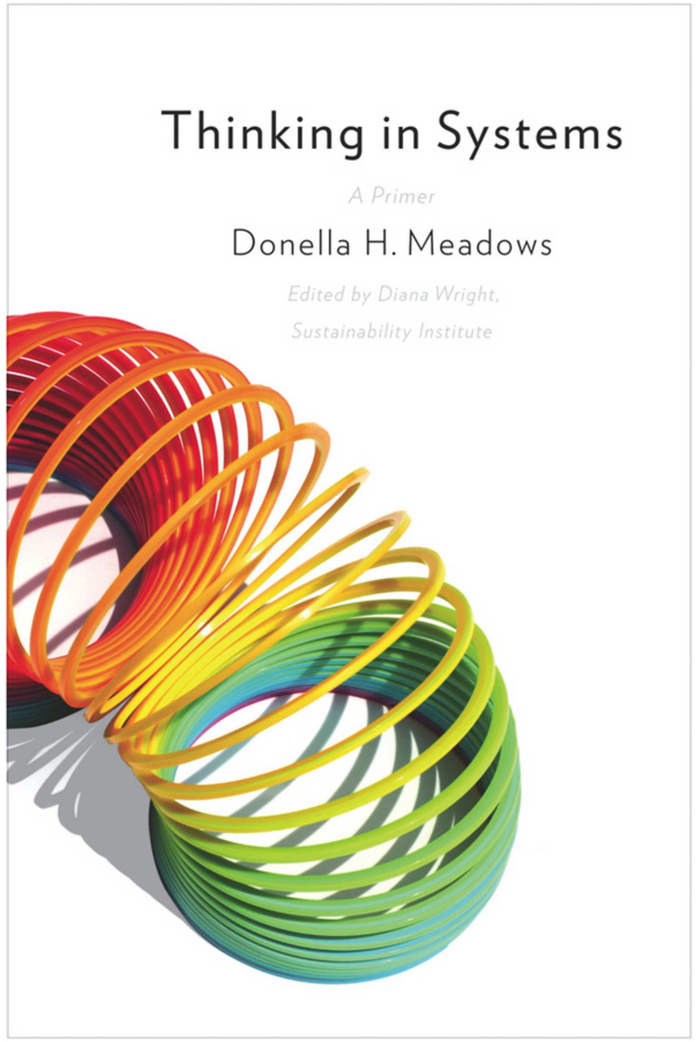
Building An Architecture Practice By Understanding Your Systems Better

CLOUDNATIVE SUMMIT

Auckland - April 2025

Andrea Magnorsky
www.roundcrisis.com



"A system is an interconnected set of elements that is coherently organized in a way that achieves something"

-- Donella Meadows

Jabe Bloom

“Organisations don’t just run on technology—they emerge from the interactions between systems of people and technologies navigating uncertainty. “

Source: https://www.ergonautic.ly/blog/sociotechnical_alignment/

Agenda

- Intro
- CatTV - Micro Session
- Intro to Modelling C4
- Bytesize Session - Context Diagram
- Bytesize Session - Container Diagram

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About Andrea

Programmer and Creator of Bytesize Architecture Sessions

- Programming professionally since 2001
- Co-founded PC & Console Games Company in Ireland 🇮🇪
- Contractor and Consulting since 2018 in the UK
  - E-Commerce
  - Broadcasting media
  - Finance
- Recently moved to NZ and working with Atlassian

Programmer vs Developer https://einarwh.wordpress.com/2021/02/11/programmer-vs-developer/

You ship what is in your programmers' brains

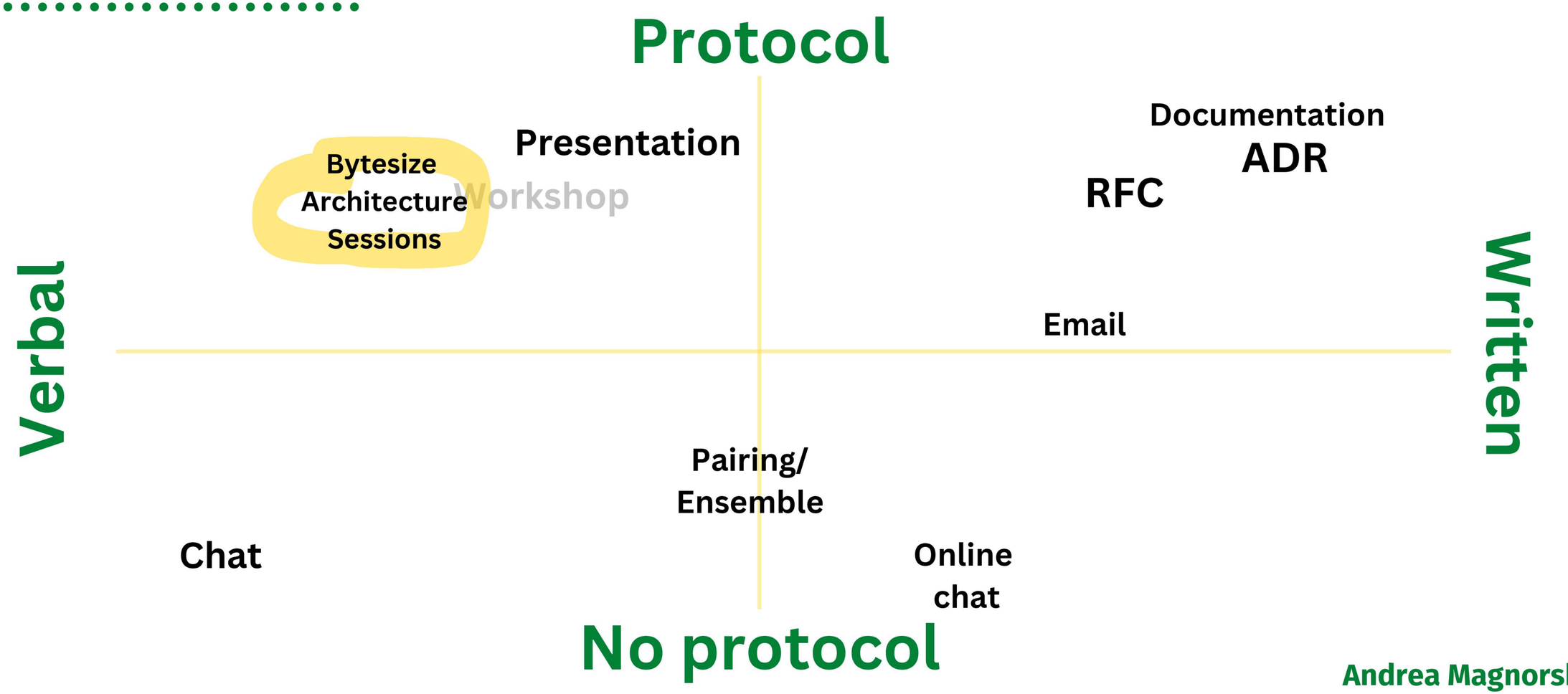
Andrea Magnorsky - 2021

“It’s not the domain experts knowledge that goes into production, it’s the assumption of the developers that goes into production.”

