

Metro: Short Video Application

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ABSTRACT

In this day and age, social media platforms play a huge role in our lives. Current major social media platforms are plagued with some issues which could cause a lot of harm to the youth in the long term like the addictive property of social media platforms & the issue of people impersonating others. In this project, we are incorporating the video upload format that will only record videos after putting the phone on their chest allowing users to record the moment or memory at the same time of enjoying it in real life.

This project aims at solving these problems by introducing a unique user interface that makes the app less addictive than the others & also solves the issue of user impersonation. We aim to create a short video application that will allow users to upload short videos for entertainment as well as educational purposes. We are trying to create an application that will allow users to be as real as possible breaking the norm of fake lifestyle shams on social media platforms.

Key words: short video platform, social media, android application, Real time video

INTRODUCTION

Short video applications, also known as social video apps, are mobile applications that allow users to create and share short videos. These videos are typically between 15 and 60 seconds in length and are often accompanied by music or other audio. Short video applications have become increasingly popular in recent years, with many users turning to these apps for entertainment and social connection. One of the most popular short video applications is TikTok, which has more than 1 billion active users worldwide. Other popular apps in this category include Instagram Reels, Snapchat Spotlight, and YouTube Shorts. These apps typically have features that allow users to add filters, effects, and text to their videos, and they often use algorithms to curate content based on a user's interests.

Short video applications have become a popular way for individuals and businesses to reach a wide audience. For example, many businesses have started using short video apps to create and share promotional content, and some have even launched marketing campaigns on these platforms. Similarly, many individuals have found success as social media influencers by creating and sharing engaging content on these applications.

However, these social media platforms are also plagued with some issues which could cause a lot of harm to the youth in the long term like the addictive property of social media platforms & the issue of people impersonating others.

RESEARCH WORK

[1]. A short video recommendation algorithm based on a latent factor model has been proposed by Prof. Xinyu Huang et al. In this research paper, they have discussed about the necessity for personalized recommendation algorithms. They aim to create an application that recommends the user with the content that meets their interests and needs. They have studied the latent factor model for short video application which combines user feedback, analyses user behavior, and recommend the videos that are of user's interest.

[2]. In a research report released by Dr. Danyang Li et al., characteristics of short video APPs with various feed flow patterns are summarized using surveys and data analysis. These characteristics include user perception, behavior, and user experience.

[3]. Prof. Meng-q Li et al., have published the research paper in which they have researched on intelligent communication for short video applications. In this paper, computer communication and big data are used to analyses the videos to form a community of similar kind of video makers. This paper discusses about the way to categorize the short videos uploaded by the bloggers and the way to form a community that can grow on the platforms together.

[4]. Prof. Gopa Vasanth et al. released a paper in which they proposed an application called 'Flick' which is an indigenous social media application for Indian audience. It's a TikTok clone that shows localized-feed based on user's demography and widespread video.

[5]. Visibility. It's a social media application that allows user to create, upload, like, share and download the videos and follow other people on the platform.

[6]. Mahesh Dhotre et al. carried out the cross-sectional, observational, and web-based study that described insights of working of short video applications. Due to increasing popularity of short video applications like TikTok, Moj, Roposo, Mx TakaTak, etc, they carried out the survey in which they found that these applications are user-friendly, free and easy to use. They concluded that these applications improve and boost the educational experience.

[7]. Nghi Hoang Khoa et al have done the analysis on social media short video applications. In this paper they have introduced the forensic research on the artifacts left on android mobile phones by applications like TikTok. This paper studies the architecture of TikTok in the details, that gives us the insight to the working of a short video application.

[8]. Lin Zhang et al. created Campus View: An Innovative Location and Context-Aware Video Sharing Application on Smart Phone. The Campus View, is a smart-phone application for video sharing implemented on Android 2.1. The framework development of Campus View is discussed in this paper. The main feature of this application is that it was created just for the university students studying at university keeping only valid users as users with university id were only able to log in to the application.

[9]. Xu Chen et al. published a research paper about a short video application, Douyin, which is a Chinese version of TikTok. It is created by the same parent company as TikTok and considered to be the initial phase of TikTok. Douyin is a mobile-phone based short video application, developed by Chinese company call ByteDance in September 2016.

