


# Software architecture, people and other juices

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# AGENDA

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- 01 | **What's software architecture?**
  - 02 | **The JOOR challenges**
  - 03 | **From people to code**
  - 04 | **Architecture myths**
  - 05 | **The JOOR way**

A decorative graphic on the left side of the slide. It consists of four horizontal white lines of equal length, stacked vertically. To the right of these lines is a large, dark blue circle. The circle is not solid; it has a thick, dark blue border and a lighter blue center. The text 'What's software architecture?' is centered within the circle.

What's software  
architecture?

*Software architecture is  
the set of **structures** needed to reason about a software system and  
the discipline of creating such structures and systems. - **wikipedia***

[https://en.wikipedia.org/wiki/Software\\_architecture](https://en.wikipedia.org/wiki/Software_architecture)

*The software architecture of a system represents the **design decisions** related to overall system **structure and behavior**- Carnegie Mellon University*

<https://www.sei.cmu.edu/our-work/software-architecture/>

*Architecture is about the **important stuff**. Whatever that is- **Ralph Johnson***

<https://martinfowler.com/architecture/>



# The JOOR challenges

# Global Presence

## North America

New York-HQ  
Philadelphia  
Los Angeles  
Florida (Remote)  
Texas (Remote)  
Colorado (Remote)  
Virginia (Remote)  
Alaska (Remote)

## South America

Peru (Remote)  
Uruguay (Remote)

## Europe

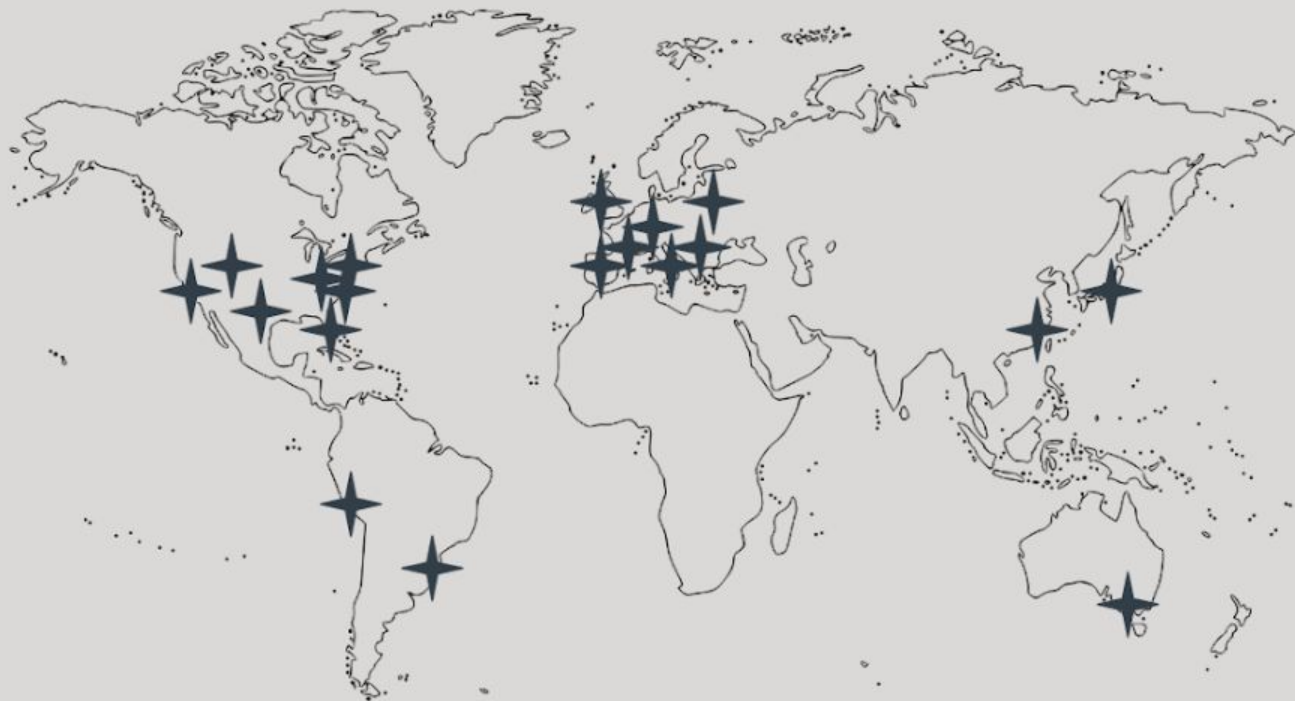
Paris  
Milan  
London  
Madrid  
Sweden (Remote)  
Berlin (Remote)  
Serbia (Remote)

