

Realm is a mobile database: a replacement for Core Data & SQLite <http://realm.io>

1,988 commits

79 branches

69 releases

Merge

realm-cocoa / +

examples

plugin

scripts

tools/RealmBrowser

.dir-locals.el

.gitignore

CHANGELOG.md

merge fixes

Recombined file and class template installation in install_templates....

2 months ago

Move all of the fat framework building logic to build.sh

4 months ago

[Browser] Ignore object schemas with no properties

6 days ago

Project specific Emacs settings updated: Always show trailing white-s...

a year ago

[Gitignore] Ignore tmp directory from cocoapods-setup task

24 days ago

fix for #1477

3 days ago

Code

Issues

HTTPS clone URL

<https://github.com/i>

You can clone with HTTPS or
Subversion. [?](#)

Clone in Desktop

Download ZIP

What is Realm?

- **Fast, zero-copy, embedded database**
- **Tens of thousands of devs, 100M+ devices**
- **Object & model-oriented**
- **Full ACID transactions**
- **Well defined threading model**
- **Cross-platform C++ core with language bindings**
(currently Objective-C, Swift & Android)

Open Source*



github.com/realm/realm-cocoa

* Bindings 100% open source, C++ core launching as
Apache 2

Why?

Introduction of New Database Technologies 1994–2014

Arranged by date of first public release (source: Wikipedia)

dead • closed-source • open-source

Server Databases

MySQL

PostgreSQL

MarkLogic

Netezza

Hadoop

CouchDB

Greenplum

Vertica
Neo4J
SimpleDB
Drizzle
Cassandra
Riak
Voldemort
Hypertable
MariaDB
Redis
MongoDB
RethinkDB
OrientDB
Xeround
FlockDB
RavenDB
Clustrix
Membase
Translattice
NimbusDB/NuoDB
Citrusleaf/Aerospike
DynamoDB
Datomic
MemSQL
HyperDex
TokuDB
GenieDB
FoundationDB
Apollo
Cayley

1994

1995

2000

2003

2005

2006

2007

2008

2009

2010

2011

2012

2013

2014

Mobile Databases

SQLite

Realm

Current State of iOS Persistence

Core Data

- Full-featured & mature
- 10+ years old ORM for SQLite
- Slow
- Complex and difficult to learn/debug
-  only

SQLite

- Faster than Core Data
- Optimized for iOS
- Cross Platform
- 14+ years old
- Bad user experience
- Manual mapping and queries
- Lack of thread safety

