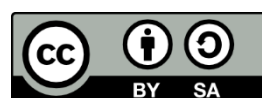# Data and Database: An Introduction
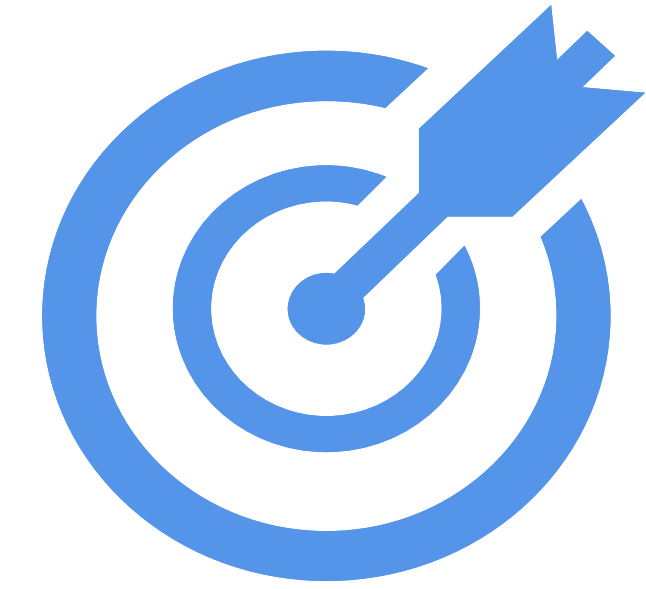
Bachelor of Information Systems
