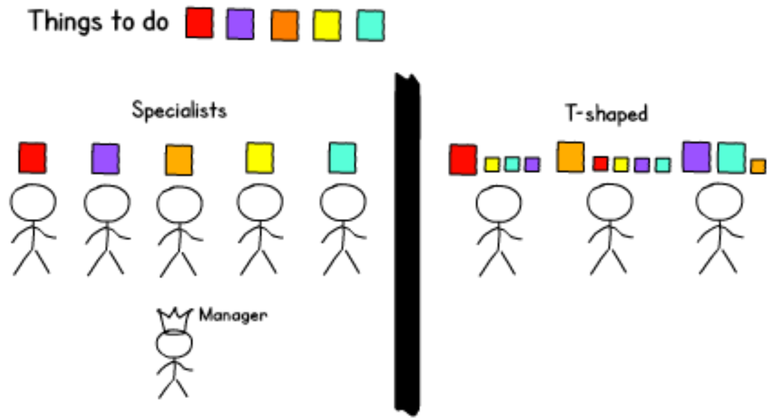
T-Shaped Talent of Information Age

Interdisciplinary Team

Why T-Shaped People?

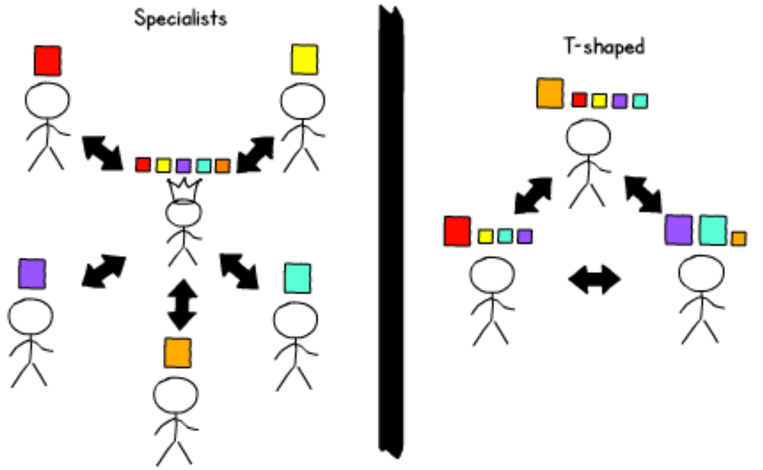


We can do more with the same number of people (or do the same with less people).

