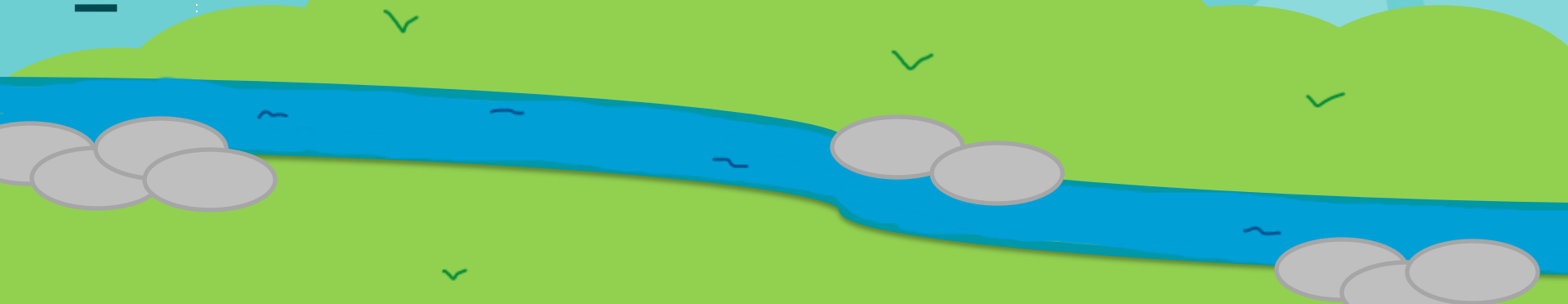# THE TECHNOLOGY VALUE STREAM

Rachel Shaw – CSD380 – 5/28/2025

WHAT IS THE TECHNOLOGY VALUE STREAM?

- A <u>value stream</u> is the sequence of activities and processes required to deliver a product or service of <u>value</u> to a customer.

- In industries such as manufacturing, the value stream is visible as it handles tangible components.

- In technology, value streams are much harder to observe as they handle immaterial components.

- Because of this, workflow in a technology value stream must be thoroughly monitored and understood.

To understand the flow of work in the technology value stream, it is important to understand the difference between <u>lead time</u> and <u>processing time</u>.

LEAD TIME

- The time between a task's request and its deployment.

- Begins the moment the request is created and ends once it is completed

- Lead time is the time customers spend waiting for value.

VS

PROCESSING TIME

- The time between a task's start and its completion.

- Begins when developers start the task and ends when it is completed

- An important measure of efficiency within the value stream

LEAD TIME

PROCESSING TIME

Request received

Task started

Value provided

WHAT CAUSES LONG LEAD TIMES?

Due to the intangibility of the technology value stream, it is all too common for teams to lose track of items in the stream and become disorganized resulting in lead times up to <u>three months</u>!

The following are critical points of error that may cause teams to fall into this common scenario:

- Large batch sizes

- Lots of handoff

- Too much work in progress

- Tightly coupled systems

- Lack of testing or lengthy testing procedures
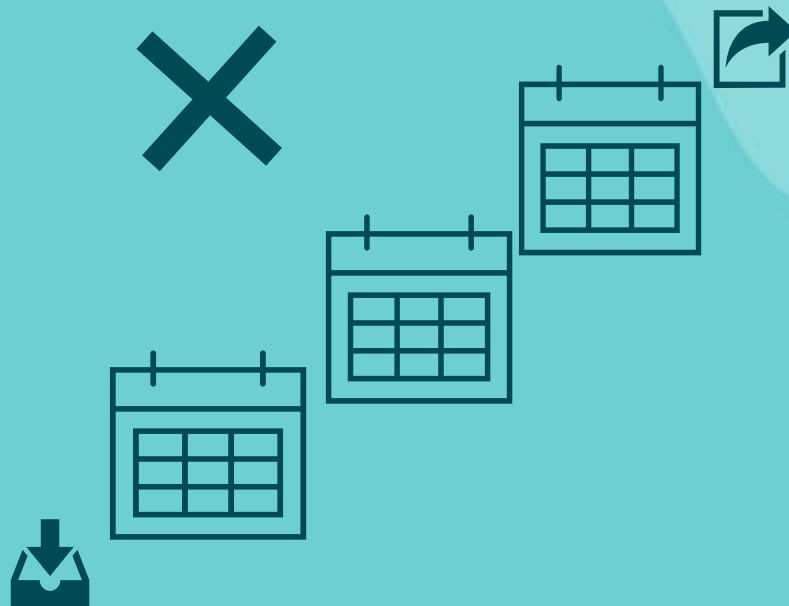
THE COMMON SCENARIO: GRAPHIC