Other Options

- FMDB
- YapDatabase
- CouchbaseLite
- LevelDB

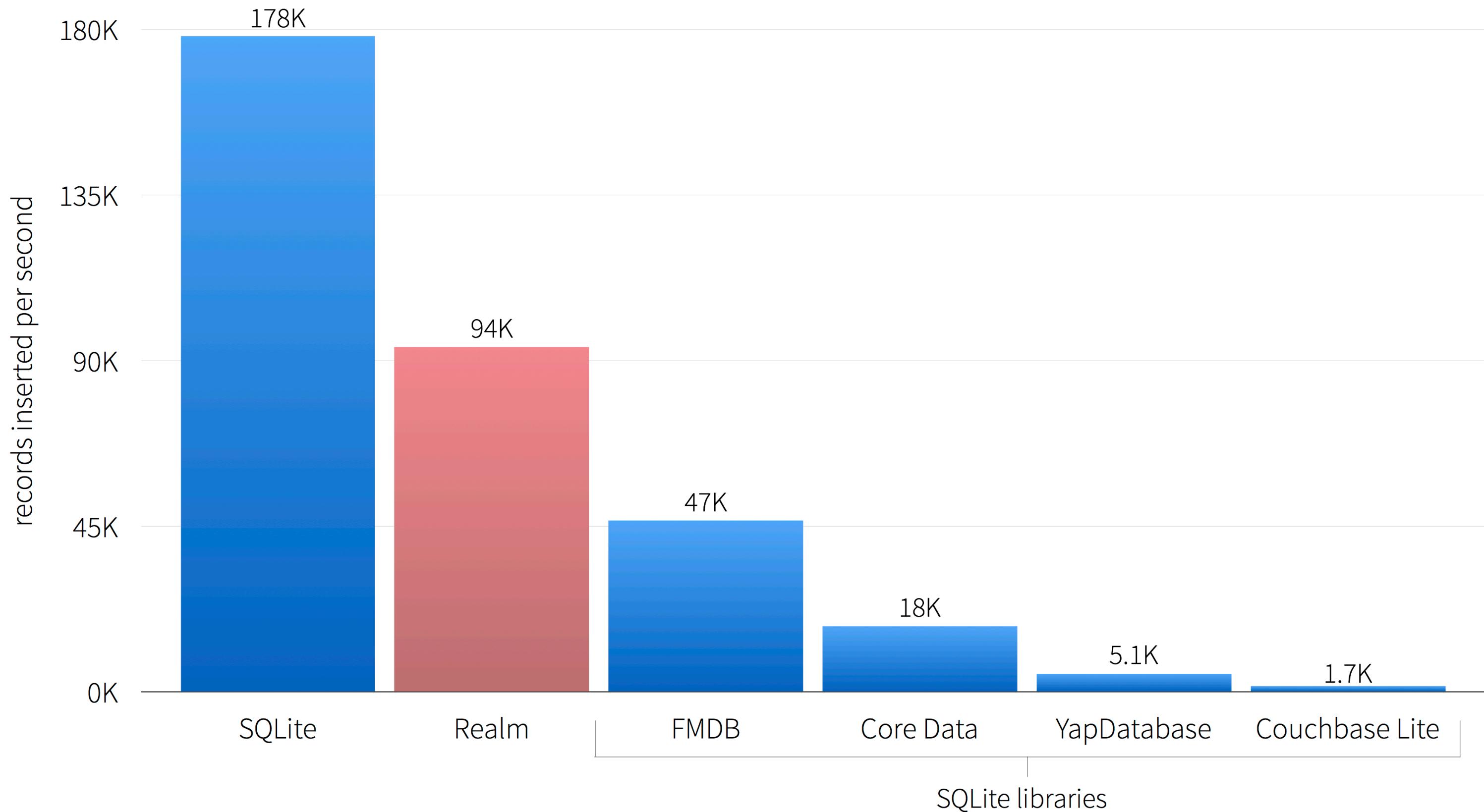
Lots has changed in last decade

- Smartphone Revolution
- Low Connectivity
- NoSQL
- Need for Sync

Benchmarks

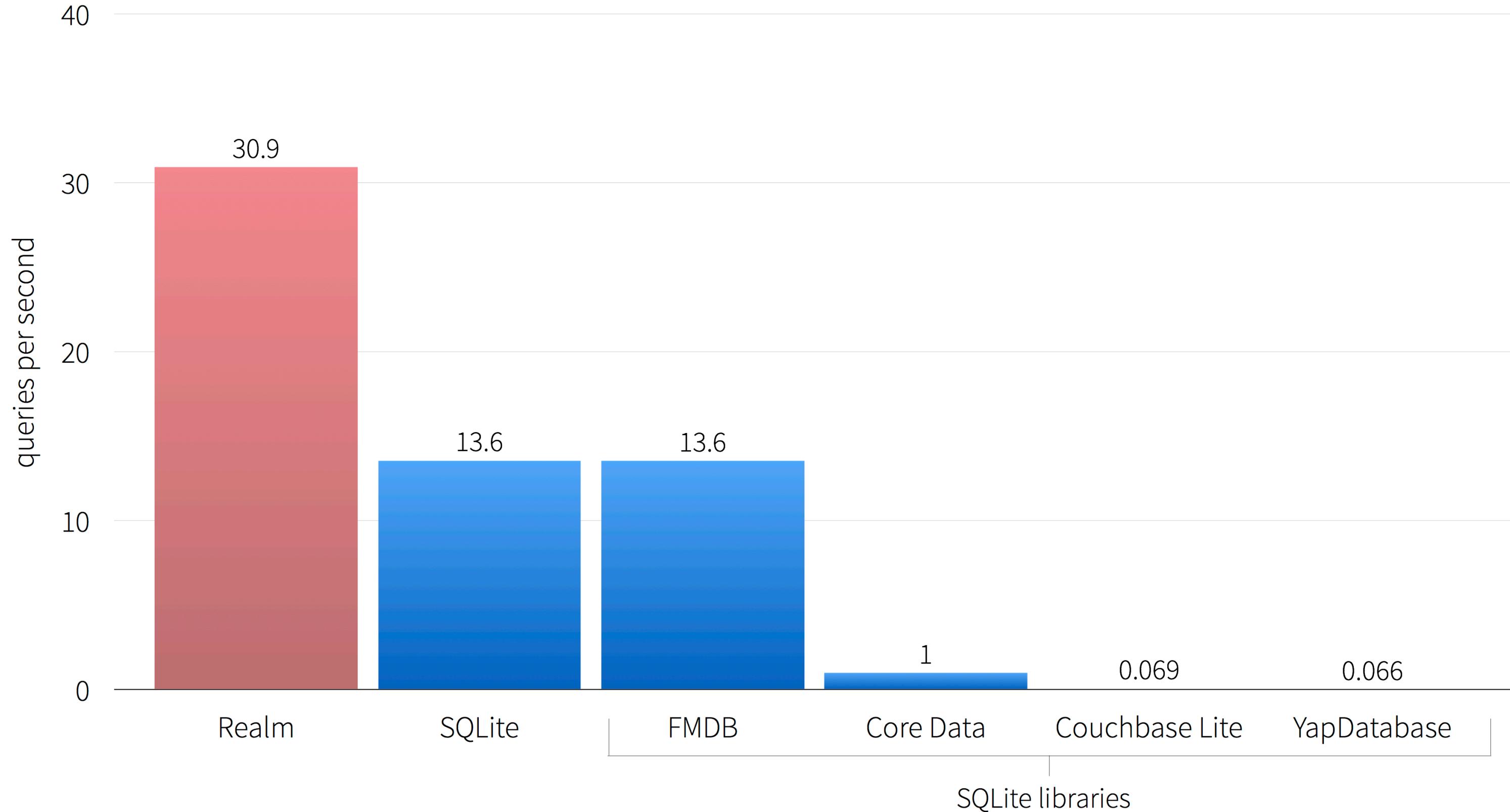
Inserts

Insert 200k records, in a single transaction (higher is better)