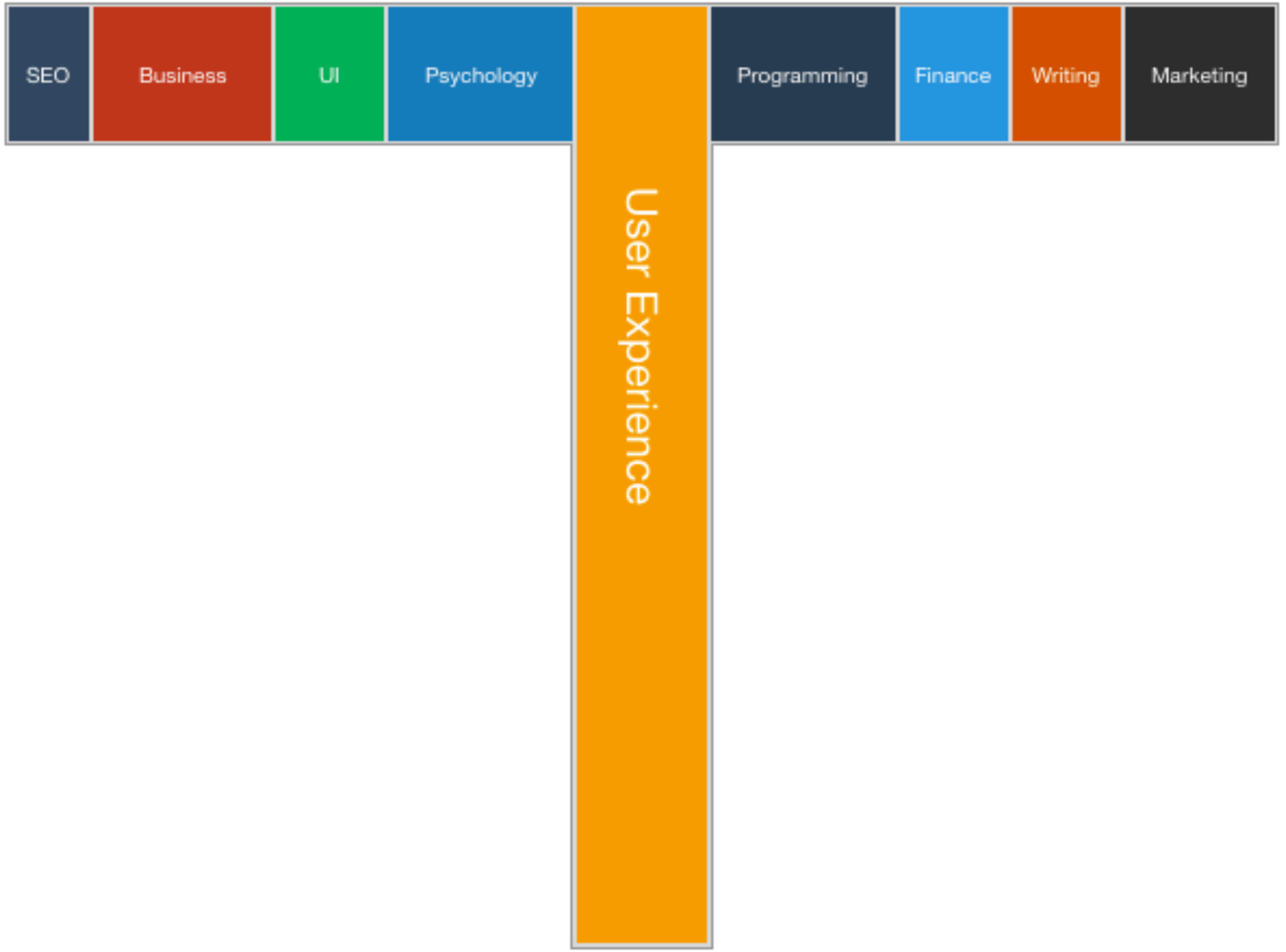


Source: Jason Yip, Medium

T-shaped people help us communicate more effectively.



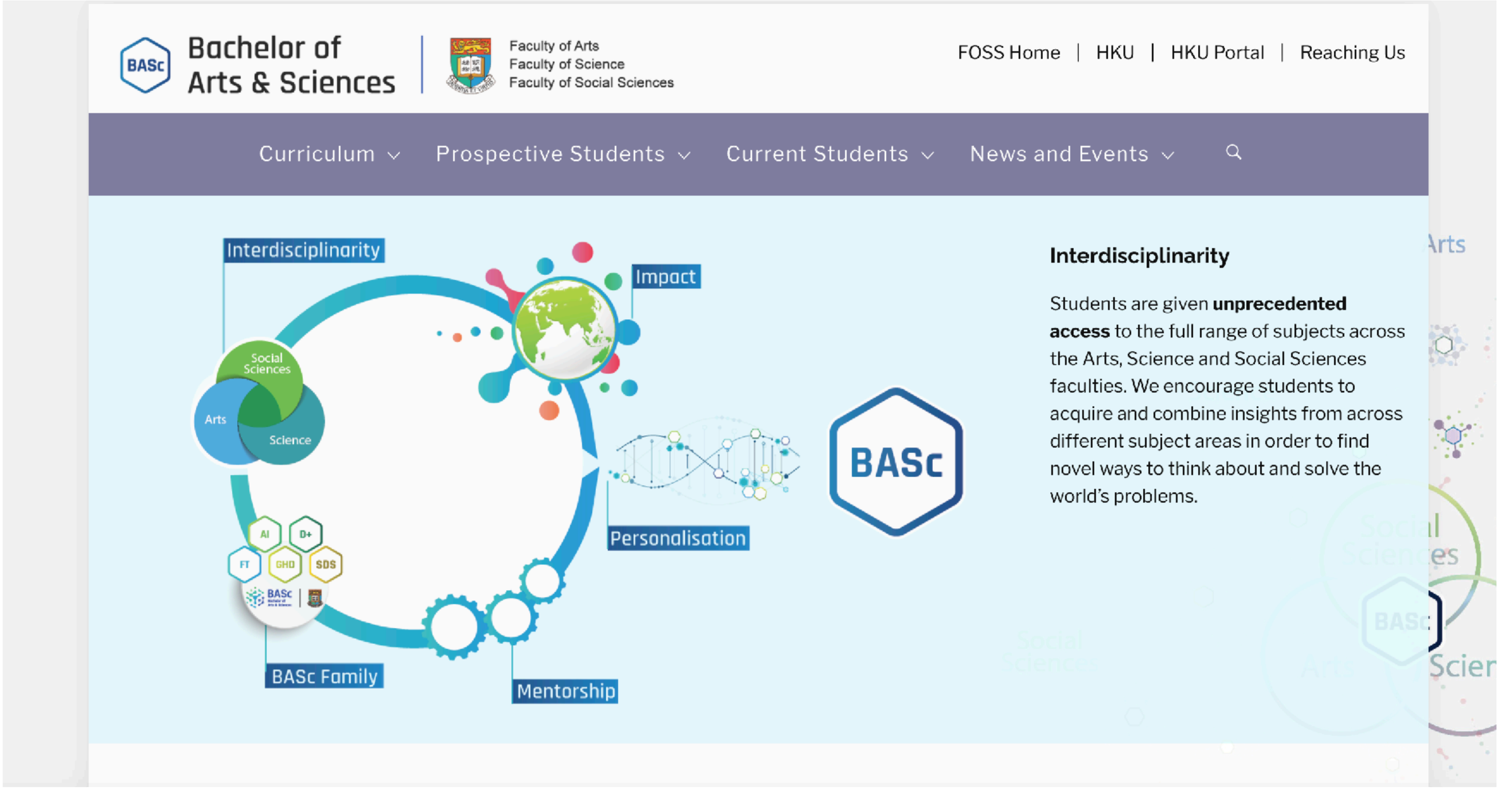
How Can You Become T-Shaped?



