CSC4130
Introduction to Human-Computer Interaction

Lecture 12
Mid-term Review

Outline

- Statistical results from the survey
- Mid-term review

Outline

香港中文大學(深圳)
The Chinese University of Hong Kong, Shenzhen

- Statistical results from the survey
- Mid-term review

Statistical results from the survey

香港中文大學(深圳)
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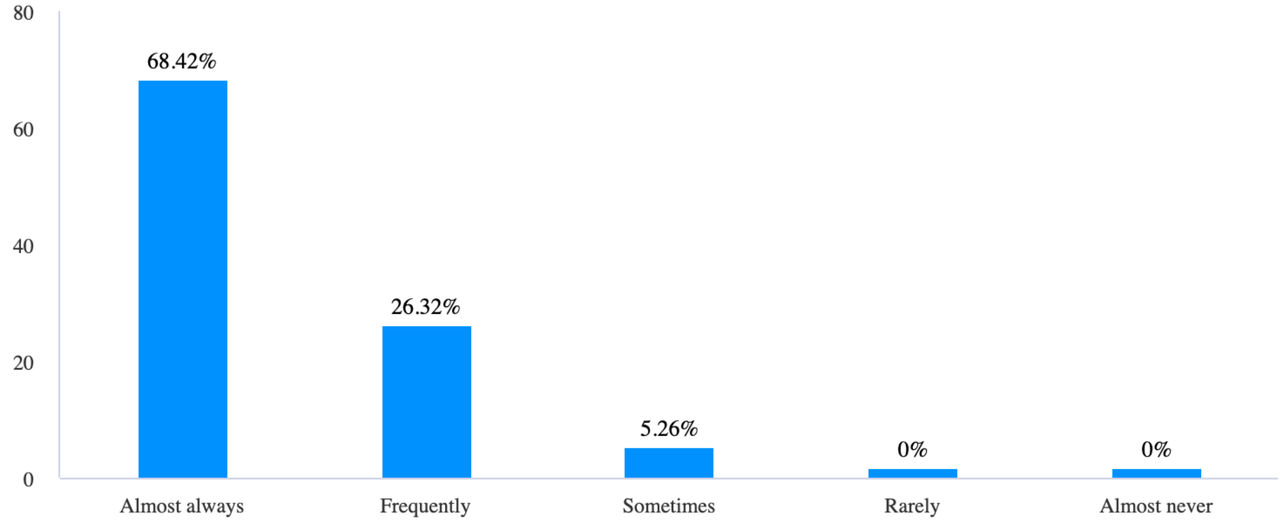
第1题： The instructor was well prepared for the class. [单选题]

选项	小计	比例
Almost always	13	68.42%
Frequently	5	26.32%
Sometimes	1	5.26%
Rarely	0	0%
Almost never	0	0%
本题有效填写人次	**19**	

表格 饼状 圆环 柱状 条形 折线



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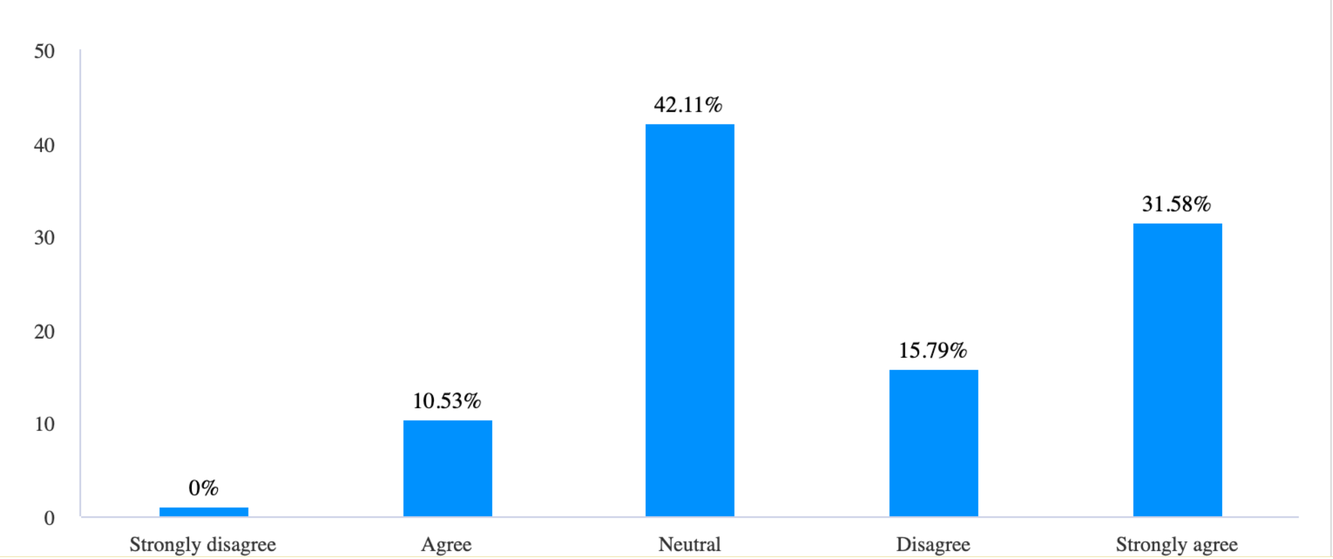
第2题： The instructor clearly presented the skills to be learned. [量表题]

本题平均分： 3.68

选项	小计	比例
Strongly disagree	0	0%
Agree	2	10.53%
Neutral	8	42.11%
Disagree	3	15.79%
Strongly agree	6	31.58%
本题有效填写人次	**19**	

表格 | 饼状 | 圆环 | 柱状 | 条形 | 折线



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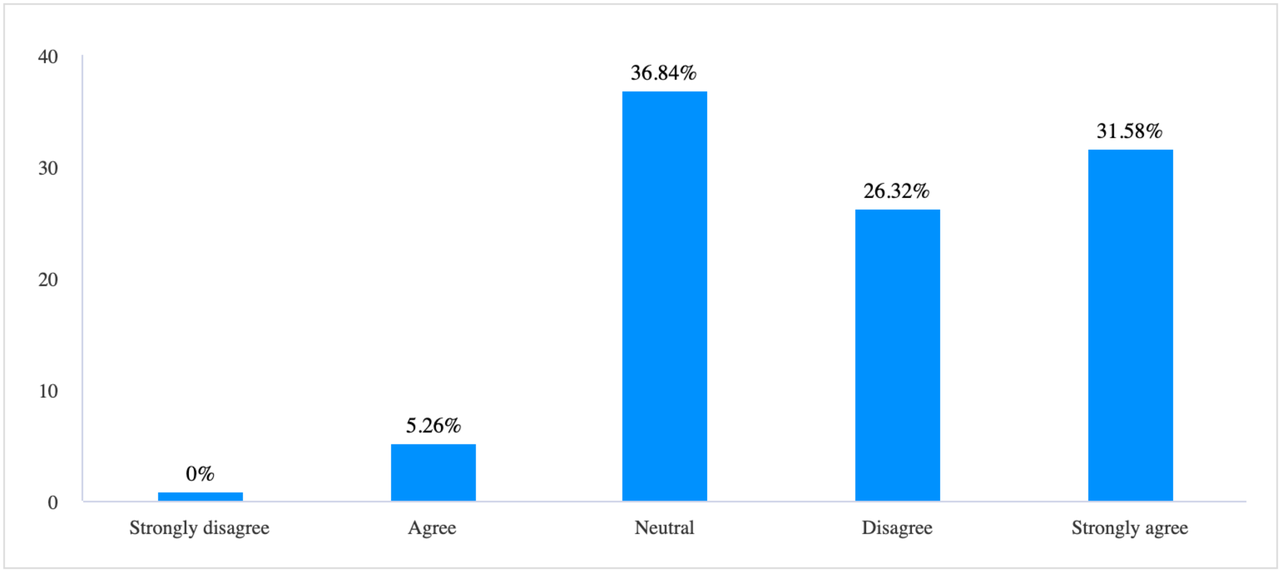
第3题： The course was organized in a manner that helped me understand the underlying concepts. [量表题]

本题平均分： 3.84

选项	小计	比例
Strongly disagree	0	0%
Agree	1	5.26%
Neutral	7	36.84%
Disagree	5	26.32%
Strongly agree	6	31.58%
本题有效填写人次	**19**	

