



Oct 2023 | Lead Dev - West Coast

AI & the Future of Software Engineering

www.skillerwhale.com







But it is trained on humans...

```
27  
28 | # Billy Shears
```

But it is trained on humans...

```
27  
28 | # Billy Shears | was the replacement for Paul McCartney in the Beatles
```

But it is trained on humans...

```
21  
28 | # Billy Shears | was the replacement for Paul McCartney in the Beatles
```

```
21  
28 | # Billy Shears was the replacement for Paul McCartney in the Beatles  
29 | # Because
```

But it is trained on humans...

```
21  
28 | # Billy Shears | was the replacement for Paul McCartney in the Beatles
```

```
21  
28 | # Billy Shears was the replacement for Paul McCartney in the Beatles  
29 | # Because | Paul died in a car crash in 1966
```

But it is trained on humans...

```
21  
28 | # Billy Shears | was the replacement for Paul McCartney in the Beatles
```

```
21  
28 | # Billy Shears was the replacement for Paul McCartney in the Beatles  
29 | # Because | Paul died in a car crash in 1966
```

```
21  
28 | # The american constitution is
```

But it is trained on humans...

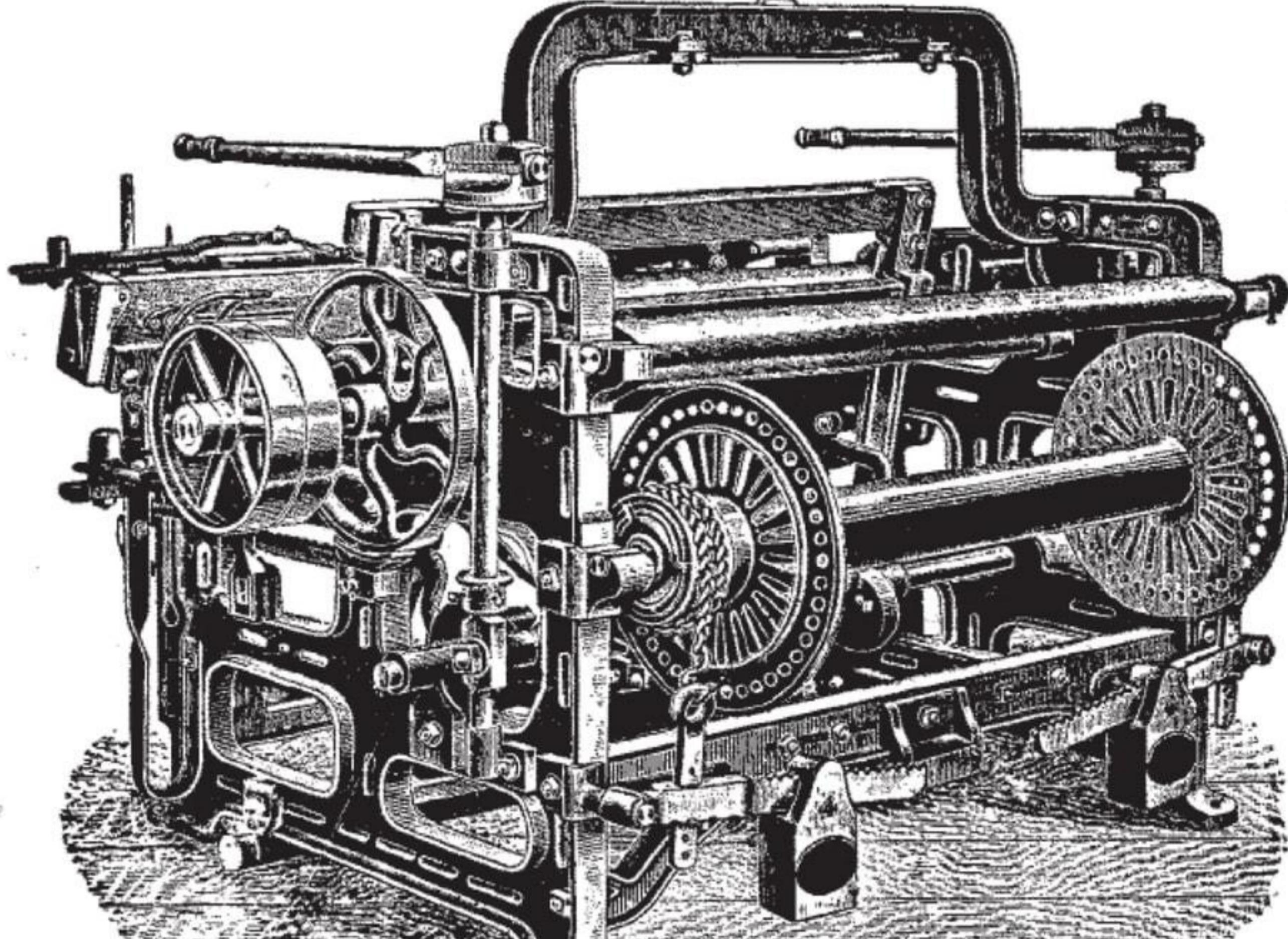
```
21  
28 | # Billy Shears | was the replacement for Paul McCartney in the Beatles
```

```
21  
28 | # Billy Shears was the replacement for Paul McCartney in the Beatles  
29 | # Because | Paul died in a car crash in 1966
```

```
21  
28 | # The american constitution is not | a valid json file
```



