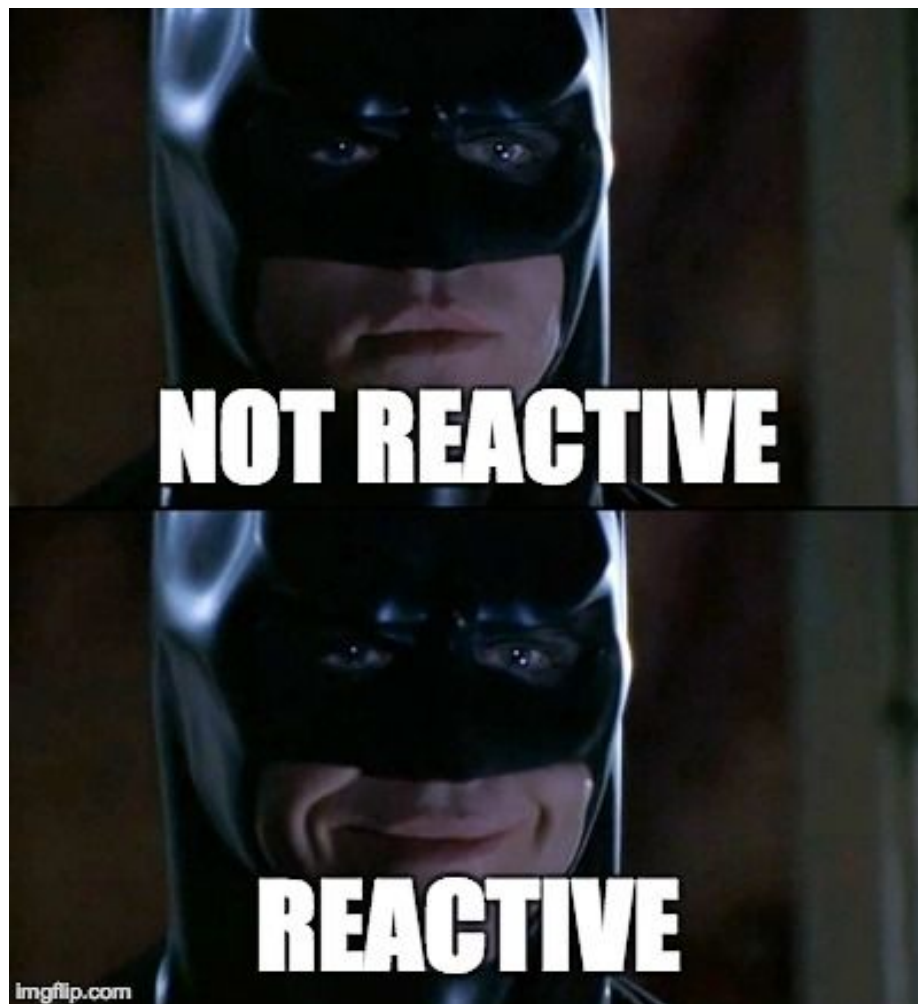


A large, stylized pink fish logo is centered in the background. The fish is facing right and has a white eye. Its body is composed of several overlapping, curved segments in shades of pink and purple, giving it a dynamic, swirling appearance.

# RxSwift

Introduction to reactive programming



**NOT REACTIVE**

**REACTIVE**

# Imperative programming

- Saved state
- Order of execution
- Side effects

In computing, reactive programming is a programming paradigm oriented around data flows and the propagation of change.

*Wikipedia*

Reactive programming is programming with  
asynchronous data streams

# Reactive programming

- Asynchronous
- No saved state
- Functional
- Responsive

# ReactiveX

An API for asynchronous programming with observable streams.

