

302: Advanced Debugging

Introduction

Hello!

- ⚙ Richard Turton
- ⚙ @richturton
- ⚙ jrturton on Stack Overflow

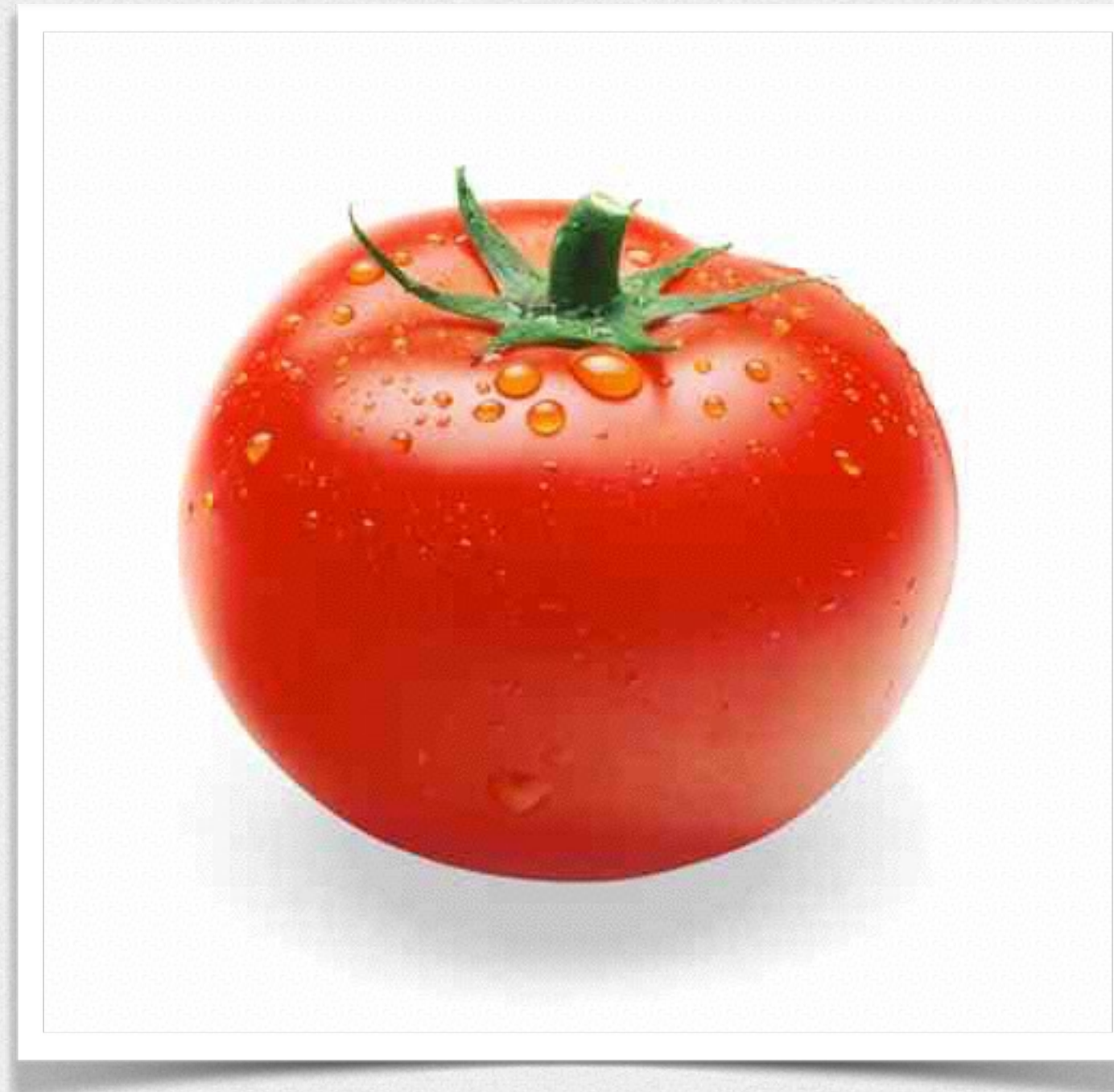


Hello!