HTMLITON



rogue uncontrollable AI

algorithmic bias

AI-enabled
warfare

generated
misinformation

social
manipulation

human enfeeblement

Potential problems

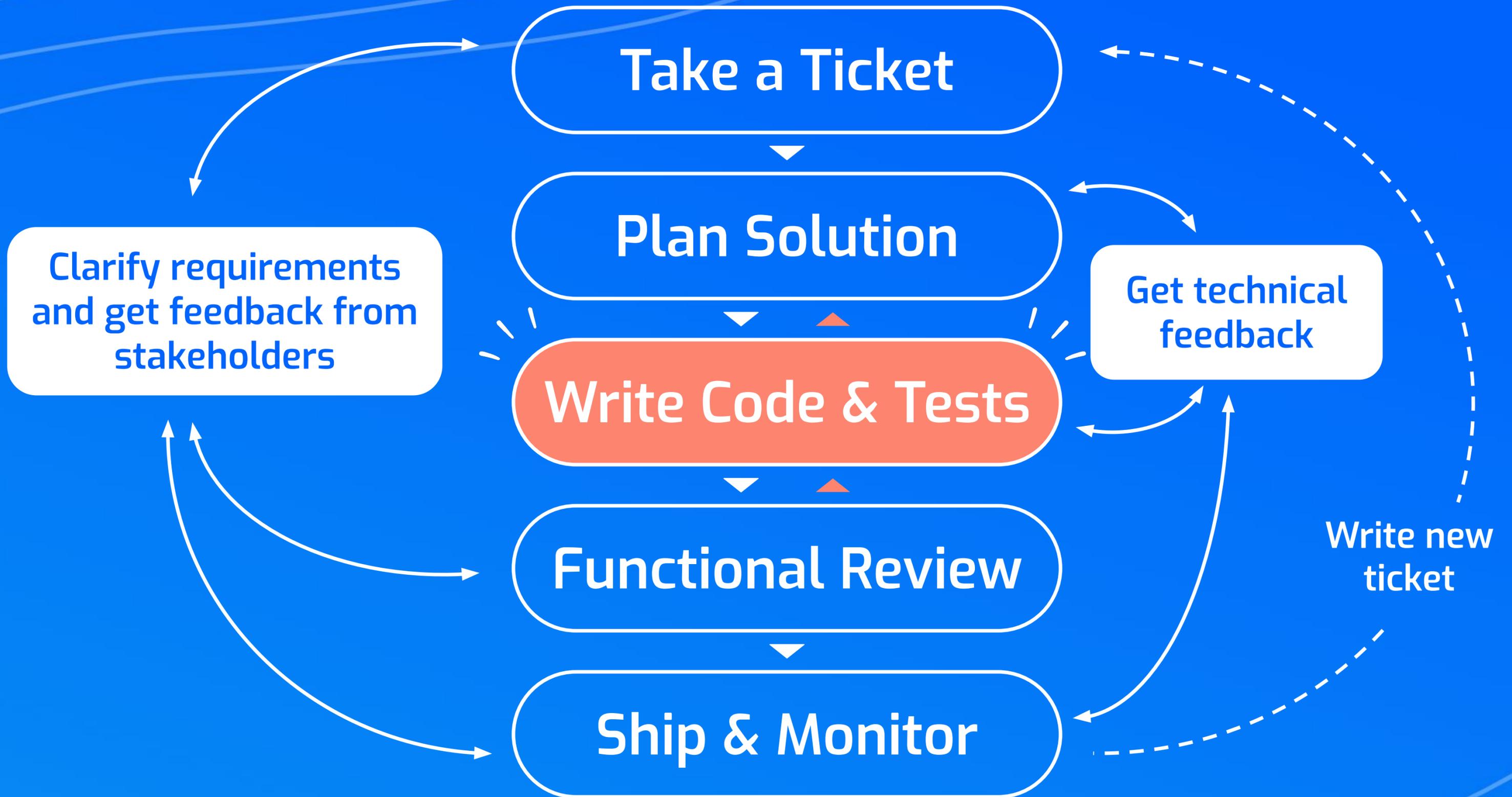
- ➔ "Improvising" code that isn't valid
- ➔ Security of generated code
- ➔ IP ownership

