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FilmTrack

A mobile app to help users keep track of and discover new media on subscription services

Project Members



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Project Purpose: Why



**Too Many Streaming
Services**



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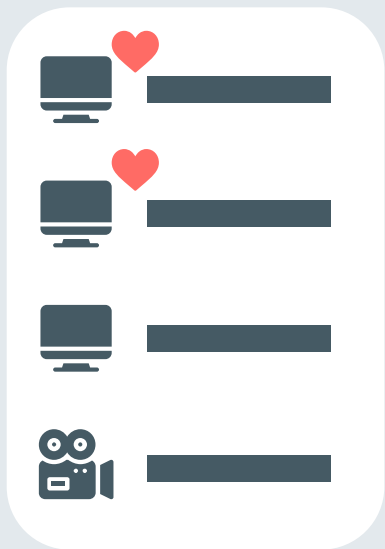
**Can't remember what
you watched/want to
watch**



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FOMO

Project Abstract: What



**Keep track of what you
have watched/want to
watch**



**Get suggestions of what
to watch next based on
your interests**

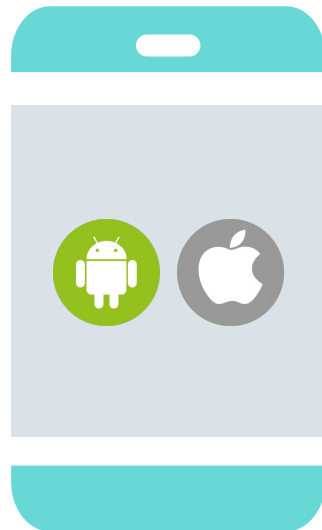


**See which streaming
platforms best match
your interests**

Project Goals: How...

FilmTrack

- Add and rate media you have already seen to your **watched** list
- Add media you want to see to your **to-watch** list
- Get recommendations that you can add to your **to-watch** list
- Rate recommendations so you can get suggestions of media you actually like
- Get new season notifications from shows on your **watched** list
- Keep track of your streaming subscriptions
- See which streaming platforms have the most content that matches your interests





User Stories

I want to **create an account and log in**, so that I can

- have a personalized user profile
- access my account



I want to **search for media**, so that I can

- add it to my **to-watch** list
- add it to my **watched** list



I want **my watched list** to

- represent the media that I've seen
- retain my rating for the media
- help inform my recommendations for new media

I want **my recommendations to**

- show me media
 - so I can like or dislike the recommendation
 - so I can add media to my **to-watch** list
 - so I can update my **watched** list with shows I've seen
- notify me of upcoming seasons, episodes, and sequels of media I am interested in

I want my **to-watch list** to

- represent the media I want to see
- keep track of my progress in a tv series

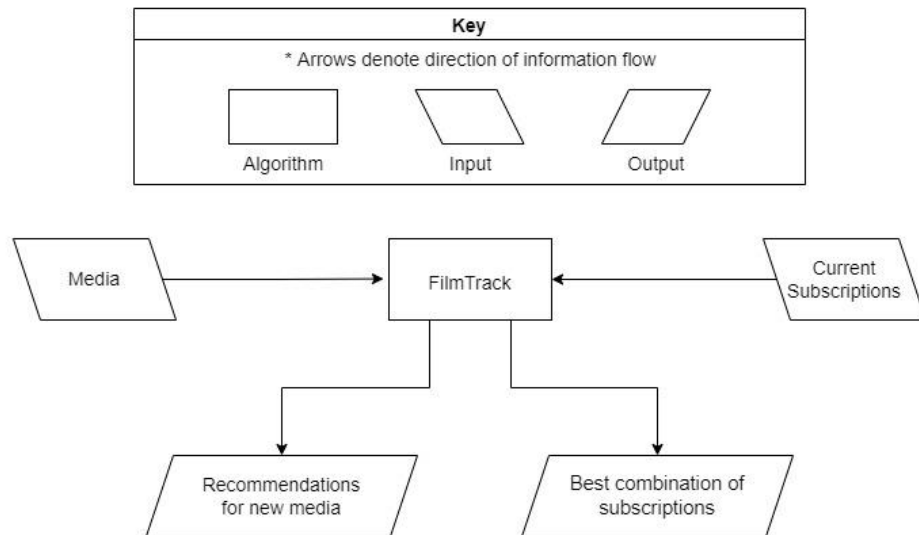
I want to **add my current subscriptions to**

- keep track of what subscriptions I am paying for
- get recommendations for which subscriptions to prioritize based on my **to-watch** list

Design 0

FilmTrack D0 Diagram Representing Basic Inputs and Outputs

Goal: Provide a system for keeping track of the media you have watched and want to watch, provide suggestions on what to watch next based on your preferences, and recommend best combination of streaming platforms for optimal use of money.