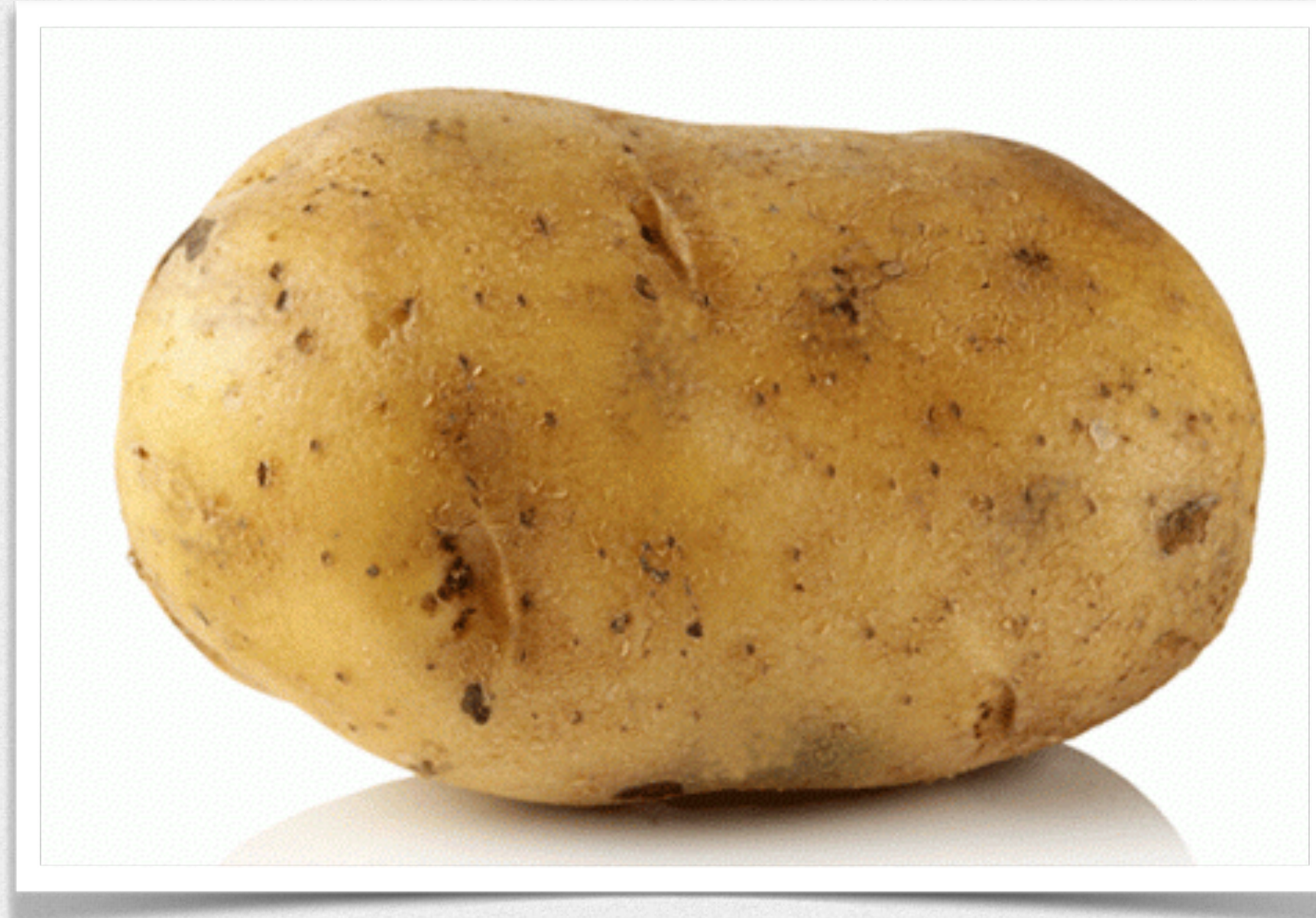
AUDIENCE PARTICIPATION!



