What was your act of kindness this weekend?

ℹ️ Presenting with animations, GIFs or speaker notes? Enable our Chrome extension

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CPSC 100

Computational Thinking

Gestalt Principles

Instructor: Parsa Rajabi
Department of Computer Science
University of British Columbia

Agenda

- Course Admin

  – Course check-in results

- Learning Goals

- Visualization:

  – Gestalt Principles

Course Admin

Course Admin

- **PC Quiz 6**
  - Will be posted late tonight
  - Due Sunday, March 24, 11:59pm

- **Lab 7 Infographic Critique**
  - Available on Wednesday
  - Due Friday, March 21, 11:59pm

- **Midterm Cheat sheets**
  - Available for pick up during Lab on Wednesday, March 19

- **Final Exam**
  - Tuesday, April 22, 7pm; Location: SWING 121

Course Check-in Survey

- Please fill out the anonymous survey below to provide your thoughts on the course thus far. Your feedback will be used to improve the course!

- https://ubc.ca1.qualtrics.com/jfe/form/SV_26a4t2Ppcw6mJ6u

CPSC 100 - Course Check-in Feedback

The purpose of this survey is to gather student feedback so the teaching team can make changes that can improve your learning experience for the remainder of the semester. Your answers will also help us make improvements for future years. All responses are *anonymous*.

Thank you for taking the time to complete this survey!

What lab are you in?

○ L2A
○ L2B
○ L2C
○ L2D
○ L2E

Please indicate how strongly you agree or disagree with all the following statements.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree

Results (N=24)

Check-in Survey Results (N=24)

Going good:

Need Adjustment

Check-in Survey Results (N=24)

Going good:

- Content is interesting
  - Lots of different topics
- Course Pace: ~about right
- AI Policy: Neutral/strong approval
- iClicker questions
- PC quizzes + Las are helpful
- In-class activities/discussions are great
- Course content is presented in an engaging way

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Need Adjustment

- Course / Lab times (same day)
- Project topic is not engaging/challenging
  - How is it connected to CT?
- More challenging quizzes?
  - No time limit?
- Lab content
  - May not map to lecture 1:1
- iClicker answers
  - Posted?

Favourite Quotes

Proposed Ideas (this term)

- "Was hoping for a GPA booster, so didn't get that but got a nice intro to coding and satisfied a degree requirement."

- "…I also found the recent lectures on RGB fascinating, because I never quite understood why colours in drawings/paintings are different to those of light."

- "Nice to have lecture slides that I can download, so that I can review them at a later date/time. I like have defined learning goals for each lecture. Bits of take home learning exercises at the end of the lecture reinforces what was taught in class."

Discussion

Proposed Ideas (this term)

- **Lecture**
  - Less time on Course Admin related announcements
  - Continue with in-class activities (more time)
- **Lab Background Content**
  - To be covered before Wednesday's lab sessions
- **Lab deadlines**
  - Pushed to Fridays (1 extra day than usual)
- **Lab Review**
  - TAs available via office hours (Time doesn't work? Contact them via email!)
  - TAs to review previous lab

Changes for the Future

- **Project**
  - Change the project, difficulty, closer to CT skills
- **Course timing**
  - No lectures/labs on the same day
- **Quizzes**
  - More challenging?
  - More time?
- **… what else?**

Learning
Goals

Learning Goals

After this **today's lecture**, you should be able to:

- Understand, define, name Gestalt Principles and explain their role in visualization

  - Demonstrate how these principles appear in real life—such as recognizing how proximity is used in store displays or how logos use closure to create memorable designs.

- Explore how understanding these principles can inform better visual communication, whether for creating infographics, arranging elements on a webpage, or organizing a physical space.

Gestalt Principles

What are Gestalt Principles?

- "Gestalt" is German for "unified whole".

- German psychologists Max Wertheimer, Kurt Koffka, and Wolfgang Kohler created the **Gestalt Principles** in the 1920s.

- They wanted to understand **how people make sense of the confusing things they see and hear**. They identified a set of laws that address the natural compulsion to find order in disorder. According to this, the mind "informs" what the eye sees by perceiving a series of individual elements as a whole.

What are Gestalt Principles?