The flow of "the common scenario" resembles a complex river system with sudden starts, stops and interruptions.
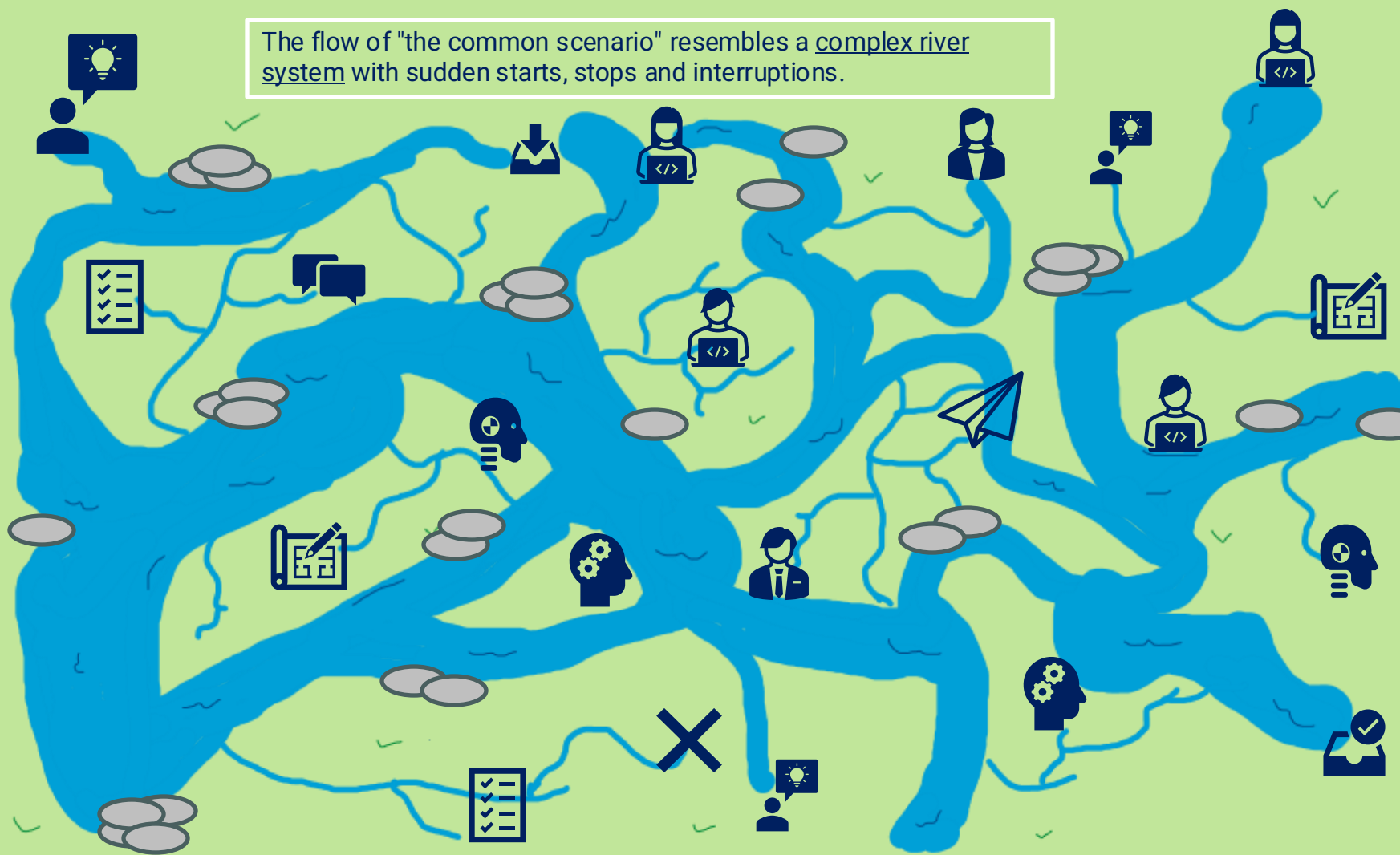
HOW TO ACHIEVE SHORTER LEAD TIMES