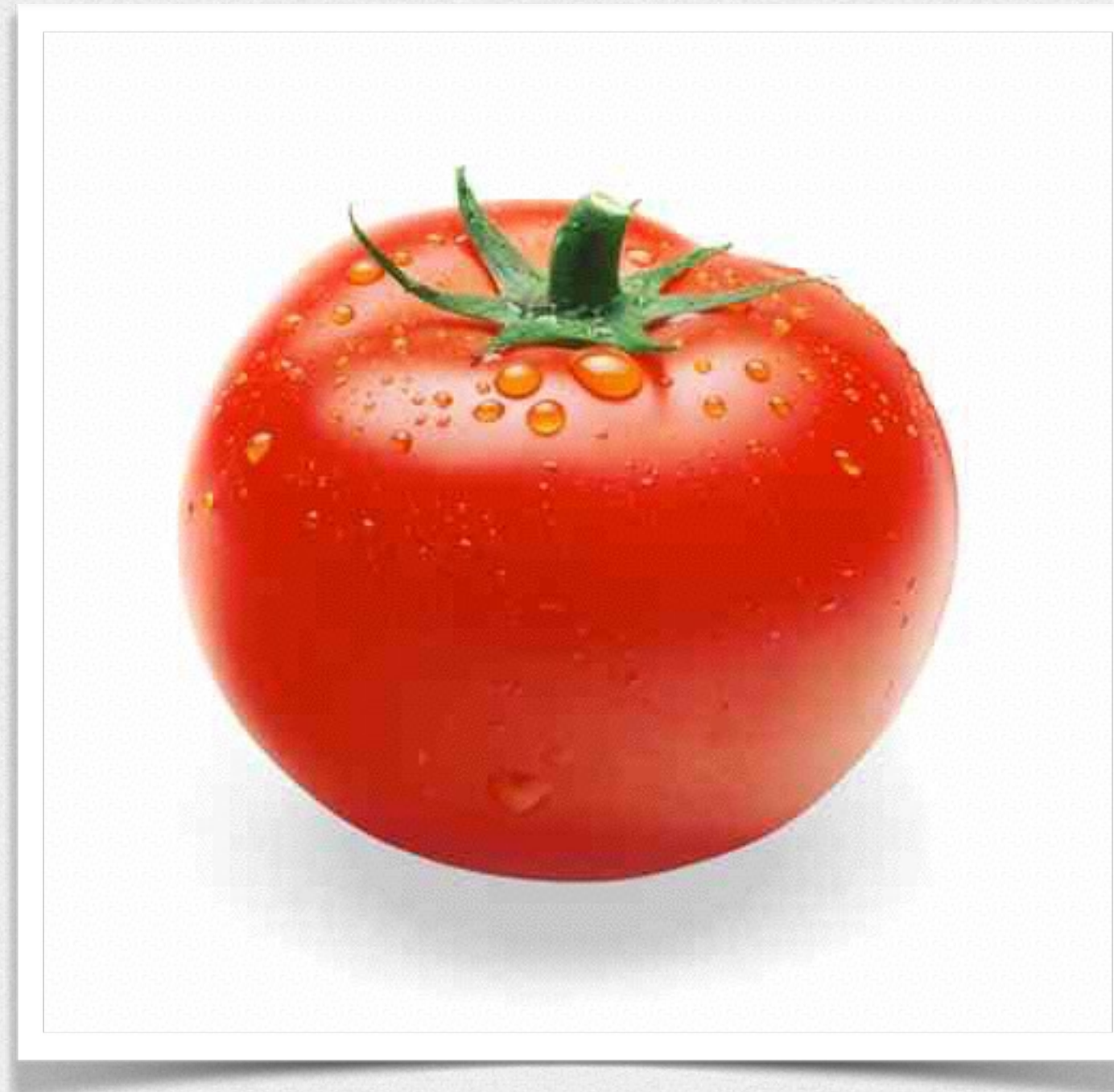
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