Alberto Brandolini - 2019*

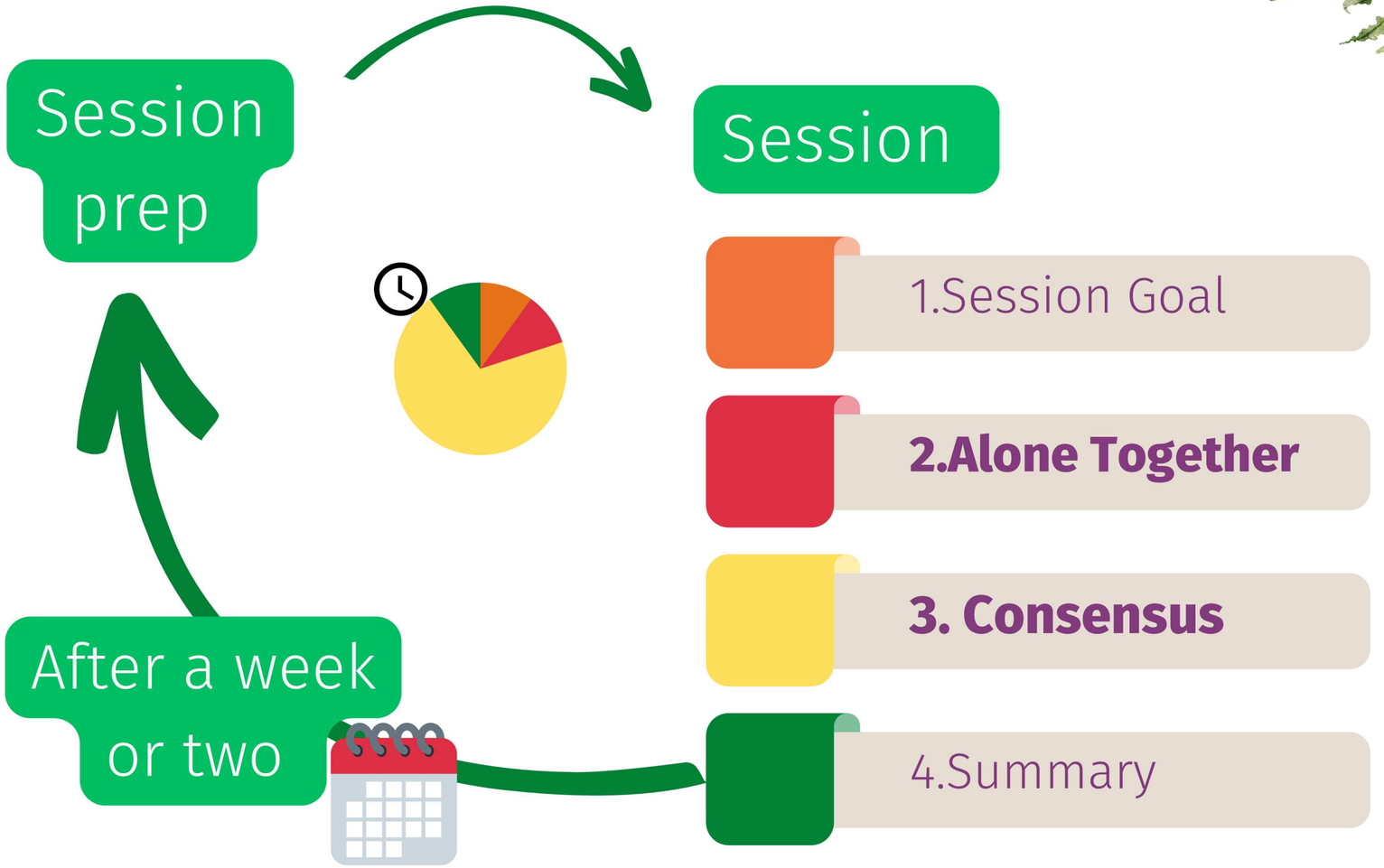
*or before

Knowledge sharing methods



Bytesize Architecture Sessions[T] is a workshop format

Format


Session prep
Session
1.Session Goal
2.Alone Together
3. Consensus
4.Summary
After a week or two

In their words

The main thing I took from today is that everyone brought their own perspective and that enabled us **all** to learn something

Jim Taylor
Senior Product Manager
ITV

Why run Bytesize Sessions?

1

Toward homogeneous understanding of your System

2

Enabling format

3

Creates design tools

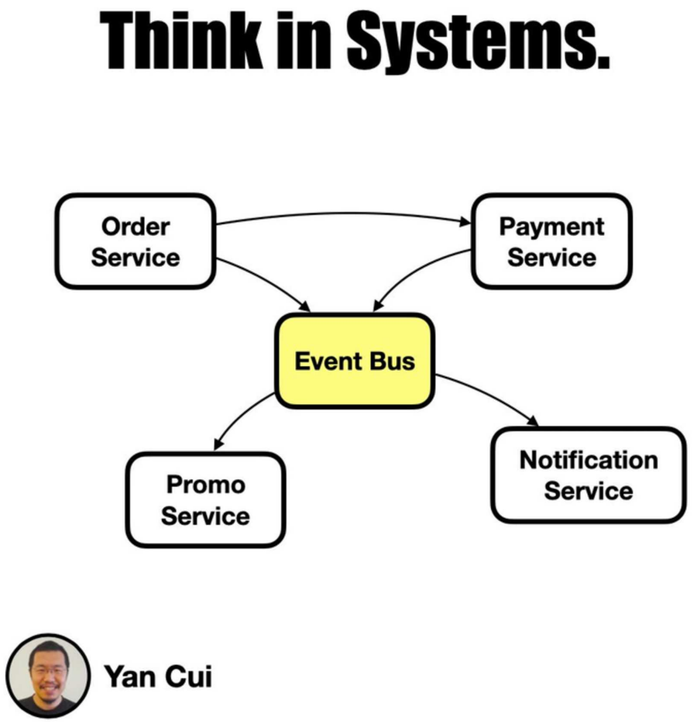
Build an architecture practice in a safe way

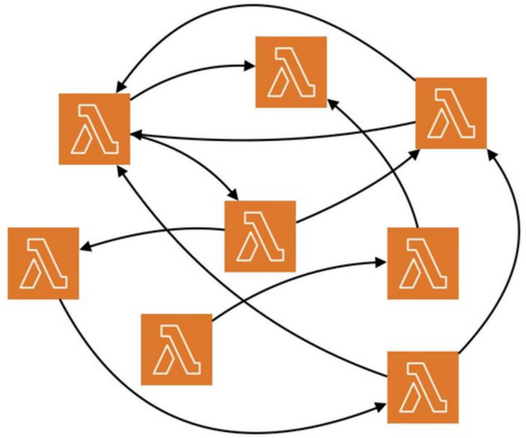
“A system is not the sum of its parts, it's their interactions”

Russ Ackoff

Source: youtube.com/watch?v=OqEeIG8aPPk

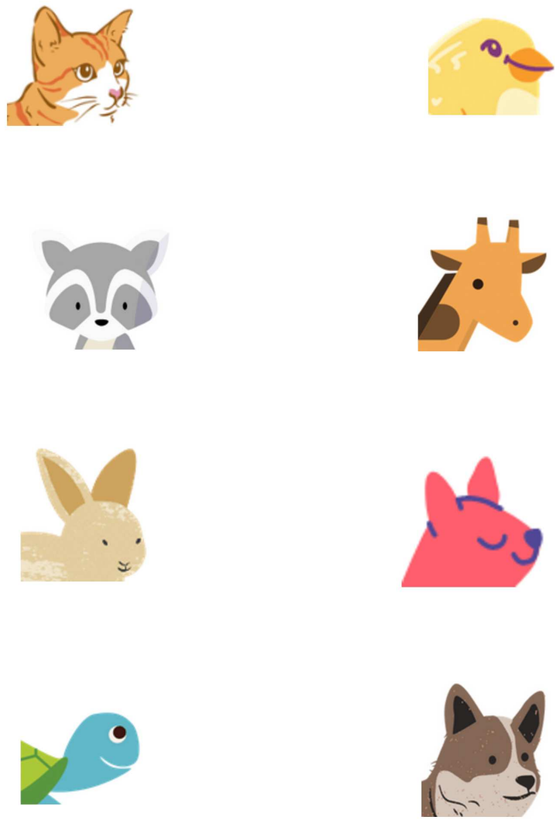
Yan Cui





Source: https://www.linkedin.com/posts/theburningmonk_aws-serverless-systemdesign-activity-7309953329252454401-20pU