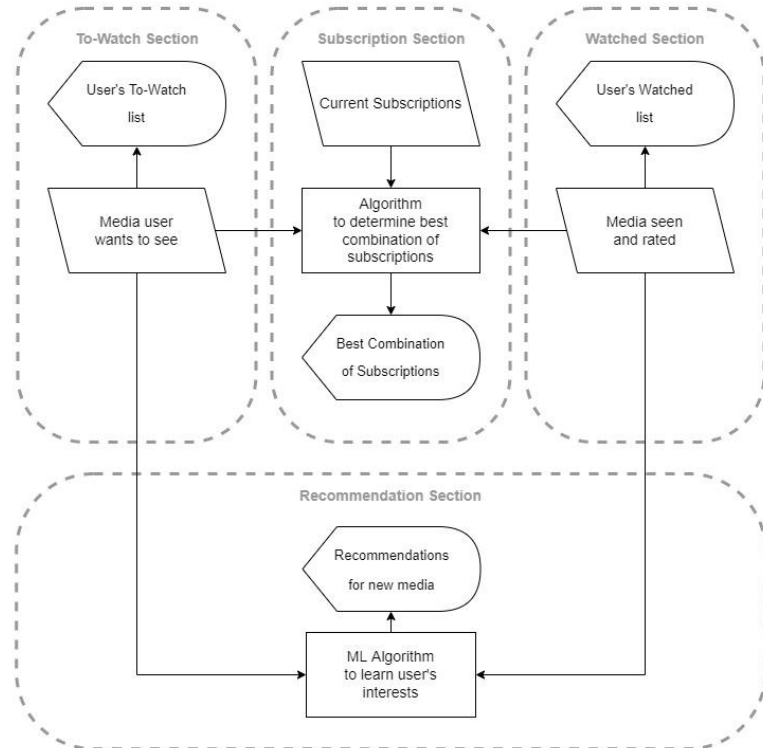
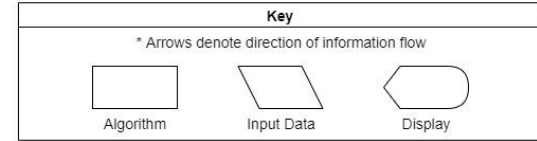


Design 1

FilmTrack D1 Diagram

Representing Data Flow and Sections

Goal: Provide a system for keeping track of the media you have watched and want to watch, provide suggestions on what to watch next based on your preferences, and recommend best combination of streaming platforms for optimal use of money.