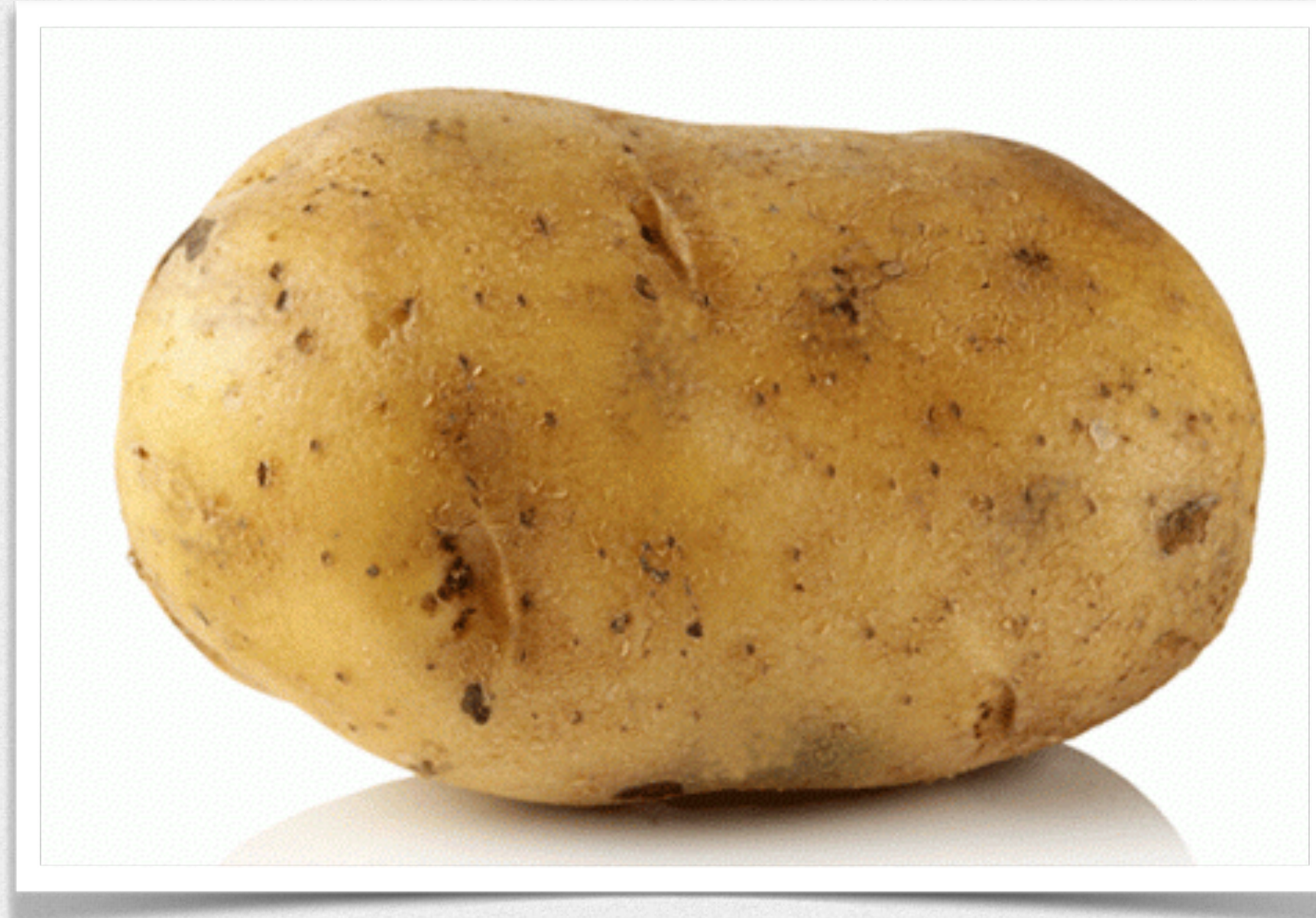
AUDIENCE PARTICIPATION