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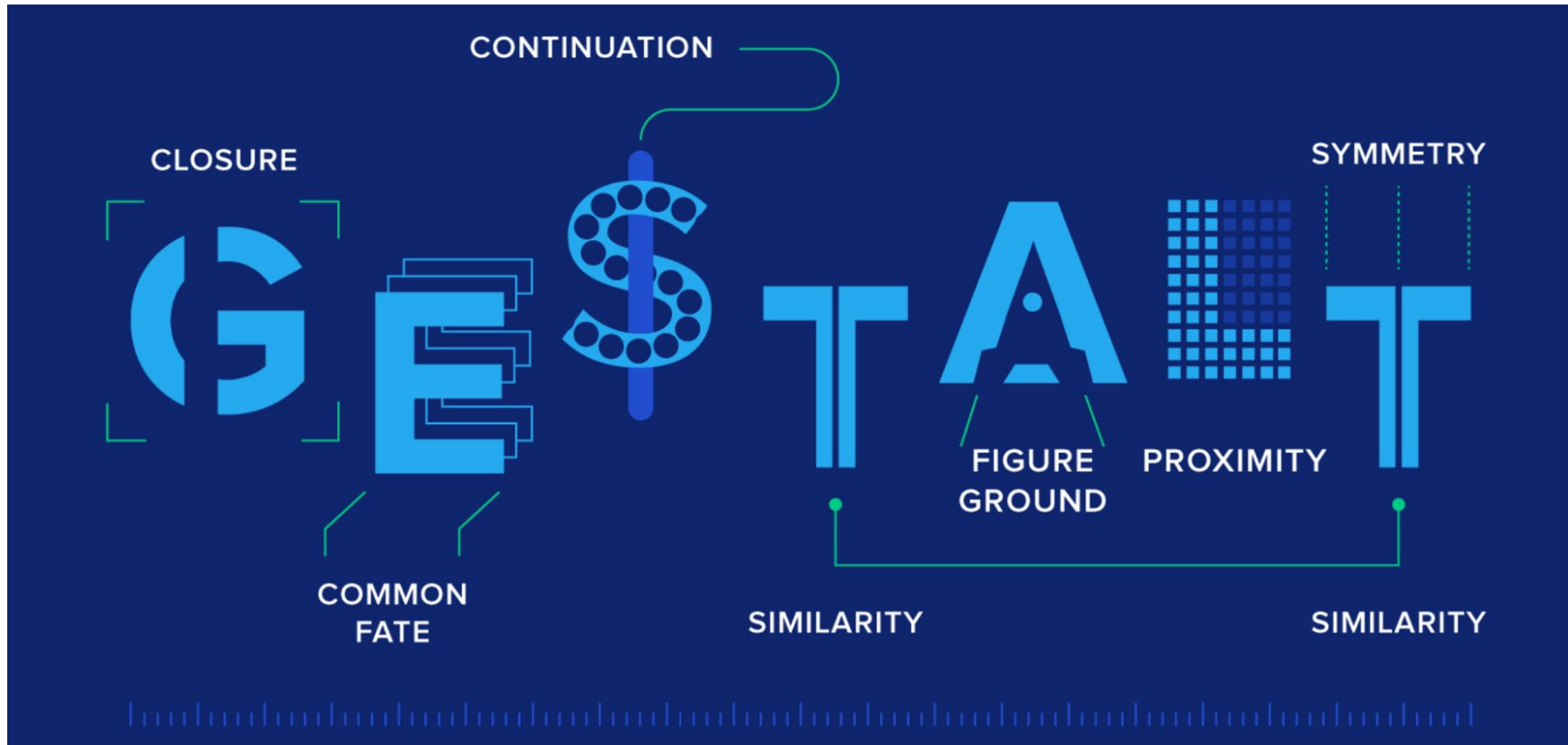
Gestalt Principles

1. Emergence

2. Closure (Reification)

3. Common Region

4. Continuity or Continuation

5. Proximity

6. Multistability

7. Figure/Ground

8. Invariance

9. Pragnanz

10. Similarity

11. Symmetry and Order

12. Common Fate

Source: www.interaction-design.org

Today's Focus

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Emergence

# Gestalt Rule: **Emergence**

Source: www.interaction-design.org

Emergence

- A dog can immediately be identified, despite the picture not having all the details.

- Instead of building up our perception piece by piece, our minds tend to see the overall form all at once.

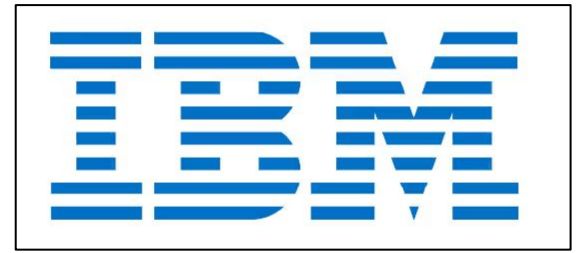- We perceive the world without thinking too much about understanding every small thing around us.