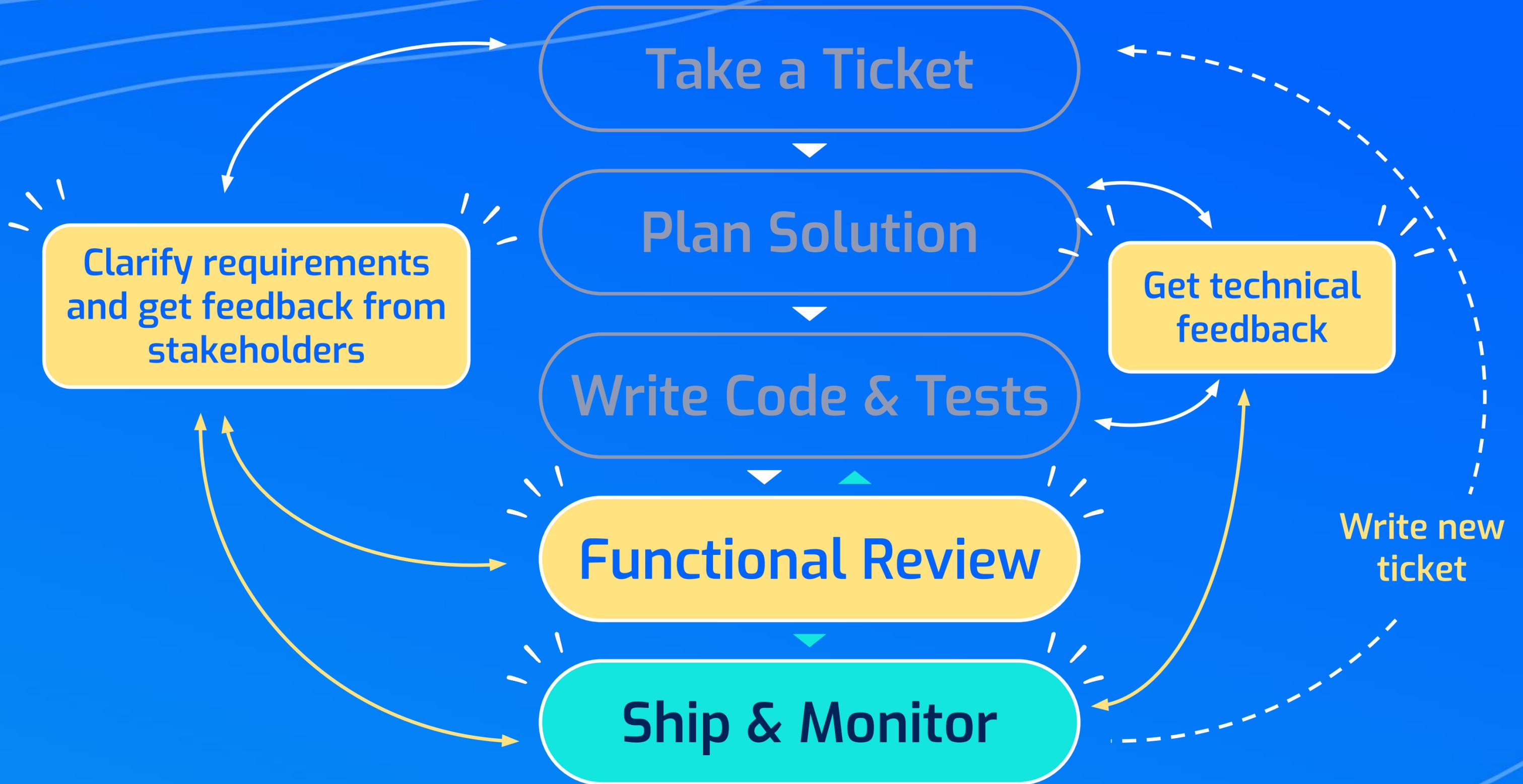
What skills will future Software Engineers need?