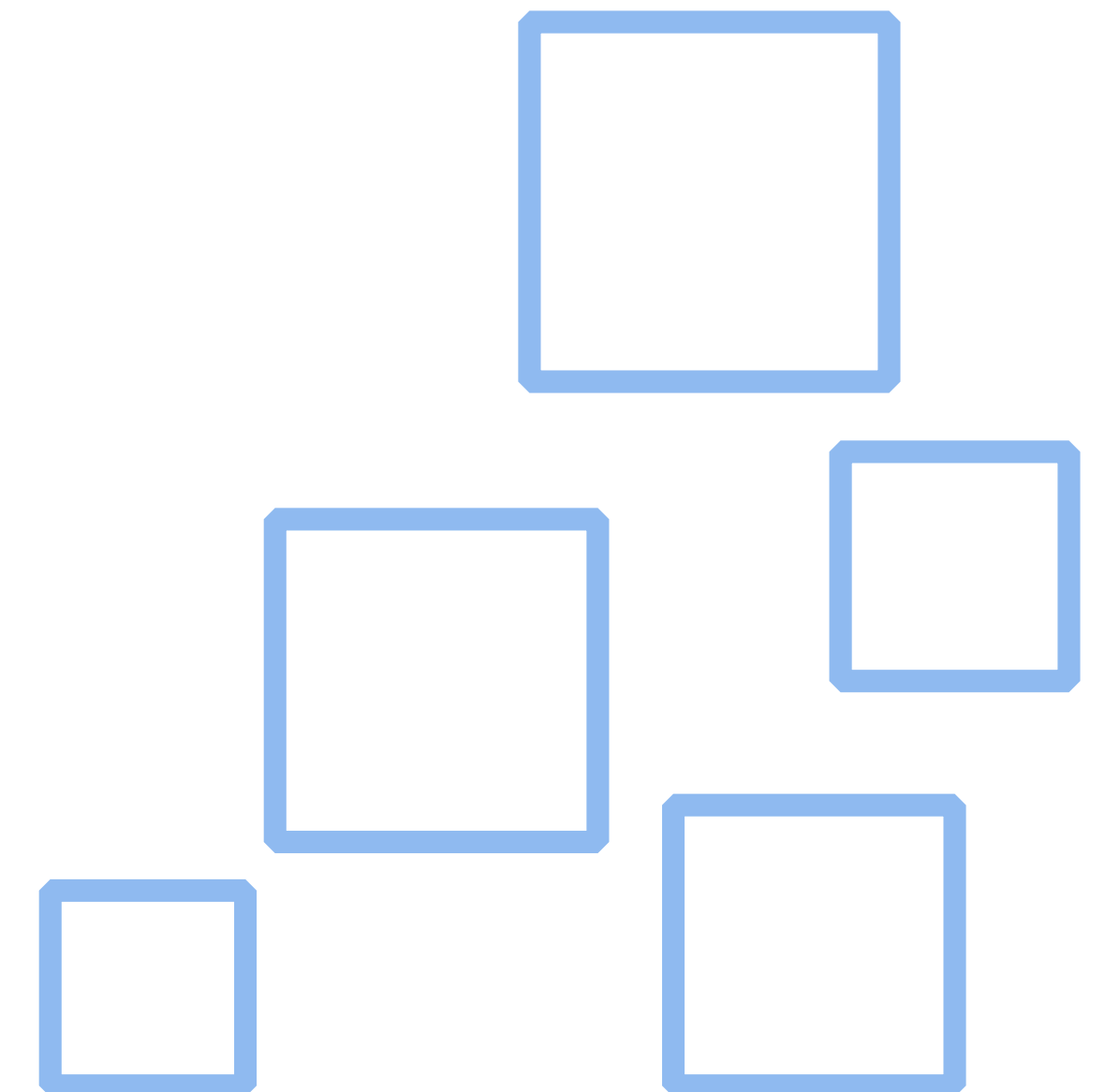
INTRODUCTION TO
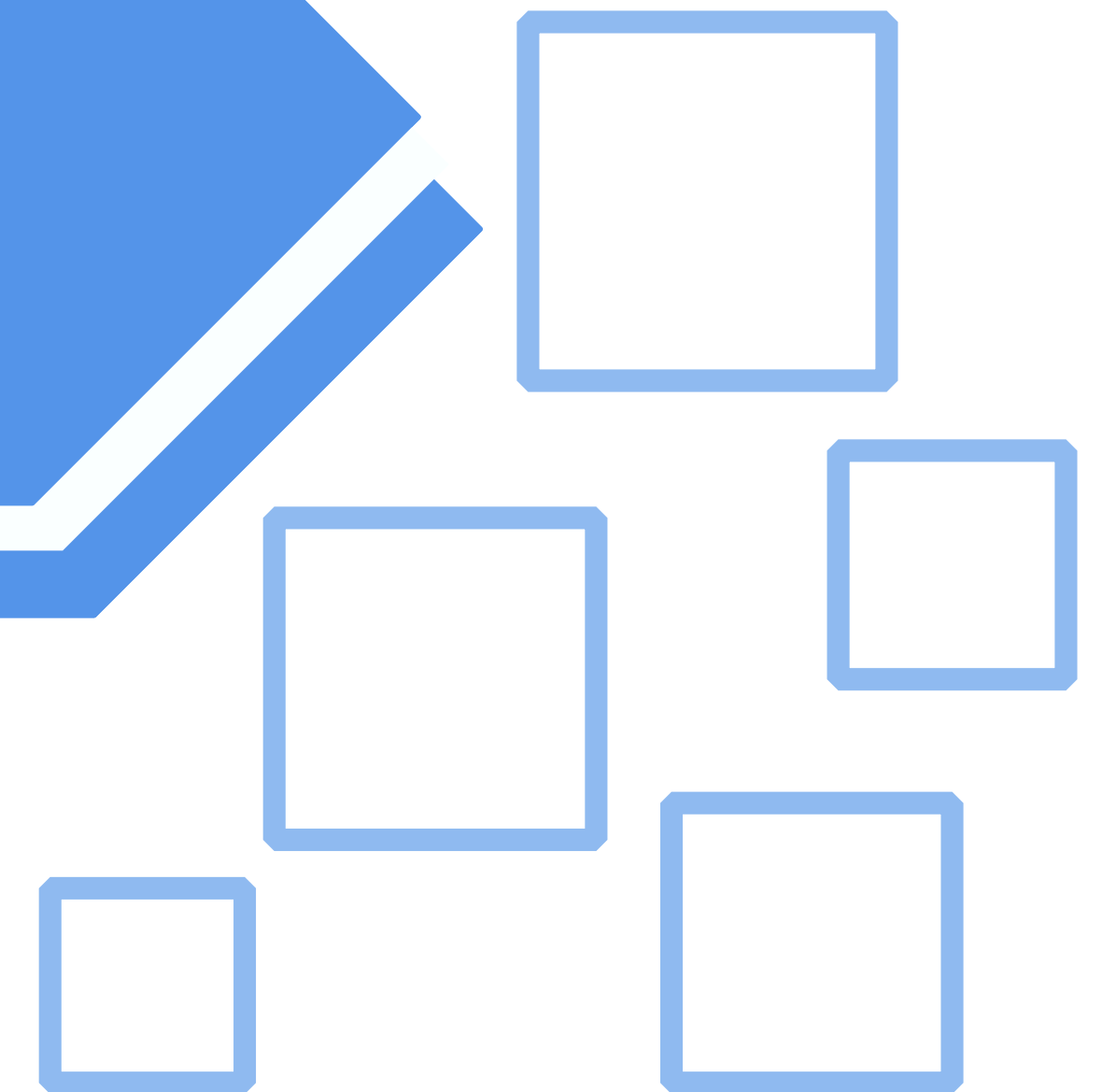**DATABASE AND INFORMATION SYSTEM**

