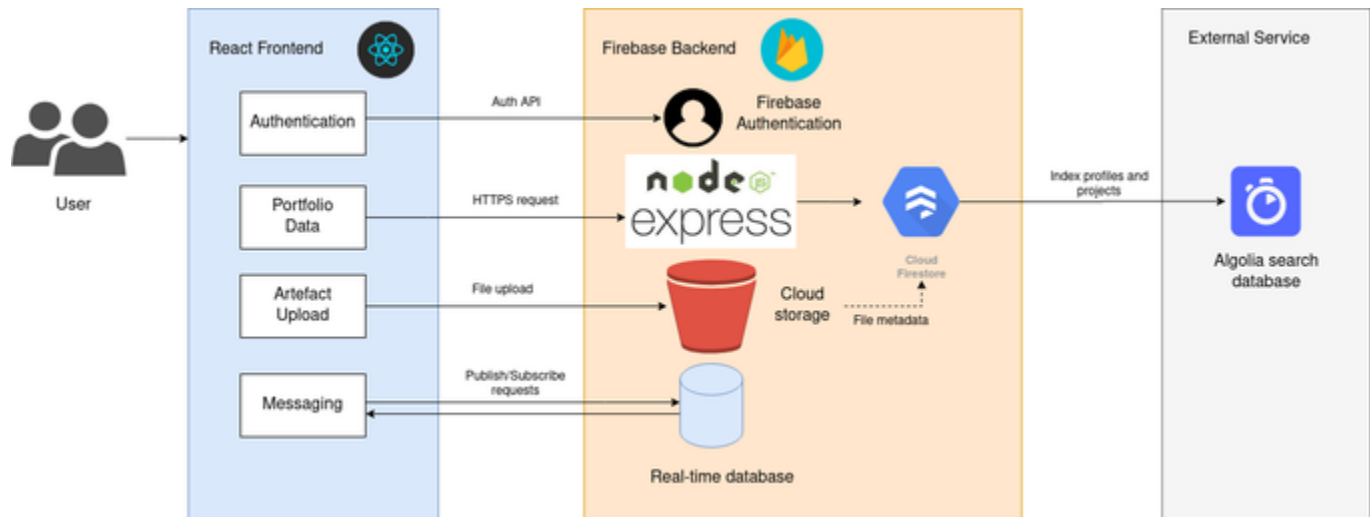


High-Level Design

Design:



Explanation:

Our architecture is based on a client server model. The client is built using react, interacts with firebase authentication to authenticate the user. API is served by express which is hosted on firebase cloud functions. We opted for a NoSQL database using Cloud Firestore with pdf/video artifacts to be stored on Cloud Storage.

To service profile and project search requests (which require some fuzzy matching), we opted to use Algolia (similar to ElasticSearch). All profile and project documents are passed to Algolia's search database for indexing. The react client can then query the database API to obtain search results.

Our messaging feature is supported through the user of Firebase's Real-time database. When the user starts a messaging session, the React Webapp opens a persistent connection with the database so that messages are sent and received instantly.

Example use case (Artefact Upload):

1. User uploads artefact through React Webapp.
2. Artefact file is uploaded to Cloud Storage.
3. File metadata (including the Cloud Storage url) is saved in Firestore.
4. When the artefact is requested by another user, the metadata is fetched from Firestore and the file itself is downloaded directly from Cloud Storage using the file url.