AUDIENCE PARTICIPATION



AUDIENCE PARTICIPATION



AUDIENCE PARTICIPATION



AUDIENCE PARTICIPATION

```
28         colorBar.backgroundColor = newValue
29     } else {
30         let colorBar = UIView(frame: CGRect(x: 0.0, y:
           height: 4.0))
31         colorBar.autoresizingMask = .FlexibleBottomMargin
32         colorBar.backgroundColor = newValue
33         self.insertSubview(colorBar, aboveSubview: self)
34     }
35 }

(lldb) po tayto
error: <EXPR>:1:1: error: use of unresolved identifier 'tayto'
tayto
^
(lldb)
```


Advanced Debugging

- ⚙ Easy crashes are easy
 - ⚙ Find and fix yourself
- ⚙ Weird stuff reported by users or QA is hard
 - ⚙ You've never seen it
 - ⚙ Can't remember how it works
 - ⚙ Hard to reproduce
- ⚙ Fun?



What you'll learn

- ⚙️ My process and mindset for fixing bugs
- ⚙️ A few tips and techniques
 - ⚙️ Tactical use of breakpoints
 - ⚙️ Breakpoint actions
 - ⚙️ Instruments



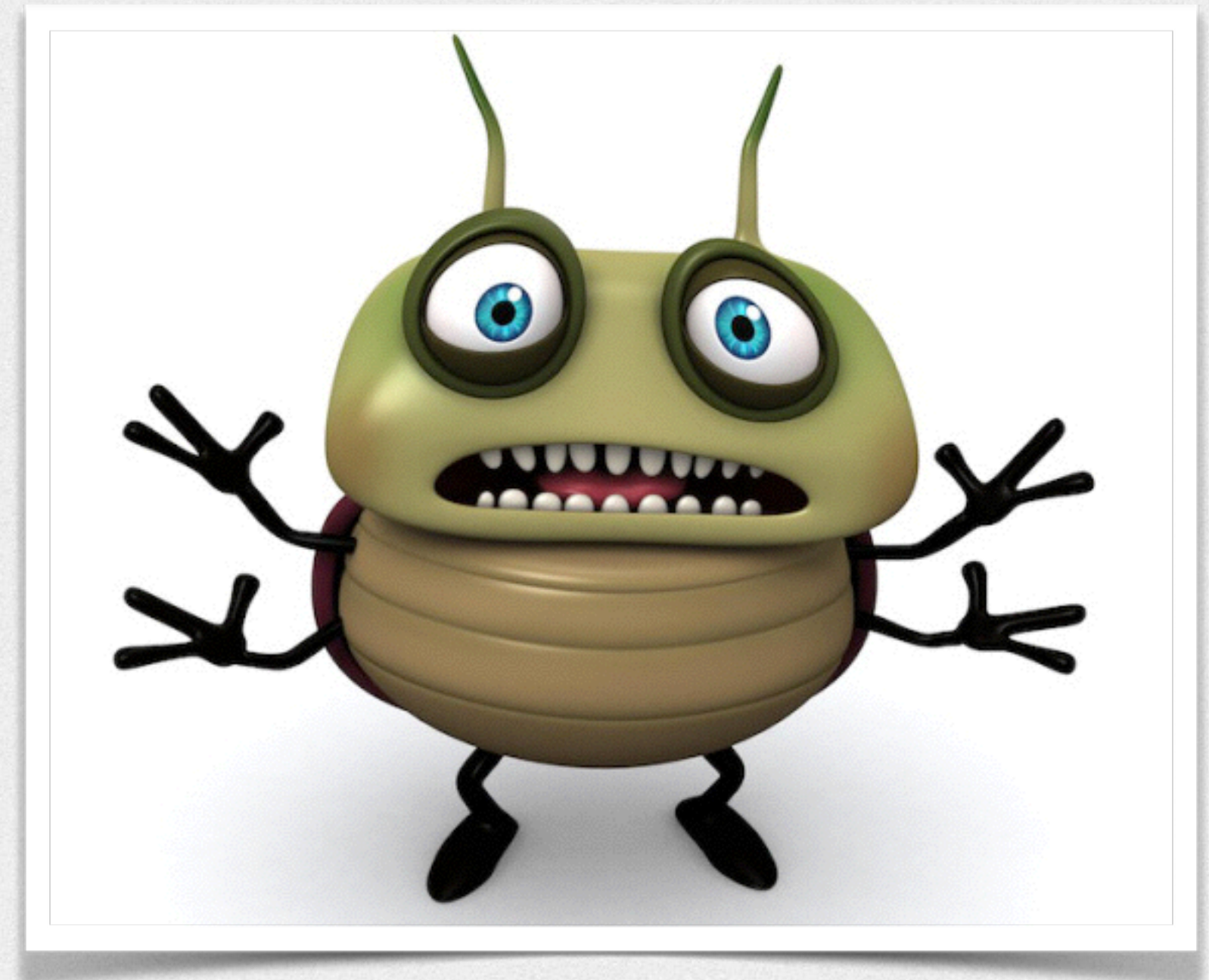
Sample project

- ⚙ Simple tableview, fetched results controller, core data
- ⚙ In-memory store
- ⚙ Deliberate bugs
- ⚙ Accidental bugs?



