



QuizUp

How we rewrote QuizUp iOS for 2.0

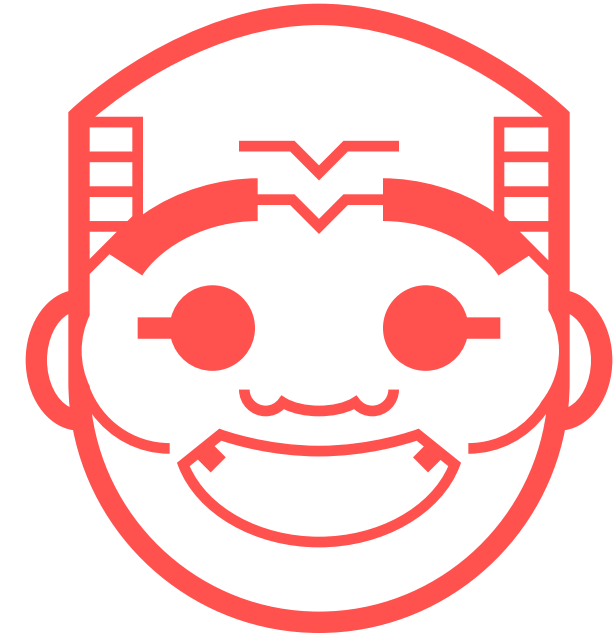
A story of ~3000 unit tests

Jóhann Þ. Bergþórsson, CTO



QuizUp

**Connecting People Through
Shared Interests**



What is QuizUp?

What is QuizUp?

- **The biggest trivia game in the world!**
- **1 million registered users in first week**
- **30m+ registered users**
- **549,250 questions in 1064 topics in 6 languages**
- **Over 3 billion games played!**



A brief evolution of QuizUp

Evolution of QuizUp

- **May 2012 - Eurovision QuizUp**
- **Nov 2012 - Twilight QuizUp**
- **Feb 2013 - NatGeo QuizUp**
- **May 2013 - Development of QuizUp begins**
- **Nov 2013 - QuizUp iOS 1.0!**
- **Feb 2014 - QuizUp for iPad**
- **March 2014 - QuizUp Android 1.0!**



Technical Debt of QuizUp 1.0

Technical Debt of QuizUp 1.0

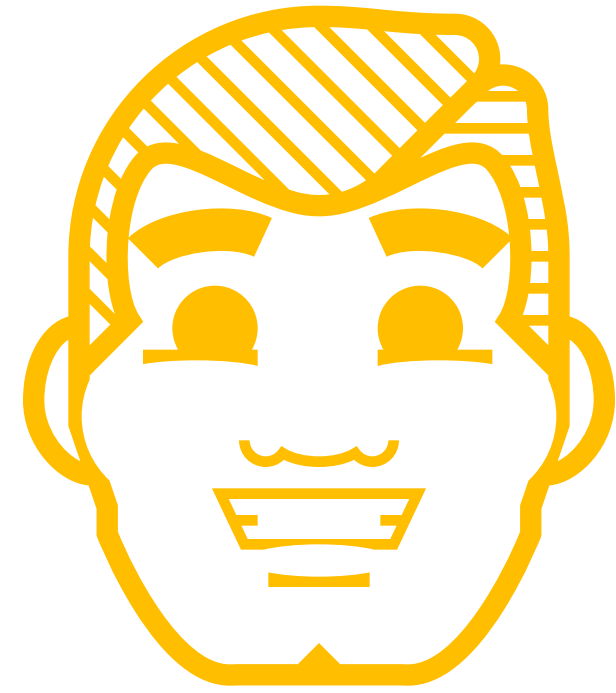
- **Cocos2D!**
- **Topic metadata cache in client**
- **Localisation**
- **Almost no unit tests!**



**How lack of tests
slowed us down**

How lack of tests slowed us down

- **Long QA cycles**
- **Low confidence when releasing updates**
- **Expensive external regression tests**
- **Wasted time while trying to write stable UI integration tests**



Working Agreement for QuizUp 2.0

Working Agreement for QuizUp 2.0

- **Unit Tests!**
- **High coverage, TDD and agreement on no PR's without tests**
- **Fully native using pure UIKit**
- **MVVM and focus on immutability and unidirectional data flow.**

Working Agreement for QuizUp 2.0

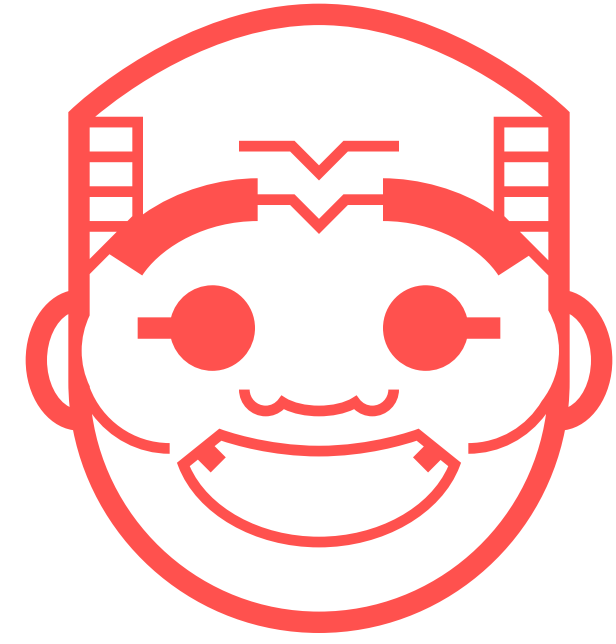
- **Agile development:**
 - Release internal build at every commit
 - Stability is key, i.e. fix bugs before new mayor feature
 - Short focused sprints
 - Easy to report bugs using shake-and-report
- **Visible metrics during development on dashboards:**
 - Crashes per version
 - Startup time
 - Low-memory warnings from OS
 - Image cache hit ratio