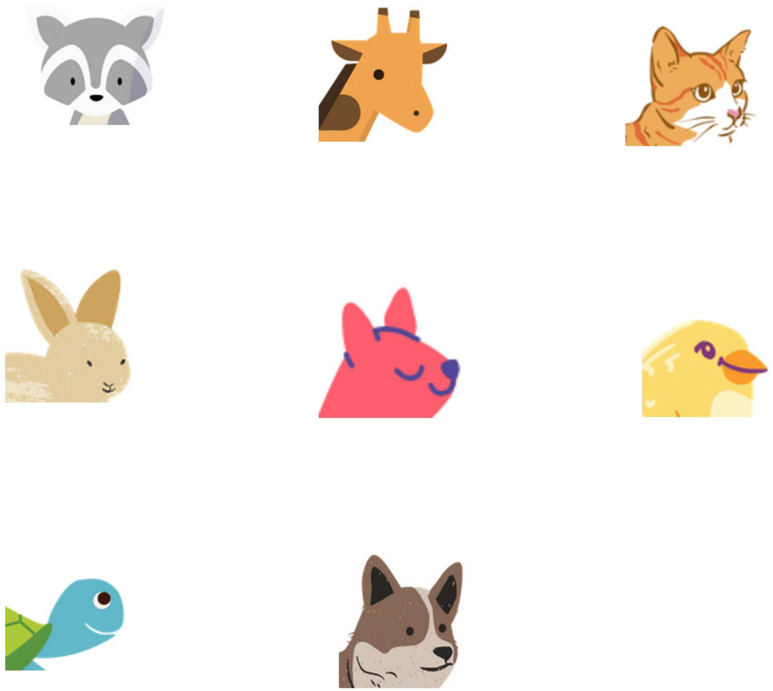
Before the Session



1. Invite the team.
2. Teach the team about modelling tool used

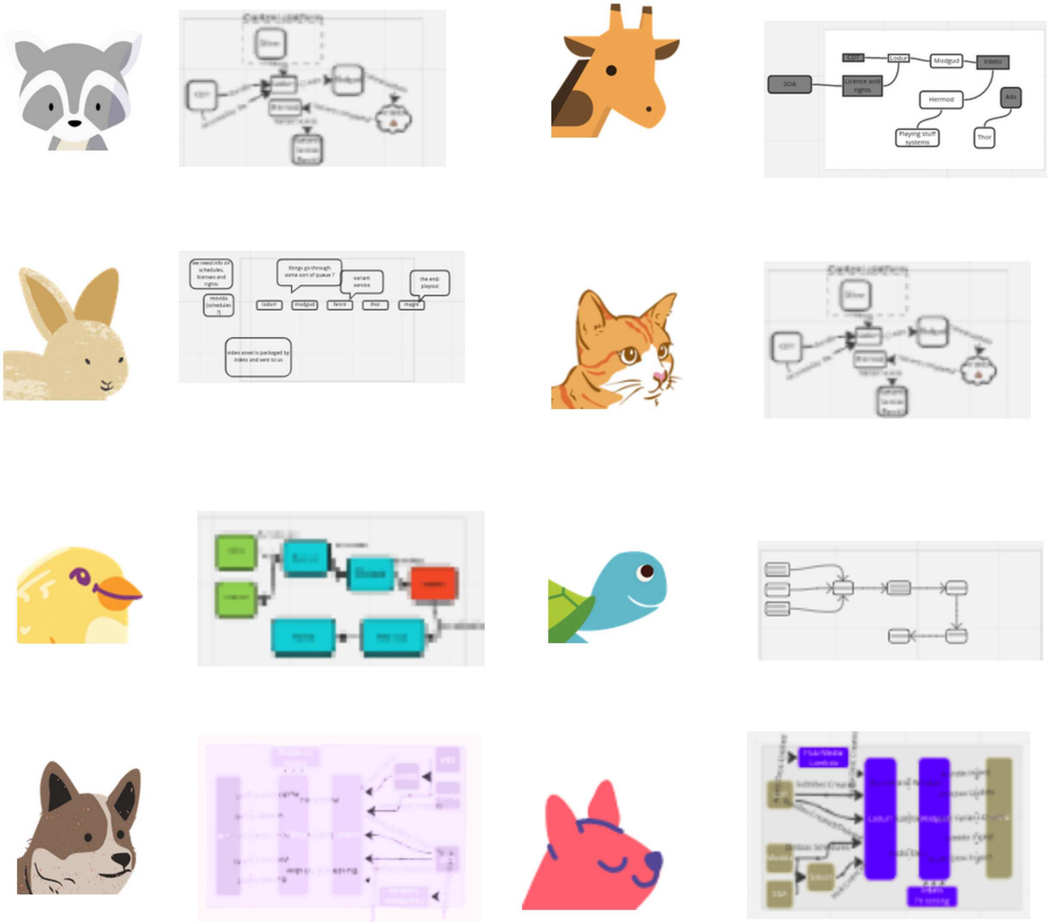
Session starts

1. Goal



Set the goal:
Create a context diagram of the system as it is.

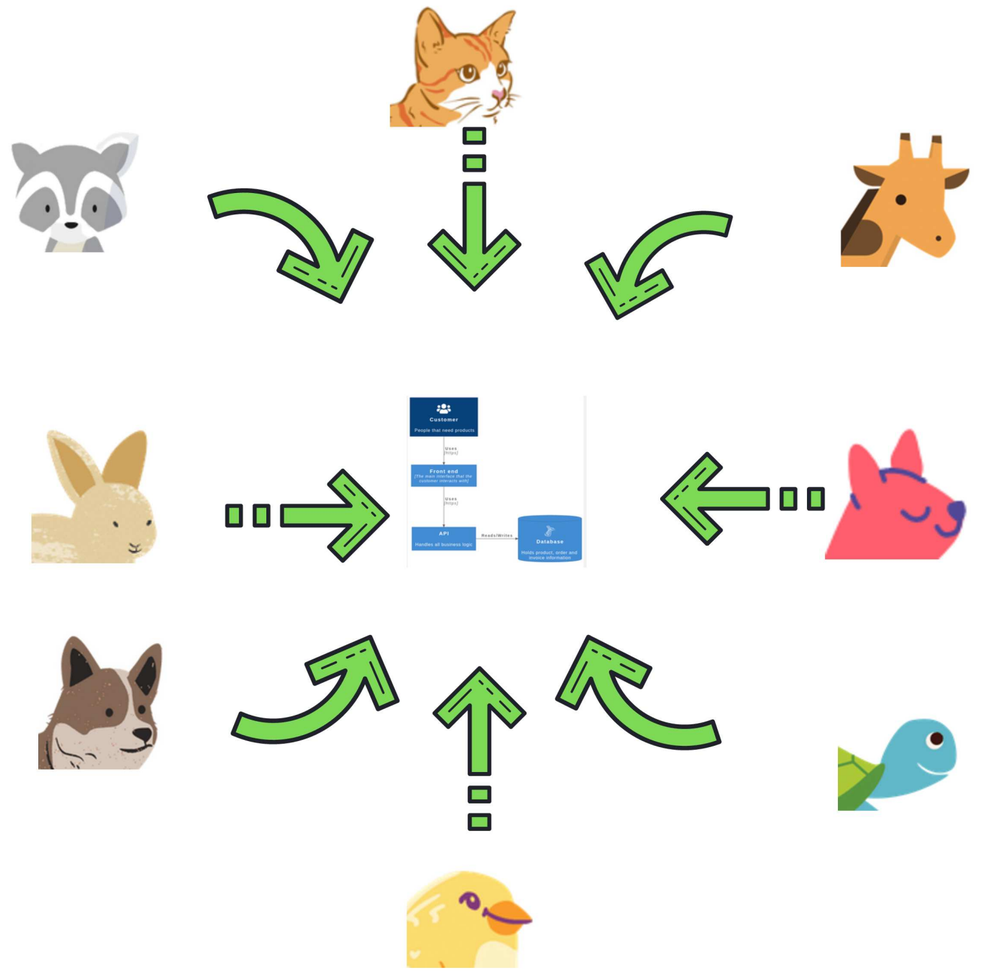
2. Alone Together



When the timer for 3 minutes elapses each attendee explains their model.

