Sound Debugging

using sound to debug code

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XCode's ability to play sounds has been underused. Sound patterns can help debug notifications and visualize execution on unfamiliar code.

11:12 AM - 29 May 2013 from City of Edinburgh, United Kingdom

3 RETWEETS 2 FAVORITES

Compose

Play a sound where it makes sense

That's your sound sample

Beep - Ca Ching

Put headphones on
Listen

Let's hear it

use cases

```
[tableView dequeueReusableCellWithIdentifier:@"Cell"];
```

while asking cell for row at index path

Does the UITableView dequeue cells or not?

debug

QNDTableViewCell init

The sound of a new cell

Morse

Listen

are cells reused?

How does it sound?

if it does dequeue

dispatch_async(queue, soundblock);
while dispatching blocks

What type of queue?

debug

```
dispatch_block_t frog = (^{

})


dispatch_block_t hero = (^{

})


dispatch_block_t ping = (^{

})
```

The sound of all 3 blocks

Frog, Hero, Ping

Listen

Serial or Concurrent queue?

How does a serial queue sound like?

dispatch_queue_t queue = dispatch_queue_create("com.qnoid.queue", NULL);

Can you tell what this code does?

```objc
dispatch_time_t TIMEOUT = dispatch_time(DISPATCH_TIME_NOW, TWO_SECONDS);
dispatch_group_t group = dispatch_group_create();
dispatch_group_enter(group);


AFHTTPClient *client = [AFHTTPClient clientWithBaseURL:
                            [NSURL URLWithString:@"https://api.foursquare.com/v2/"]];
NSURLRequest *request = [NSURLRequest requestWithURL:
                            [NSURL URLWithString:@"venues/search?ll=55.944493,-3.183833"]];


AFHTTPRequestOperation *operation = [client HTTPRequestOperationWithRequest:request
success:^(AFHTTPRequestOperation *operation, id responseObject) {
    dispatch_group_leave(group);
}
failure:^(AFHTTPRequestOperation *operation, NSError *error) {
    dispatch_group_leave(group);
}];
XCTAssertFalse(DID_TIMEOUT(dispatch_group_wait(group, TIMEOUT)), @"Timed out");
```

Is it a success, failure or time out?

debug

The sound of new

Blow

The sound of success

Glass

The sound of failure
Sosumi

The sound of timeout

Basso

Listen

success, failure, timeout?

It's missing the call to start

```objc
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}];

[operation start];

XCTAssertFalse(DID_TIMEOUT(dispatch_group_wait(group, TIMEOUT)), @"Timed out");
```

Listen

success, failure, timeout?

Main queue is blocked

```objc
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AFHTTPRequestOperation *operation = [client HTTPRequestOperationWithRequest:request
success:^(AFHTTPRequestOperation *operation, id responseObject) {
    dispatch_group_leave(group);
}
failure:^(AFHTTPRequestOperation *operation, NSError *error) {
    dispatch_group_leave(group);
}];
operation.failureCallbackQueue = dispatch_get_global_queue(DISPATCH_QUEUE_PRIORITY_LOW, 0);
operation.successCallbackQueue = dispatch_get_global_queue(DISPATCH_QUEUE_PRIORITY_LOW, 0);

[operation start];
XCTAssertFalse(DID_TIMEOUT(dispatch_group_wait(group, TIMEOUT)), @"Timed out");
```

Listen

success, failure, timeout?

Know the limits

Sound output blocks

Where else can sound help?

Type to enter text

On code execution

- Gestures
- Object Lifetimes
- Timers
- Notifications
- Animations

On functional testing

- The sound of posting a photo on Instagram.

- Can a soundwave be used as a hash for a code path?

On education

- The sound of algorithms
  1. How does binary search sound?
  2. When does a hash table resize?
- Understand performance (at a high level)

Better support in Xcode

https://bugreport.apple.com

One more thing

Last year at NSConf…

Why aren't we password free yet?

http://qnoid.com/2014/02/22/Why-arent-we-password-free-yet%3F.html

www qnoid.com