[10]. Xing Zhang et al. Published 'Exploring short-form video application addiction: Socio-technical and attachment perspectives' paper in Science Journal. Popularity of short video applications has been increasing past few years. But these applications are addictive. To understand the addictive nature of these application, The study was carried out with included 388 questionnaires. The study showed that these applications cause social isolation and anxiety due to user's attachment and personalization of these application.

[11]. Yu-Huan Wang et al. published research paper titled 'Causes and Characteristics of Short Video Platform Internet Community Taking the TikTok Short Video Application as an Example' in 2019. This paper studied different short video application platform. They tested the theory of user gratification, media law, social identity, offline research methods to understand the causes and characteristics of short video applications.

PROPOSED METHODOLOGY

A. System Architecture:

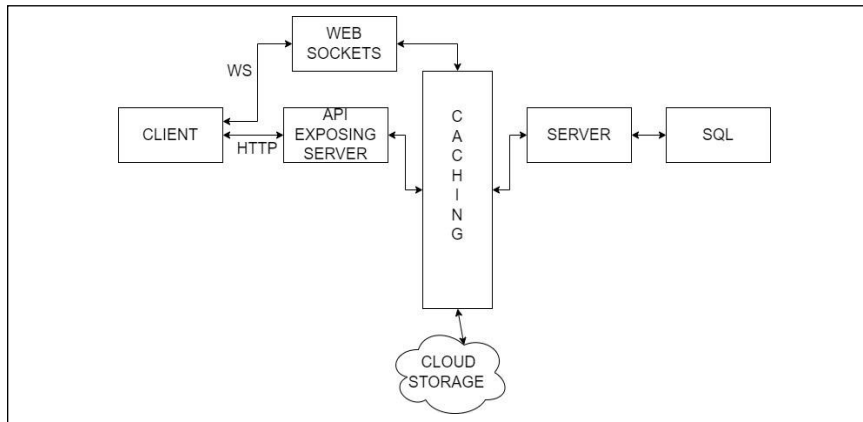


Fig. 1. System Architecture.

The architecture is mainly client-server architecture with clients including Mobile Phones and servers including to expose APIs and computation along with other purposes. Web Sockets would be used for real-time communication in videos and comments. PostgreSQL is used for the database. Cloud storage is used for storing images and video recordings.

B. Block Diagram:

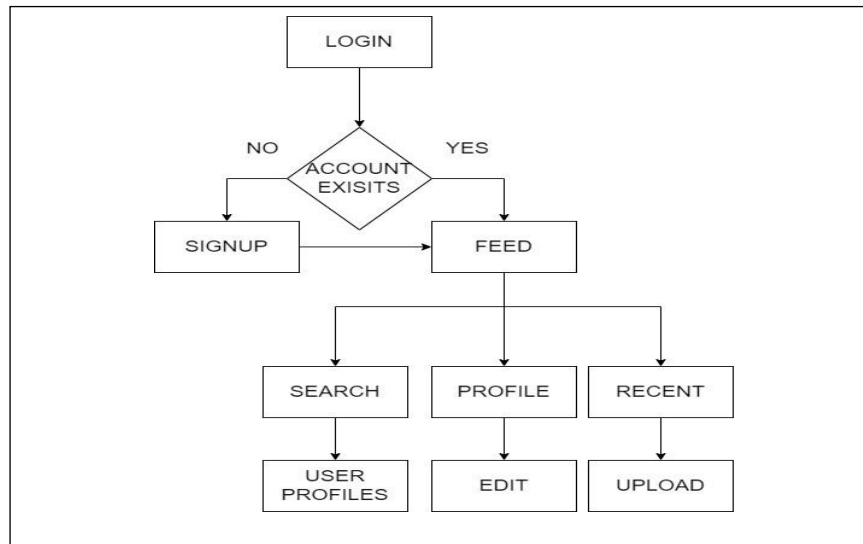


Fig. 2. Block Diagram – User Interface.

User first must create an account on the application to log into the system. Already registered users can directly log into the application by using their usernames and passwords. After Logging into the system, User will be redirected to the homepage where they will be able to view the feed according to their demographics. From homepage user can navigate to search page, profile page, and record page. Search page has an option to search for people user might know and view their profile. Profile page is a page where users can view and edit their own profiles. Record is the page where user can record videos by just putting their phone on their chests.