3. Consensus

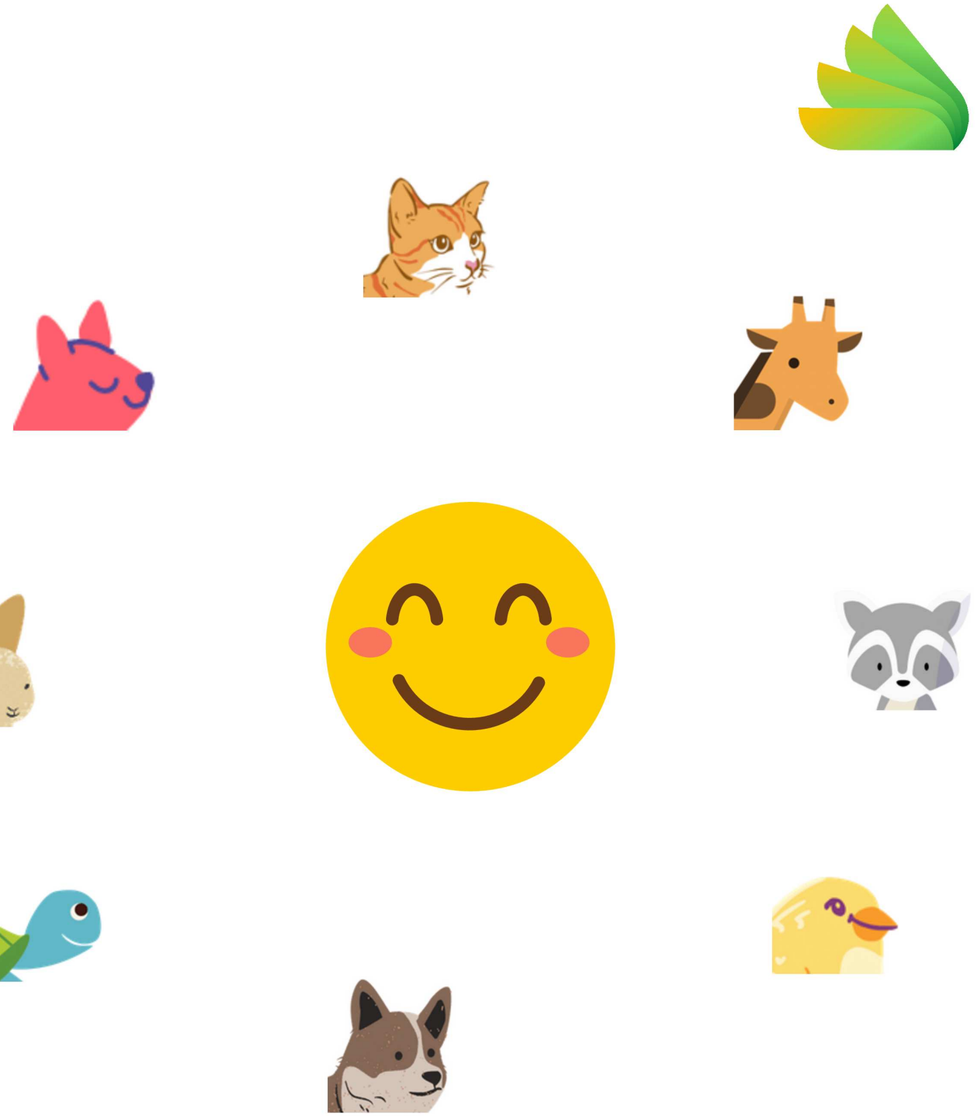
End session on time.



4. Summary

Mini retro - prompts:

- How did it go?
- What have you learned?
- How could it be better?



CatTV: The cats won the internet 🐱

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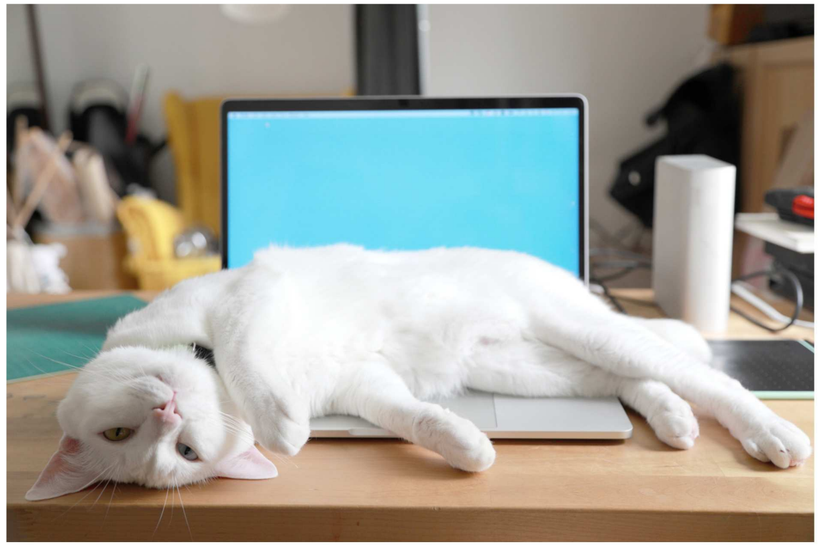
CatTV: The cats won the internet 🐱

- Similar to **Netflix**(not YouTube) but only great videos of cats.



Hands on: CatTV

Imagine you are part of **CatTV**, a company that is up and running.
You have been working there for a few months.
Technology choices are whatever you think makes sense or might have made sense at the time.