表格 | 饼状 | 圆环 | 柱状 | 条形 | 折线



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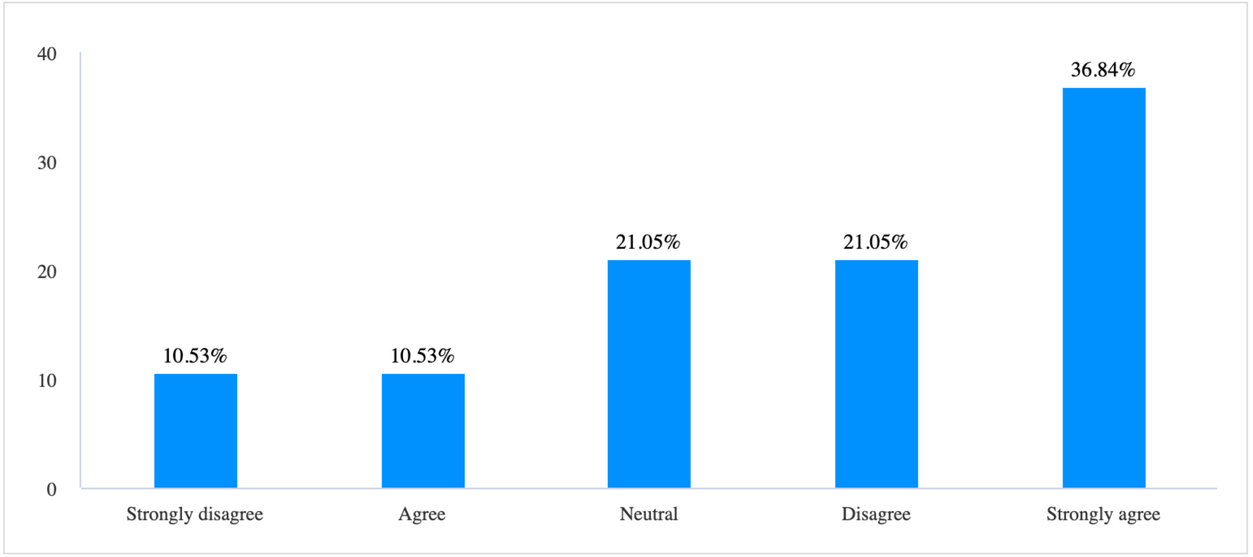
第4题： The lecture, reading, and assignment materials are organized well and easy to access. [量表题]

本题平均分： 3.63

选项	小计	比例
Strongly disagree	2	10.53%
Agree	2	10.53%
Neutral	4	21.05%
Disagree	4	21.05%
Strongly agree	7	36.84%
本题有效填写人次	**19**	

表格 饼状 圆环 柱状 条形 折线



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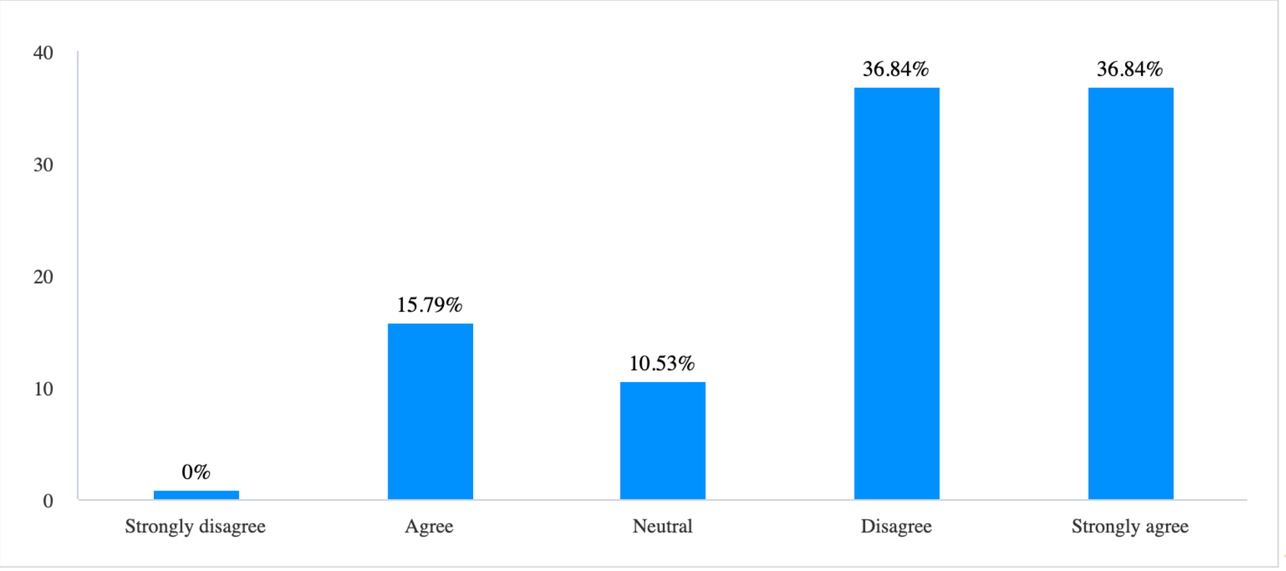
第5题： The instructional materials (i.e., lectures and readings) are easy to follow. [量表题]

本题平均分： 3.95

选项	小计	比例
Strongly disagree	0	0%
Agree	3	15.79%
Neutral	2	10.53%
Disagree	7	36.84%
Strongly agree	7	36.84%
本题有效填写人次	**19**	

表格 饼状 圆环 柱状 条形 折线



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第6题： How much time do you spend finishing each assignment? [单选题]

选项	小计	比例
1-2 hours	0	0%
2-4 hours	2	10.53%
4-8 hours	11	57.89%
Others [详细]	6	31.58%
本题有效填写人次	**19**	

第6题：How much time do you spend finishing each assignment?---选项详情

搜索答案文本 | 搜索 | 词频分析 | 过滤空选项 | 导出Excel

序号	提交答卷时间	答案文本	查看答卷
4	10月21日 12:29	for assignment2，more than 24 hours	查看答卷
5	10月21日 12:51	20+	查看答卷
6	10月21日 13:24	12h	查看答卷
9	10月21日 13:46	10hs	查看答卷
15	10月22日 13:47	several days	查看答卷
19	10月24日 00:58	10 hours	查看答卷

Statistical results from the survey

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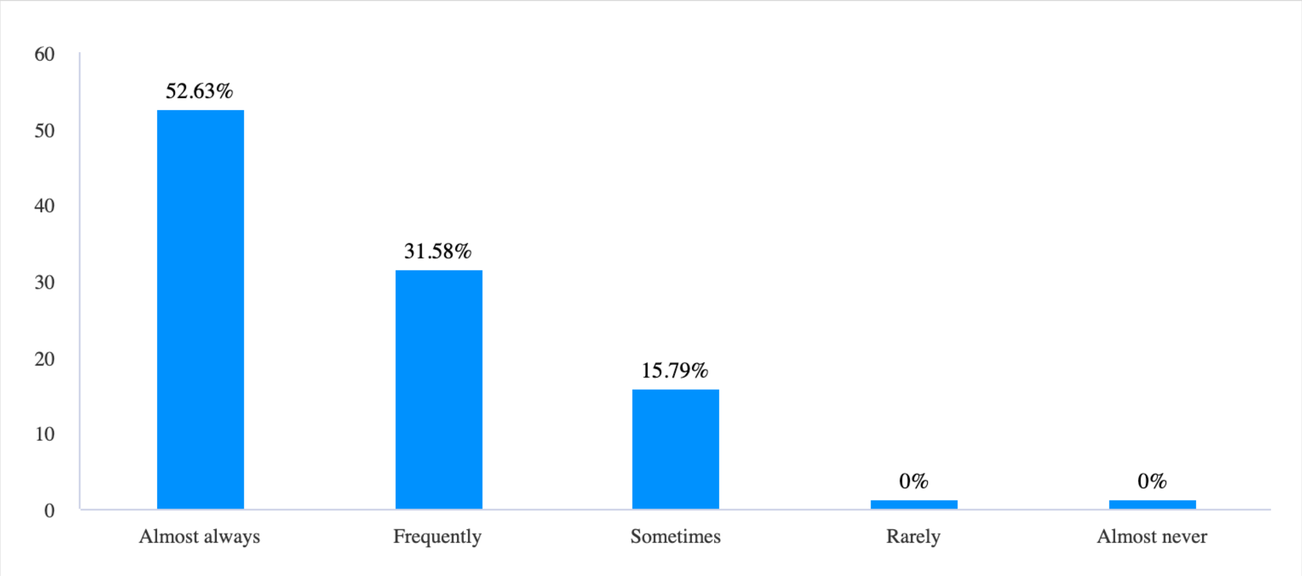
第7题： I received useful feedback from the instructor on the assignments and project. [单选题]

选项	小计	比例
Almost always	10	52.63%
Frequently	6	31.58%
Sometimes	3	15.79%
Rarely	0	0%
Almost never	0	0%
本题有效填写人次	**19**	