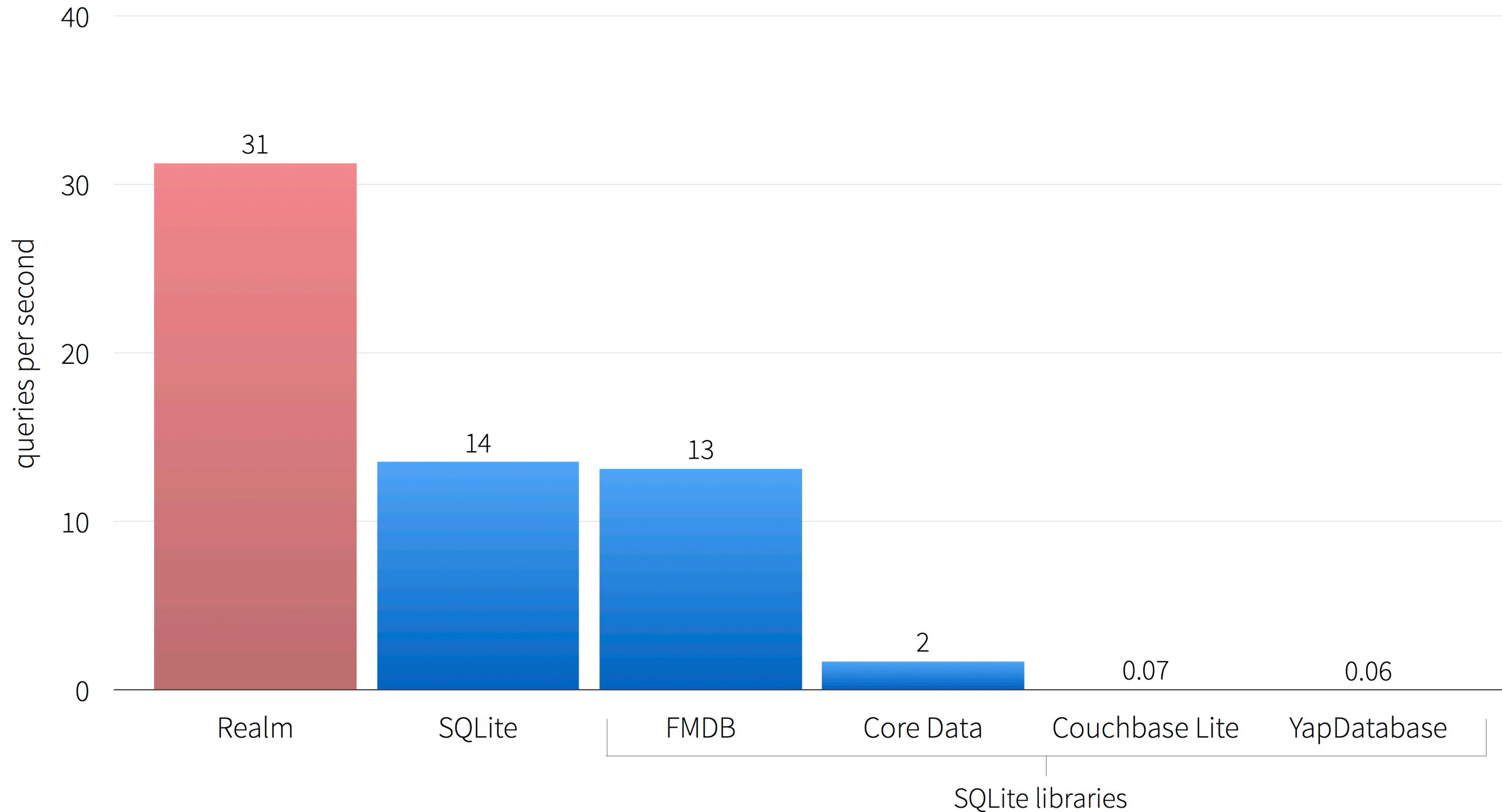
Counts

Get count of records matching a query on a database of 200k records (higher is better)



Queries

Iterate over all records matching a query (higher is better)



Realm Models

```
@interface Employee : RLMObject  
@property NSString *name;  
@property NSDate *startDate;  
@property float salary;  
@property BOOL fullTime;  
@end
```

```
RLM_ARRAY_TYPE(Employee)
```

```
@interface Company : RLMObject  
@property NSString *name;  
@property Employee *ceo;  
@property RLMArray<Employee> *employees;  
@end
```

Realm Models (Swift)

```
class Employee: Object {  
    dynamic var name = "" // you can specify defaults  
    dynamic var startDate = NSDate()  
    dynamic var salary = 0.0  
    dynamic var fullTime = true  
}
```

```
class Company: Object {  
    dynamic var name = ""  
    dynamic var ceo: Employee? // optional. who needs CEO's?!  
    let employees = List<Employee>()  
}
```

Using Realm

```
let company = Company() // Using Realm Objects  
company.name = "Realm" // etc...
```

```
let realm = Realm()  
realm.write { // Transactions  
    realm.add(company)  
}
```

```
// Queries  
let companies = realm.objects(Company)  
companies[0].name // => Realm (generics)  
// "Jack"s who work full time (lazily loaded & chainable)  
let ftJacks = realm.objects(Employee).filter("name = 'Jack'")  
    .filter("fullTime = true")
```

Background Operations

```
dispatch_async(queue) {  
    let realm = Realm()  
    realm.beginWriteTransaction()  
    Person.createInDefaultRealmWithObject(  
        [ "name": "randomstring", "birthdate": NSDate() ]  
    )  
    // make this data available to other threads  
    realm.commitWriteTransaction()  
}
```

Notifications

```
let token = realm.addNotificationBlock { note, realm in  
    viewController.updateUI()  
}
```

```
// Later...  
realm.removeNotification(token)
```

Fine-grain Notifications Coming Soon!

Current Limitations

- **NSDate is truncated to the second**
(use NSTimeInterval instead)
- **KVO is not supported**
(we'll add support along with fine-grain notifications)
- **Realm Object Setters & Getters cannot be overriden**
(use ignored properties as proxies instead)

Work In Progress

- Multiprocess
- Fine-grain notifications
- Async queries
- Cascading deletes
- Nullable types
- Sync
- Open source Core

Where is Realm used?

thermodo

The tiny electrical thermometer for your
mobile device that lets you measure the

temperature right where you are.