Hands on: CatTV

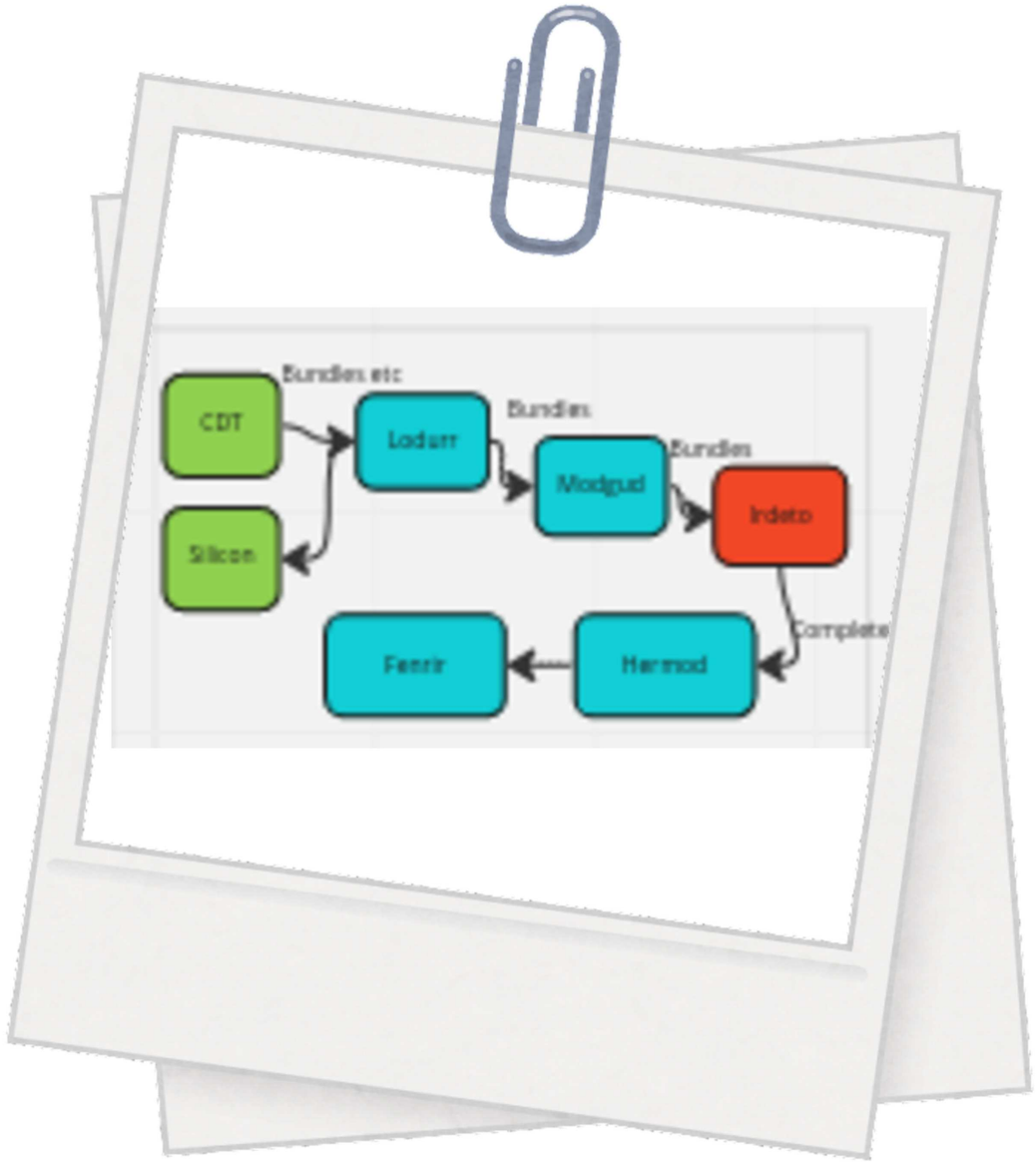
Groups of 5 or less

2 min
8 min

1.Session Goal	**Discuss Key components used in CatTV. Surface pros and Cons of those choices**
2.Alone Together	**2 minutes**
3. Consensus	**7 minutes**
4.Summary	**1 minute**

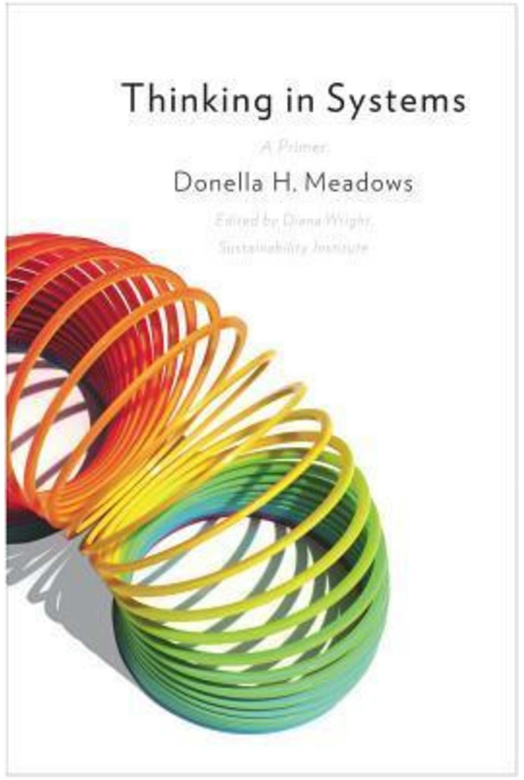
Modelling is agreeing on abstractions

The product of a modelling session is understanding



Diagrams are a memento of a model

And it needs some fidelity



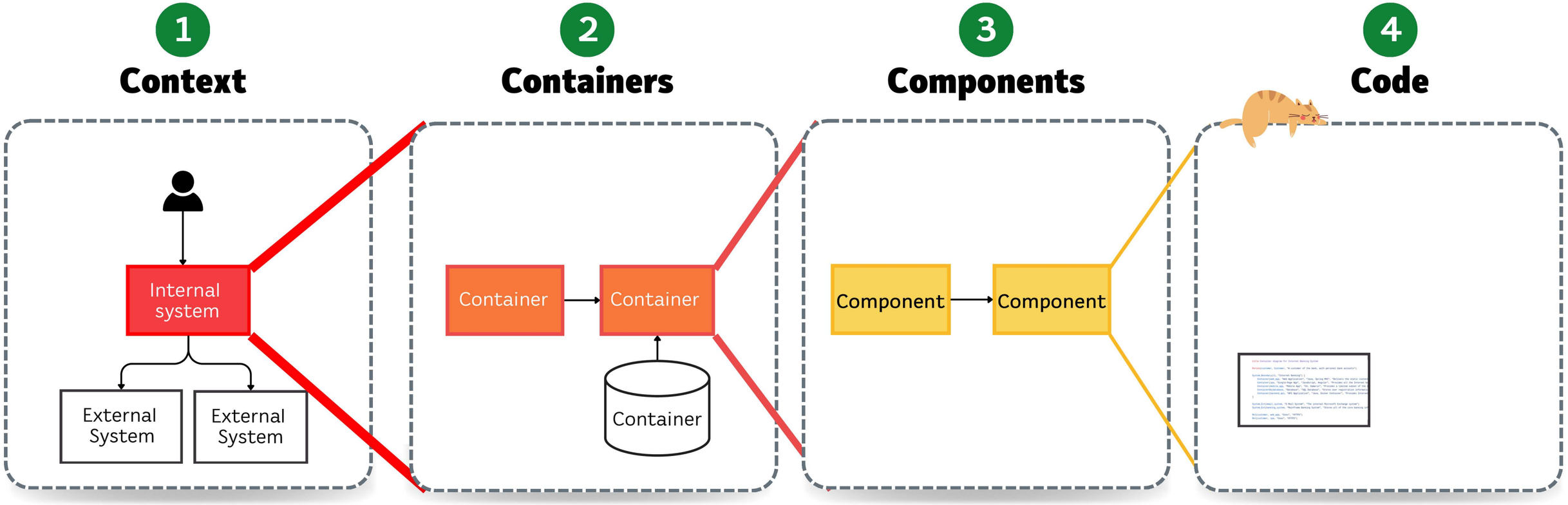
"Words and sentences must, by necessity, come only one at a time in linear, logical order. **Systems happen all at once**. They are connected not just in one direction, but in many directions simultaneously."

Thinking in Systems: A Primer by Donella H. Meadows

Modelling with C4

What is C4

It's a framework for visualising software architecture in a hierarchal manner, using 4 layers:



A high-level overview of the entire **system** and how it interacts with external entities.

View of the system broken down into its **containers** (e.g. database, application), and the relationship between them.

The internal **components** that make up each container and the relationship between each of them.

How a component is implemented at the **code** level (e.g. classes, methods, functions).

(Source: Diagram adapted from Alex Pilutau, packagemain.tech)