- Microsoft (Rx.NET) - 2009
- Many languages
- RxSwift - 2015

# Rx components

- Observable
- Observers
- Schedulers



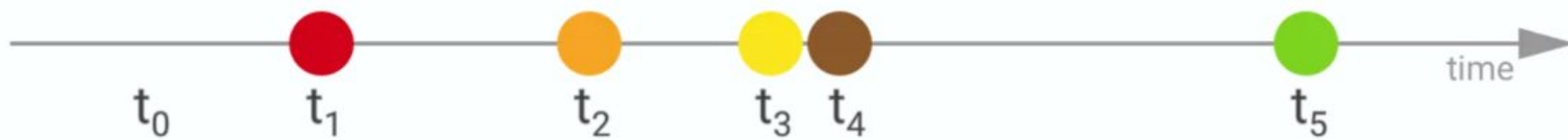
**EVERYTHING**



**CAN BE A SEQUENCE**



*Array – elements in time*



*Observable is an array with time dimension*

# Observables

Next

Completed

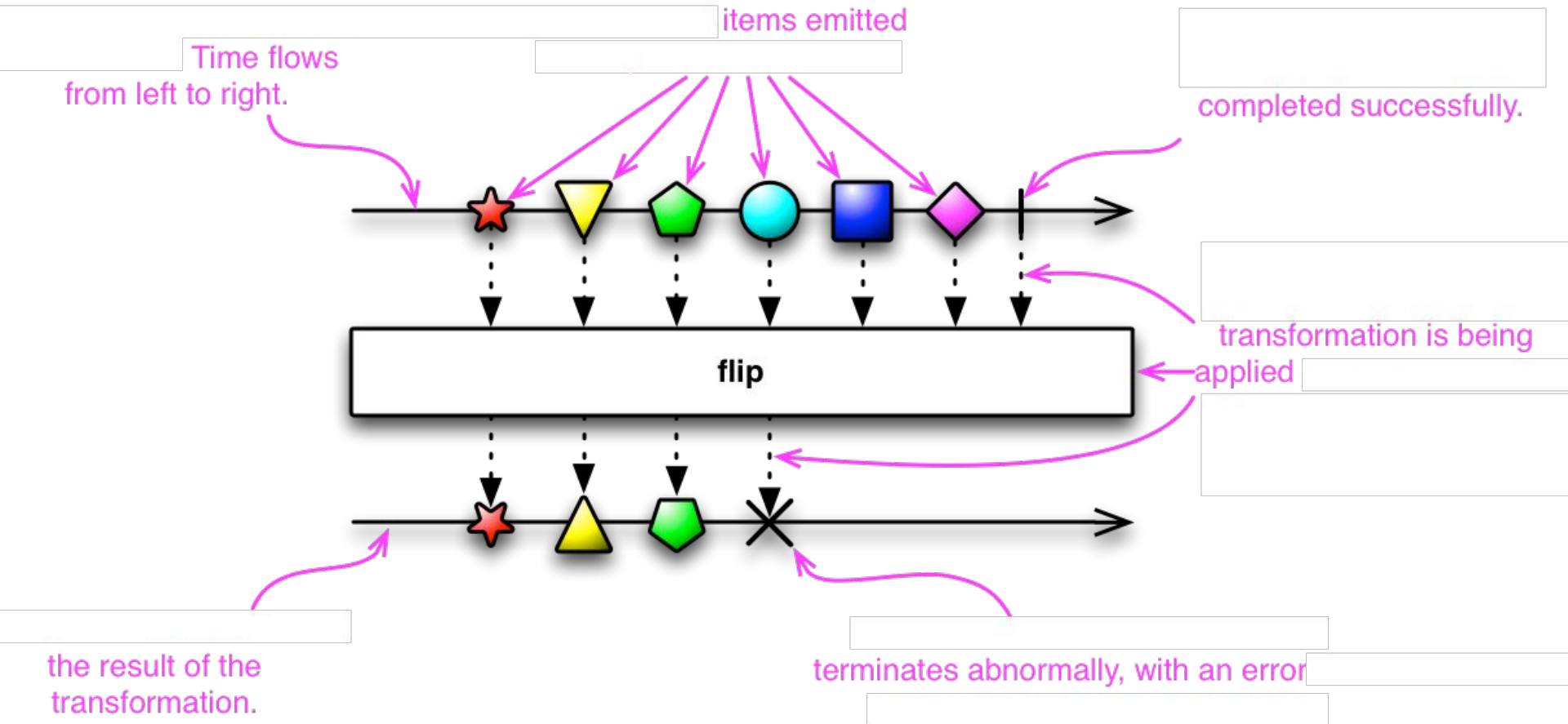
Error

# Operators

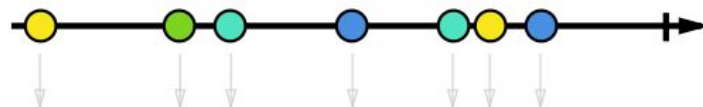
Filtering

Transforming

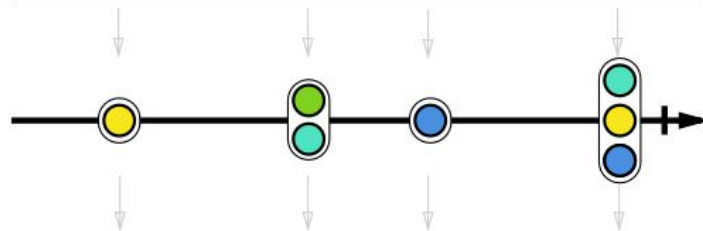
Combining



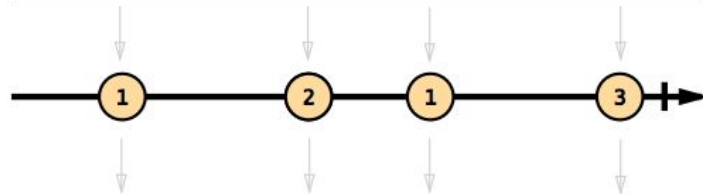
*Click stream*



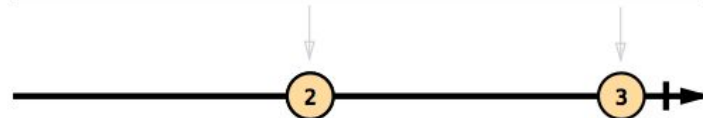
`buffer(clickStream.throttle(250ms))`



`map('get length of list')`



`filter(x >= 2)`



*Multiple clicks stream*