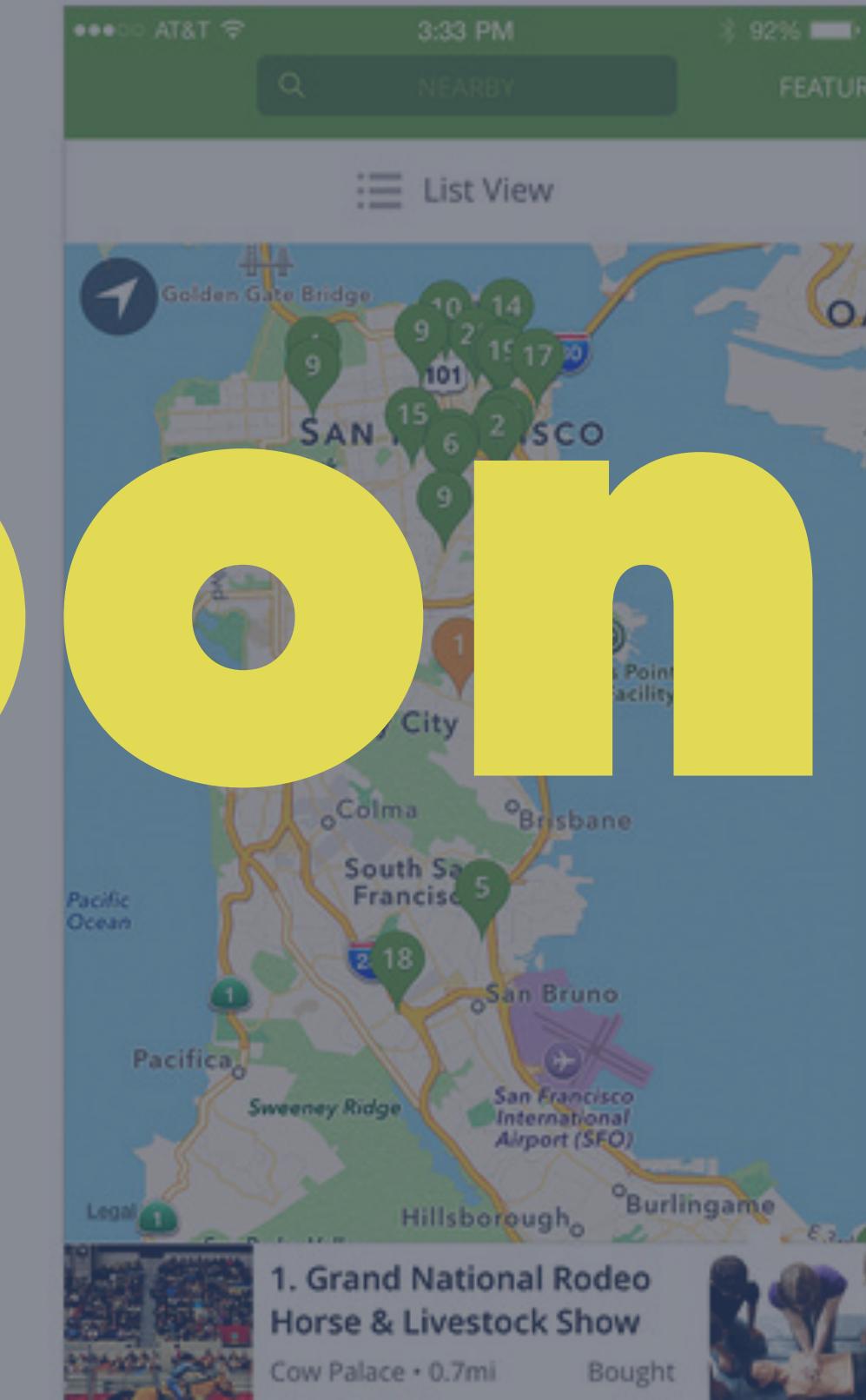
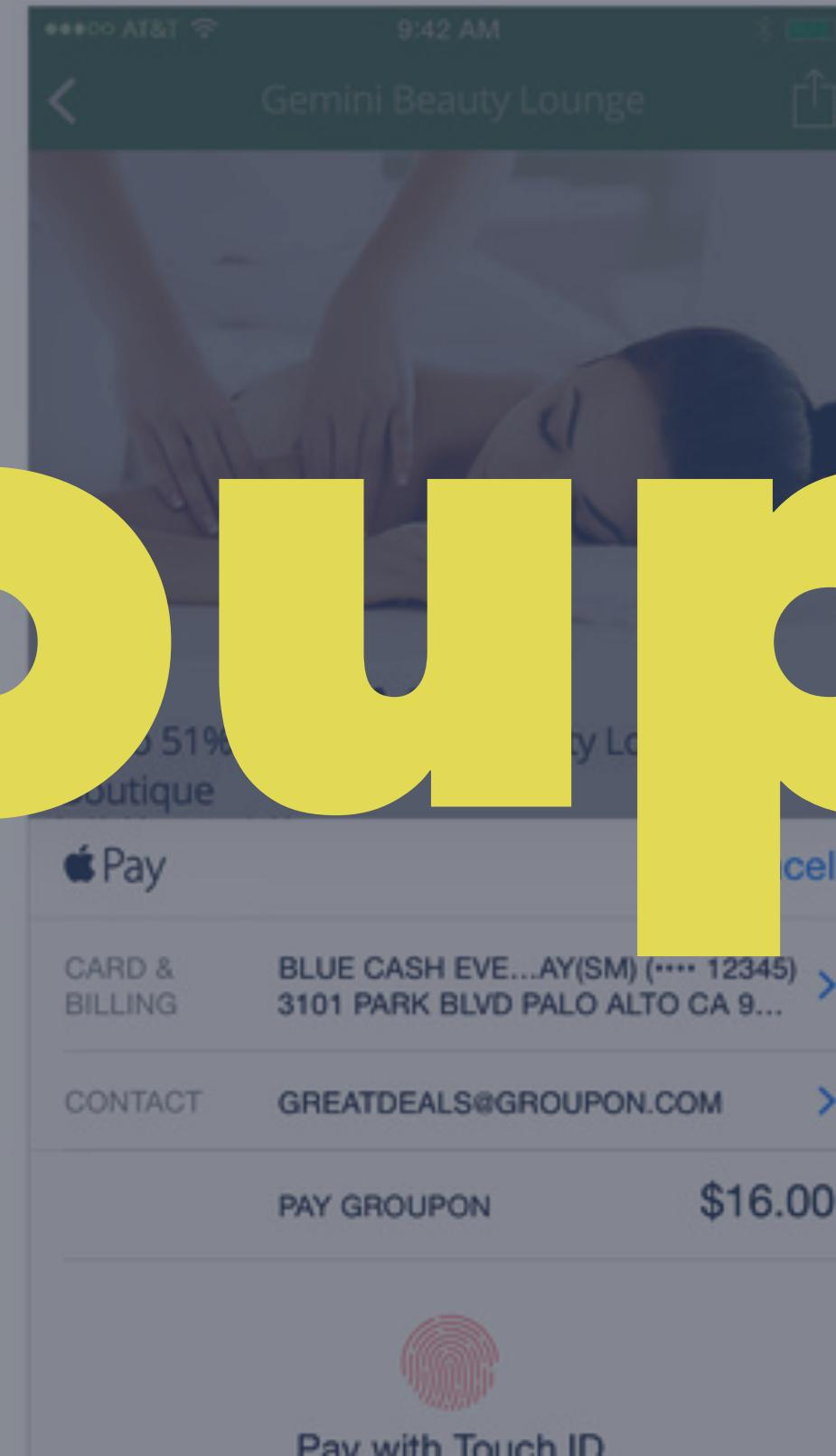