表格 | 饼状 | 圆环 | 柱状 | 条形 | 折线



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第8题： How would you rate the overall effectiveness of the instructor's teaching? [量表题]

本题平均分： 8.16 **NPS值：** 36.84%

查看详情

选项	小计	比例
Very poor	0	0%
2	0	0%
3	0	0%
4	0	0%
5	2	10.53%
6	0	0%
7	4	21.05%
8	4	21.05%
9	5	26.32%
Very good	4	21.05%
本题有效填写人次	**19**	

Statistical results from the survey

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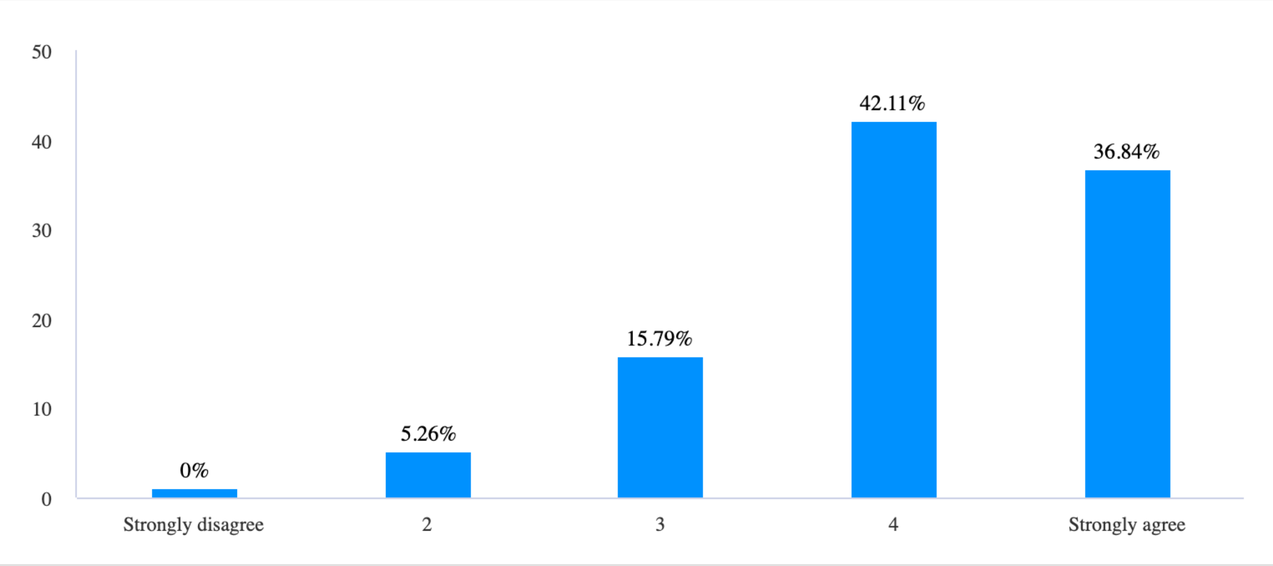
第9题： Overall, this course met my expectations for the quality of the course. [量表题]

本题平均分： 4.11

选项	小计	比例
Strongly disagree	0	0%
2	1	5.26%
3	3	15.79%
4	8	42.11%
Strongly agree	7	36.84%
本题有效填写人次	**19**	

表格 饼状 圆环 柱状 条形 折线



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第10题： Suggestions to the tutorial organization and content. [单选题]

选项	小计	比例
Focus on the assignments and project.	15	78.95%
Focus on advanced interaction topics and exercises (e.g., multiple views, focus+context, and brushing and linking).	2	10.53%
Others [详细]	2	10.53%
本题有效填写人次	**19**	

第10题：Suggestions to the tutorial organization and content.---选项详情

搜索答案文本 | 搜索 | 词频分析 | 过滤空选项 | 导出Excel

序号	提交答卷时间	答案文本	查看答卷
8	10月21日 13:41	First about assignments and projects, then advanced topics	查看答卷
13	10月21日 18:04	Botth but do have a little more time on assignment.	查看答卷

共2条

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第11题：Any suggestions to the assignment, project document and evaluation guidelines.

搜索答案文本 | 搜索 | 词频分析 | 过滤空选项 | 导出Excel

序号	提交答卷时间	答案文本	查看答卷
1	10月21日 11:20	Good	查看答卷
2	10月21日 11:21	I think everything is fine so far	查看答卷
3	10月21日 11:34	The instructions of assignments are detailed, but there might be some cases not included in them, therefore, we may have confusions when finishing the assignments. It's hard to include all the cases in advance, the confusions are from the process I suppose. And the current assignment templates are really helpful for me to understand the programming languages, maybe the instructions can be more specific, just like the function mouse selection and move procedure in the WeChat group will be more appreciated.	查看答卷
4	10月21日 12:29	后面两次作业难度更大，一周时间可能不够。需要延长assignment时间	查看答卷
5	10月21日 12:51	Wish to extend the deadline for later assignments, and hopefully more guidance like Q&A session for assignment and project	查看答卷
6	10月21日 13:24	延长作业期限，一周不够，起码两周	查看答卷
7	10月21日 13:41	template are not so clear, e.g. in ass2 the click function only work for one button instead of all the bottoms. And sometimes I don’t know how to finish the task without adding variables or codes outside the TODO part	查看答卷
8	10月21日 13:41	in the lecture or tut, also talk about the instructions about projects and assignments, then we can ask questions	查看答卷
9	10月21日 13:46	make evaluationsmooth	查看答卷
10	10月21日 14:02	作业难度适中 按照课堂和导修的内容去做节奏正好 不希望再增加难度了 有的没学过前端的同学会觉得有点难	查看答卷

Statistical results from the survey

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第11题：Any suggestions to the assignment, project document and evaluation guidelines.

搜索答案文本 | 搜索 | 词频分析 | 过滤空选项 | 导出Excel

序号	提交答卷时间	答案文本	查看答卷
11	10月21日 14:59	I do not want the assignments to be more difficult	查看答卷
12	10月21日 15:02	1	查看答卷
13	10月21日 18:04	The evaluation guidelines are clear. But the assignments do take more times for students who have no previous knowledge about HTML/CSS/JavaScrip. So I think it is necessary to have longer time for assignment.	查看答卷
14	10月22日 12:08	the second assignment was too rush. one week is not enough.	查看答卷
15	10月22日 13:47	I wish there will be 2 weeks for each assignment，since most of us just start to learn front end programming	查看答卷
16	10月22日 14:37	maybe you can change the time of each assignment from one week to two weeks. I think 2 weeks maybe better for us to complete the assignment because other courses also have much project.	查看答卷
17	10月22日 18:44	None for now	查看答卷
18	10月22日 18:58	no	查看答卷
19	10月24日 00:58	The process of looking about the strange lib and tool are suffering, I have to spend a lot of time to find the meaning of some method in different tutorials.	查看答卷

Statistical results from the survey

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第12题：Additional comments to the instructor.

搜索答案文本 | 搜索 | 词频分析 | 过滤空选项 | 导出Excel

序号	提交答卷时间	答案文本	查看答卷
1	10月21日 11:20	i love this instructor truly	查看答卷
2	10月21日 11:21	Maybe speak more clearly? A little bit rush sometimes.	查看答卷
3	10月21日 11:34	The lecture slides are well-organized, but sometimes there are simply keywords, abstracts, or figures on some sub-topics. Although the instructor has explained them in class, it's common that after class I forget about the logic and meaning, or get lost in class, and thus become confused about them. Therefore, I suppose it will be better for instructor to give more details near those keywords and figures.	查看答卷
4	10月21日 12:29	作业 instruction给出更清晰的实现效果。tutorial希望更多讲解讨论assignment和project库函数	查看答卷
5	10月21日 12:51	None	查看答卷
6	10月21日 13:24	希望作业描述更清晰	查看答卷
7	10月21日 13:41	good course！ I like it, I think this course should encourage more year 2 student to learn next time. 我们学校这学期开了好多好课，可惜我已经大四了，我大二上这些课就好了	查看答卷
8	10月21日 13:41	Thank you	查看答卷
9	10月21日 13:46	maybe can send a sample assignment answer after the assignment is graded	查看答卷
10	10月21日 14:02	老师非常用心 第一次上到这么好的专业课	查看答卷

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第12题：Additional comments to the instructor.