RxMarbles



**YEAH, IF YOU COULD JUST SHOW ME  
SOME CODE**



**THAT'D BE GREAT**

[memegenerator.net](http://memegenerator.net)

# UI bindings

RxCocoa

Next Up

David G.

Mary W.

Robbie J.

Sarah W.

Brandon J.

Robert B.

Charles M.

Daniel W.

Paul J.

Hi!

Qminder

# Rx extensions

*Almost for everything*

+

Agile and reusable code

Thread safety

Eliminate state from code

Testing

Well tested, with large community  
and extensions

—

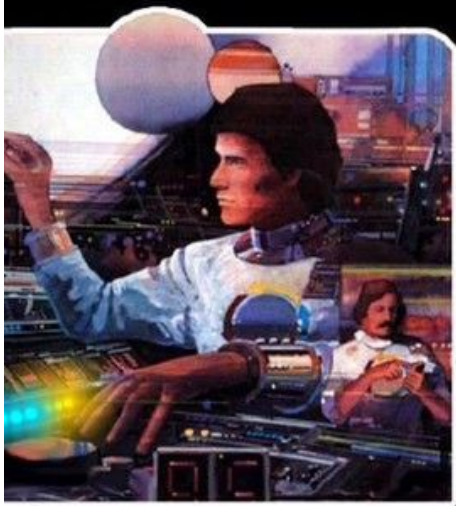
Steep learning curve

Change previous practices

Debugging

Over-reactive

# THE TWO STATES OF EVERY PROGRAMMER



**I AM A GOD.**



**I HAVE NO IDEA  
WHAT I'M DOING.**

**THANK YOU  
FOR YOUR ATTENTION!**



**AND GOOD LUCK!**