## Asia

Tokyo  
Shanghai

## Australia

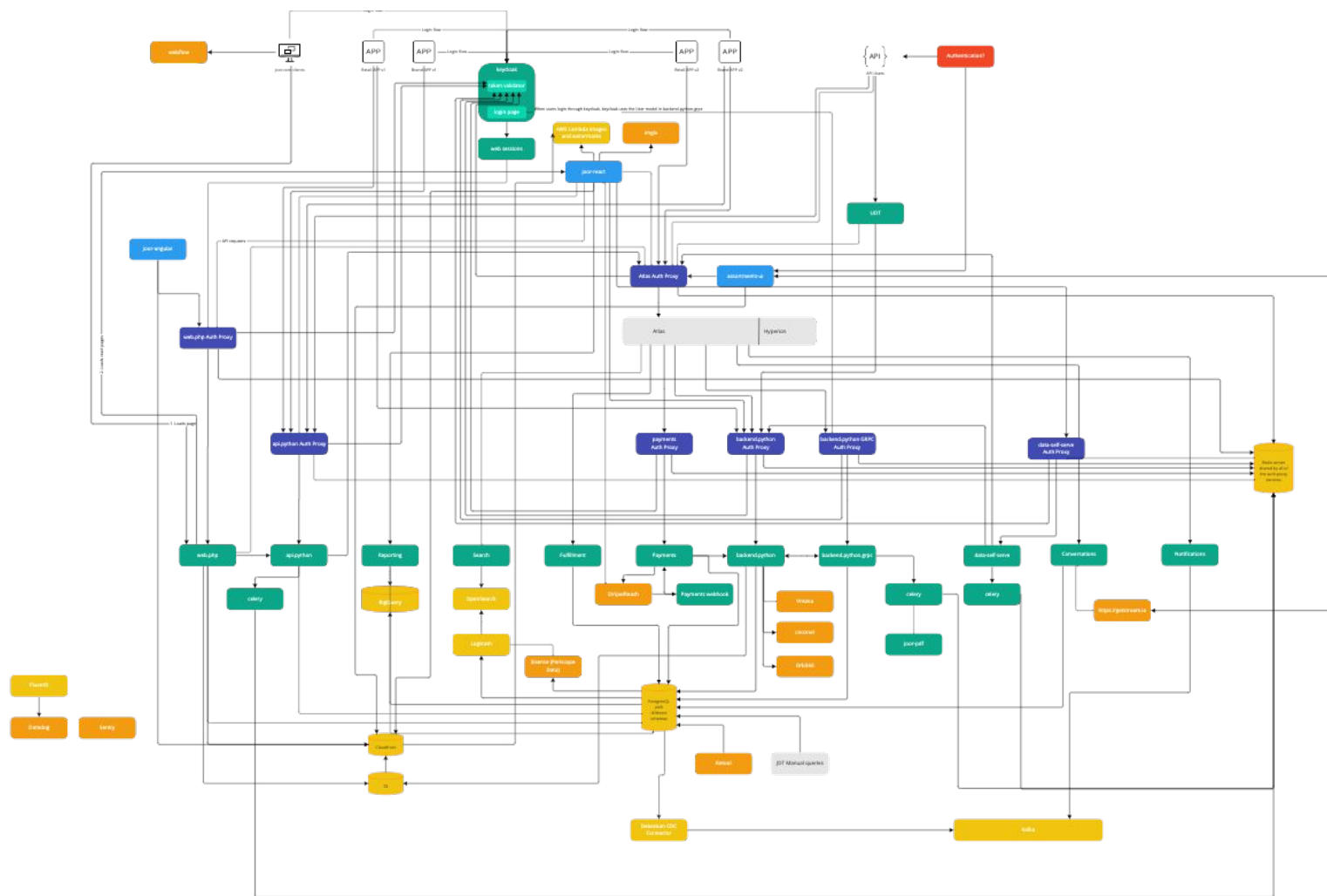
Melbourne





Do you like puzzles?

- Third party services
- Web
- Backend
- Frontend
- Other
- Auth Proxy
- What-You-Need?



If your code is **hard to change** is low quality



From people  
to  
code

*Any organization that designs a system will produce a **design whose structure** is a **copy of the organization's communication** structure. - Conway's law*

How do committees invent?