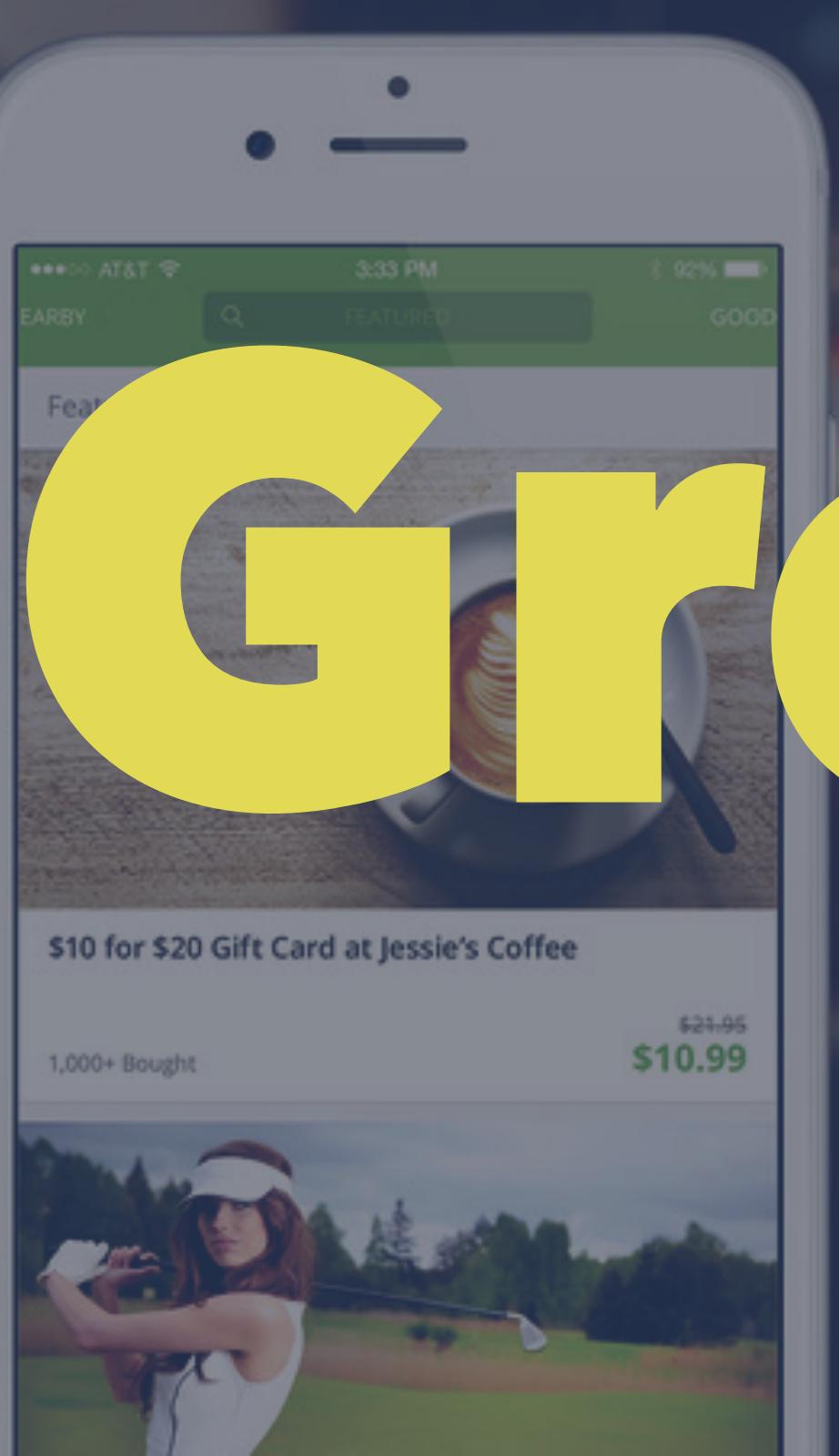
No