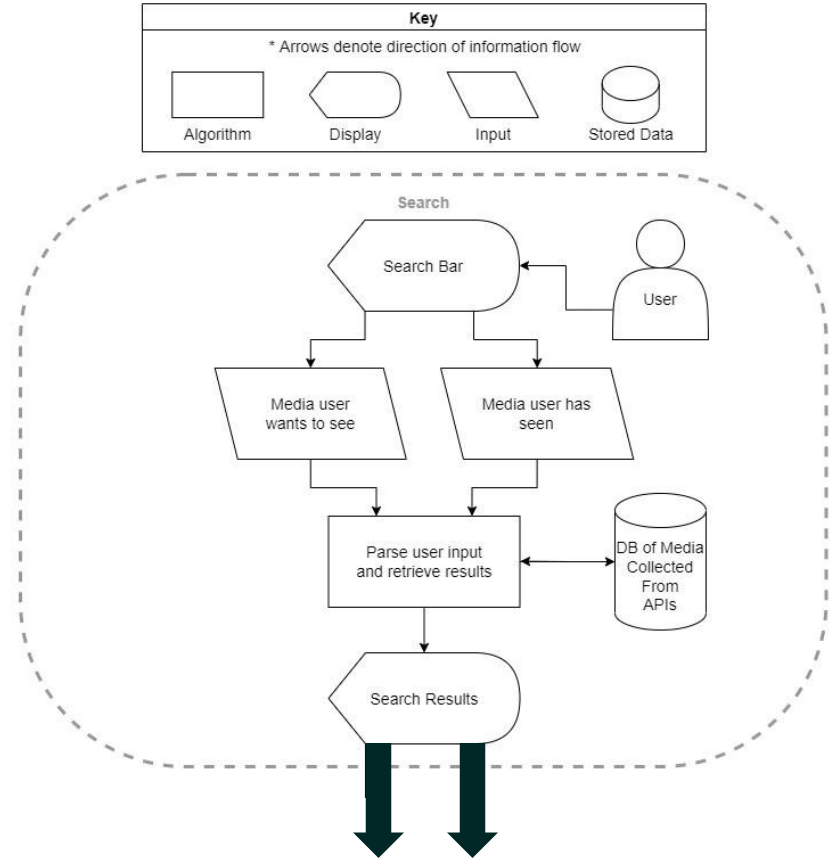


Design 2

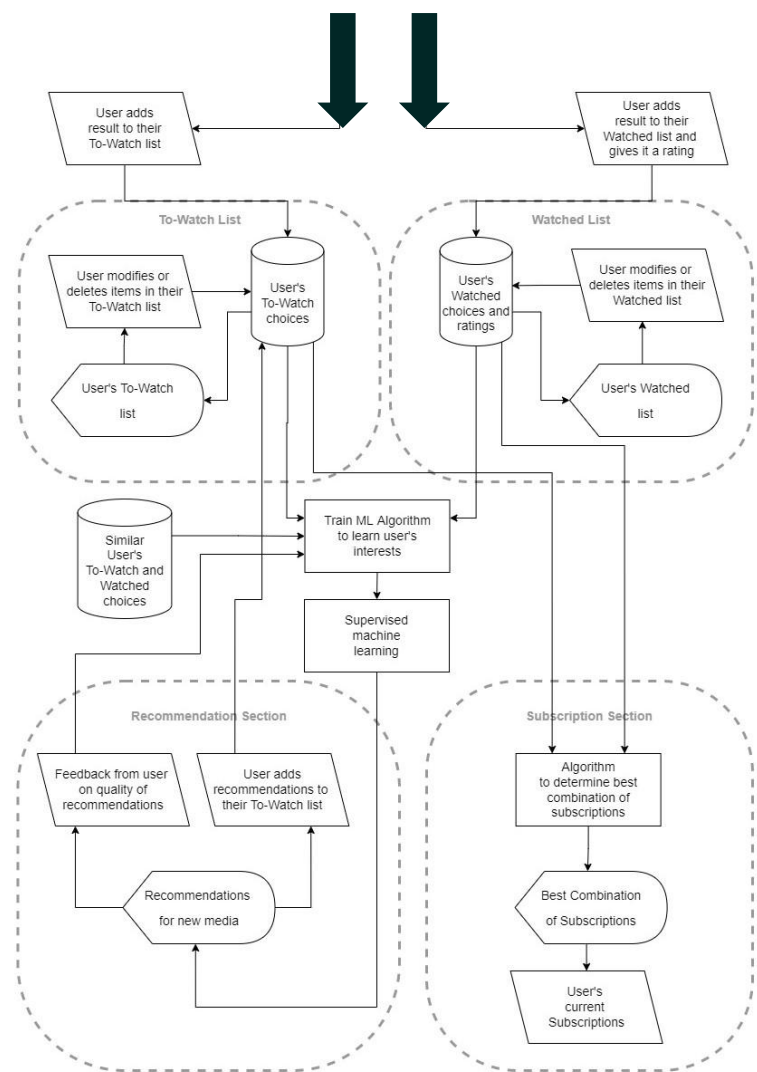
FilmTrack D2 Diagram

Representing Data Flow, Sections, and Algorithm Flow

Goal: Provide a system for keeping track of the media you have watched and want to watch, provide suggestions on what to watch next based on your preferences, and recommend best combination of streaming platforms for optimal use of money.



Design 2 Cont.