C. Architecture Diagram:

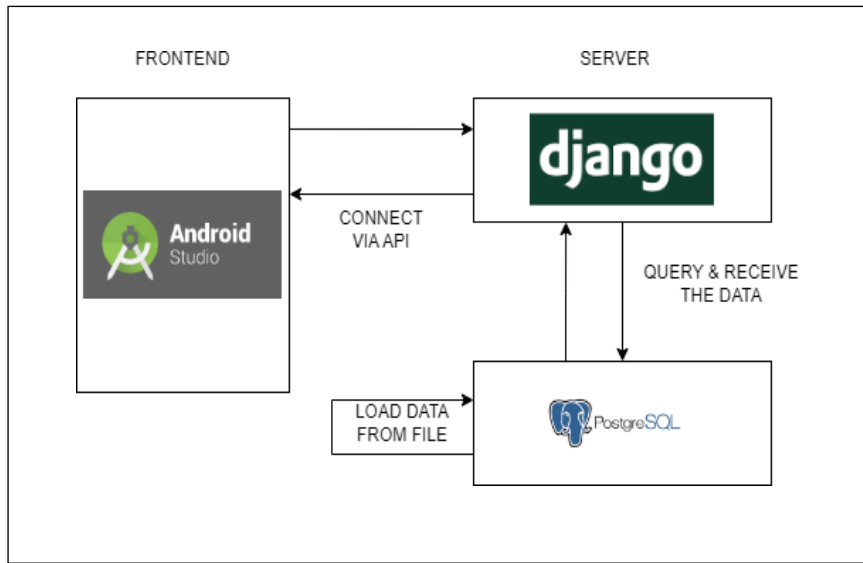


Fig. 3. Architecture Diagram

The architecture includes technologies like Android studios, Docker, Django, and PostgreSQL SQL for backend.

D. Use case Diagram:

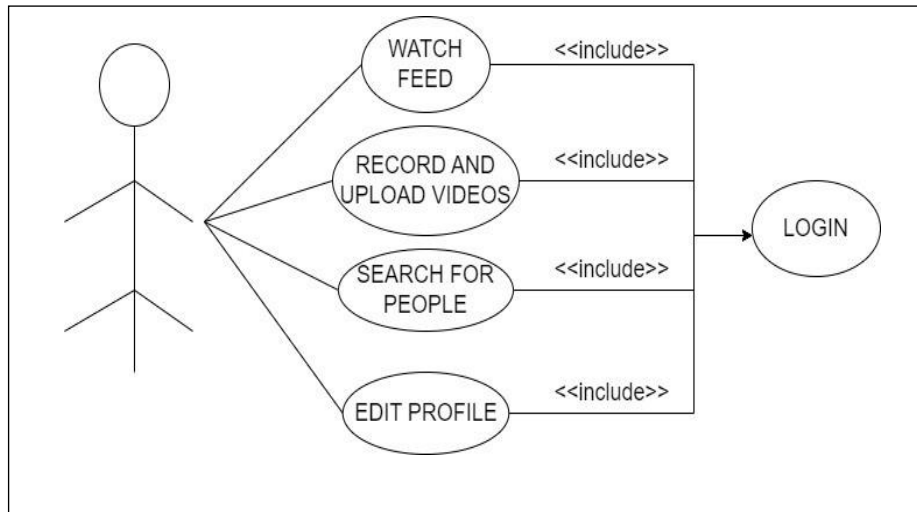


Fig. 4. Use case Diagram.

Users can create an account and login to proceed with major functionalities of the system. They can watch feed, record and upload videos, search for people. They can also edit their profiles.