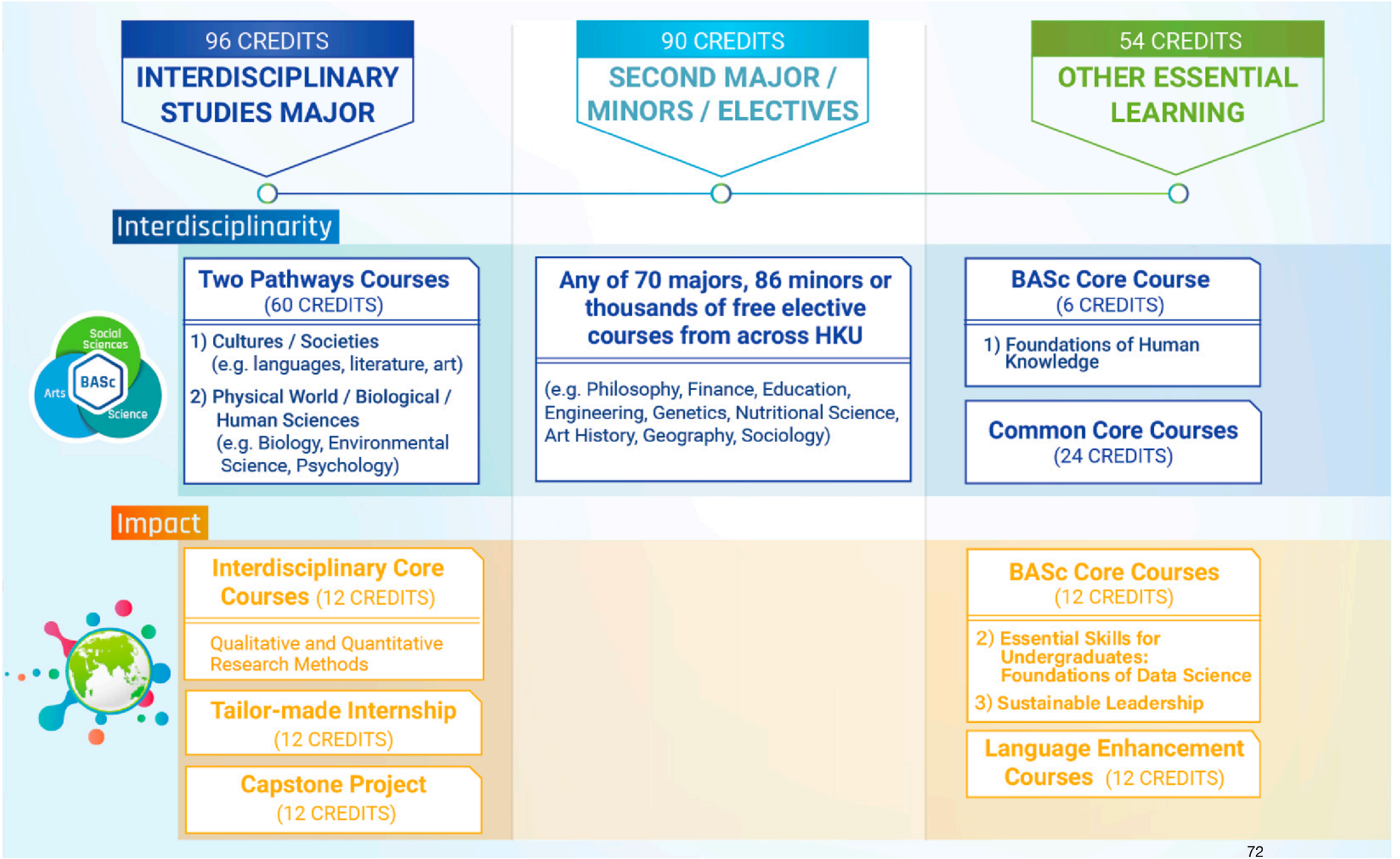
From Stem To Steam

From I-Shaped To T-Shaped

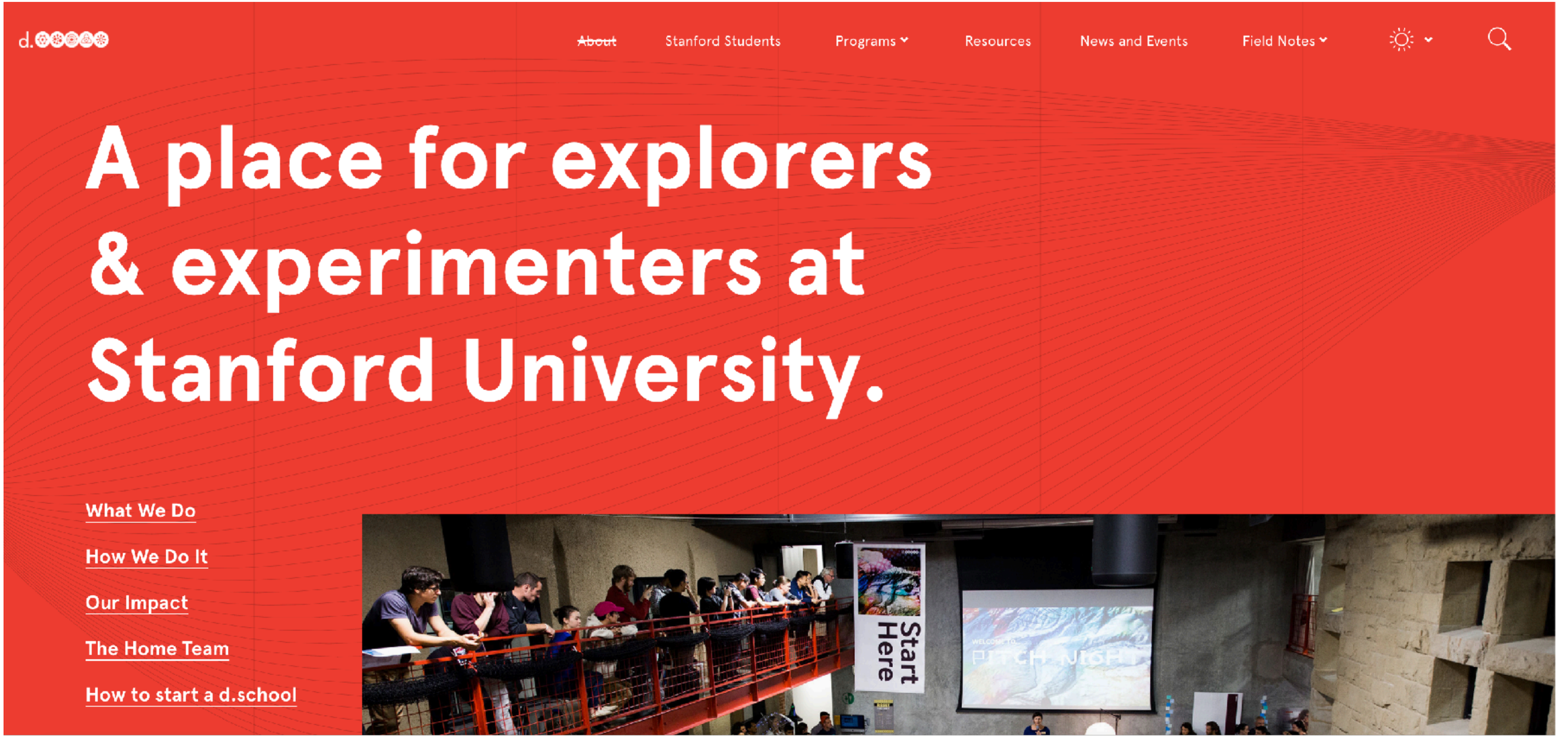
The Power Of An Interdisciplinary Study



Source: https://www.socsc.hku.hk/basc/



Source: https://www.socsc.hku.hk/basc/



Source: https://dschool.stanford.edu/

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

Source: https://dschool.stanford.edu/

PSYCHOLOGY

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

By Elizabeth Williams

SHARE Facebook Twitter

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?