Project Constraints

DIVERSITY AND CULTURAL

Because of time constraints

- our application will be targeted towards North America
- we plan to only support English for this project
- populate our database with the most popular media from North America

When time is no longer a constraint

- promoting diversity in our application will improve user experience and the number of users who can use our application
- with access to data from around the world, our application could recommend media users may not have known about
 - a user may discover that they enjoy bollywood/anime because they share other favorited media with users outside of North America



Economic

We are students

- we cannot afford to spend money on building a highly scalable backend with low latency
 - we have to use services with minimal to no cost upfront
 - this limits how many concurrent users we can have
- we will work with free APIs to gather information about media for our solution
 - many free APIs have rate limitations
- we will host our ML models on the cloud
 - we cannot use paid, advanced services such as model drift monitoring
 - if we did not host our ML models on the cloud and a personal device instead, high latency would impact user experience



Legal

A confidentiality agreement is needed to protect app ideas from potential stealing or competition

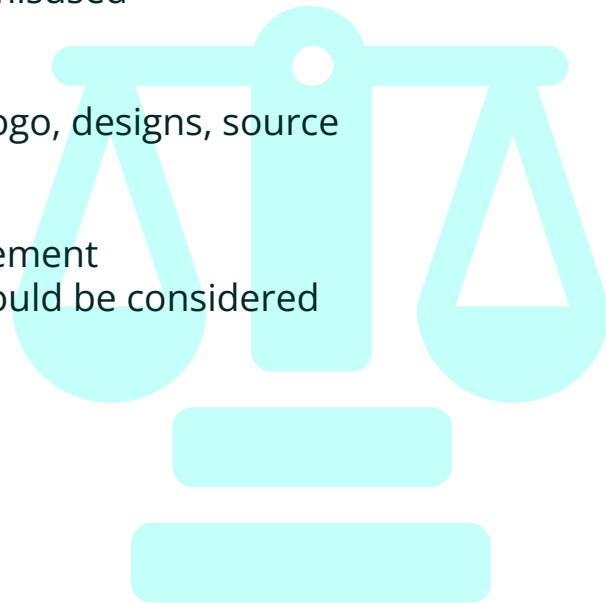
- we do not have one, so our project ideas may be stolen or misused

Intellectual property rights

- our team will be creating original content: an app name, a logo, designs, source code, etc

Major app stores require apps to have an End-User License Agreement

- if we need to upload this app to the app store, the EULA should be considered



Ethical

We use a recommendation system and may need to consider

- inappropriate content
- user privacy
 - data storage and collection rules
 - data leaks
- fairness in the algorithm
 - observation bias: see what expect to see and not what is there
 - user demographic imbalance
- social effects of the algorithm
 - lack of exposure to contrasting viewpoints
 - feedback loops that exaggerate interests



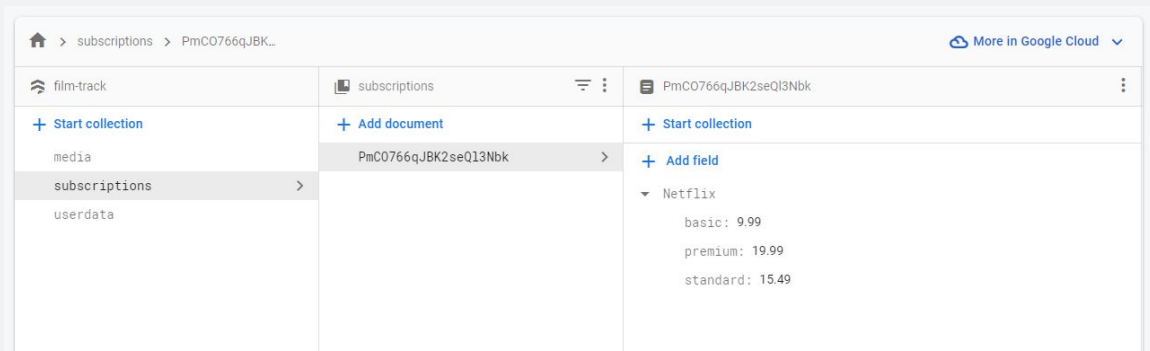


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Project Progress

Backend/Frontend

- Environment setup complete
 - Flutter framework
 - Dart language
 - Firebase backend
- Beginning stages of populating database with media data
- Preliminary research for ML model
 - Use Firebase to deploy a TensorFlow Lite model



