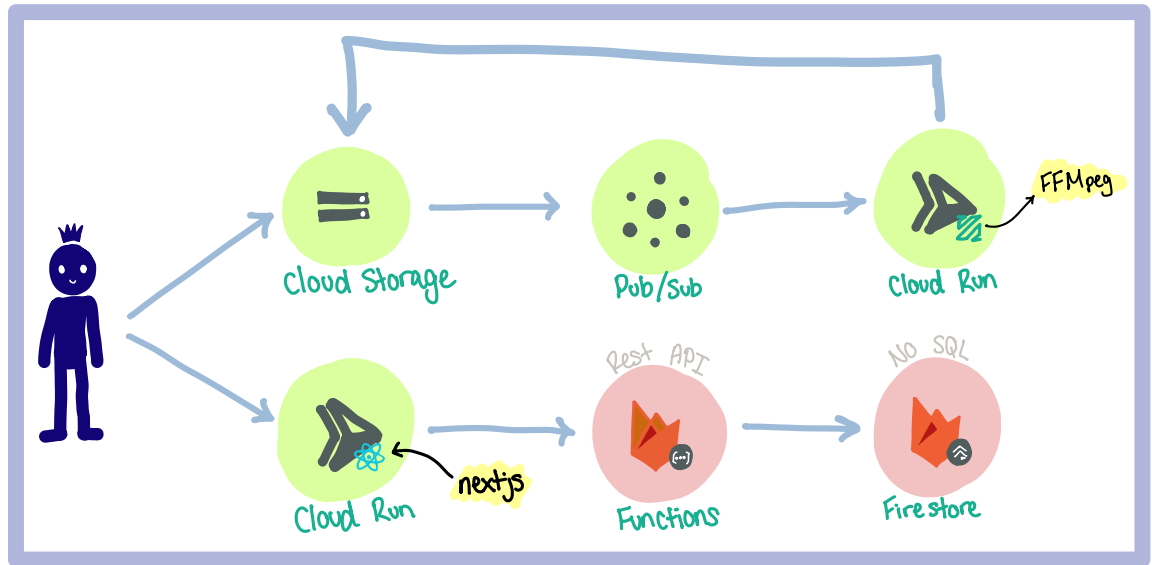


App Architecture

goals

- ① Sign-in/sign-out button
- ② upload videos only when signed-in
- ③ view videos if both signed-in or signed-out

Simplified



example:

① Upload videos

- only authenticated users can upload video to a **cloud storage bucket**
- using **next.js** UI, which is running within **cloud run**, we will call **cloud functions** which will interact with **cloud storage**
- **cloud functions** will generate a signed URL which will allow user to upload to **cloud storage**
- This will trigger a message to **Pub/sub** which will push message to **cloud run**

Raw video bucket
&
Processed video bucket

service (video processing workers) using FFMpeg. This will convert the videos to

more options
can be added
as needed

360p

- Then the processed video will be written back to cloud storage
- cloud run will also write meta data as the video is processing to firestore (such as status)
- Now, any user (signed-in or not) can watch the video!

hidden complexities

★ if the same message is sent multiple times, it will NOT process the video multiple times

example:

② Watching Videos

- User will interact with our UI served from cloud run.
- cloud run will make a request to rest API service (we are using cloud functions)
- cloud functions will fetch the meta data from firestore (in our case it will fetch the public URL for video).
- The meta data will be sent to the UI served from cloud run
- The UI will make a request to cloud storage
- Then the needed videos will be fetched and displayed to the user.

cloud storage has a streaming functionality. So, the entire video does not need to be downloaded @ once to serve to the user.