The Big Rewrite

The Big Rewrite

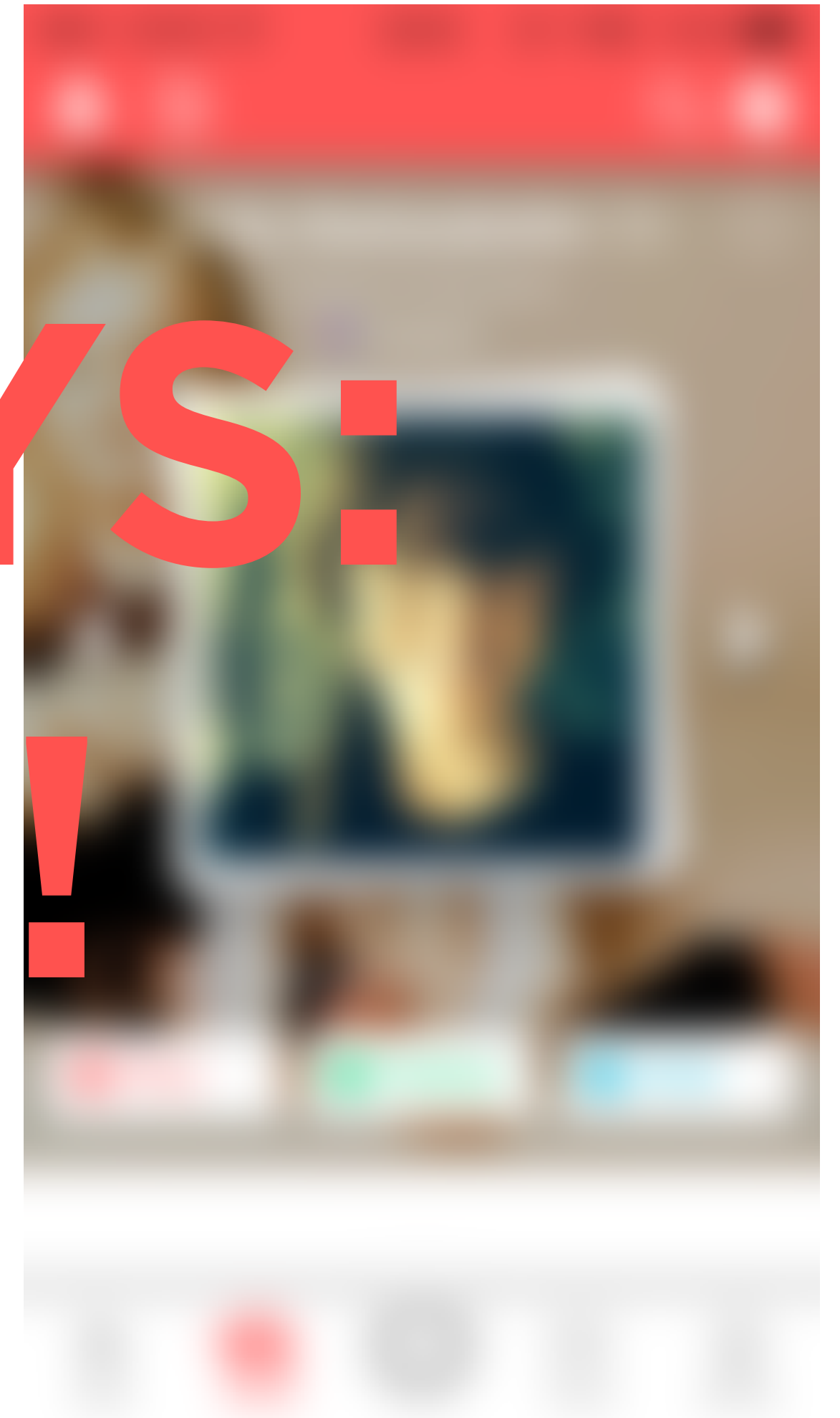
- **Cons:**
 - **Classical failure scenario**
 - **High risk of making the same mistakes again**
 - **Huge complexity in maintaining two codebases**
- **Pros:**
 - **Greenfield projects are fun!**
 - **Possible to build upon lessons learned**
 - **Get rid of technical debt!**
 - **We're building something incredibly awesome!**



QuizUp 2.0

QuizUp 2.0!

**LEGAL SAYS:
NOT YET!**





Questions?



QuizUp

We're hiring!

q.is/jobs