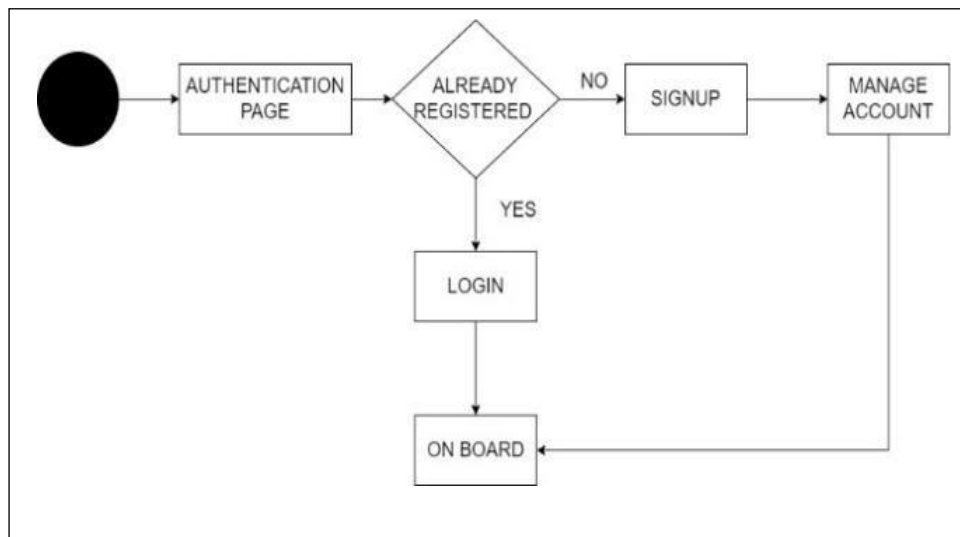
E. Activity Diagram:

Fig. 5. Activity Diagram

F. Technology Used:

- 1) UI Development:
 - a. Figma
- 2) Frontend Mobile Application Development:
 - a. Android Kotlin, XML
- 3) Backend Development:
 - a. Django
 - b. PostgreSQL
- 4) Database:
 - a. PostgreSQL
- 5) Other Services:
 - a. Docker
 - b. Firebase
 - c. Android Studios

However, these social media platforms are also plagued with some issues which could cause a lot of harm to the youth in the long term like the addictive property of social media platforms & the issue of people impersonating others.

RESULTS AND DIMENTIONS

Below are some screenshots of our application's interface.

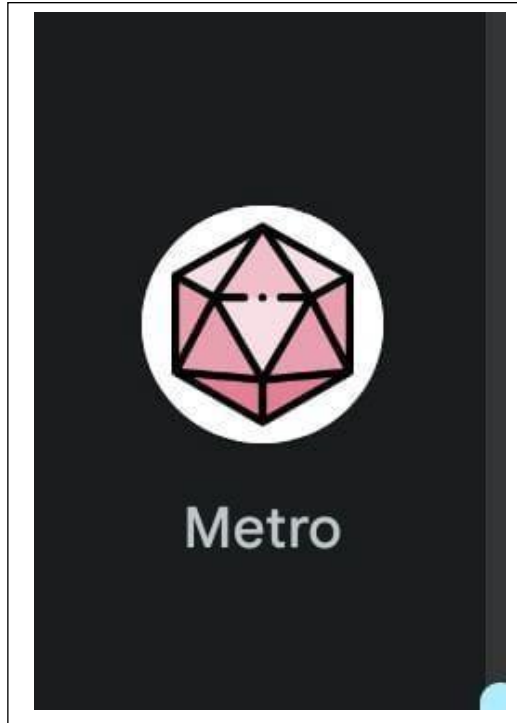


Fig. 6. Launch Page.