<http://www.melconway.com/Home/pdf/committees.pdf>

Melvin E. Conway, 1968

**Architecture** depends on  
**Team structures** which depend on  
**Collaboration flows** which depend on  
**Human experiences**



- 2002 Bachelor in CS
- 2005 Master in CS
- 2007 Started Phd ...never finished





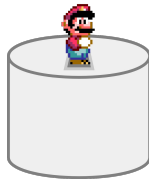




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IC

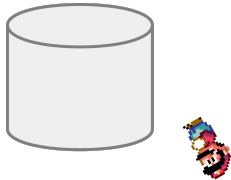
Manager



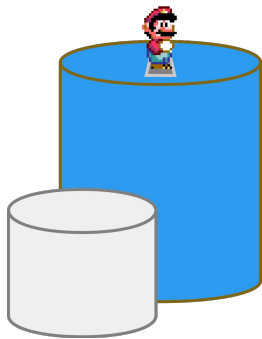
- **University of Oviedo**
- 2004, 1 year
- Data research
  - c#, dlls, sharepoint
  - Datamining
- **1 repo == 1 node**
- ❤️ English
- 😞 University dream



- **Capgemini**
- 2005, 3 days
- —
- ❤ Say NO

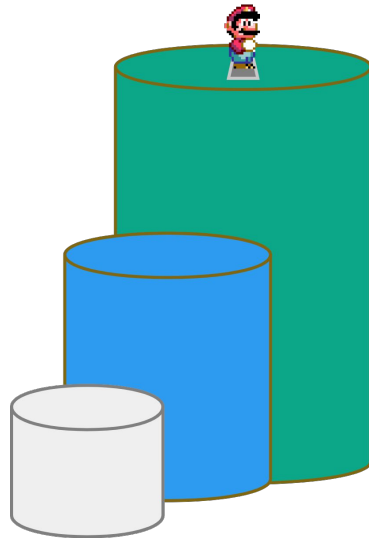


Capgemini 



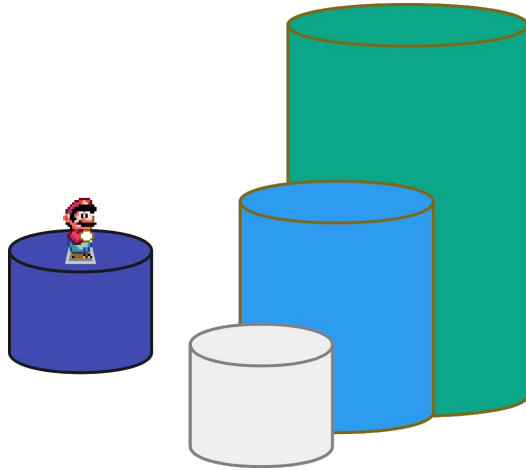
- **Neometrics**
- 2005, 2 years
- Consultant, PM
- Basic data stuff
  - Models, visuals
- Architecture
  - Perf, Patterns
- **1 project == 1 ad hoc solution**
- ❤️ Amazing people
- 🤔 Long hours
- 😞 Health

neometrics



- **IECISA**
- 2007, 4 years
- Manager (4 to 35 pax)
  - Biz & Sales
  - People
  - Talks
- **1 project == Vendor's book**
- ❤️ The big picture
- 🤔 People is hard
- 😞 Stay hands on
- 😞 Health

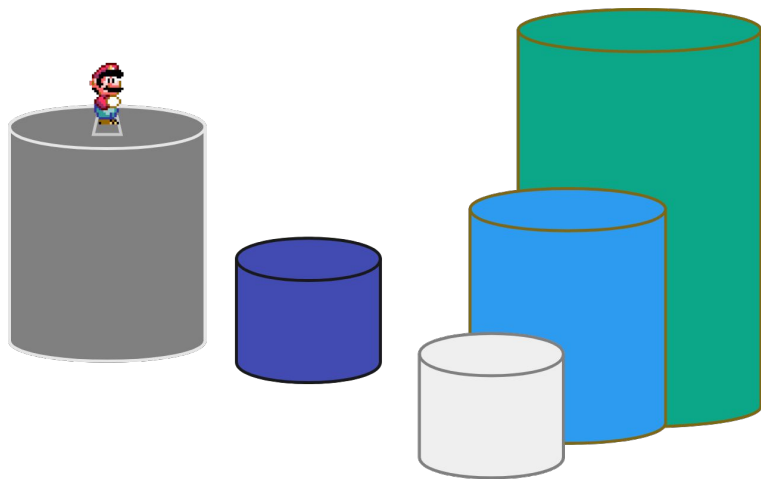
INFORMÁTICA  
*El Corte Inglés*



- **Nortia**
- 2011, 4 years
- Soft architect & prod
  - Intelligent POS
  - Data analysis
- **Mvc with fat models**
- ❤️ Small teams
- ❤️ Problem solving
- 🤔 Build & Reach