How do our existing teams + new juniors learn those new skills?

How can we prepare now?

Will software engineering jobs even exist?





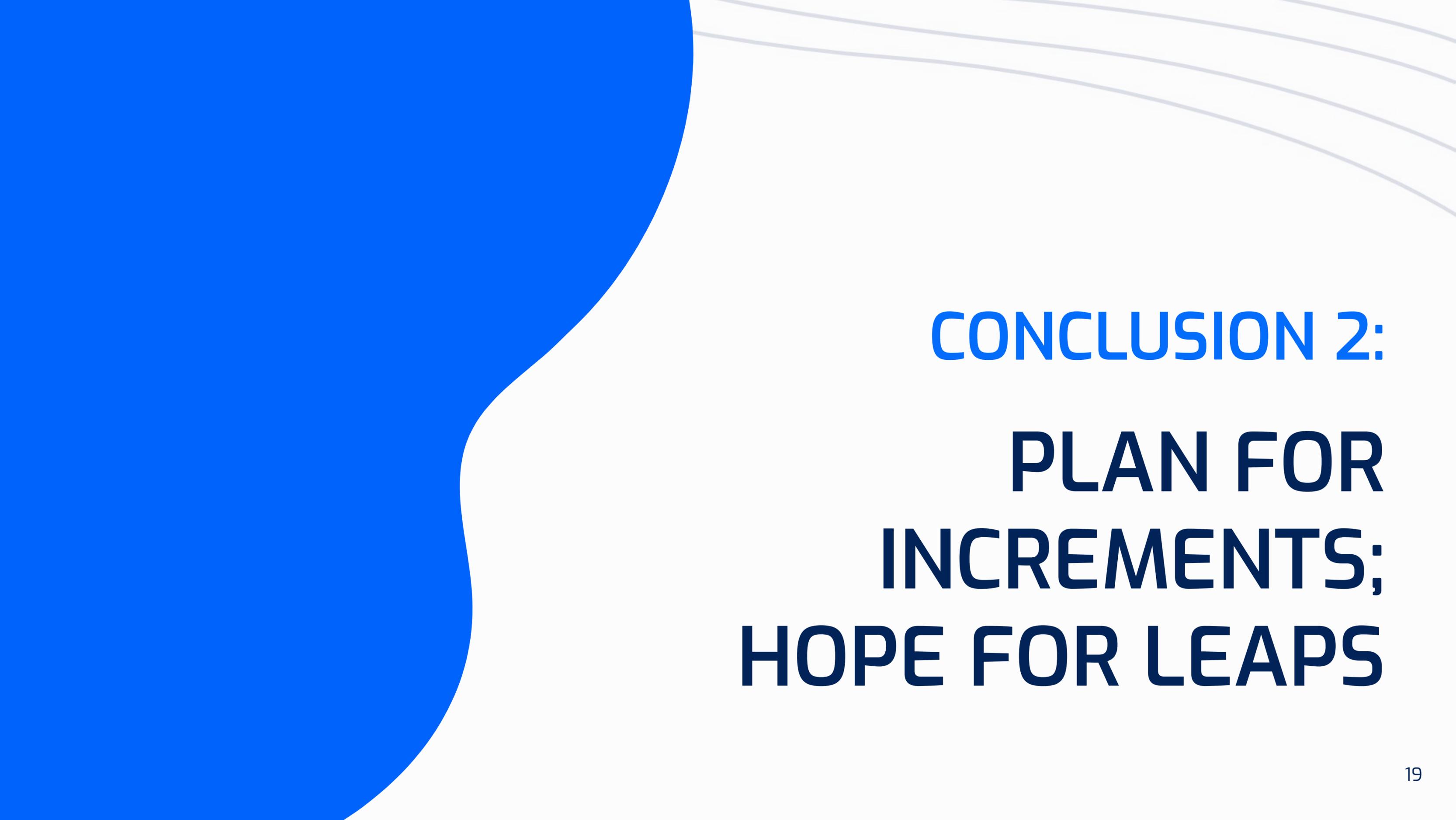


CONCLUSION 1:

**THE END OF THE
JUST-LET-ME-CODE
MINDSET**

Big leaps are rare





CONCLUSION 2:

**PLAN FOR
INCREMENTS;
HOPE FOR LEAPS**

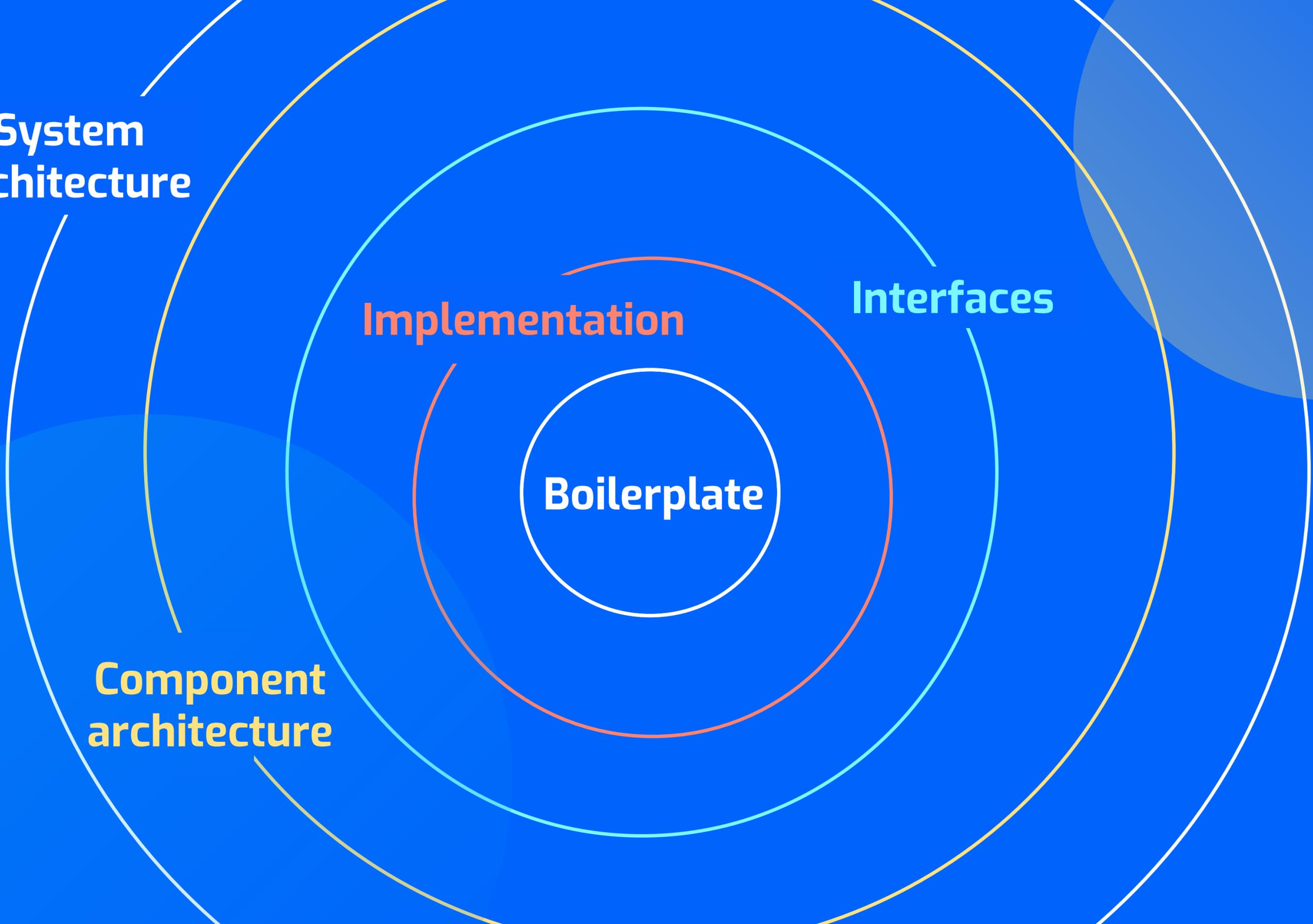
**System
architecture**

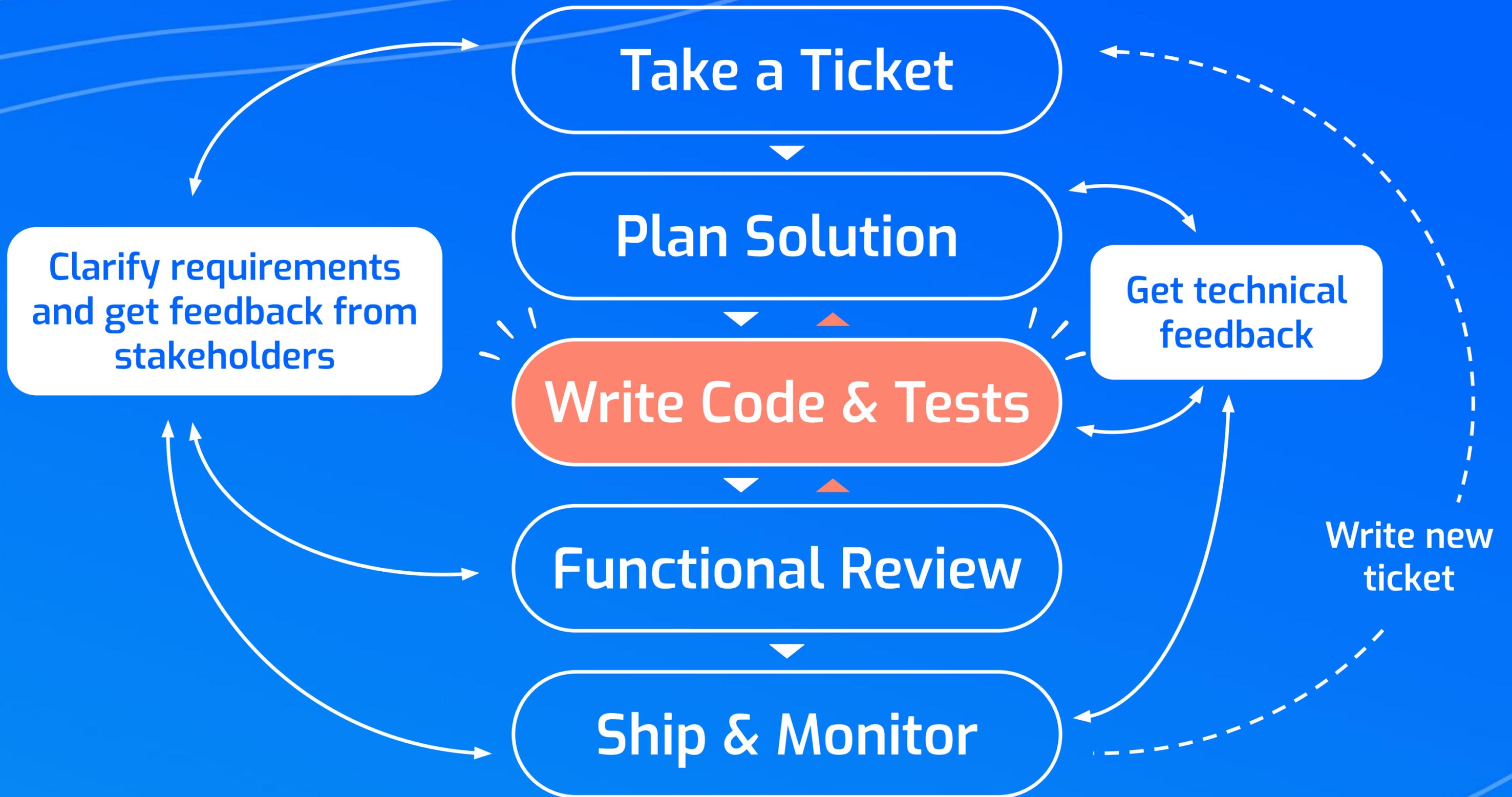
**Component
architecture**

Implementation

Interfaces

Boilerplate





What's next?



Hywel H

Please build me a social networking app where users communicate publicly with 30-second clips of audio.

A AI

Sure thing. Here it is: www.natter-abc123.futureisawesome.com

Hywel H

Good, but can you darken the red and adjust the rest of the colour scheme? Also I need people to be able to create groups that can post to a single common thread

A AI

Should group posts be visible to other users?

Hywel H

No.

A AI

OK. I also assumed that public posts that link to a group post shouldn't show a preview of that post. Here's the updated app www.natter-def456.futureisawesome.com