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Closure

Gestalt Rule: **Closure**
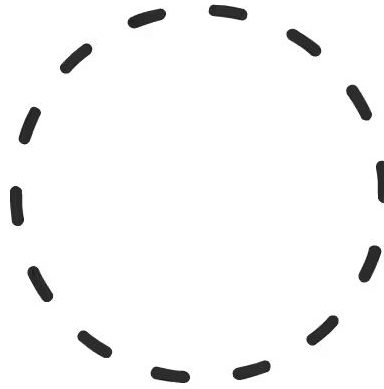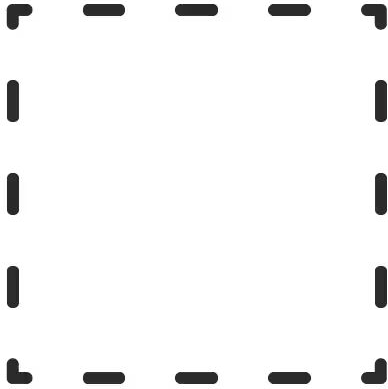
Closure

Sometimes known as "Reification"

- The mind's tendency to fill in gaps in incomplete shapes or figures, effectively "closing" open boundaries to perceive a whole.

- Lets us quickly recognize objects even when parts are missing.

- Used in logos and artwork to hint at forms and engage the viewer's imagination.

Common Region

Gestalt Rule: **Common Region**
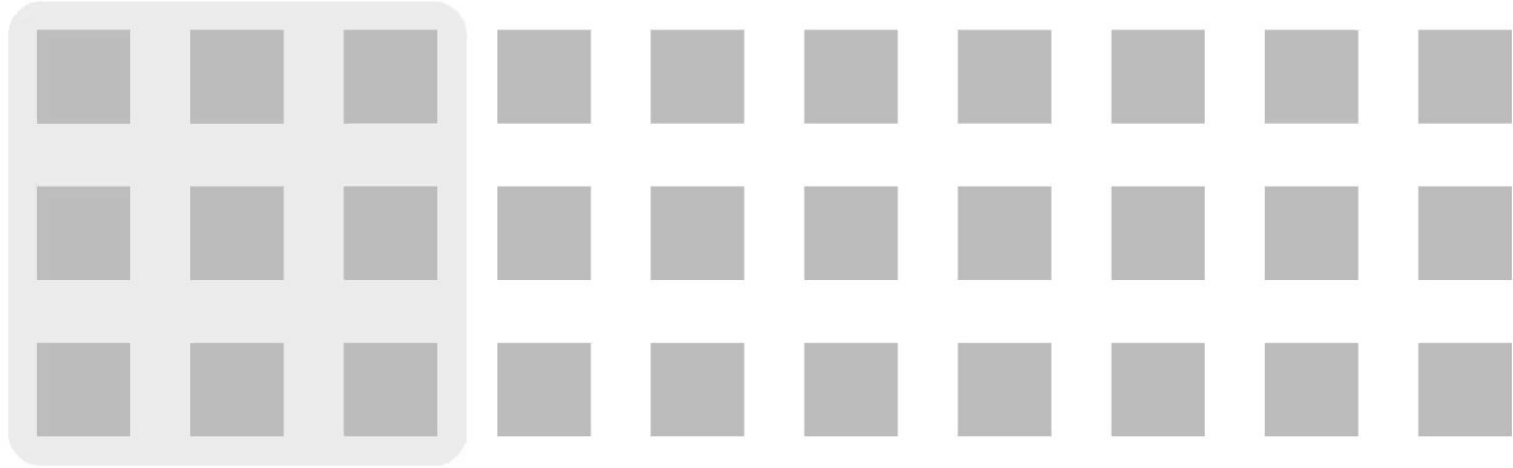
Common Region

- Elements located within the same clearly defined area or boundary are perceived to belong together.

- Helps us group items based on shared space.

- Influences how we arrange or label items so they appear unified (like sections on an infographic or webpage).

- In a living room, a rug can create a sense of a "zone" or common elements are on facebook posted