搜索答案文本 | 搜索 | 词频分析 | 过滤空选项 | 导出Excel

序号	提交答卷时间	答案文本	查看答卷
11	10月21日 14:59	none	查看答卷
12	10月21日 15:02	1	查看答卷
13	10月21日 18:04	Please don't be clouded by the few excellent students that talk to you very often. There are others majority who struggle with assignments！ Thank you！	查看答卷
14	10月22日 12:08	the lecture is a little bit confusing to be honest, I feel like the contents are too general and lack a systematic structure. Also the lecture does not feel engaging, maybe adding some interaction in class will be better. Anyway, thank you for collecting these feedbacks！	查看答卷
15	10月22日 13:47	hope tutorials can focus more on assignment and project	查看答卷
16	10月22日 14:37	can you use microphone during the lecture? your voice sometimes gets unclear if I sit a little behind(such as row3 or row4)	查看答卷
17	10月22日 18:44	Since online students cannot hear onsite students' answer when there is a discussion, we would appreciate it if professor can summarize the student's answer	查看答卷
18	10月22日 18:58	no	查看答卷
19	10月24日 00:58	not muc to say	查看答卷

共19条　每页 10 条　« ‹ 2/2 › »

Conclusion

- Extend the deadline for assignments
  - One week to two weeks
- Reduce the difficulty a little bit for the later assignments
  - The following assignments will be modified
- Focus on the assignments in the tutorial

Outline

香港中文大學(深圳)
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- Statistical results from the survey
- Mid-term review

Mid-term exam review

- Time: Oct 28 from 9:00 AM to 11:00 AM
- Format: Open-book, no electronic device
- Content: lecture 1 to lecture 11
- Question type
  - Single choice question
  - True/False question
  - Statement question
  - Programming question

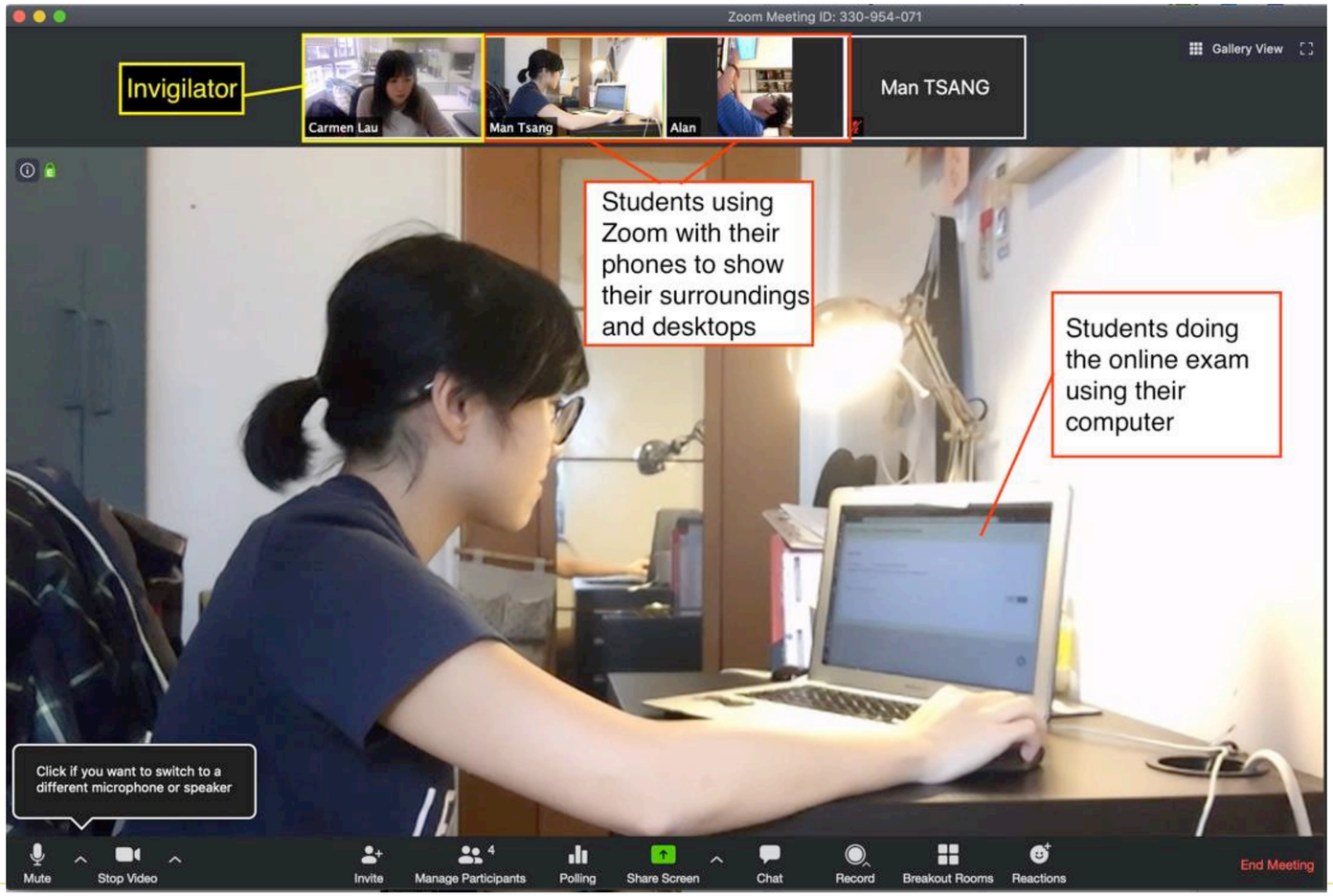
Instructions for online exam

- Please join the Zoom meeting 15 mins before the exam, so that we could have some time to test the equipment and prepare.
- The exam paper will be sent to you by email.

Instructions for online exam

香港中文大學(深圳)
The Chinese University of Hong Kong, Shenzhen

- Please turn on the camera during the exam. Make sure your computer screen, desk, hands and yourselves are clearly captured (see an example below)



Instructions for online exam

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- Please turn on the camera during the exam. Make sure your computer screen, desk, hands and yourselves are clearly captured (see an example below)

Students, who do not follow the instruction showed below, will lose half of the points.

Instructions for online exam

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- Except zoom, computer and camera that are necessary for online exam invigilation, any other network connection and electronic devices would not be allowed.
- Please prepare enough A4 blank papers in advance, and write down your answers on those papers. Please make sure you mark the number of each question clearly.
- Once the exam ends, please take pictures of your answer sheets and send it to course instructor (hanjun@cuhk.edu.cn) via email before 11:10 AM. If there is more than 1 picture, please name them with consecutive numbers.
- Please do not log off zoom or turn off the camera until we announce that your answer sheets have been received.

Human: attention

- Information overload
- Short-term strategies
  - Ignore
  - Panic
  - Run away
- Long-term strategies
  - Discern
  - Understand

Short-term strategies

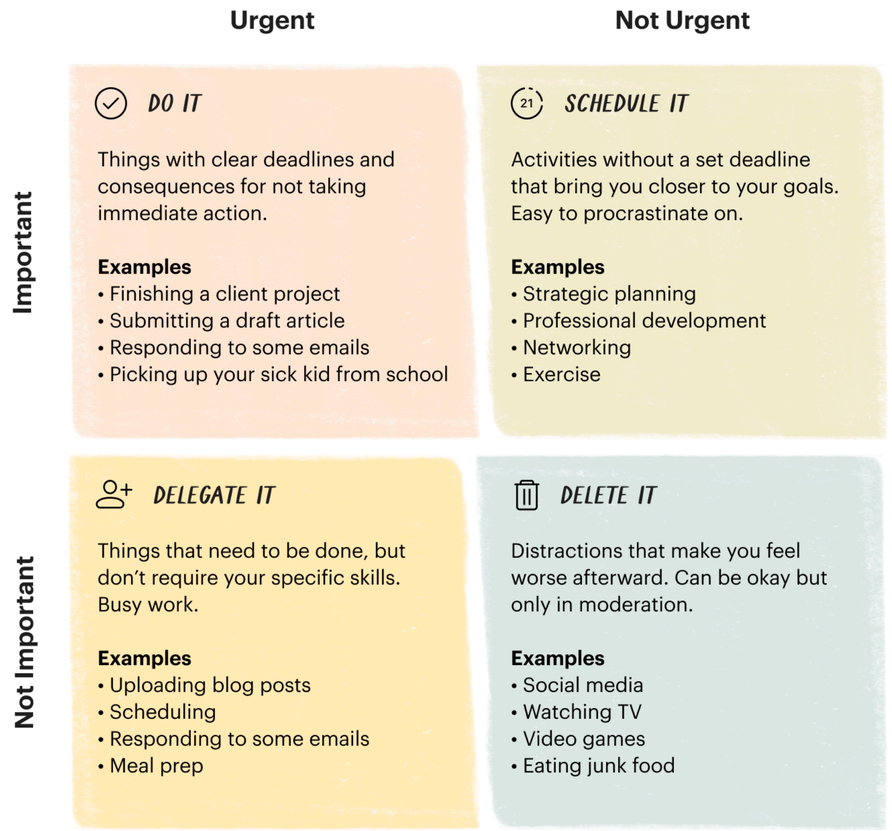
- Ignore
  - Like a horse with blinkers
- Panic
  - Do more, work harder
- Run away
  - Leave the field