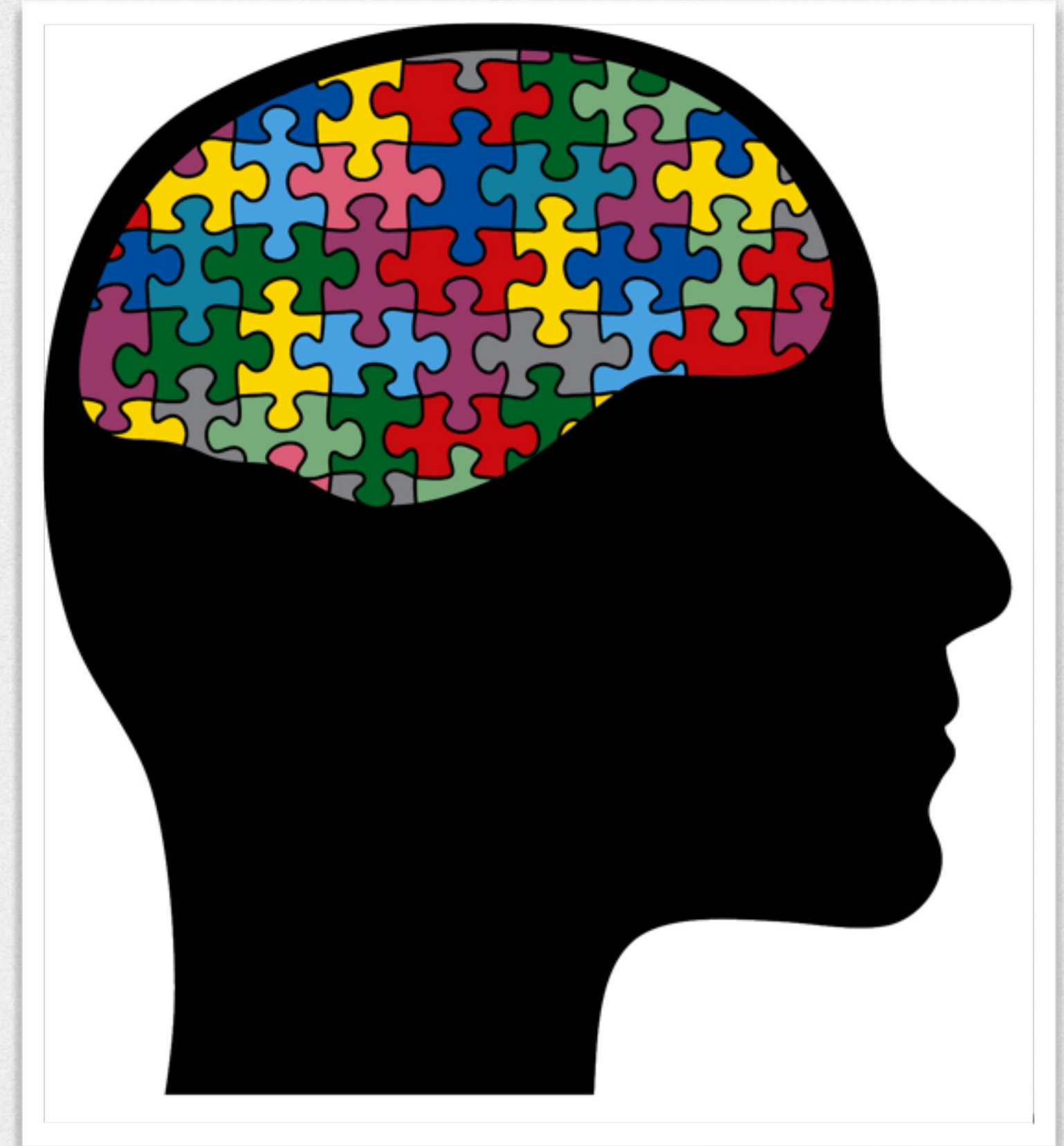
My debugging process

1. Reproduction
2. Location
3. Root cause
4. Fix
5. Verify



My debugging mindset

- ⚙️ Don't take it personally
- ⚙️ Don't add "debugging" code
- ⚙️ Don't get sidetracked
- ⚙️ One bug fix - one commit