Flutter



Dart

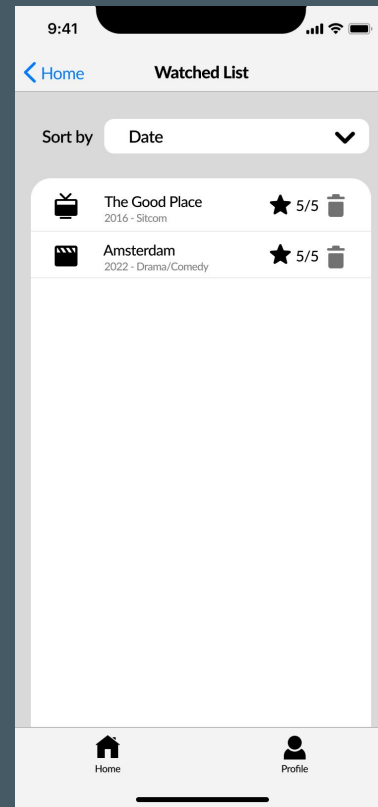
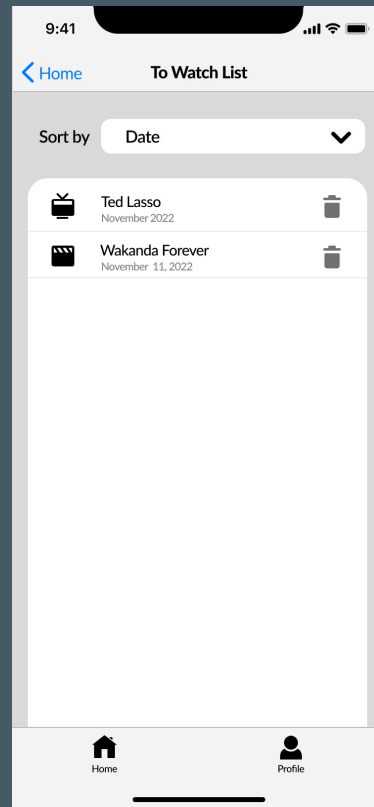
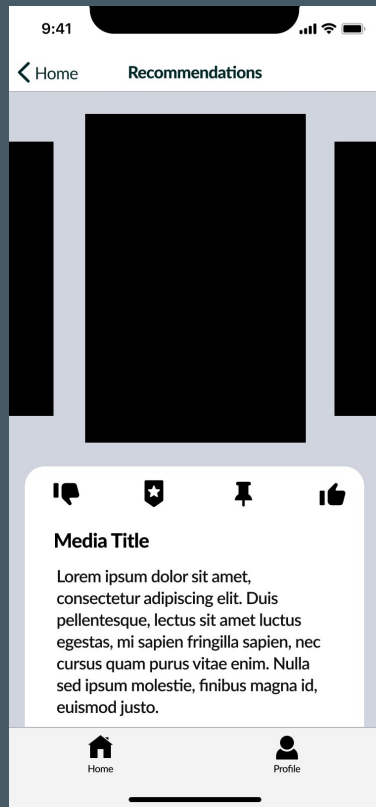
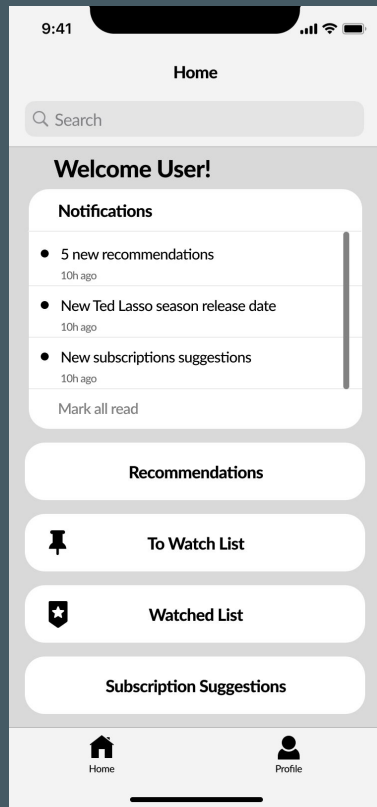