Short-term strategy problems

- Issues ignored find you
- Doing more of the wrong thing makes it worse
- Problem repeat

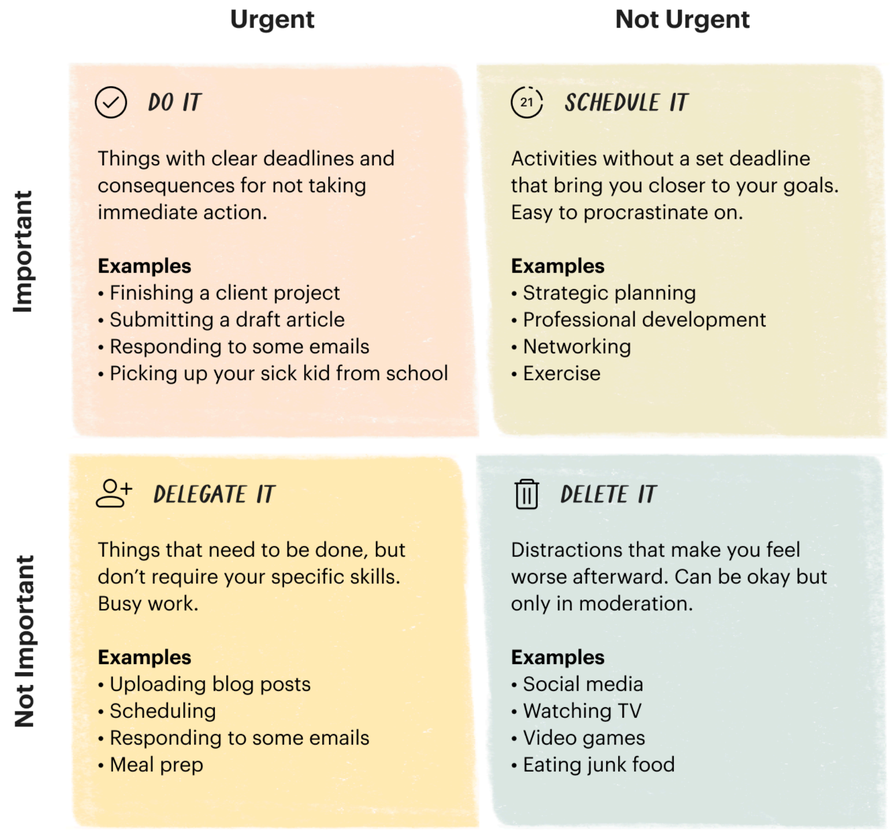
Long-term strategies

- Discern
  - Important or not? Urgent or not?
- Understand
  - Understand the underlying causes



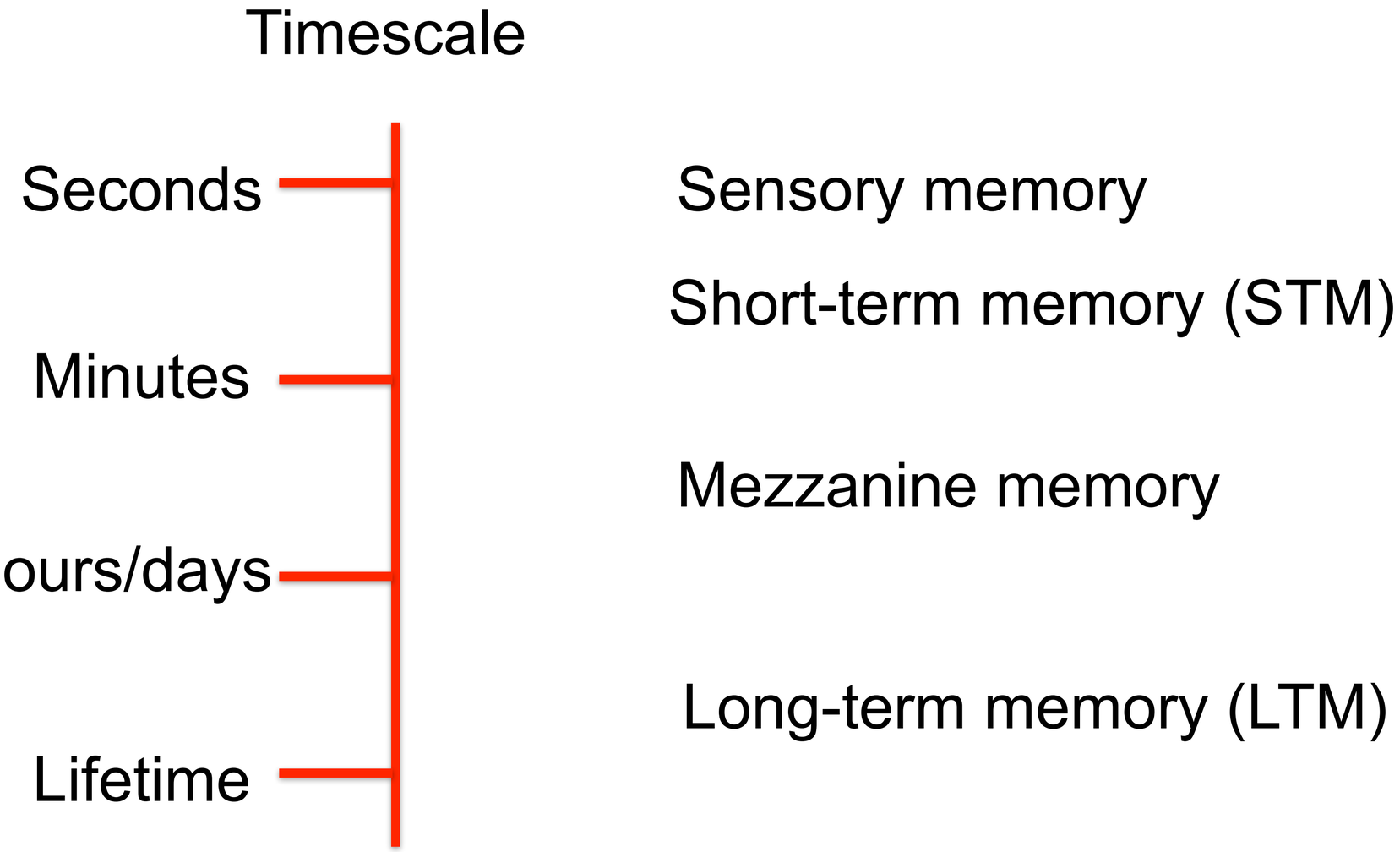
Long-term strategy result

- Allocation
  - Discern relevant from irrelevant (attention)
- Depth
  - Improve understanding of abstract causes



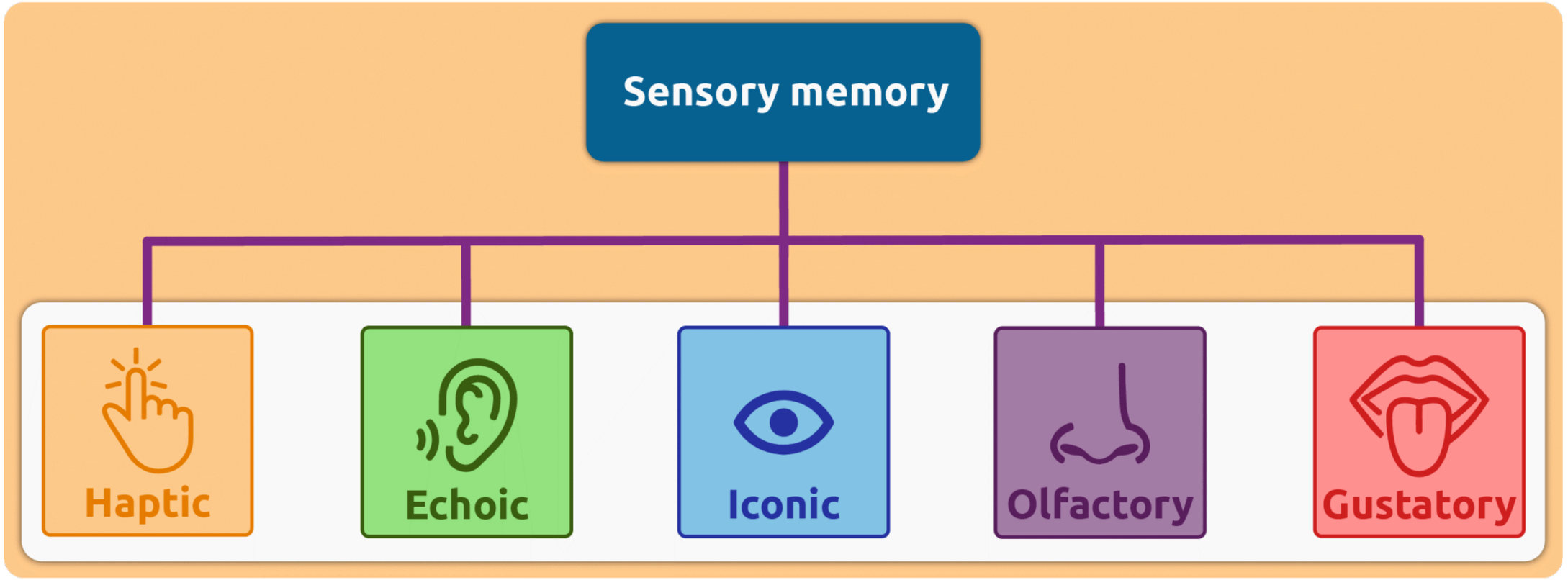
Human memory

- Sensory memory
- Short-term memory
- Mezzanine memory
- Long-term memory



Sensory memory

- Stored for a few seconds at most
- Come from hearing, vision, smell, touch, and tastes