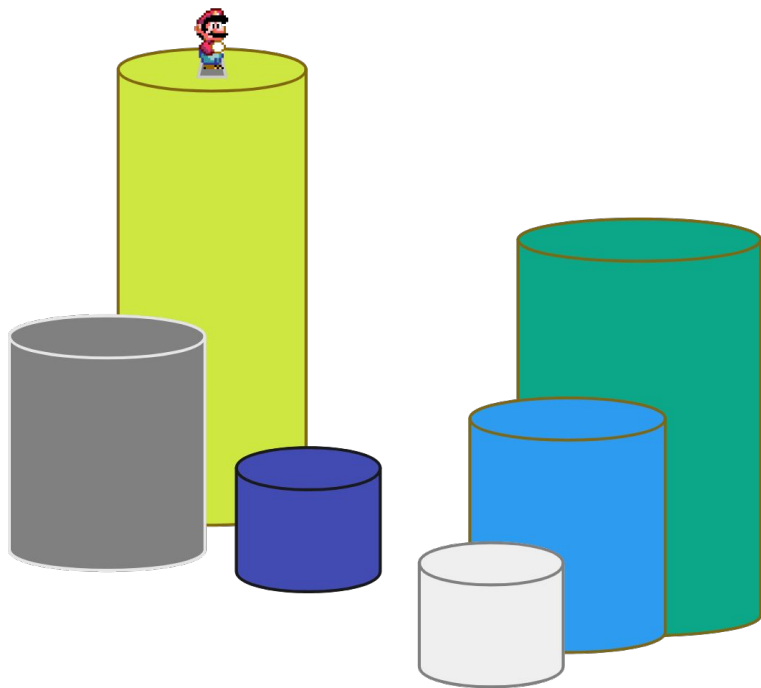






- **Freelance**
- 2014, 1 year
- Lots of coding
  - Mobile
  - Web
- ❤️ Purpose matters
- ❤️ Remote & Async
- 😞 Focus

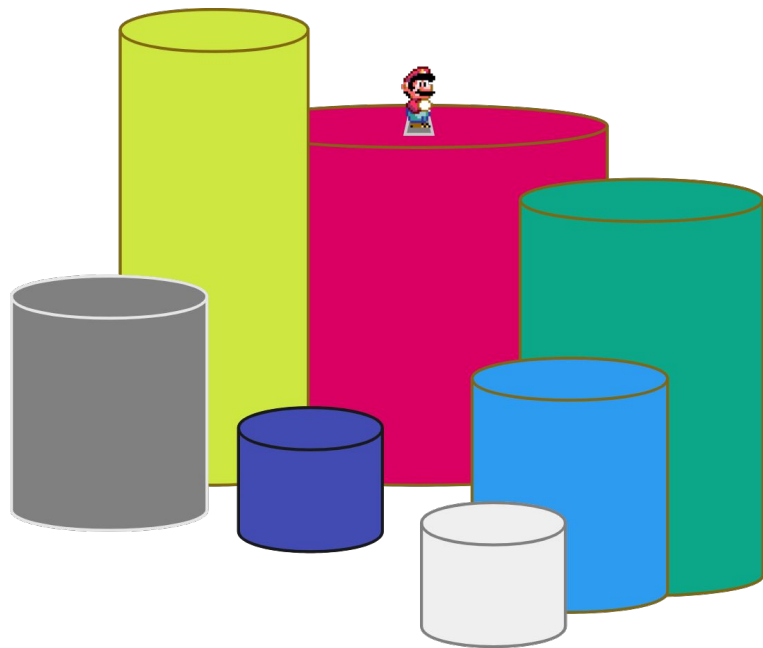




- **Zapiens**
- 2015, 5 years
- Founder, CTO
  - From 0 to 40p
  - Everything and +
  - Tons visibility
- **MVC to Citadel\***
- ❤️ Dream big
- ❤️ Scarcity, focus
- 😞 Alignment