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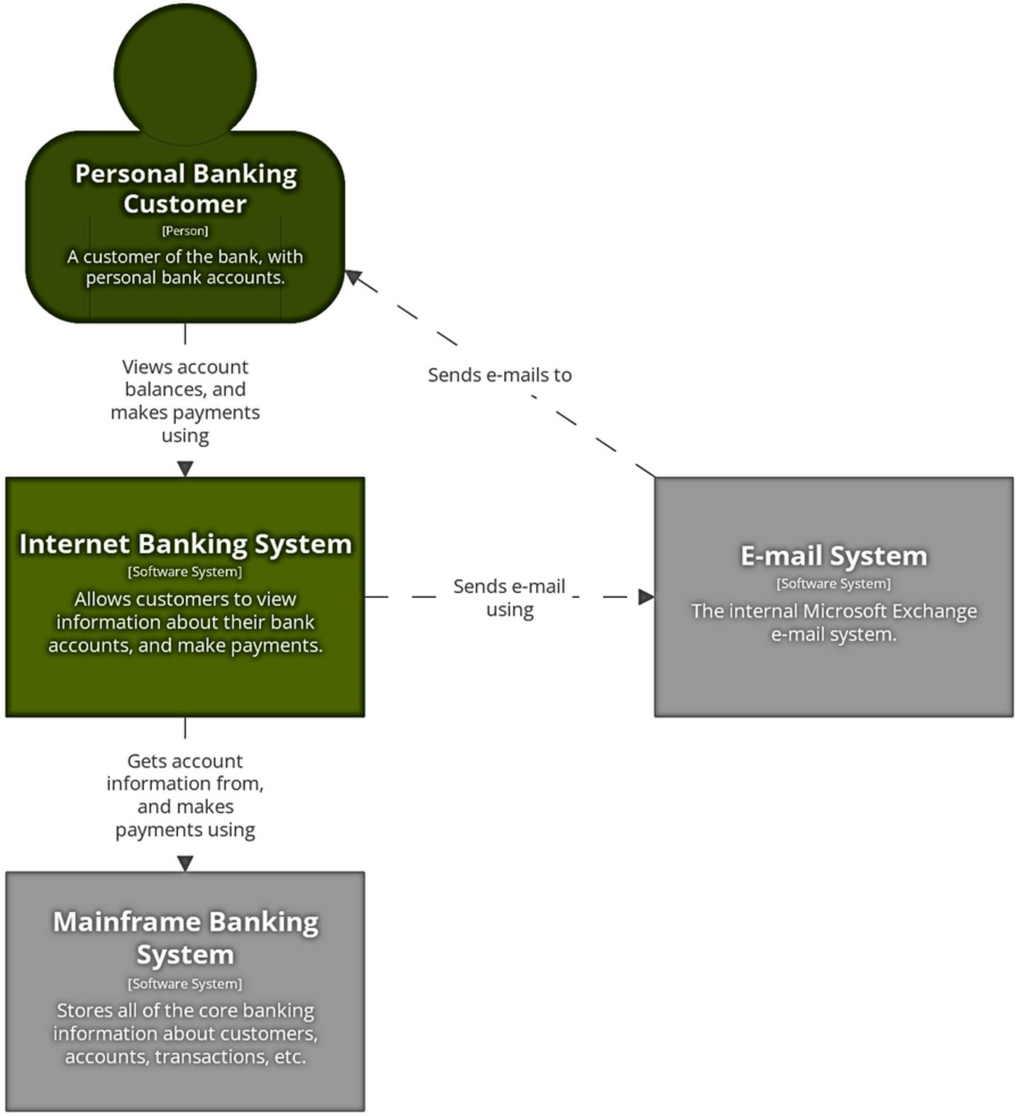
System Context

- What is the scope of the system?
- Who is using it?
- What Integrations are supported

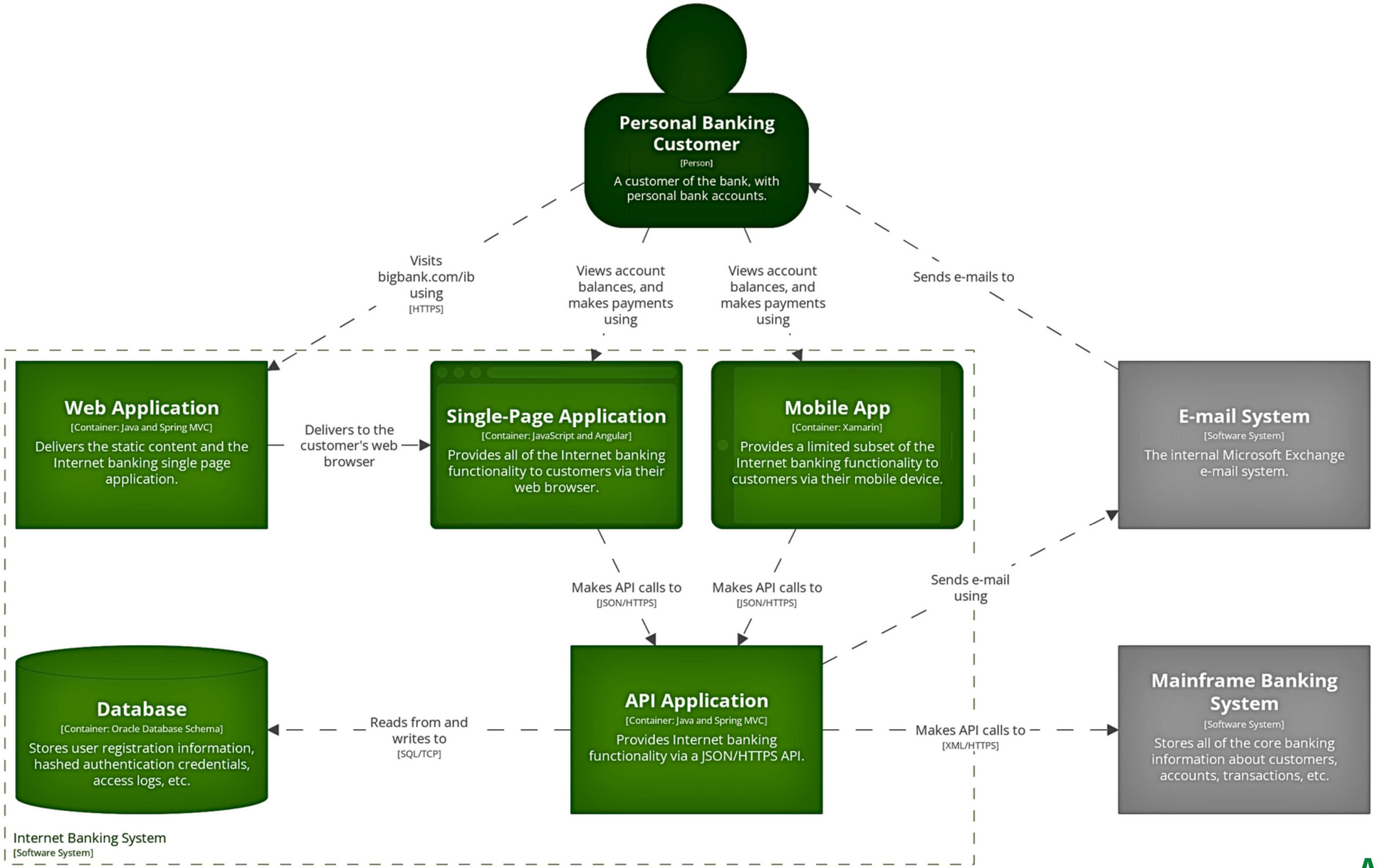


[System Context] Internet Banking System

The system context diagram for the Internet Banking System - diagram created with Structurizr.
Wednesday, March 22, 2023 at 8:16 AM Coordinated Universal Time