https://www.webmd.com/brain/what-are-sensory-memory-examples

Short-term memory

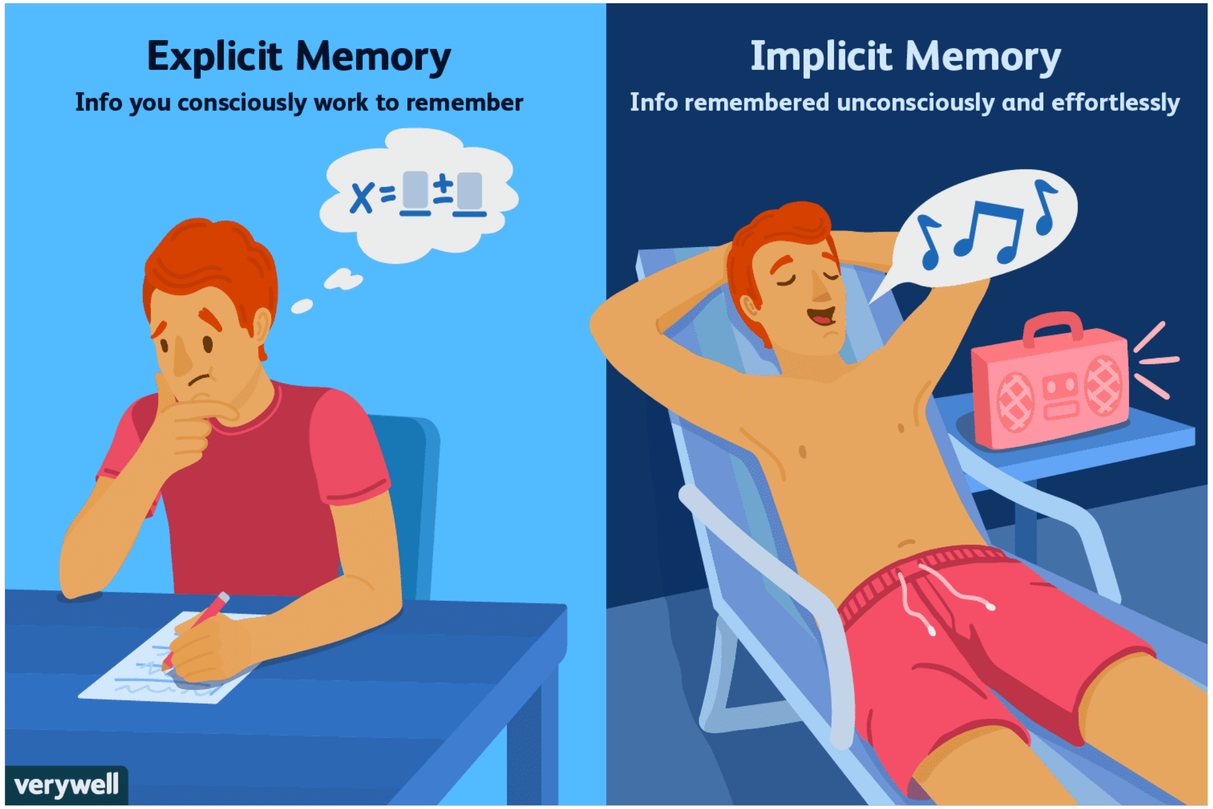
- Called for working memory
- Limited capacity
  - Only about 7 items can be stored at a time
- Limited duration
  - Storage is fragile and information can be lost with distraction or passage of time
- Encoding
  - Primarily acoustic, even translating visual information into sounds

Long-term memory

- The memory process in the brain that takes information from the short-term memory store and creates long lasting memories
  - Slow access - relative to short-term memory
  - Slow decay and easy to recall
  - Huge or unlimited capacity

Types of long-term memory

- Explicit: all the memories and information that can be evoked consciously
  - Episodic
  - Semantic
  - Autobiographical
  - Spatial
- Implicit: the movement of the body in using objects
  - Procedural
  - Priming
  - Category
  - Perceptual
  - Emotional



https://www.simplypsychology.org/implicit-versus-explicit-memory.html#implicit

Computer

- Text entry devices
- Positioning, pointing, and drawing
- Display devices
- Physical controls, sensors, special devices

Keyboards

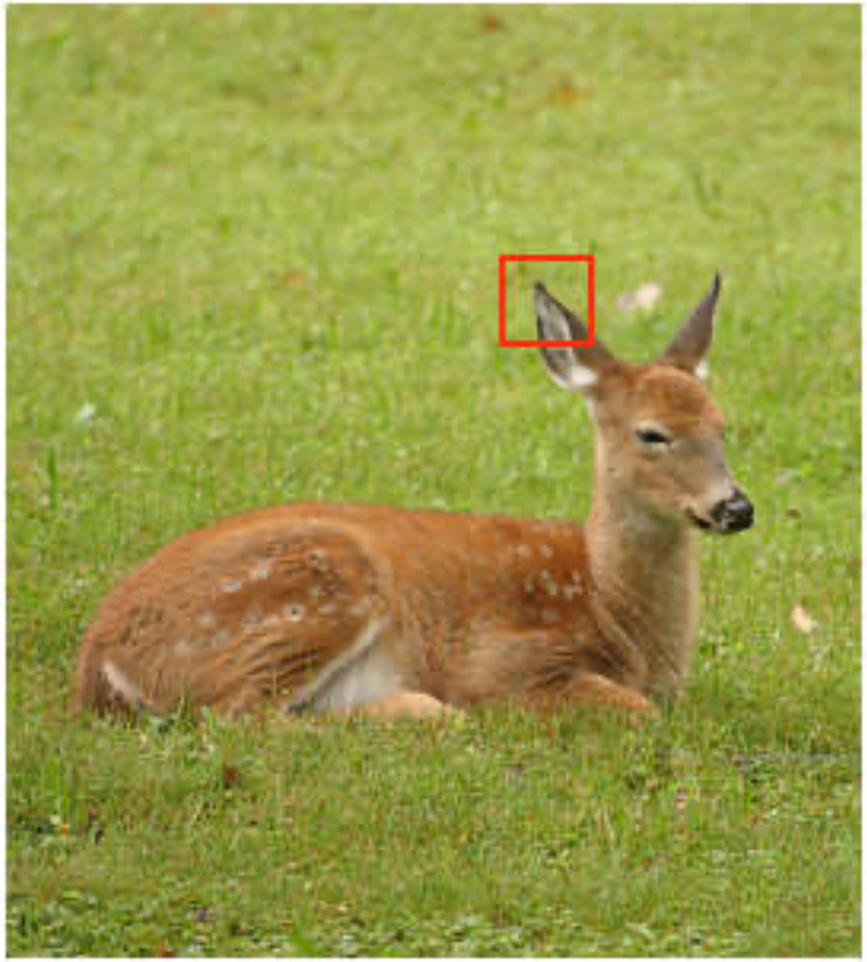
- Most common text input device
- Allow rapid entry of text by experienced users
- Keypress closes connection, causing a character code to be sent
- Usually connected by cable, but can be wireless

Touchpad

- Small touch sensitive tablets
- Stroke to move mouse pointer
- Used mainly in laptop computers
- Good acceleration setting important
  - Fast stroke
  - Slow stroke

Bitmap displays

- Store information at each pixel in a rectangular grid
- Each pixel can be limited to black and white, grayscale, or full color