Learning Objective(s)

This material should address the following question(s).

? What is data? Why should we care about them?

? How to store and process them?

? What are the challenges on managing data?

Look at your surrounding

Did you notice that we are swarmed by data?

We generate them and use them every second!

Case Study

**Have you ever make
a phone call to a call center?**

Case Study

**Have you ever make
a phone call to a call center?**

It generates numerous number of data:
phone number, who is calling, who picked up the call,
when did the call happen, what was the complain about,
what is the solution or was it unsolved, etc.

INTRODUCTION TO
DATABASE AND INFORMATION SYSTEM

? Question

What is <u>data</u>?

? Question

Answer !

What is <u>data</u>?

It is a **fact**, has a **value**, can be **characterized**, and be **recorded**.

Question

? **Question**

What is <u>data</u>?

Answer

Answer !

case_no: 87871
phone_number: +6285262211212
customer: Wiro Sableng
officer: Jaka Sembung
description: cannot login to the mobile app.
solution: reset password
summary: solved
case_time: 2023/08/02 14:16:32

INTRODUCTION TO
DATABASE AND INFORMATION SYSTEM

? Question

Why should we <u>care</u> about data?

Why should we <u>care</u> about data?

In the hands of ...

a ***jeweler***, 10 grams of ***gold*** could turn into a ***jewelry***.

? Question

Why should we <u>care</u> about data?

Answer !

In the hands of ...

a **data analyst**, 10 GBs of **data** could turn into an **opportunity**.

? Question

How to store and process them?

? Question

How to <u>store</u> and <u>process</u> them?

Answer !

In most use cases, **spreadsheet** is just enough.

- Where a group of data is stored in a table-like structure.

- Functions are available to process and traject insights from the data.

? Question

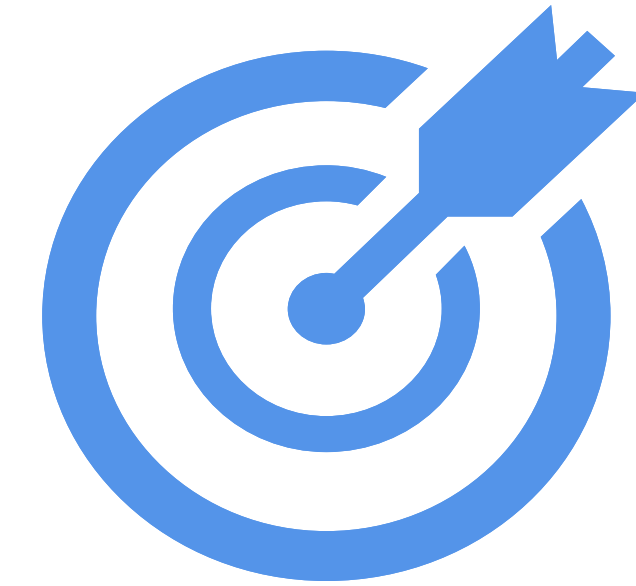How to <u>store</u> and <u>process</u> them?

Answer !

When **spreadsheet** is not enough.