It is important to remember that the customers do not see our work behind the scenes. Taking three months to provide value is <u>not ideal</u>. Lead times should take <u>minutes.</u>

Here are a few pointers for reducing lead times

- Reduce batch sizes

- Modular systems of small teams

- Utilize automated testing

- Enforce work in progress limits

FLOW METRICS

MEASURES OF STREAM EFFICIENCY
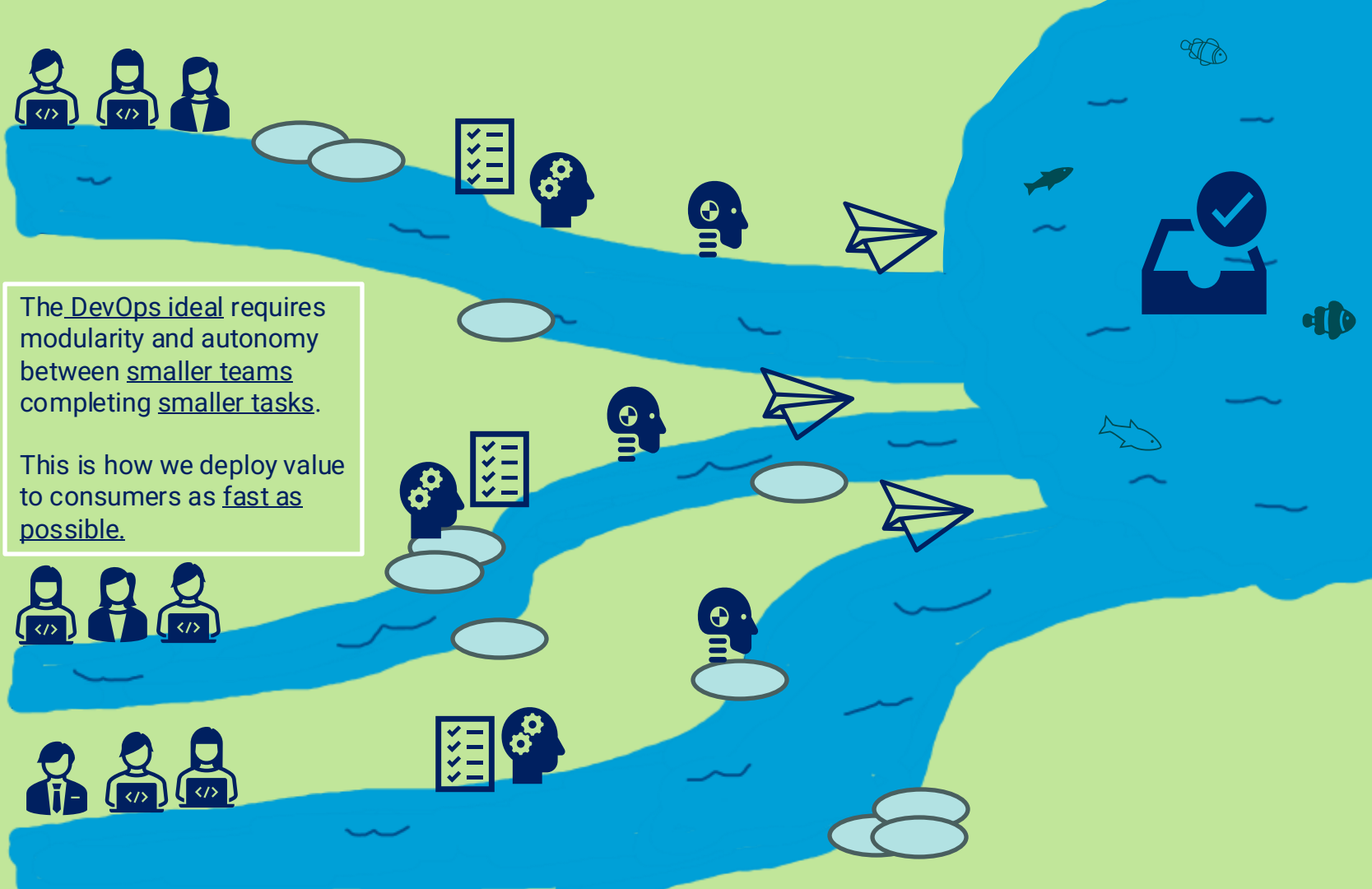
Although the technology value chain is invisible, there are several metrics developers can use to evaluate the efficiency and effectiveness of their value stream.