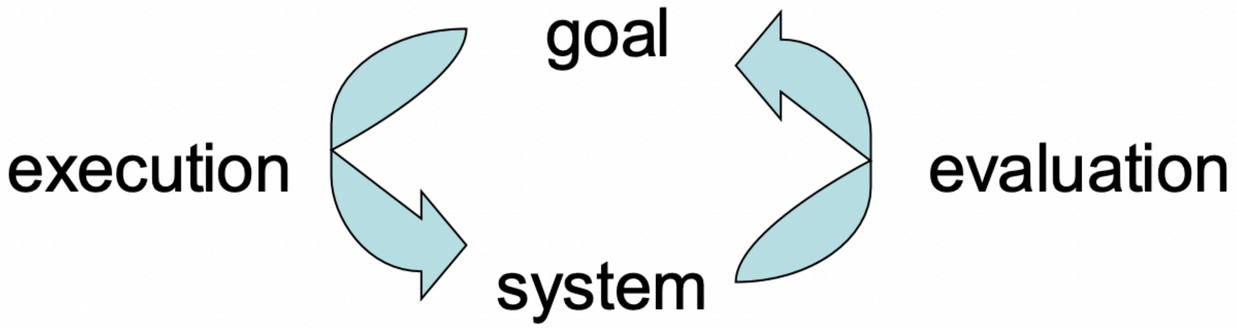


Interaction

- Interaction models
- Interaction styles
- Elements of the WIMP interface

Donald Norman's model

- Seven stages
  - Establish the goal
  - Formulate interaction
  - Specify actions at interface
  - Execute action
  - Perceive system state
  - Interpret system state
  - Evaluate system with respect to the goal
- This model concentrates on the user's view of interface



Common interaction style

- Command line interface
- Menus
- Natural language
- Question answer and query
- Form-fills and spreadsheets
- WIMP
- Point and click
- Three-dimensional interfaces

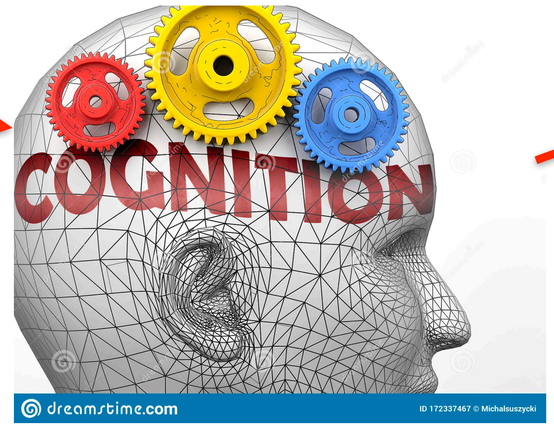
HTML, CSS, and JavaScript

- HTML tags
- CSS selectors
- JavaScript data types and class

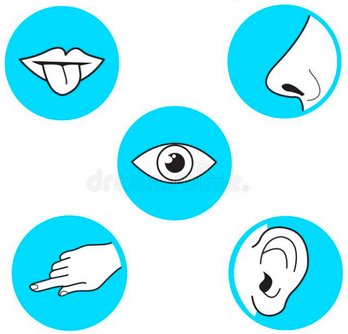
Needfindings

- Survey
  - Non-probabilistic and probabilistic sampling
  - Pros and cons
- Interview
  - Process
  - Pros and cons

Perception and cognition



Cognition

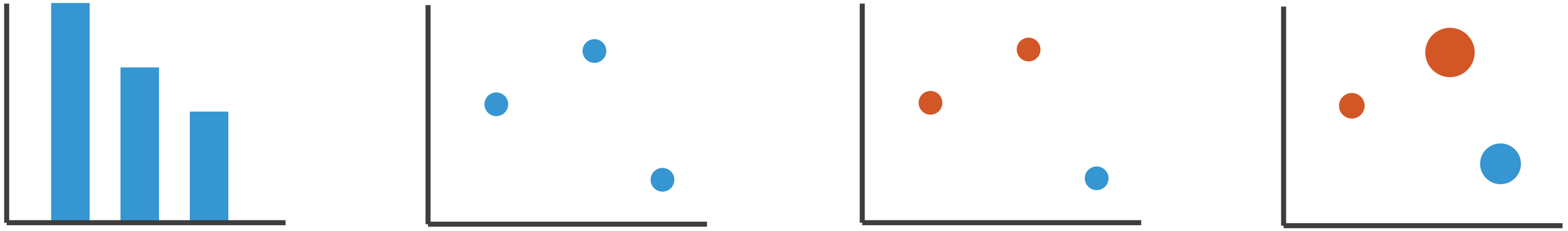


Perception

Action

The world

- Marks and channels



- Marks: represent items or links
- Channels: change appearance of marks based on attributes

Marks for items

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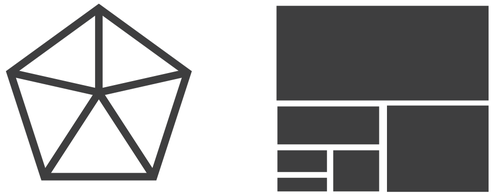
The Chinese University of Hong Kong, Shenzhen

- Basic geometric elements

Points

Lines

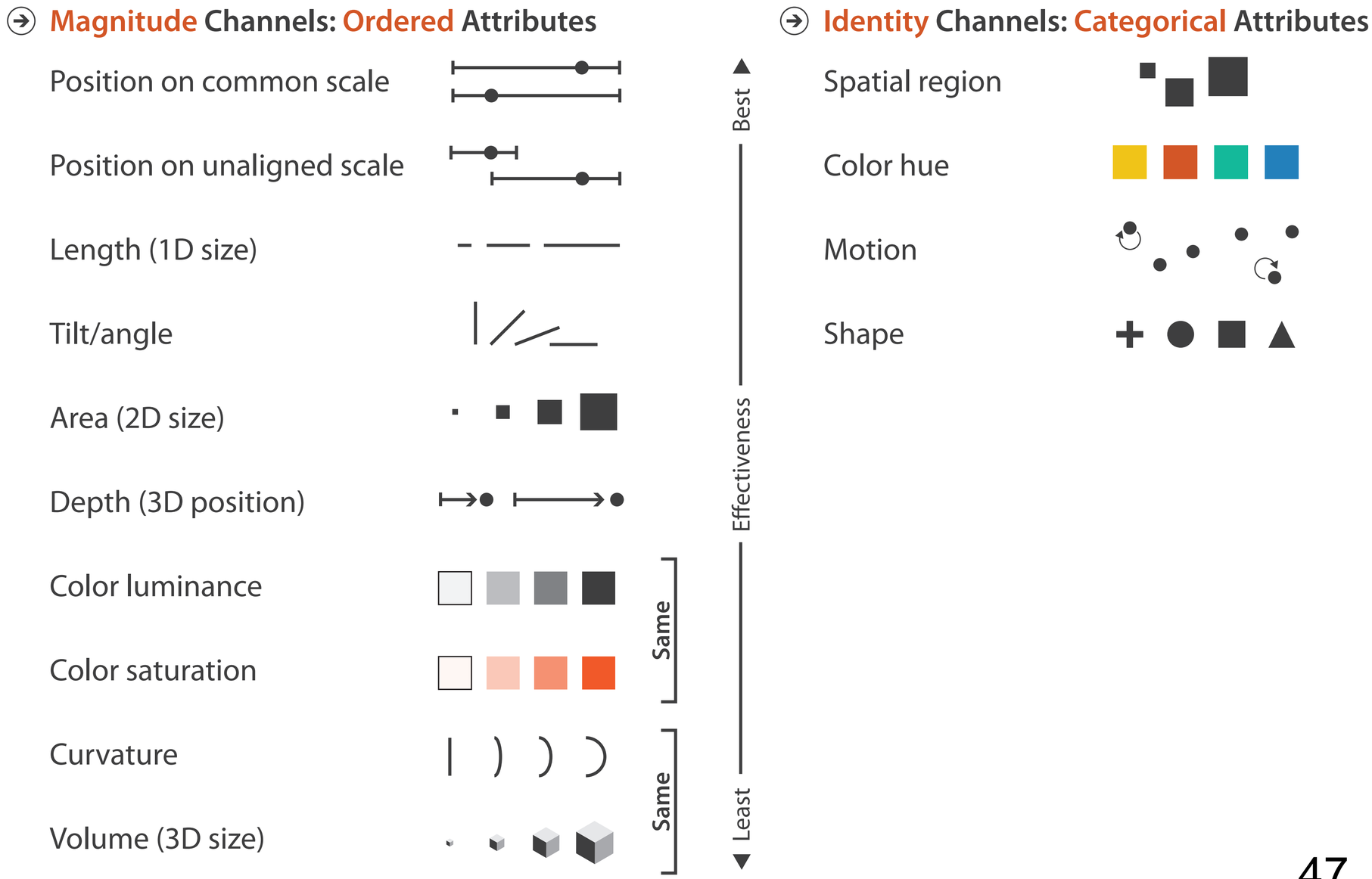
Areas



- 3D mark: volume, rarely used

Channel rankings

- Expressiveness
  - Match channel and data characteristics
- Effectiveness
  - Channels differ in accuracy of perception



Sample questions

For a brain made up of self-acting neural subsystems, attention is:

A. How “I” decide what to do next.

B. How the Self controls the Non-Self.

C. The collective negotiation of processing priorities.

Sample questions

What is the output of 1+5+’20’ in JavaScript:

A.1520

B. 620

C. 26

Sampling questions

Researchers can send the survey to student volunteers belonging to a particular school, college, or university, and act as a samples. The sampling method used in this example is

A. Snowball sampling
B. Convenience sampling
C. Judemental sampling

Sample questions

Touch sensitive screen is good for menu selection.