- **Large** dataset.
- **Dependency** between data.
- More **complex** processing.
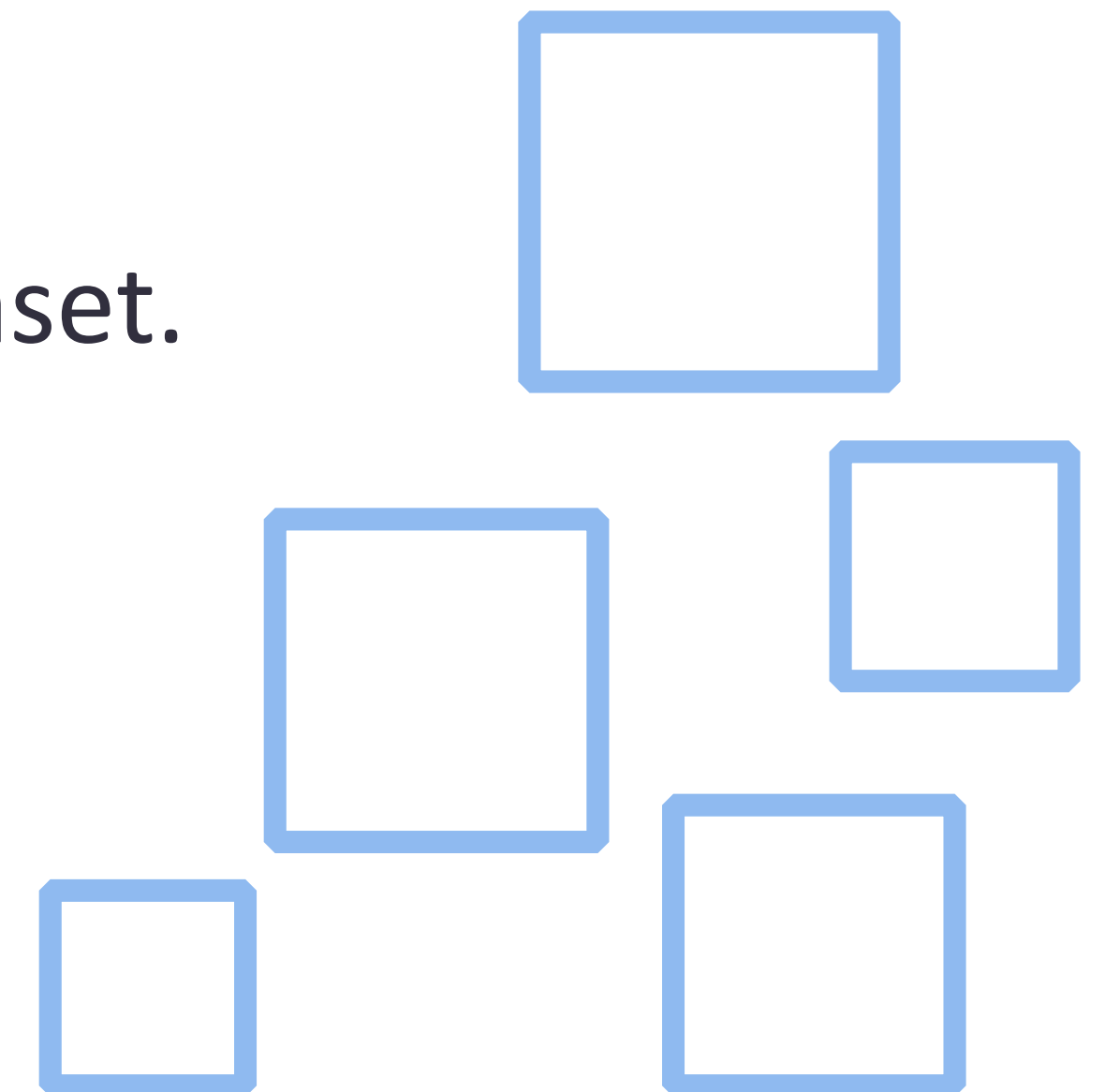- Application-ready and the needs for **multi-access**.

This is when **database** comes to rescue.

INTRODUCTION TO
DATABASE AND INFORMATION SYSTEM

Conclusion

- ✓ Data is a fact. It has value and can be characterized.

- ✓ Managing data is important for future usage.