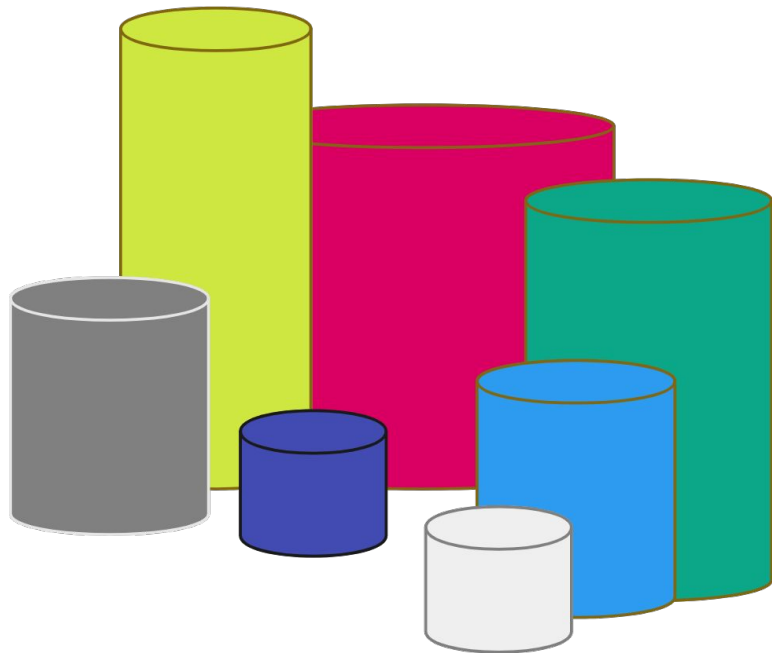


\* <https://m.signalnoise.com/the-majestic-monolith-can-become-the-citadel/>



- **ClickDimensions**
- 2 years
- Head of Analytics
  - Data in bulk
  - Team Mngt
- **Conway's law at its peak**
- ❤️ US + Remote
- ❤️ Create a vision
- 🤔 Rhythm
- 🙄 Listen more





- **JOOR**
- Apr'22
- Director of Engineering

- **Microservices are hard**
- ❤️ People
- ❤️ Ambition
- ❤️ Freedom
- 🤔 Picking battles

JOOR

- ❤️ English
- ❤️ Say NO
- ❤️ Amazing people
- ❤️ Small teams

- 🤔 Long hours
- 😞 Health
- 😞 Alignment
- 🤔 Picking battles



# Architecture myths

Monoliths bad and microservices good but really?

# Architecture goals

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- Easy to **change**
- Easy to **test**
- Easy to **deploy**



## 1990's

Spaghetti  
Copy&Paste



## 2000's

Lasagna  
MVC Monoliths



## 2010's

Ravioli  
Microservices



## 2020's

[insert 🍳👨🍳 here]  
Serverless

Let's draw!

```

1 // Executes in O(n) where n == number of dots.
2 var sb = new StringBuilder(10);
3 for (int i=0; i < 10; i++)
4 {
5     double dotThreshold = i * 0.1d;
6
7     if (percentage > dotThreshold)
8         sb.Append("●");
9     else
10        sb.Append("○");
11 }
12 return sb.ToString();

```

```

StringBuilder dotbuilder = new StringBuilder(10);
int dotcount = (int)(percentage * 10);
for (i = 0; i < dotcount; i++) {
    dotbuilder.Append("●");
}
for (i = 0; i < 10 - dotcount; i++) {
    dotbuilder.Append("○");
}
return dotbuilder.ToString();

```

```

std::string progress(float value) {
    size_t count = value > 0 ? (value - 1e-5) * 10 + 1 : 0;
    return std::string(10, '.').replace(0, count, std::string(count, '#'));
}