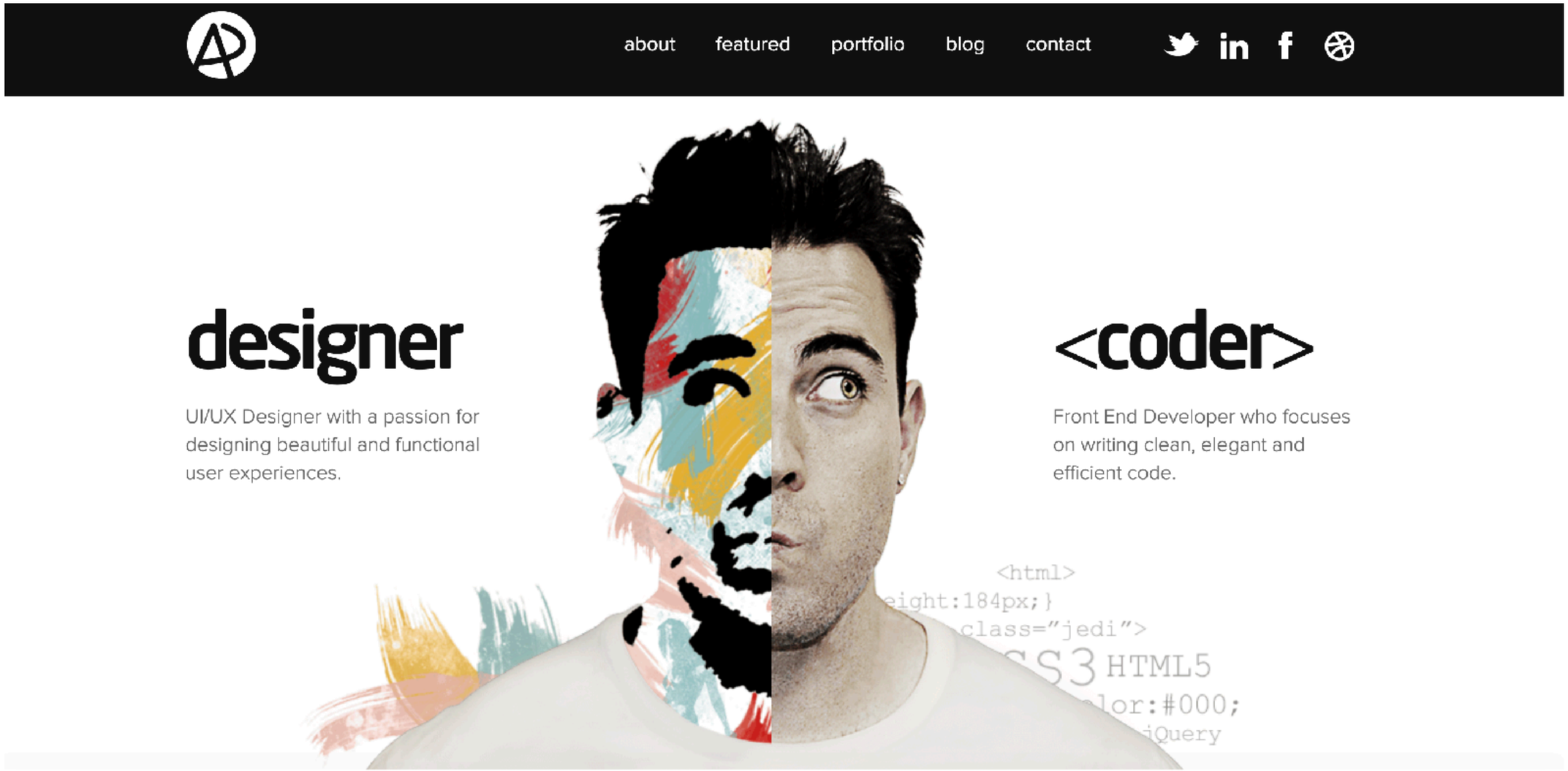


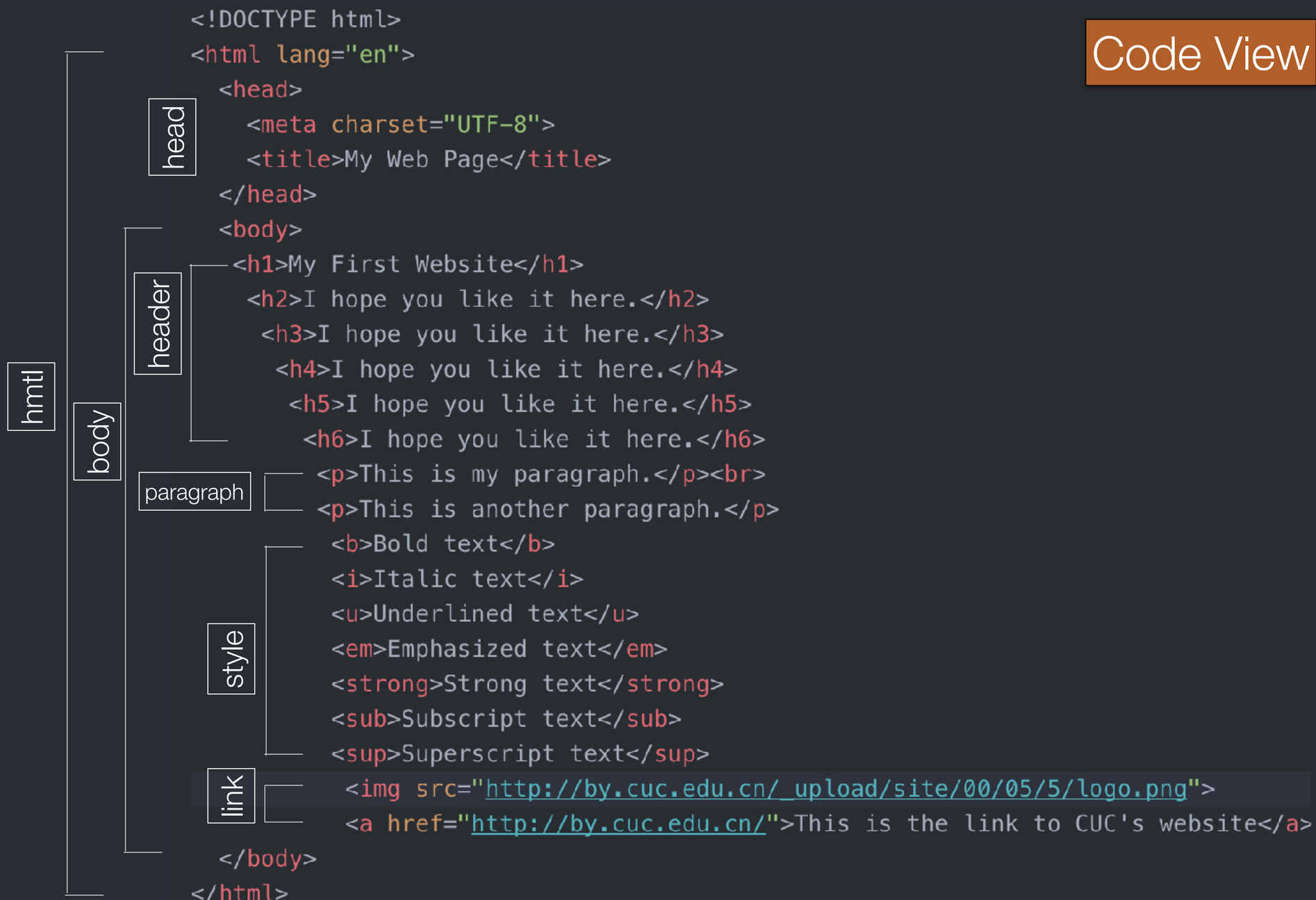
Image credit: Adham Dannaway

LAB TIME

Recap

```
<!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>
          <img src="http://by.cuc.edu.cn/_upload/site/00/05/5/logo.png"></img>
           <a href="http://by.cuc.edu.cn/">This is the link to CUC's website</a>
 </body>
</html>
```

Code View


hmtl
body
head
header
paragraph
style
link
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<title>My Web Page</title>
</head>
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<h6>I hope you like it here.</h6>
This is my paragraph.
This is another paragraph.
Bold text
Italic text
<u>Underlined text</u>
Emphasized text