Firebase

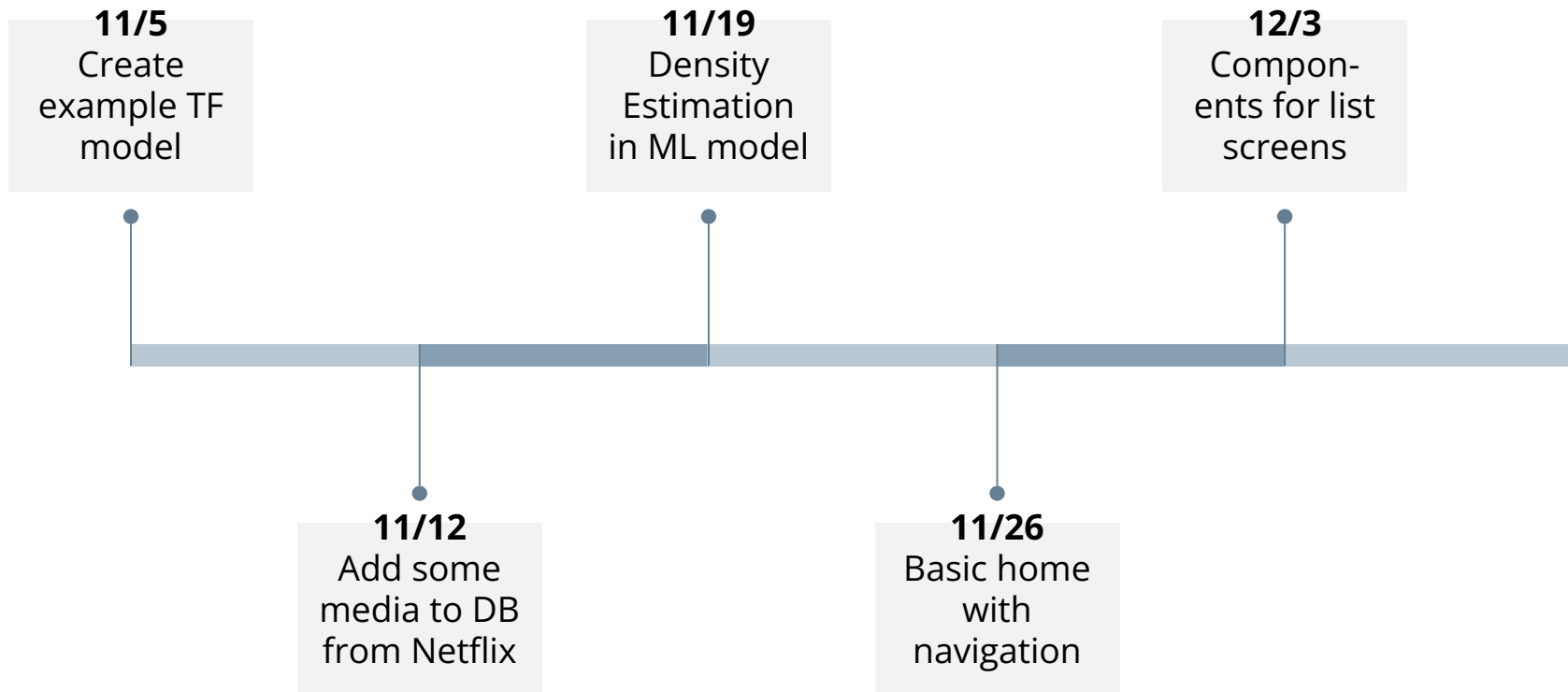


Login/Signup Demo

Initial Designs



Expected Progress: Fall Semester



Division of Work

Julia

- Setup frontend/backend
- Design screens and components
- Implement and train ML algorithm
- Implement subscription matching algorithm

Sidath

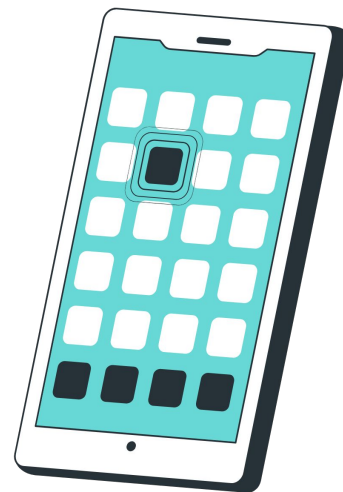
- Populate media data in database
- Implement auth screens and navigation
- Implement recommendations screen
- Implement subscriptions screen

Jielun

- Implement user profile screen
- Implement home screen
- Implement watched list screen
- Implement to-watch list screen

Expected Demo at Expo

- Complete the minimum viable product
 - Database populated with media from at least two streaming services
 - Completed Implementation of UI screens
 - ML model can make recommendations and take feedback
 - Measurable improvement in recommendation model from initial model
 - Subscription matching algorithm has positive user feedback



Thank You!

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