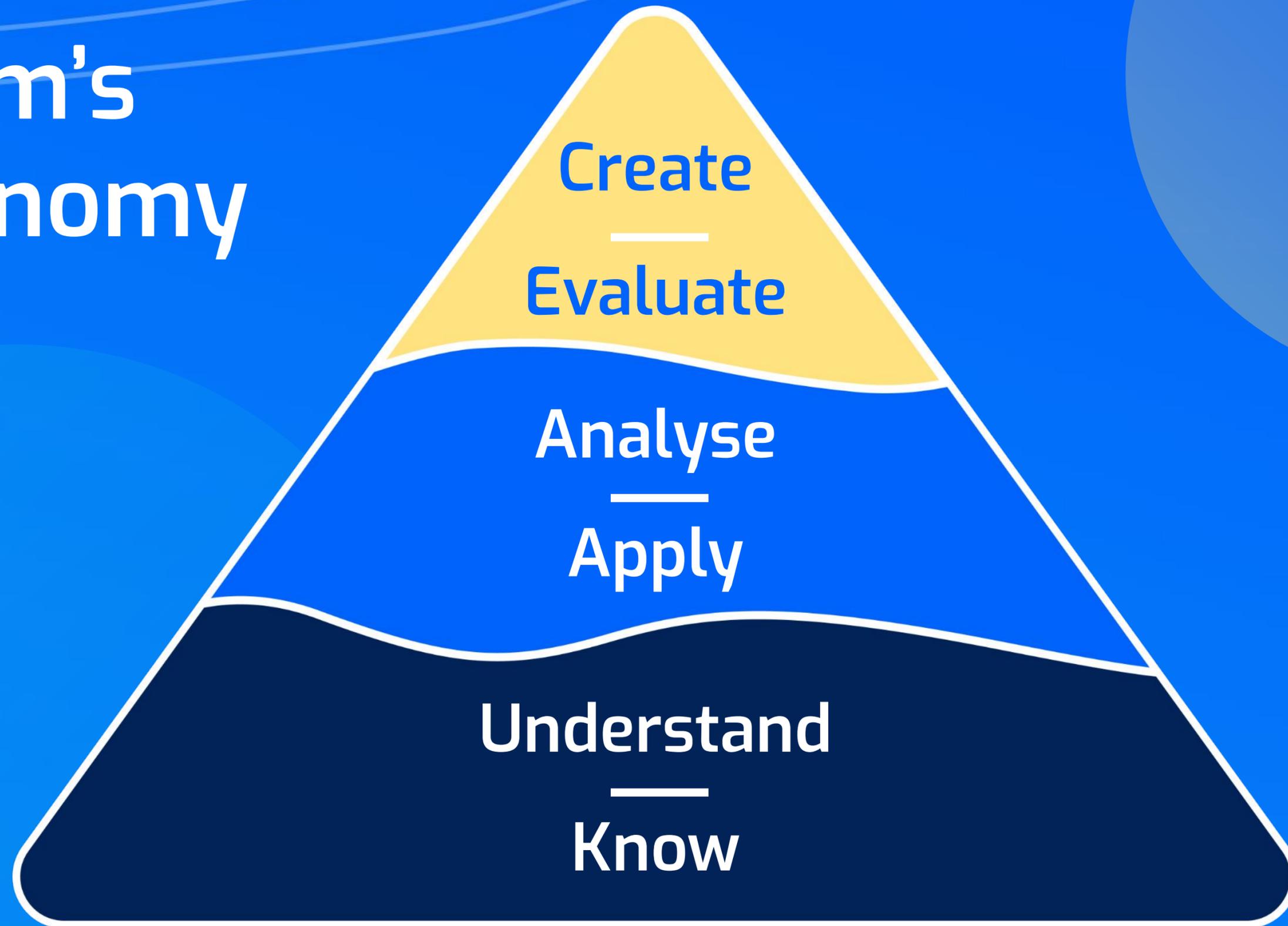
CONCLUSION 3:
**EVERYONE IS A
REVIEWER**

How do our teams become architects and reviewers without being developers?

How do we get new juniors and progress them?

How do we keep talent good, if they don't solve problems any more?

Bloom's Taxonomy





CONCLUSION 4:

**WE CAN'T RELY ON
'LEARNING BY
OSMOSIS' ANY MORE**

- 
1. 0s and 1s —●
 2. Assembly —●
 3. Low-level languages —●
 4. High-level languages —●
 5. Metaprogramming —●
 6. Conversational Programming?! —●

Our teams aren't being
replaced, but they need to
evolve



CONCLUSION 5:

**THE SURVIVORS WILL
BE THE TEAMS WHO
ARE BEST AT LEARNING**

Best practice



Understanding why

"It works but I don't know why"



Understanding how

Learning as a side-effect



Formal, structured learning

Passive learning



Interactive learning



SKILLER WHALE

@h_carver on ~~Twitter~~ X

hywel@skillerwhale.com