```

```

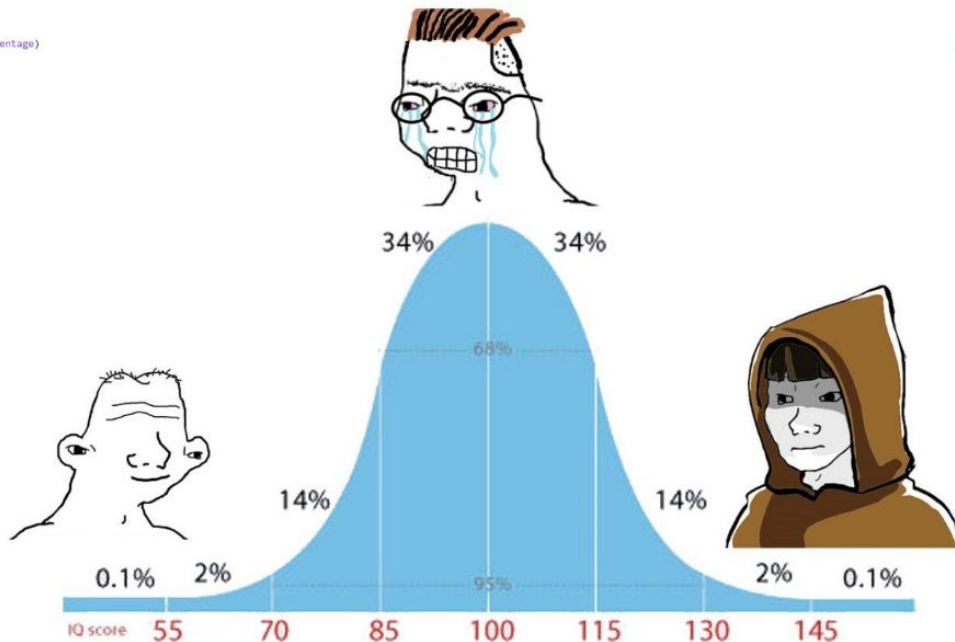
private static string GetPercentageRounds(double percentage)
{
    if (percentage == 0)
        return "○○○○○○○○○○";
    if (percentage > 0.0 && percentage <= 0.1)
        return "●○○○○○○○○";
    if (percentage > 0.1 && percentage <= 0.2)
        return "●●○○○○○○";
    if (percentage > 0.2 && percentage <= 0.3)
        return "●●●○○○○";
    if (percentage > 0.3 && percentage <= 0.4)
        return "●●●●○○";
    if (percentage > 0.4 && percentage <= 0.5)
        return "●●●●●○";
    if (percentage > 0.5 && percentage <= 0.6)
        return "●●●●●●○";
    if (percentage > 0.6 && percentage <= 0.7)
        return "●●●●●●●○";
    if (percentage > 0.7 && percentage <= 0.8)
        return "●●●●●●●●○";
    if (percentage > 0.8 && percentage <= 0.9)
        return "●●●●●●●●●○";
    return "●●●●●●●●●●";
}

```

```

private static string GetPercentageRounds(double percentage)
{
    if (percentage == 0)
        return "○○○○○○○○○○";
    if (percentage > 0.0 && percentage <= 0.1)
        return "●○○○○○○○○";
    if (percentage > 0.1 && percentage <= 0.2)
        return "●●○○○○○○";
    if (percentage > 0.2 && percentage <= 0.3)
        return "●●●○○○○";
    if (percentage > 0.3 && percentage <= 0.4)
        return "●●●●○○";
    if (percentage > 0.4 && percentage <= 0.5)
        return "●●●●●○";
    if (percentage > 0.5 && percentage <= 0.6)
        return "●●●●●●○";
    if (percentage > 0.6 && percentage <= 0.7)
        return "●●●●●●●○";
    if (percentage > 0.7 && percentage <= 0.8)
        return "●●●●●●●●○";
    if (percentage > 0.8 && percentage <= 0.9)
        return "●●●●●●●●●○";
    return "●●●●●●●●●●";
}

```



# Principles over architecture

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- Understand business problem
- Readability
- Decoupling domains
- Single responsibility principle
- TDD



# The JOOR way



# Summer of 22

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Last summer we ran a shorter analysis project to reduce risks by :

1. Analyzing the **current status** of our domains
2. Proposing of a final **technical solution**
3. Defining a **path** to get there

Today we got a dedicated team to **reduce complexity** of our system

# Conclusions

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- Your system will have an **architecture** whether you plan it or not
- The **people** and the structure of the **teams** will affect your solution
- Architecture  $\neq$  Implementation details, **defer decisions**, YAGNI
- **Refactoring** >>> Greenfield projects for learning



A portrait of actor Tom Hanks. He is wearing a dark blue suit jacket, a light blue and white striped dress shirt, and a dark tie with a subtle floral pattern. He has his signature curly brown hair and is looking slightly off-camera to the right with a gentle expression. The background is a soft-focus scene of trees with vibrant autumn foliage in shades of orange, yellow, and brown. The lighting is warm and natural, suggesting an outdoor setting during the day.

**T. HANKS**