

# Building an iOS App

ZENO KOLLER AND DAVID KELLER – ENJOYING THEIR SUMMER BREAK

**We, Zeno Koller and David Keller, had no exams this summer. David just returned from his exchange semester and Zeno recently completed an internship. Being real ETH students, we were unable to just enjoy ourselves and travel all summer long. Instead, we decided to write a smartphone app. Not for the money<sup>[1]</sup>, but for the fame, as they say. And, more importantly, for fun and to gain experience.**

Choosing iOS as a platform was a logical decision for us. Both of us are iOS users. Also, it is a platform which is both popular and lets you write apps in a cutting-edge programming language: Swift<sup>[2]</sup>.

In Mid-July, we sat together to brainstorm what it is we wanted to build exactly. Using pen and paper, we prototyped some ideas and quickly arrived at three favorites. After sleeping on it, one of these appeared worth pursuing: An app which lets you conduct polls directly in iMessage, Apple's messaging platform. Not only did the idea itself appeal to us, it also let us use a brand new API<sup>[3]</sup>: Unexplored territory!

We split the development into two phases: First, building an initial version and second, a minimal viable product. The initial version would let us test the workflow and bring insights for improving the release design. The minimal viable product contains the features needed for a release to the public. A goal for

both phases: Always keep a working product! In turn, this would keep us motivated.

Another source of motivation were the various places we worked from. Only in need of a laptop<sup>[4]</sup> and an internet connection, we were able to work from any place in Switzerland with cellular reception – even a remote valley in the Alps<sup>[5]</sup>. We also worked from most means of

transport: ship, car, train, bus, and plane. Our journey even led us to the end of the world (more on that later). Making things fun meant we could also take a break in

times when we were stuck or made slow progress.

We initially planned to be done with the project at the end of August. Then, we would go on a holiday to Iceland and Canada together with a third (non-coding) friend. After 1.5 months of development time (about 80 %), two key features were still missing: a unique design and encryption of data generated by the users. When we left for Iceland, we felt too close to the goal to stop. We also saw another deadline coming

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up in mid-September: The release of iOS 10. This motivated us to keep pushing, so we worked on the side while enjoying our holiday of road-tripping and hiking. In a remote hostel in French Canada, *l'Auberge de jeunesse du bout du monde*<sup>[6]</sup>, we shifted to crunch time for a day and applied finishing touches. Finally, we drove 30 minutes from a campground in the middle of nowhere to a Wi-Fi hotspot to submit our app for review.

## In a remote hostel in French Canada, we shifted to crunch time

In the end, we did not make it in time for the release, but we did make it. Coincidentally, we were just about to raise the glass in a pub to celebrate our last evening in Canada when we received the news that our app got approved. A happy end to a vacation (with some interlaced programming :-)).

You can download our app:

<https://choose.chat>

From a technical standpoint, we're proud to say it is 100 % Swift 3, uses no third-party libraries and the backend is hosted completely on Apple infrastructure (CloudKit)<sup>[7]</sup>.

We learned a lot in these two months both on the social and the technical side. This is advice that you can apply to any project. First and foremost: Team up! It will be much easier to stay motivated. Any one of us would not have been able to finish such a project alone. Second, keep things fun, like we did with the remote working

aspect. On the technical side, we can only repeat what our forebears have preached. Do code reviews. You will learn from your teammates and improve your coding style. Be brave enough to take your time and not rush things, accumulating less technical debt. Your future self will thank you. And, last but not least, write tests! In the beginning, it may seem stupid to do almost twice the work for nothing, but those tests saved our butts a couple of times.

Maintaining an app through the semester, considering the pace of Apple's OS updates, will be a tough feat – expect major updates only when ETH projects are done. At that point, we can hopefully develop against a more stable, seasoned iMessage framework than the beta one. Maybe there will even be new features for us to make use of! We're looking forward to it.

### Referenzen

[1] How should we maintain and support an app besides our studies?

[2] <https://swift.org>

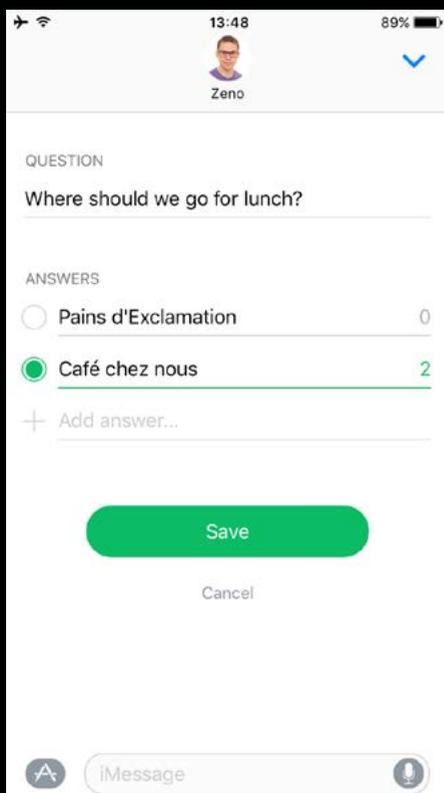
[3] Message extensions are an iOS 10-only feature

[4] Actually, you can do code reviews from your smartphone without the need of a laptop.

[5] There's fast LTE in places you would not expect.

[6] Basically: "Youth hostel at the end of the world".

[7] This means we don't have to pay for servers – unless we get millions of customers, that is. :-)



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