Container

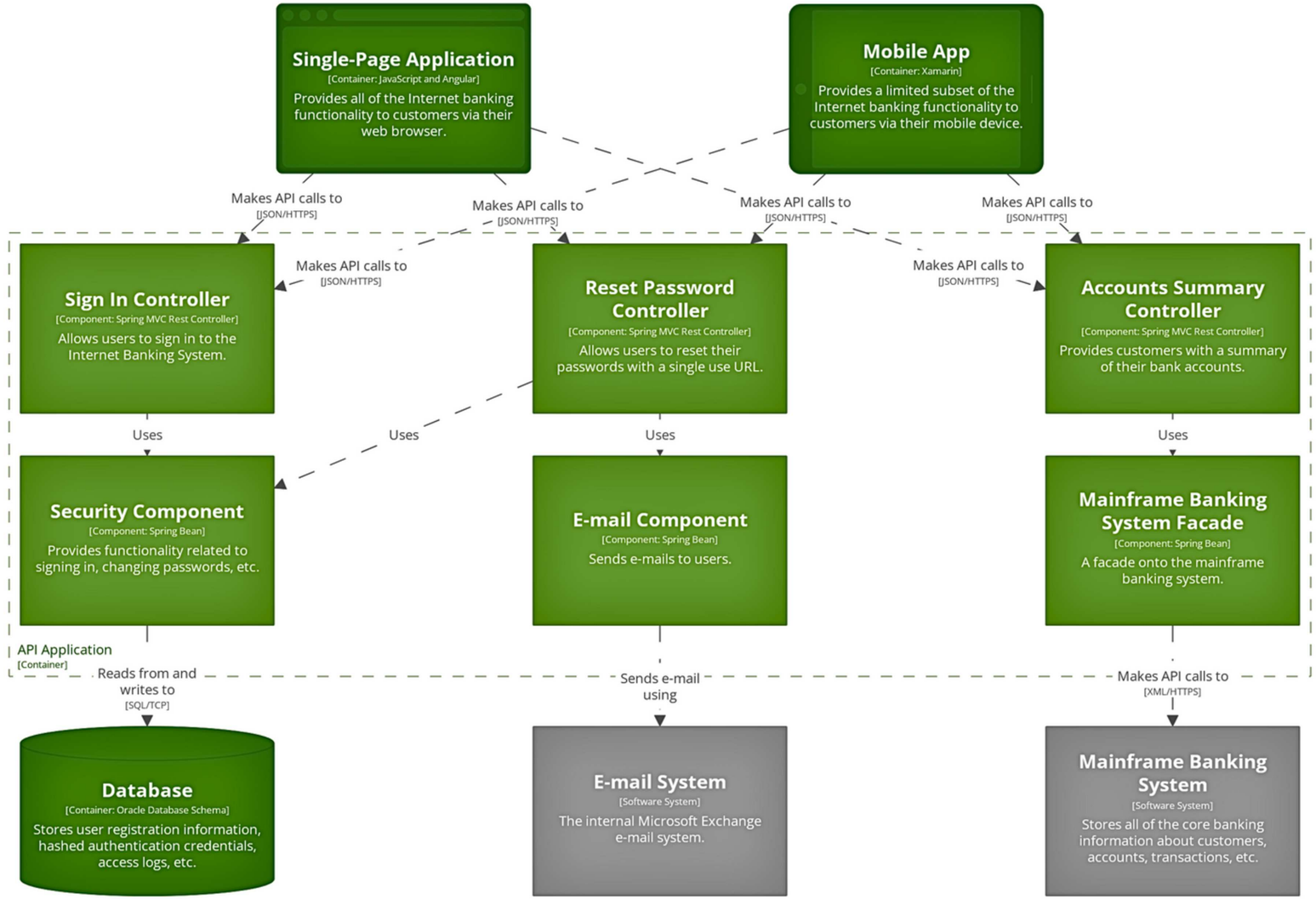
- What are the major building blocks?
- What are their responsibilities
- How do they communicate?



[Container] Internet Banking System

The container diagram for the Internet Banking System - diagram created with Structurizr.
Wednesday, March 22, 2023 at 8:16 AM Coordinated Universal Time

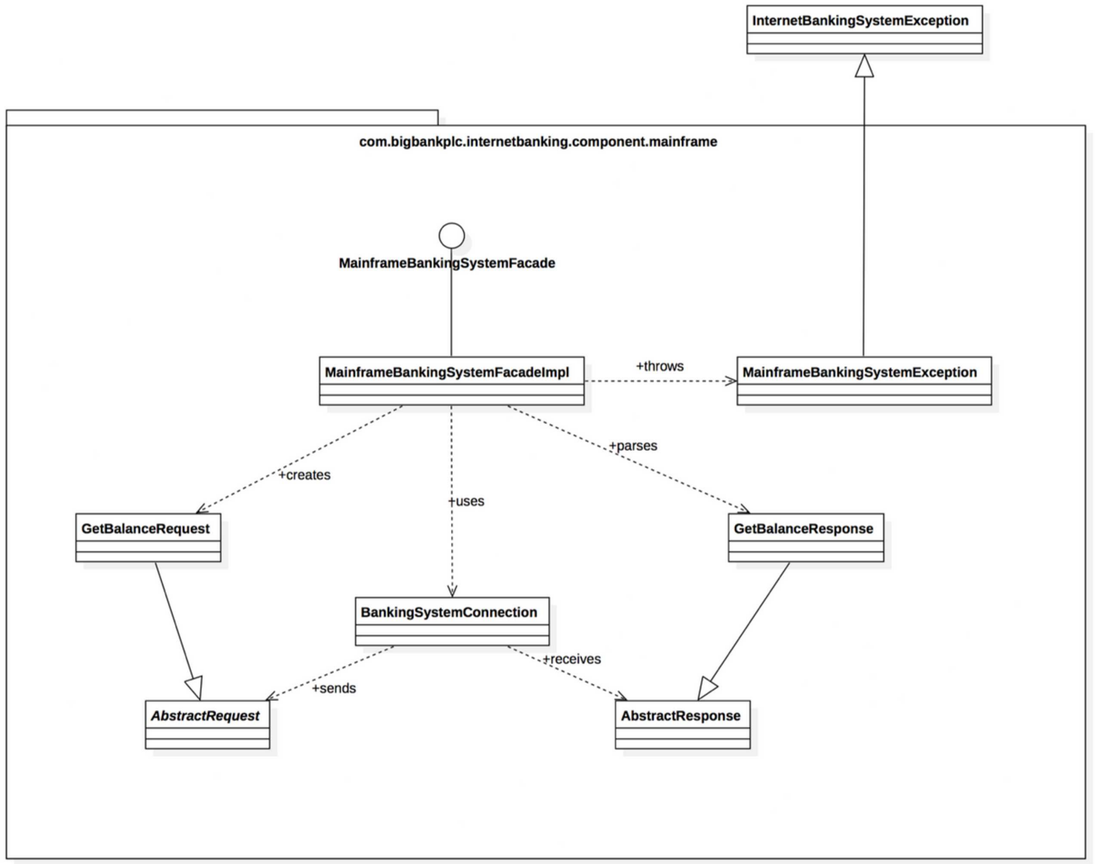
Components



[Component] Internet Banking System - API Application

The component diagram for the API Application - diagram created with Structurizr.
Wednesday, March 22, 2023 at 8:16 AM Coordinated Universal Time

Code*



*Generate this one

CatTV: The cats won the internet 🐱

Do a Systems Context diagram of CatTV

Hands on: CatTV

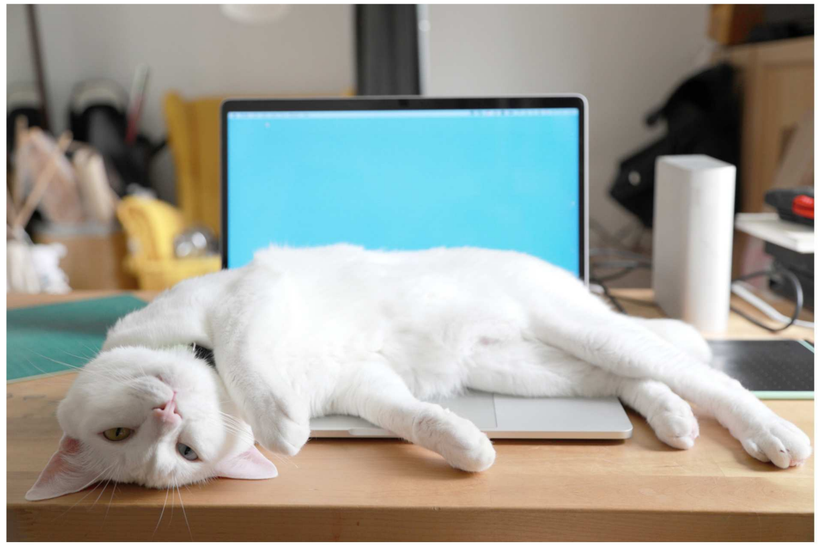
Groups of 5 or less

45 min

1.Session Goal	**Systems Context diagram of CatTV**
2.Alone Together	**5 minutes**
3. Consensus	**25 minutes**
4.Summary	**3 minutes**