Strong text
_{Subscript text}
^{Superscript text}
<img src="http://by.cuc.edu.cn/_upload/site/00/05/5/logo.png">
This is the link to CUC's website
</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 src="http://by.cuc.edu.cn/_upload/site/00/05/5/logo.png"></img>
           <a href="http://by.cuc.edu.cn/" target="_blank">This is the link to CUC's website</a>
  </body>
</html>
```

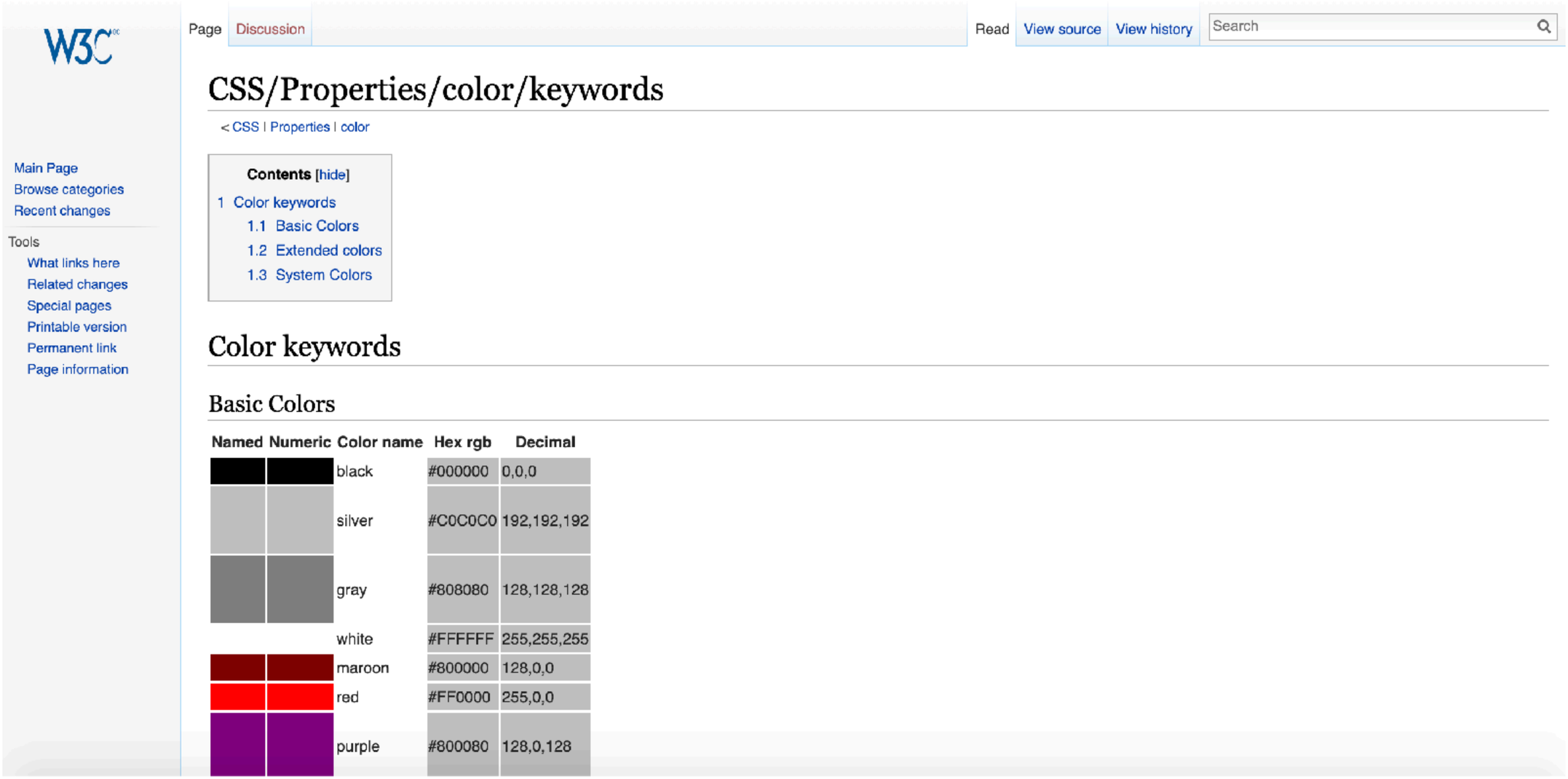
Set the web page background color to lavender by adding the style attribute to the <body> tag.

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:



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.

Exercise 1

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <title>My Web Page</title>
  </head>
  <body style="background-color:lavender;">
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         <p style="color:midnightblue;">This is my paragraph.</p><br>
         <p>This is another paragraph.</p>
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          <u>Underlined text</u>
          <em>Emphasized text</em>
          <strong>Strong text</strong>
          <sub>Subscript text</sub>
          <sup>Superscript text</sup>
           <img src="http://by.cuc.edu.cn/_upload/site/00/05/5/logo.png"></img>
           <a href="http://by.cuc.edu.cn/">This is the link to CUC's website</a>
           <img src=“campus.jpeg" alt="Mountain"></img>
  </body>
</html>
```