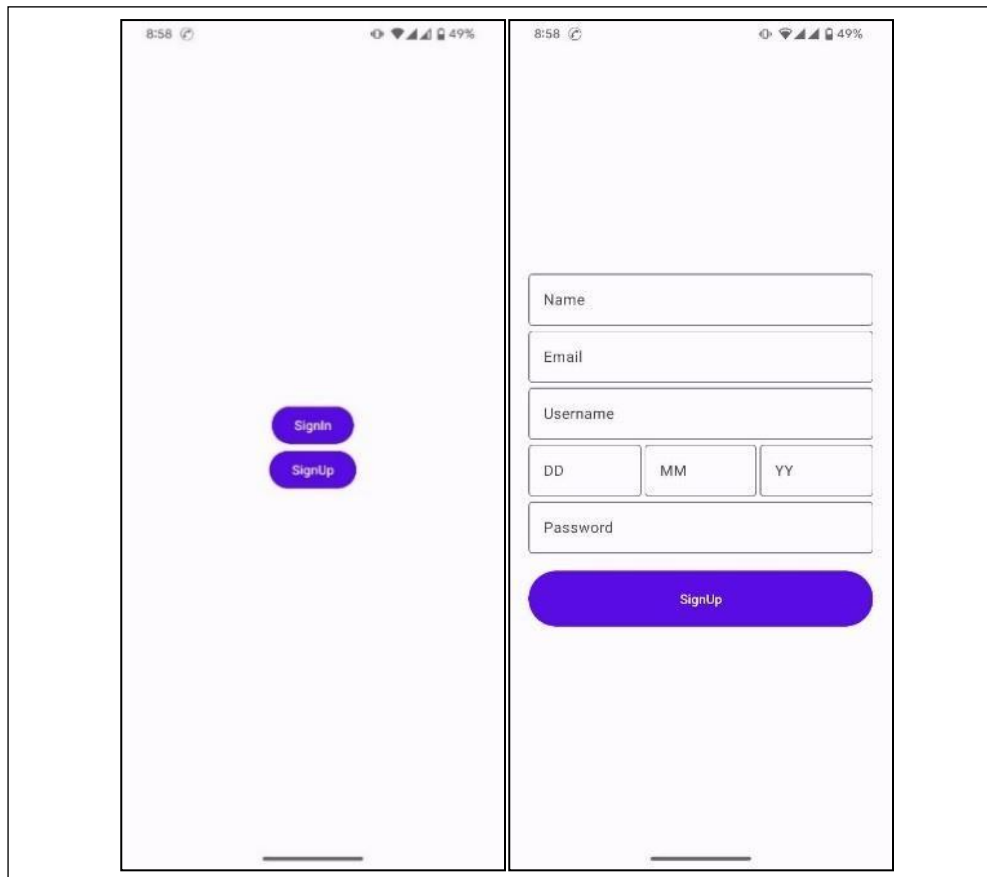


Fig. 7. Sign-up and Registration Page.

These are sign-up page and registration page where new users can create a profile on our application

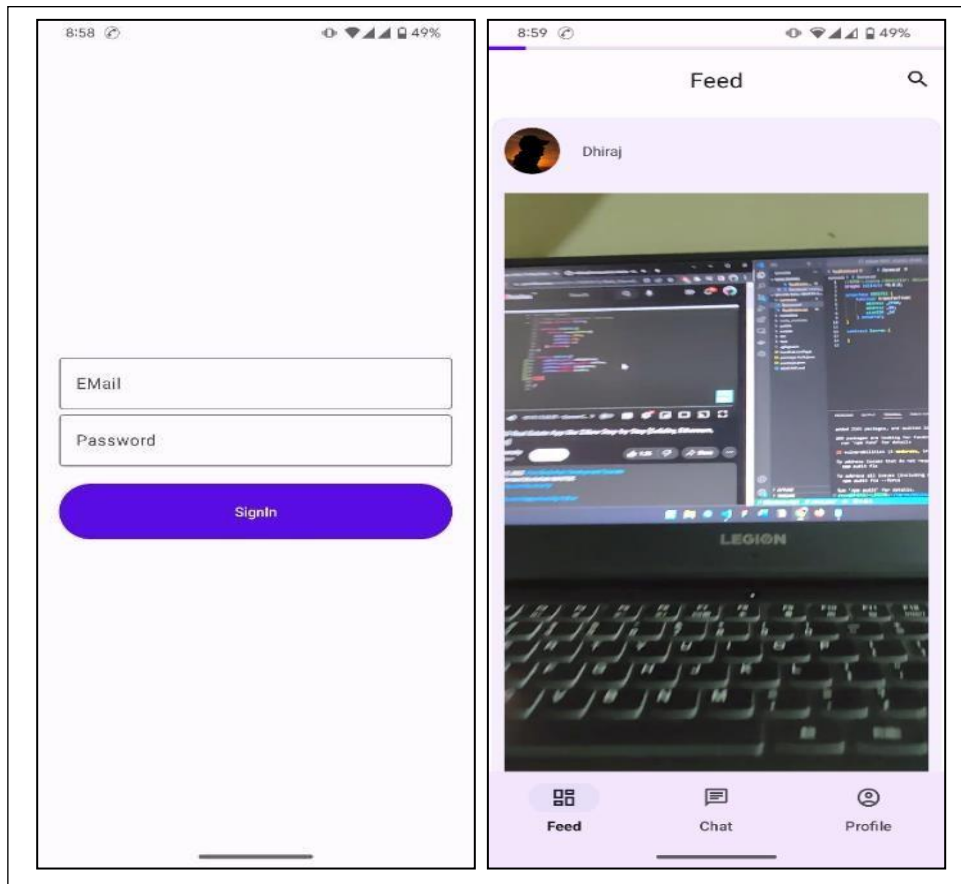


Fig. 9. Login Page and Feed page

In the login page user can enter their log in credentials to log into their accounts. Once user is log into the application, they'll be directed to the home page of their account which is the feed page, where they can checkout videos posted by the accounts they follow.