Today's Focus

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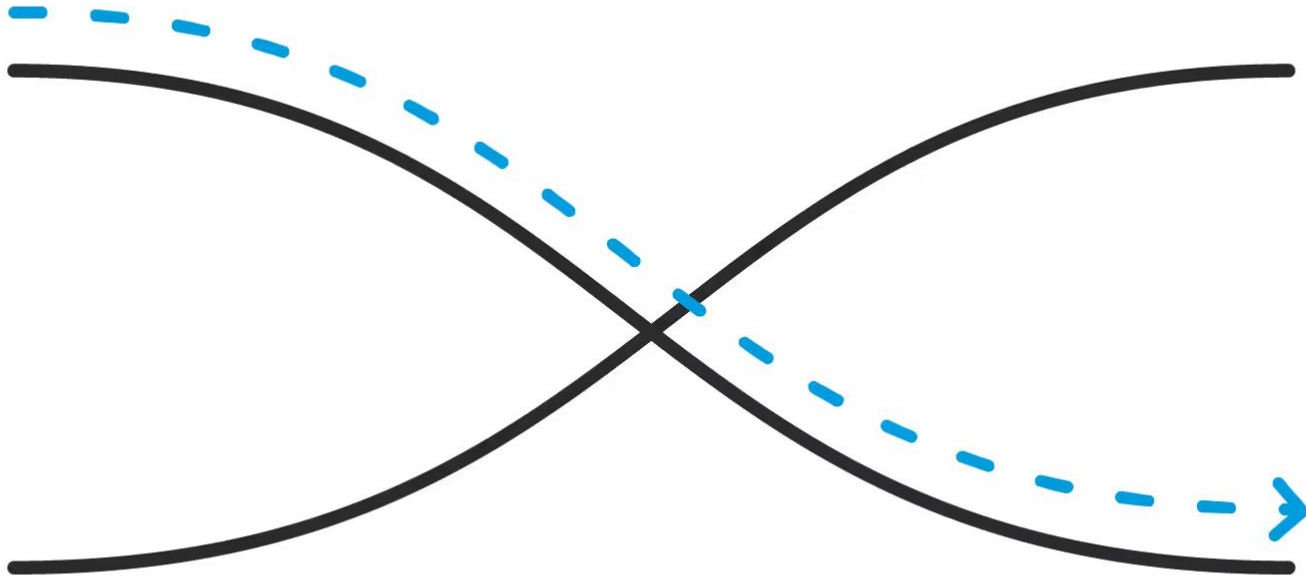
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Continuity

Gestalt Rule: **Continuity**

Continuity

- Our eyes prefer continuous, unbroken lines and curves. When lines or shapes follow a smooth path, we assume they are connected, rather than separate elements.

- Makes complicated or intersecting shapes **easier** to interpret.

- Encourages design that "**flows**," guiding your attention **naturally**.

Continuity

-

Source: www.interaction-design.org
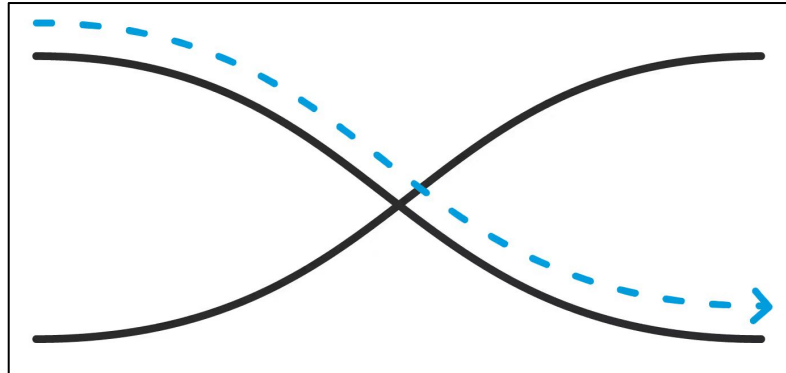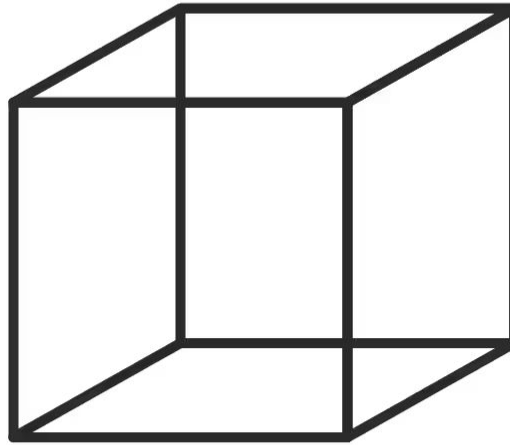
Proximity

Gestalt Rule: **Proximity**

Proximity

- Objects that are physically close to one another are seen as related or forming a group.

- Helps with quick organization of information.

- Influences how we arrange items to signal relationships (e.g., grouped shelves in a grocery store).

Multistability

Gestalt Rule: **Multistability**

Necker Cube

Multistability

- Phenomenon where an ambiguous image can switch between different interpretations in your mind.

- Demonstrates how our brains can hold multiple interpretations of the same visual.

- Highlights the importance of context and focus in shaping what we perceive first.