Survey can obtain deep data from the users.

Use scale and contract design cannot capture human’s attention.

Sample questions

What is WIMP system?

What are Gestalt principles?

What bit-map based image representation?

Sample questions


```
  <p> Section 1 </p>
<div id = 'section1'>
  <p> 1.1 </p>
  <p> 1.2 </p>
  <div>
    <p> 1.2.1 </p>
  </div>
    <a href = "#"> 1.3 </a>
</div>
<p> Section 2 <p>
<p> Section 3 <p>
```

Draw a tree structure to show
the relationship among these HTML tags

Sample questions


```
  <p> Section 1 </p>
<div id = 'section1'>
  <p> 1.1 </p>
  <p> 1.2 </p>
  <div>
    <p> 1.2.1 </p>
  </div>
    <a href = "#"> 1.3 </a>
</div>
<p> Section 2 <p>
<p> Section 3 <p>
```

#section1 p

Sample questions

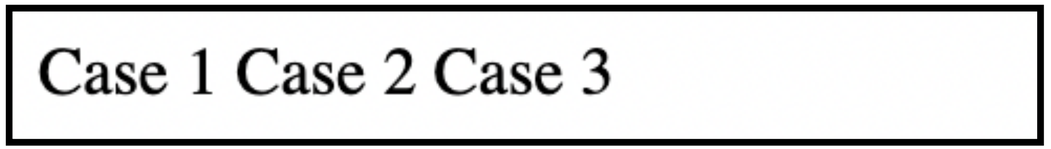
#section1+p

```
  <p> Section 1 </p>
<div id = 'section1'>
  <p> 1.1 </p>
  <p> 1.2 </p>
  <div>
    <p> 1.2.1 </p>
  </div>
    <a href = "#"> 1.3 </a>
</div>
<p> Section 2 <p>
<p> Section 3 <p>
```

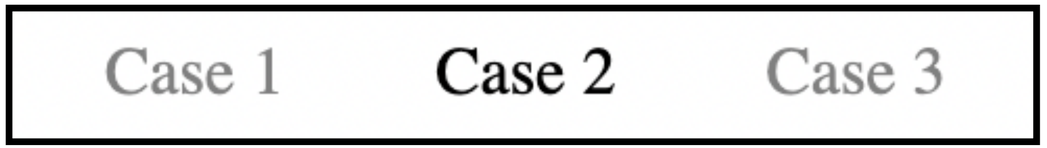
Sample questions


```
<!DOCTYPE html>
<html>
<head>
 <meta charset="utf-8">
 <link rel="stylesheet" href=style.css>
 </head>
<body>
<div class="sibling-fade">
 <span>Case 1</span> <span>Case 2</span> <span>Case 3</span>
 </div>
</body>
</html>
```

Sample questions

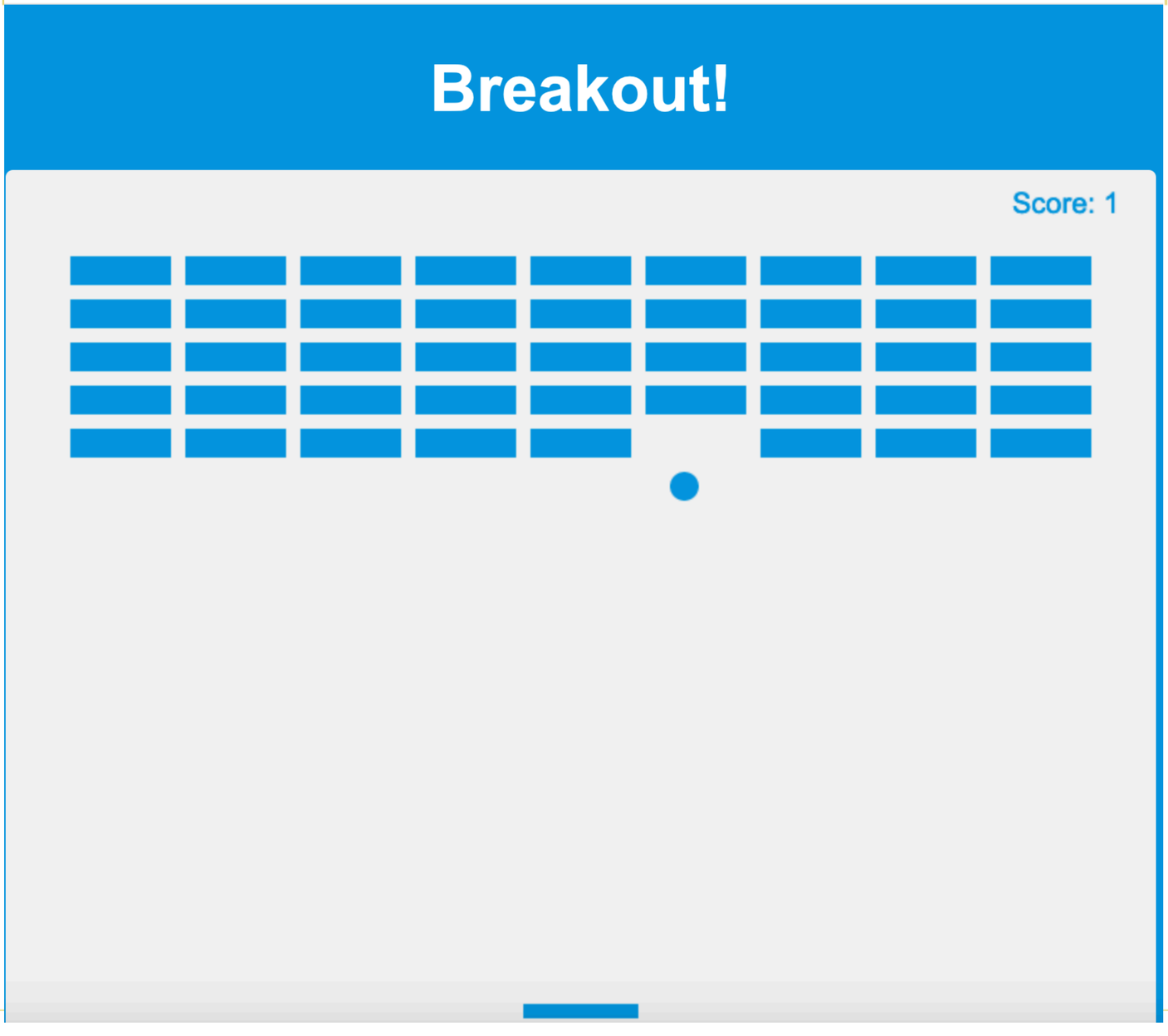


Before applying CSS



After applying CSS

Sample questions



Sample questions

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The Chinese University of Hong Kong, Shenzhen

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <link rel="stylesheet" href="style.css" />
    <title>Breakout!</title>
  </head>
  <body>
    <h1>Breakout!</h1>
    <button id="rules-btn" class="btn rules-btn">Show Rules</button>
    <div id="rules" class="rules">
      <h2>How To Play:</h2>
      <p>
        Use your right and left keys to move the paddle to bounce the ball up
        and break the blocks.
      </p>
      <p>If you miss the ball, your score and the blocks will reset.</p>
      <button id="close-btn" class="btn">Close</button>
    </div>

    <canvas id="canvas" width="800" height="600"></canvas>

    <script src="script.js"></script>
  </body>
</html>
```

```
let score = 0;

// Create ball props
const ball = {
  x: canvas.width / 2,
  y: canvas.height / 2,
  size: 10,
  speed: 4,
  dx: 4,
  dy: -4,
  visible: true
};


// Draw ball on canvas
function drawBall() {
}

// Draw paddle on canvas
function drawPaddle() {
}
}
```