

Research livestreaming SDK

Introduction

For this research we are going to decide on which Livestreaming SDK we are going to use for our Flutter livestreaming application

Project context

The project is a livestream app users can use to stream concerts. Other users can then watch the concerts online. The app needs to consider whether the organizers of the app gave permission to livestream.

Motivation

There is a requirement for our application to use a third party back-end. The complicated nature of livestreaming makes this the perfect candidate for this. After this research we will have found out what Livestreaming SDK fits our project best.

Research questions

Main question

Which livestreaming service best fits our livestreaming application?

Sub questions

- What requirements are there for the service?
- What services fulfil said requirements?
- What are the limitations of the free versions of each livestreaming service?
- How easy are the services to implement?

Research results

What requirements are there for the service?

- Needs to be able to send video
- Needs to be able to send audio
- Needs to work with Flutter
- Needs to be able to receive audio
- Needs to be able to receive video
- Does not require us to set up a server for livestreaming
- Leeway for testing free version
- Using different services for receiving and sending is allowed.

What services fulfil said requirements?

- Agora
- Quickblox

What are the limitations of the free version of each livestreaming service?

In order to test the application, we need to be able to use enough functionality, thus this needs to be compared.

Agora

First 10.000 minutes each month are free.

Quickblox

You start with a credit of €20 before you must buy more. This amount is enough for approximately 16000 minutes if you make use of basic livestreaming without using other services like their encoding service.

Conclusion

The limits of both allow for enough flexibility for testing purposes. Agora has the advantage here because the limit refreshes each month. For Agora it's not necessary to pay if the app stays small.

Our experiences with the services

Here we will explain how we experienced when creating Proof of Concept apps for each service in a Flutter app.

Agora

With the samples and documentation, it was easy to set up a simple livestreaming app. The biggest obstacle was the creation of authentication tokens. For security purposes a token is necessary to make use of Agora. In a production environment you should create this token in the authentication server. For testing purposes, you can create a temporary token from the Agora dashboard.

Quickblox

The Quickblox SDK for Flutter appeared to have been deprecated which was found out when trying to set up Quickblox. In addition, the documentation could have been better by giving more examples of the functions Quickblox offers.