"My wife and my mother-in-law" from 1915 by W. E. Hill

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Source: https://www.artstation.com/artwork/4X4D42

"My wife and my mother-in-law" from 1915 by W. E. Hill

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Today's Focus

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Q: Which Gestalt Principles is most applicable to this logo?

A. Emergence

B. Closure

C. Common Region

D. Continuity

E. Multistability

Q: Which Gestalt Principles is most applicable to this logo?

A. Emergence

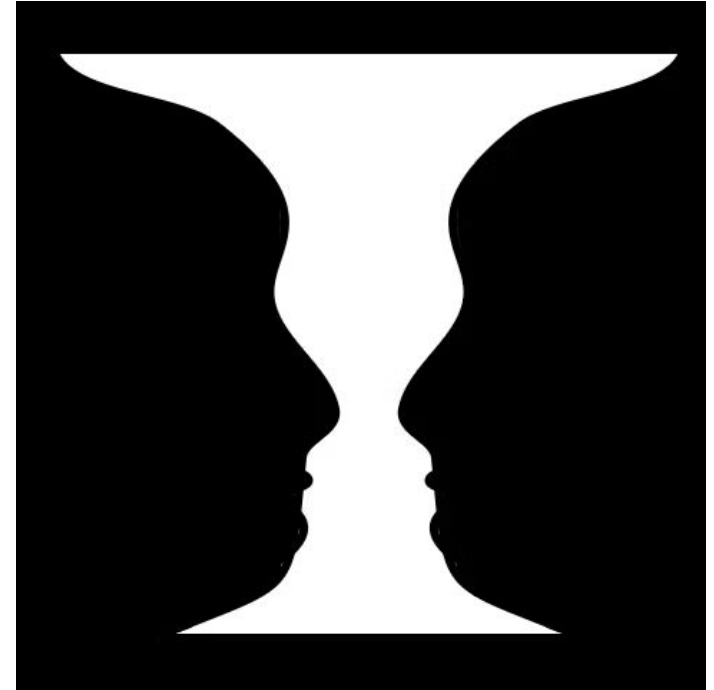B. Closure

C. Common Region

D. Continuity

E. Multistability

amazon

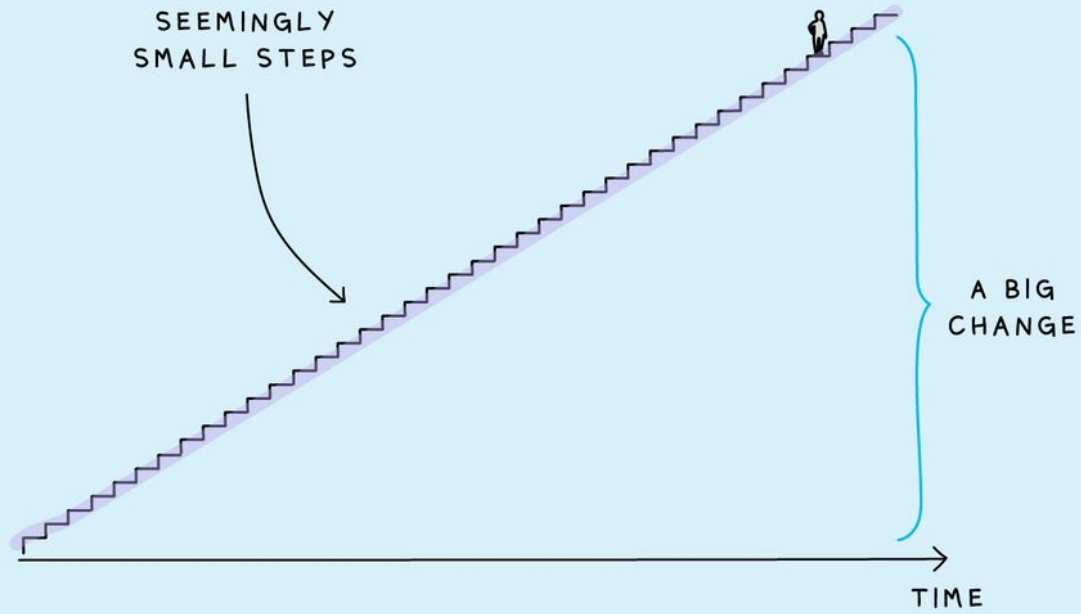# Q: Which Gestalt Principles is most applicable to this image?

A. Emergence

B. Closure

C. Common Region

D. Continuity

E. Multistability

SEEMINGLY SMALL STEPS

A BIG CHANGE

TIME

LIZ FOSSLIEN

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What was your main takeaway from today's session?

Presenting with animations, GIFs or speaker notes? Enable our Chrome extension

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Wrap up

Wrap Up

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