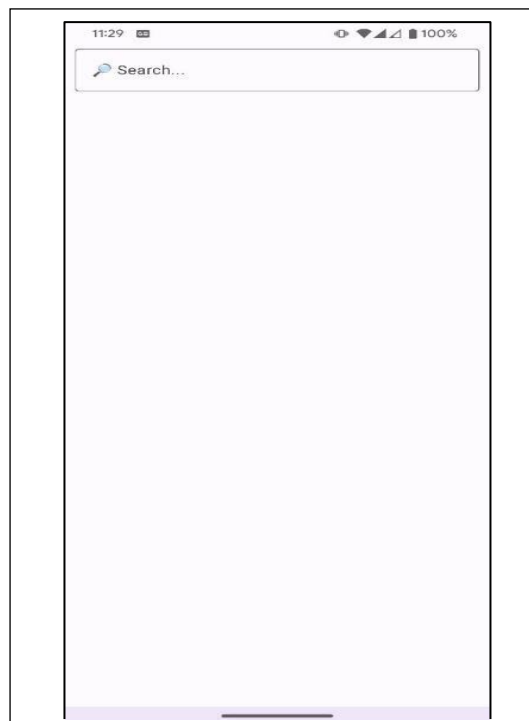


Fig. 10. Search Page.

By using the search bar on the top, users can search for different people on our application, check out their profiles and follow them.

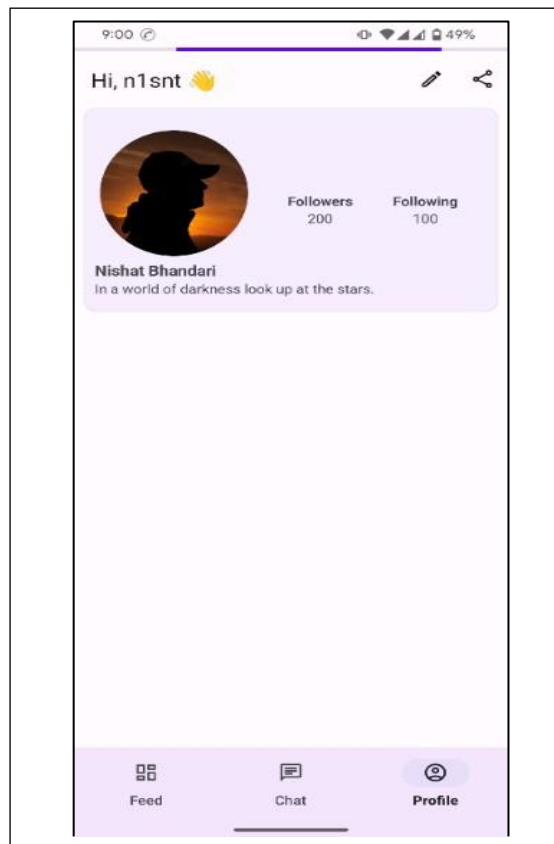


Fig. 11. Profile Page.

This is a profile page, where user can view and edit their profile and check out their followers and following count.

CONCLUSION

With increasing number of social media user, the need to create a user-friendly, non-addictive and an application that doesn't create false reality is also increasing. The available social media short video applications are addictive as they are based on hooked model to keep users engaged on their platforms.

Now-a-days, all the special moments are uploaded on the social media platforms, and to post these videos on social media, user often waste these moments recording them instead of living them and enjoying them. Also, one of the major problems with social media is copyright infringement and impersonation.

To tackle all these issues, we have created a short video application that is both user-friendly and non-addictive. Users can directly upload their videos after recording them. They don't have to do anything but keep the phone on their chests and the video will get recorded. They cannot upload any saved videos.

We have used PostgreSQL as the Database, Django as the backend, an android app as a frontend & docker to package the backend.

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