→ The absolute path.

→ The relative path.

HTML File Path Examples

Path	Description
<img src="picture.jpg">	The "picture.jpg" file is located in the same folder as the current page
<img src="images/picture.jpg">	The "picture.jpg" file is located in the images folder in the current folder
<img src="/images/picture.jpg">	The "picture.jpg" file is located in the images folder at the root of the current web
<img src="../picture.jpg">	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

My First Website

I hope you like it here.

I hope you like it here.

I hope you like it here.

I hope you like it here.

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 Superscript 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

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> ——→ 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 src="http://by.cuc.edu.cn/_upload/site/00/05/5/logo.png"></img>
  <a href="http://by.cuc.edu.cn/">This is the link to CUC's website</a>
 </body>
</html>
```

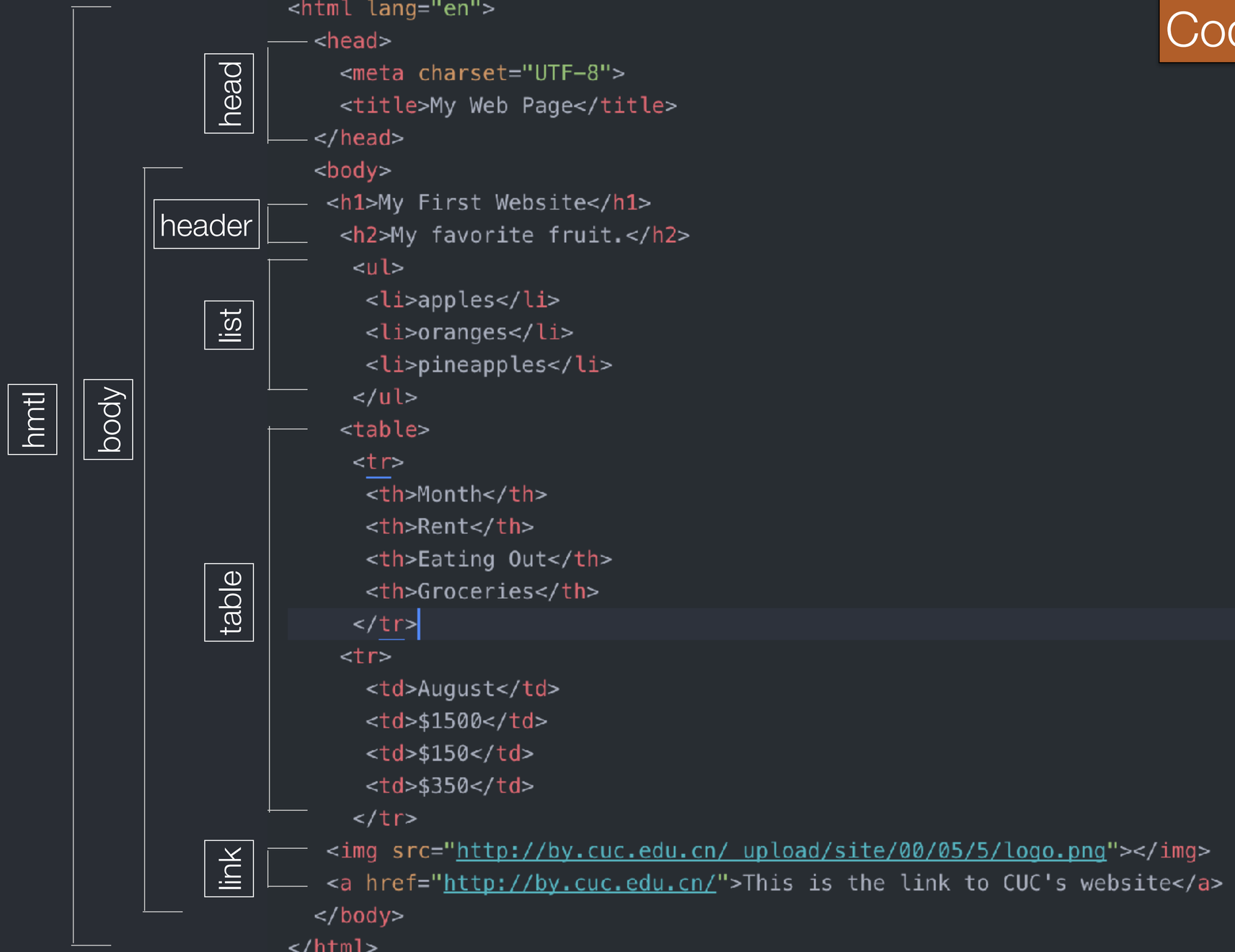
Exercise 2
(Add list and table)