Check Groupon first
and find the best deals

Use Apple Pay to buy
deals with a single touch

Discover your local
experiences nearby

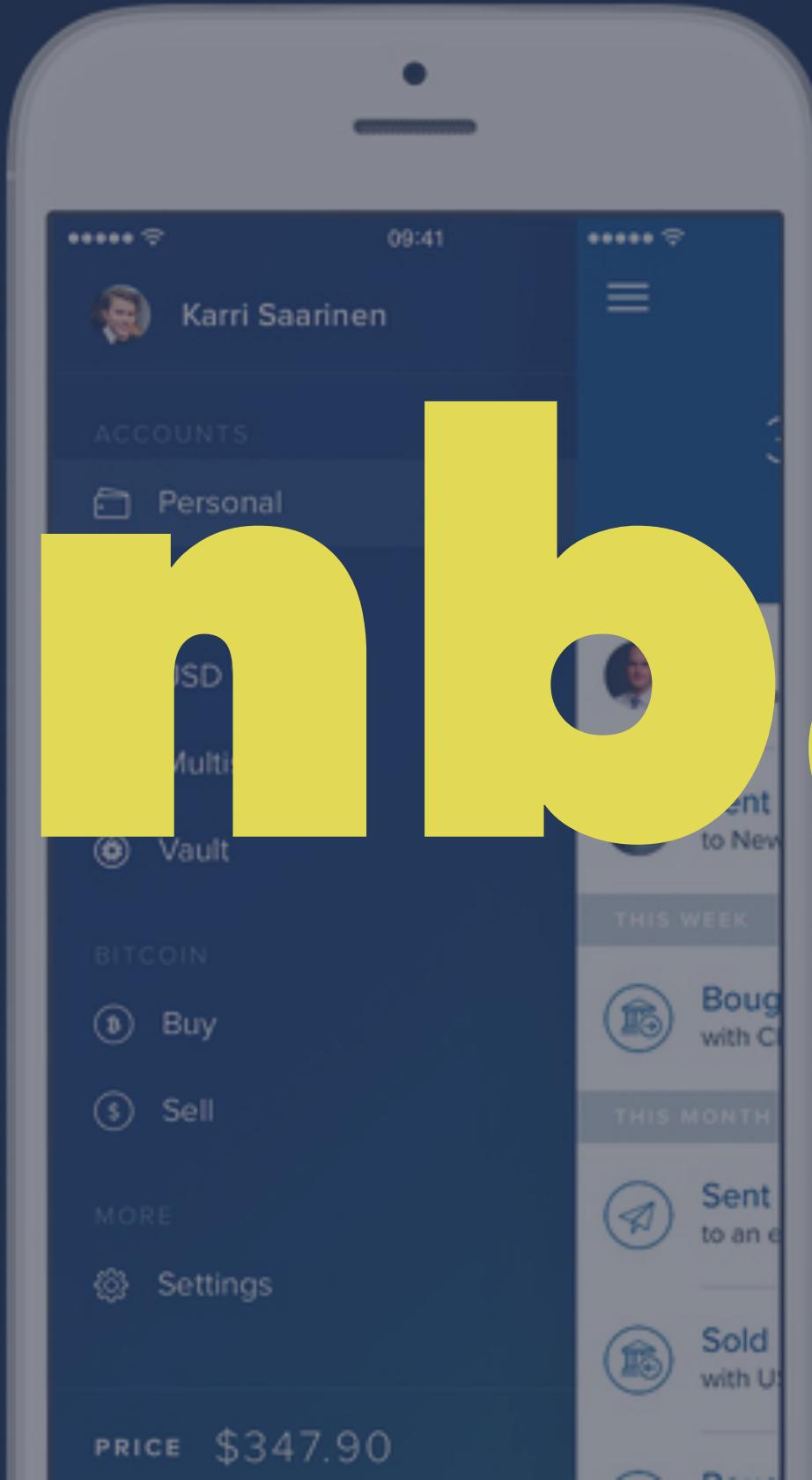


Groupon

Store bitcoin securely



Access your accounts



Buy & sell bitcoin



BEST OF
2014



BuzzFeed

Bookmarks

Trending

New

Buzz

Life

Lists

Quizzes

Videos

LOL

Cute



select sound

record
yourself

share with
friends



December 19, 2014



This app will rock your world!

Finally! A truly mobile way to do your taxes. QuickBooks Self-Employed makes it easy to connect to your bank accounts, file your taxes, and even pay your taxes right from your smartphone or tablet.

visit

selfemployed.intuit.com
to sign up.

Quickbooks

Welcome!

Try swiping now!

Mark transactions as
business or personal
in seconds.



Office Supplies
Office Expenses

-\$27.57

Bakery & Cafe
Meals & Entertainment

-\$32.50

Fast Food
Personal

-\$7.51

Online Deposit
Personal

\$75.00

Car Repair Shop
Auto Repairs

-\$123.57

Wireless Provider
Other Business Expenses

-\$86.39

Pizza Place

\$12.26

Search millions of jobs
from top job boards, such as:

monster®
Find Better.™

careerbuilder.com

SimplyHired

glassdoor®

snagajob

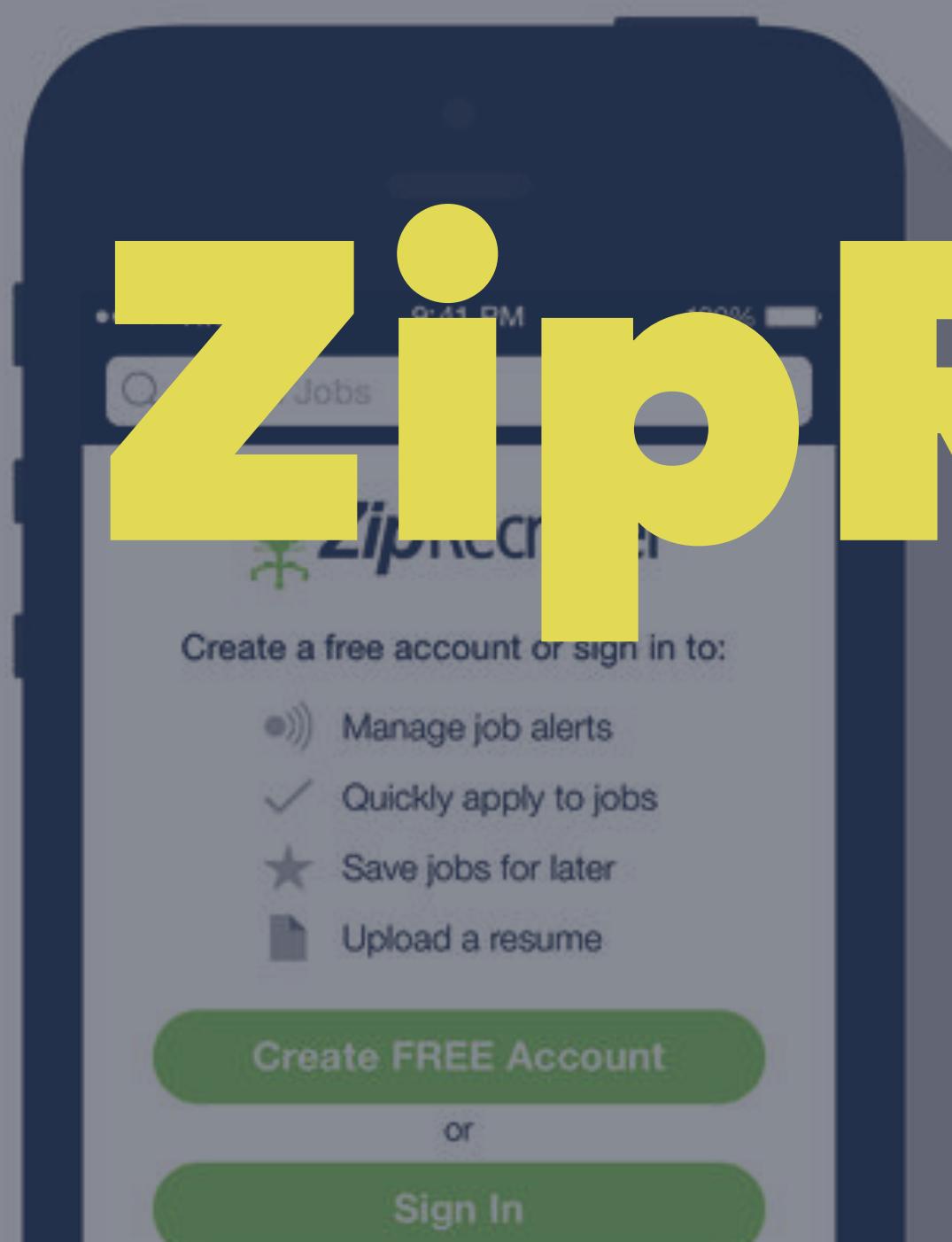
Dice

and many more

View your recent searches
to quickly find your next job.

Your Saved and Applied
jobs in one handy place.