%CA

The percentage of time customers receive work that they can use without correction

FLOW VELOCITY

The number of items completed within a set period of time. This metric measures improvement in delivery times.

FLOW EFFICIENCY

Measures how many tasks have been worked on within a set period of time.

FLOW TIME

Taken from various Stakeholders. Represents how much time the value stream is taking.

FLOW LOAD

The number of items in the value stream at any given time.

FLOW DISTRIBUTION

The proportion of each flow item type in the value stream.
Ex: features or defects

WHAT'S THE POINT?

Managing the value stream is a crucial part of the DevOps process. Although the technology value stream may be harder to see, it is not completely impossible to manage with the proper knowledge, tools, and team organization. Delivering value to customers as fast as possible should be the primary goal of any business. Maintaining an efficient value stream is the best way to achieve it.
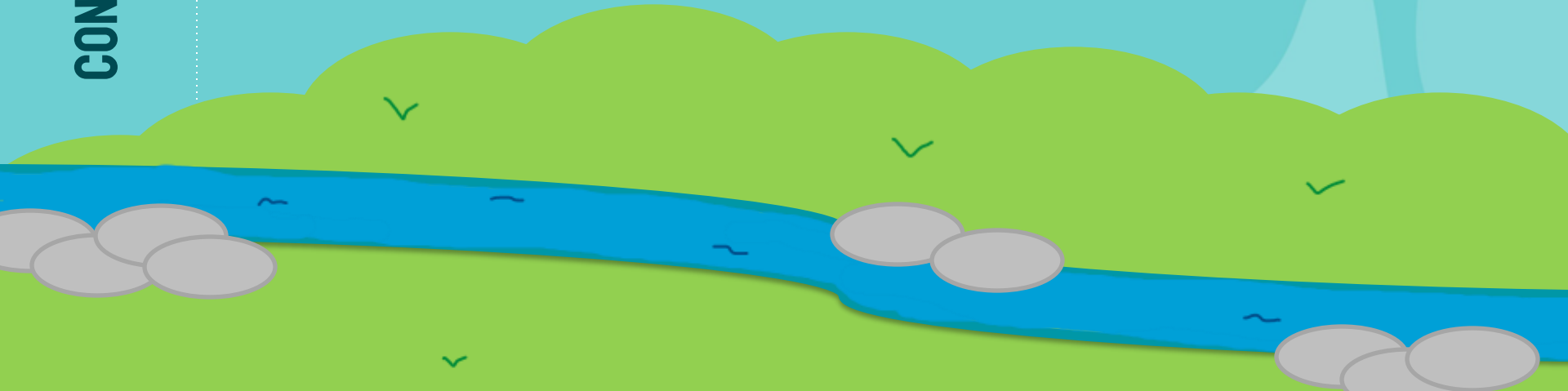
REFERENCES

Kim, G., Debois, P., Willis, J., Jez Humble, & Allspaw, J. (2021). *The DevOps handbook : how to create world-class agility, reliability, & security in technology organizations* (pp. 9–11). It Revolution Press, Llc.

Presentation template from **SLIDESGO**