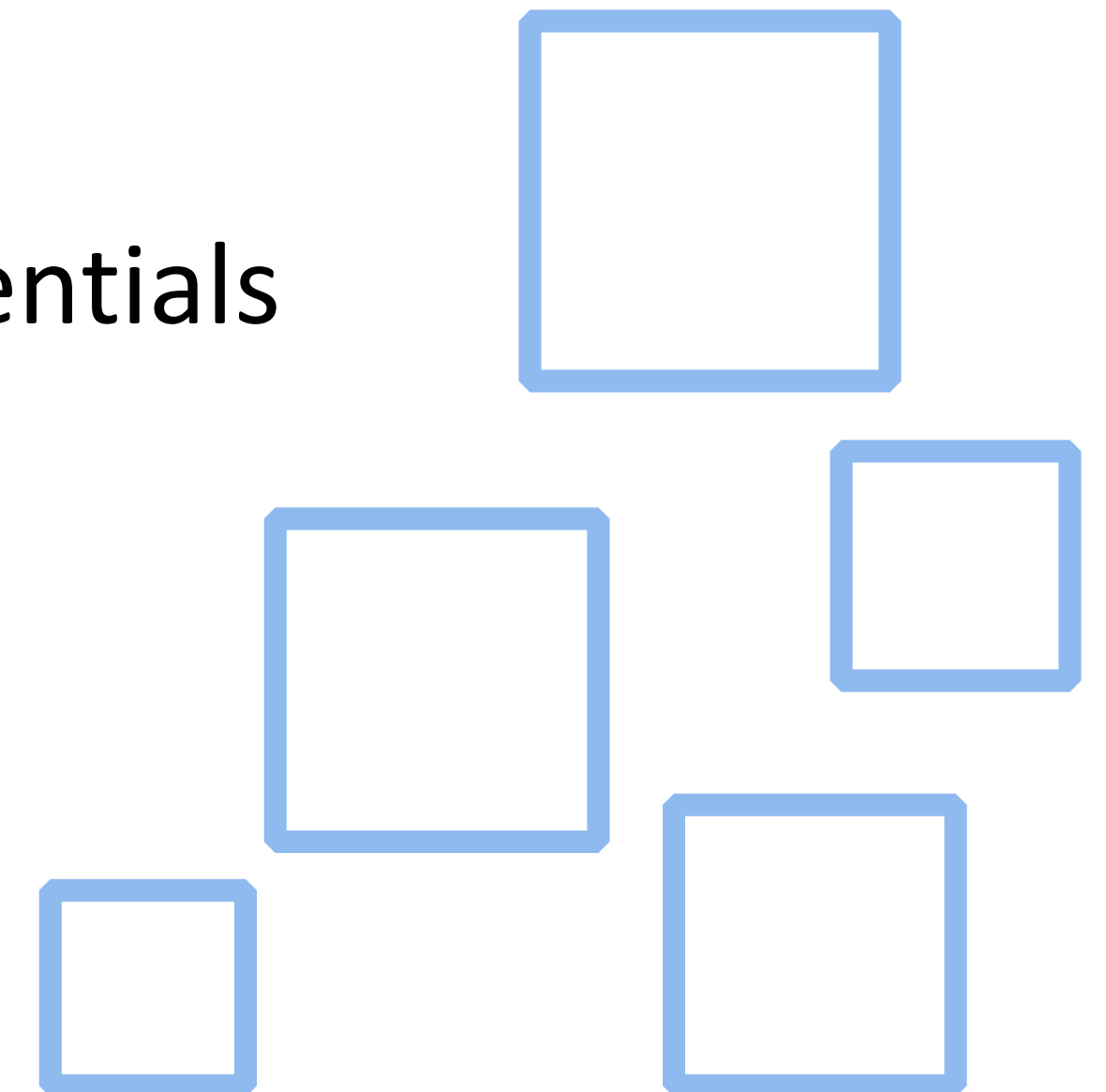- ✓ Traditional way of managing data cannot stand to large dataset.

References

- R, Elmasri, et. al., Fundamentals of Database Systems.
- A. Silberschatz, et. al., Database System Concepts.
- R. K. Rainer, et. al., Introduction to Information Systems.
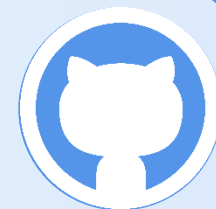- G. M. Marakas et. al., Introduction to Information Systems: Essentials for The e-Business Enterprise.

Course

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