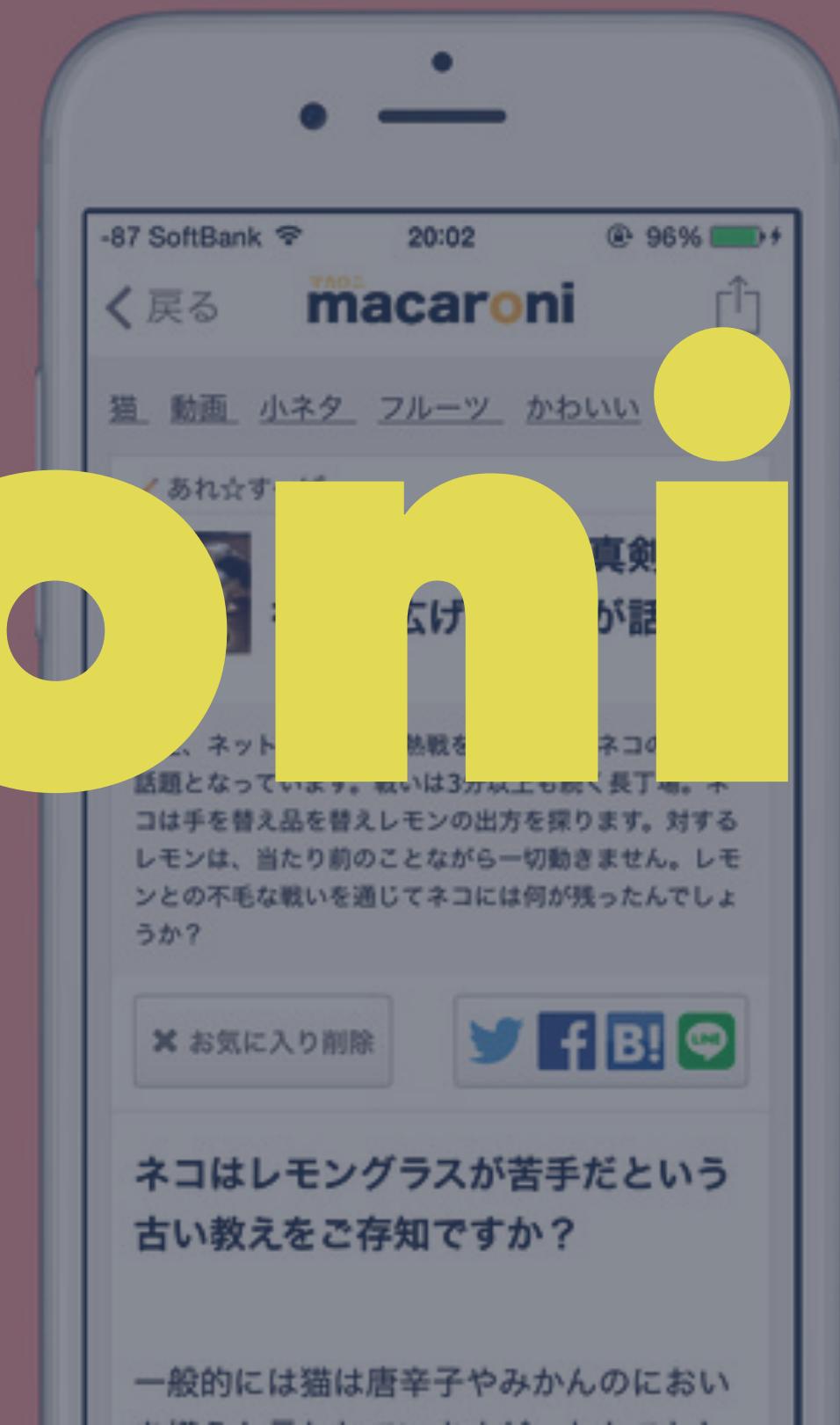
ZipRecruiter



話題の全国グルメ情報がすぐわかる！

サクサクで記事を手軽にチェック！

気になる記事は「お気に入り」で後読み！

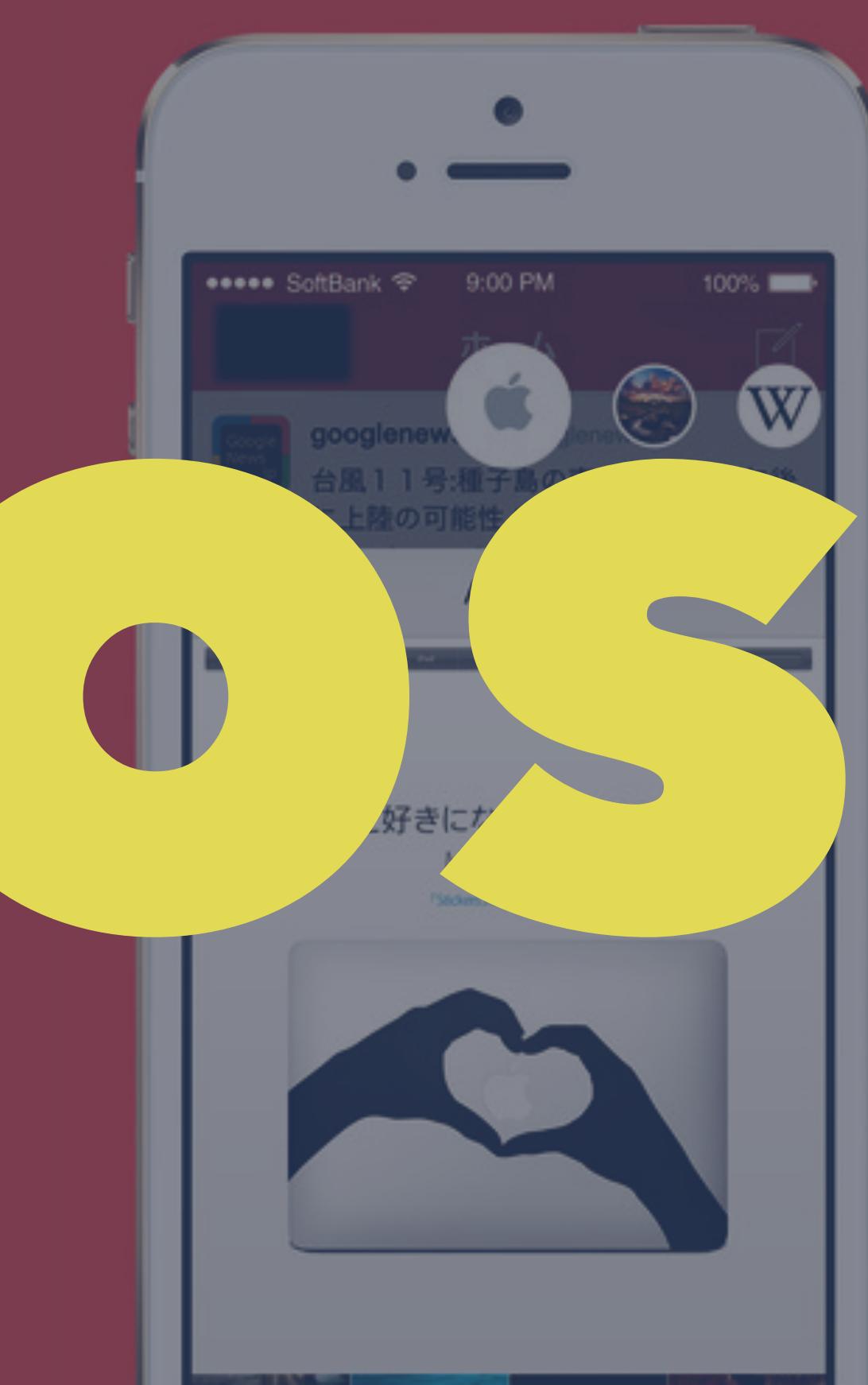


Macaroni

シンプルなタイムライン

複数アカウント対応

快適なブラウジング



**What Can You Build
With Realm?**

Where to find us

- Facebook: [j.mp/realmjp](https://www.facebook.com/j.mp/realmjp)
- Twitter: twitter.com/realm
- GitHub: github.com/realm
- StackOverflow: stackoverflow.com/questions/tagged/realm
- Email: help@realm.io

j.mp/realmjp

Questions?

@simjp, jp@realm.io