```
<!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 src="http://by.cuc.edu.cn/_upload/site/00/05/5/logo.png"></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

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     </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>
   <img src="http://by.cuc.edu.cn/_upload/site/00/05/5/logo.png"></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

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

This is the link to CUC's website

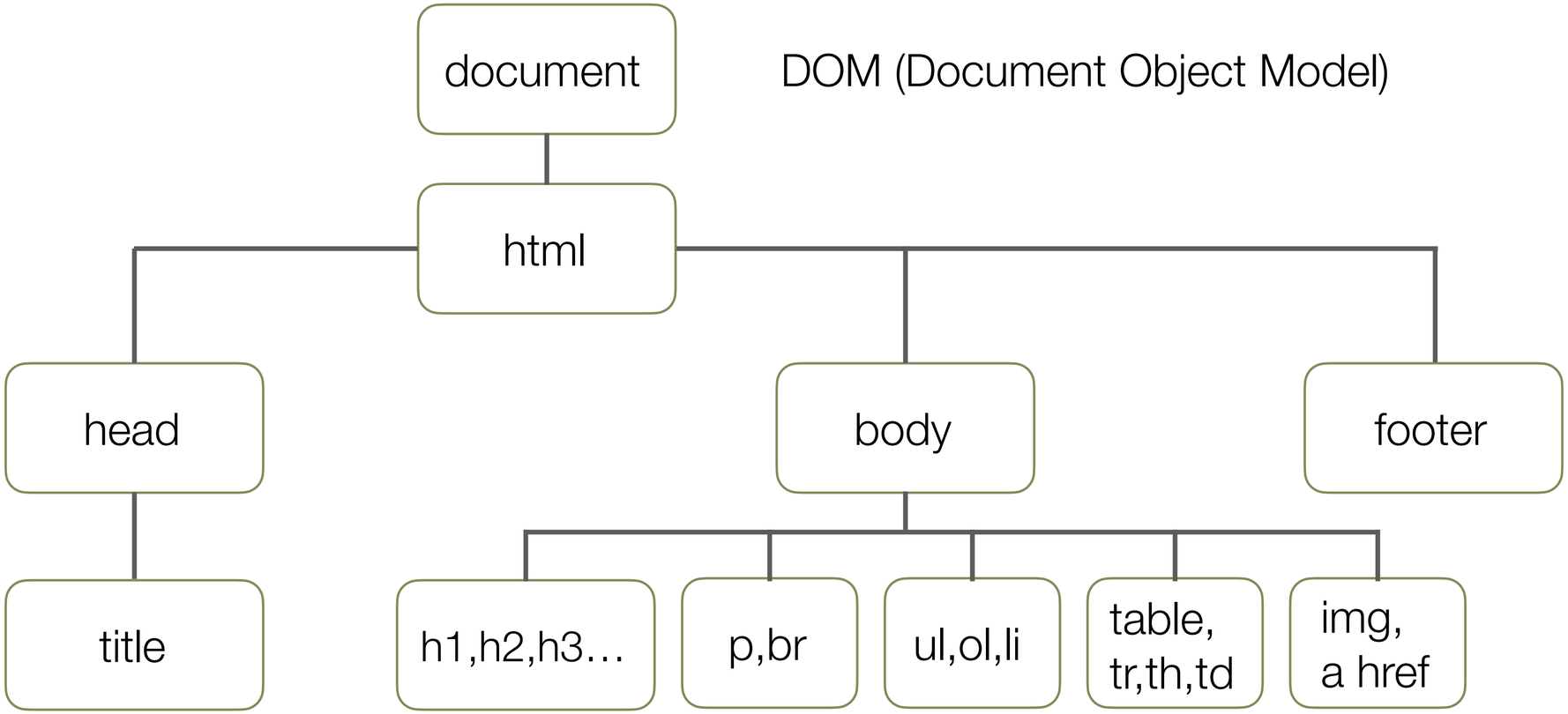
Month	Rent	Eating Out	Groceries
August	$1500	$150	$350

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.)
- Ends with an end/closing tag (e.g.)
- Elements content is everything between the start and end tags
- Void elements don’t require a closing tag (e.g.
)
- Most elements have attributes

Thanks!