Advanced Debugging

Demonstration

Advanced Debugging

Lab

Advanced Debugging

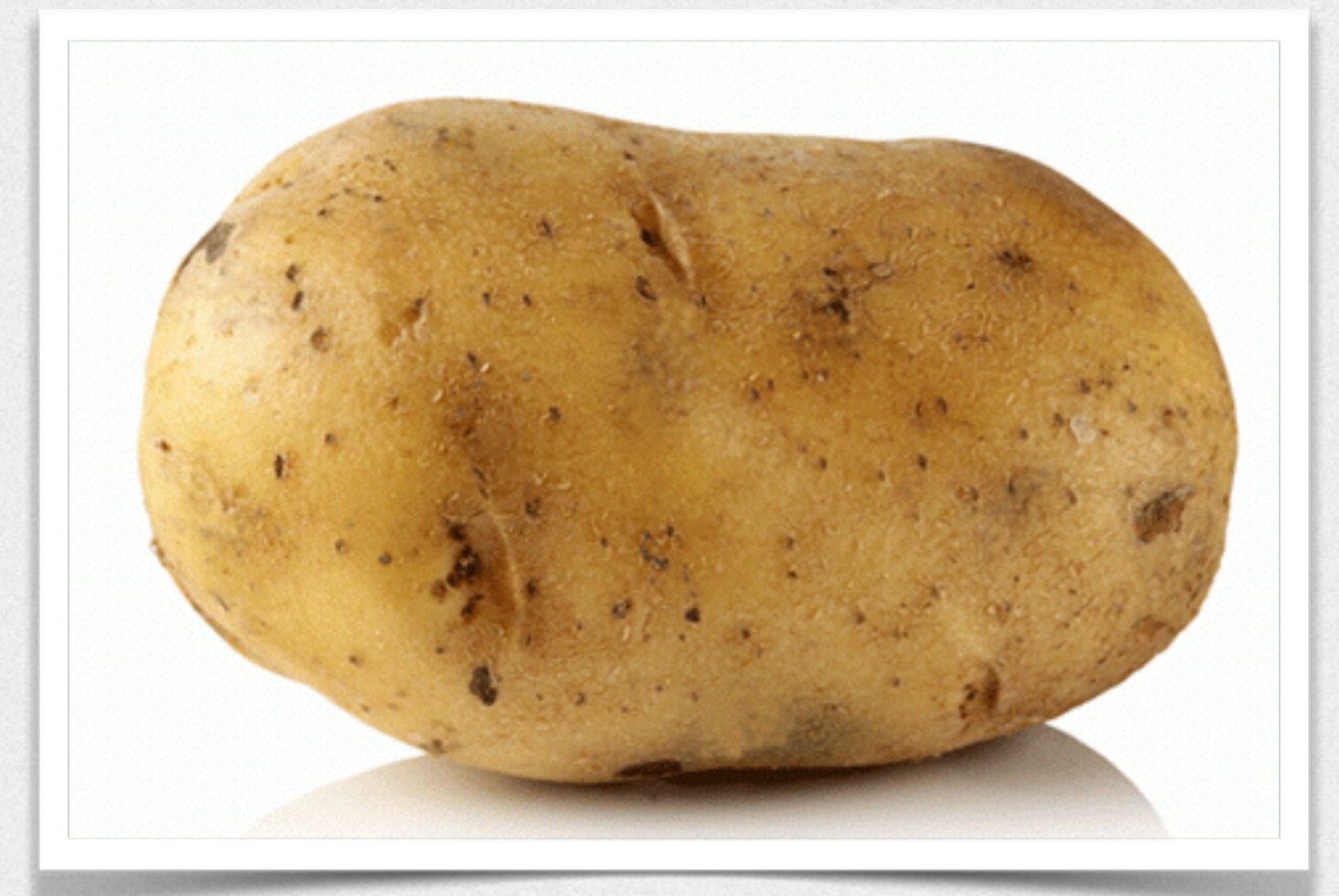
Challenge

Advanced Debugging

Conclusion

What have you learned?

- ⚙️ Debugging is fun!
- ⚙️ Follow the process:
 - ⚙️ Reproduction, Location, Root Cause, Fix, Verify
- ⚙️ Keep focus
- ⚙️ Potatoes are always called potatoes



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