CatTV: The cats won the internet 🐱

Do a Systems Context diagram of CatTV



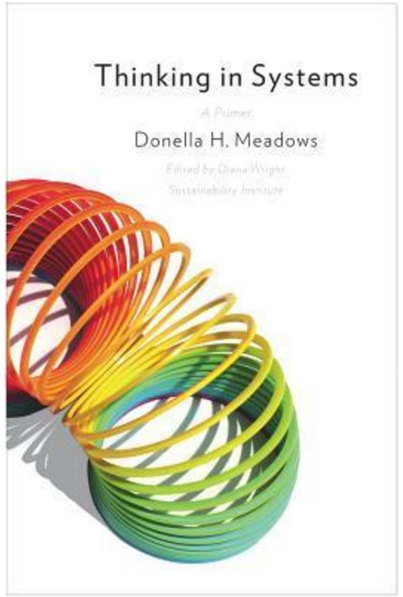
Hands on: CatTV

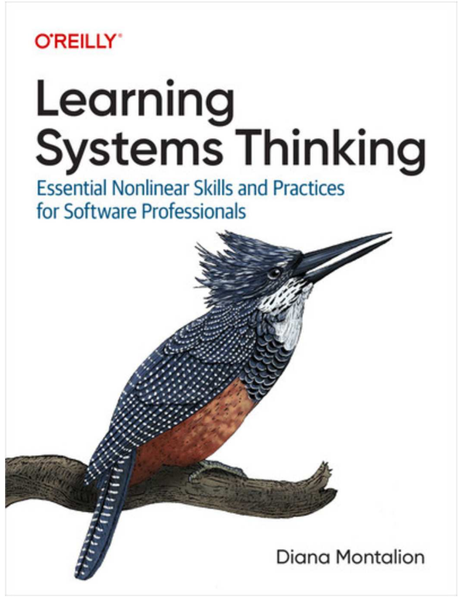
Groups of 5 or less

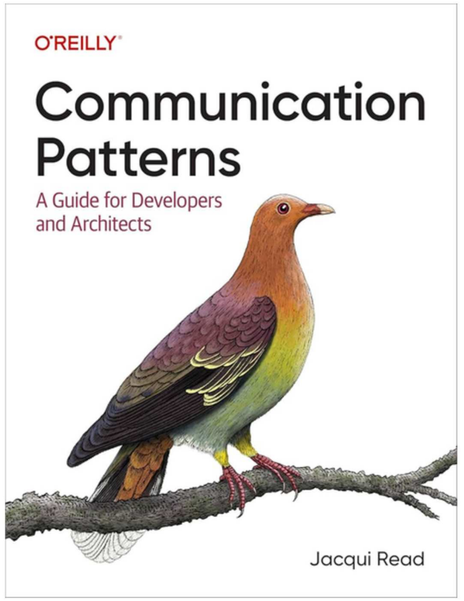
45 min

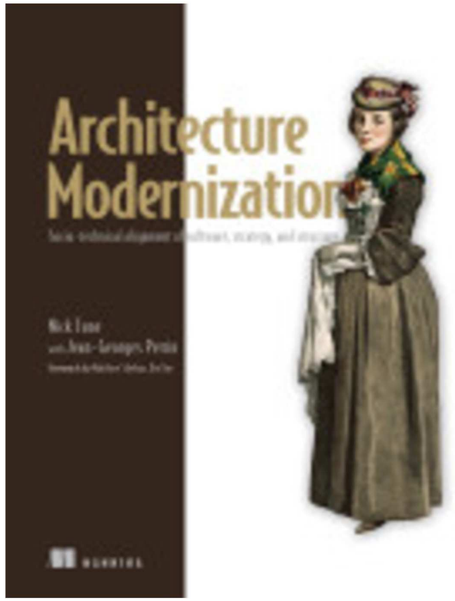
1.Session Goal	**Container Diagram of CatTV**
2.Alone Together	**5 minutes**
3. Consensus	**25 minutes**
4.Summary	**3 minutes**

Recommended books









Recommended websites

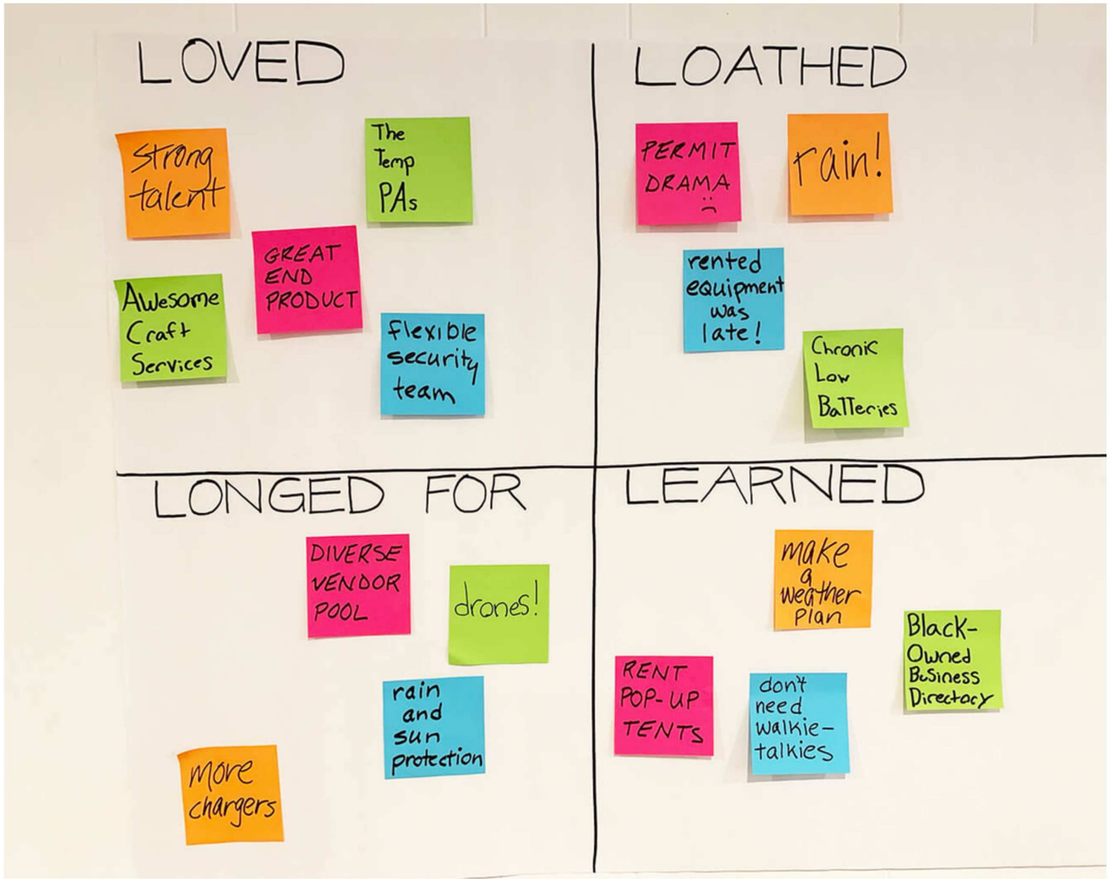
Bytesize Architecture Sessions:
https://bytesizearchitecturesessions.com/

C4 Model:
https://c4model.com/

Workshop retro

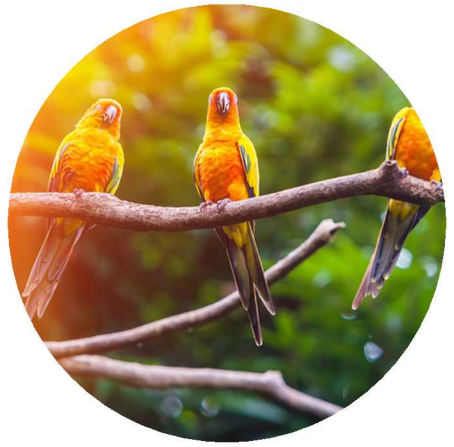
Everyone

5 min

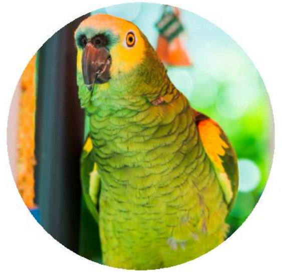
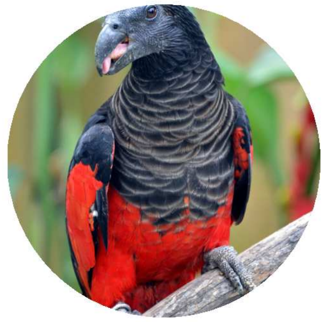









Thank You!

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