

CS400 xTeam 78 Project

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1. Title:

Easy TV

2. Problem:

With so many new TV shows on different channels and platforms, it can be difficult to keep up with new episodes. This program would allow you to pick which shows you want to track (from a large list of providers including Hulu, Netflix, cable, etc..) and creates a curated weekly list of episodes with the episode premiere times.

3. Primary Stakeholder:

The primary user would be someone who watches many different TV shows. This app would allow them to get a weekly schedule of new episode releases.

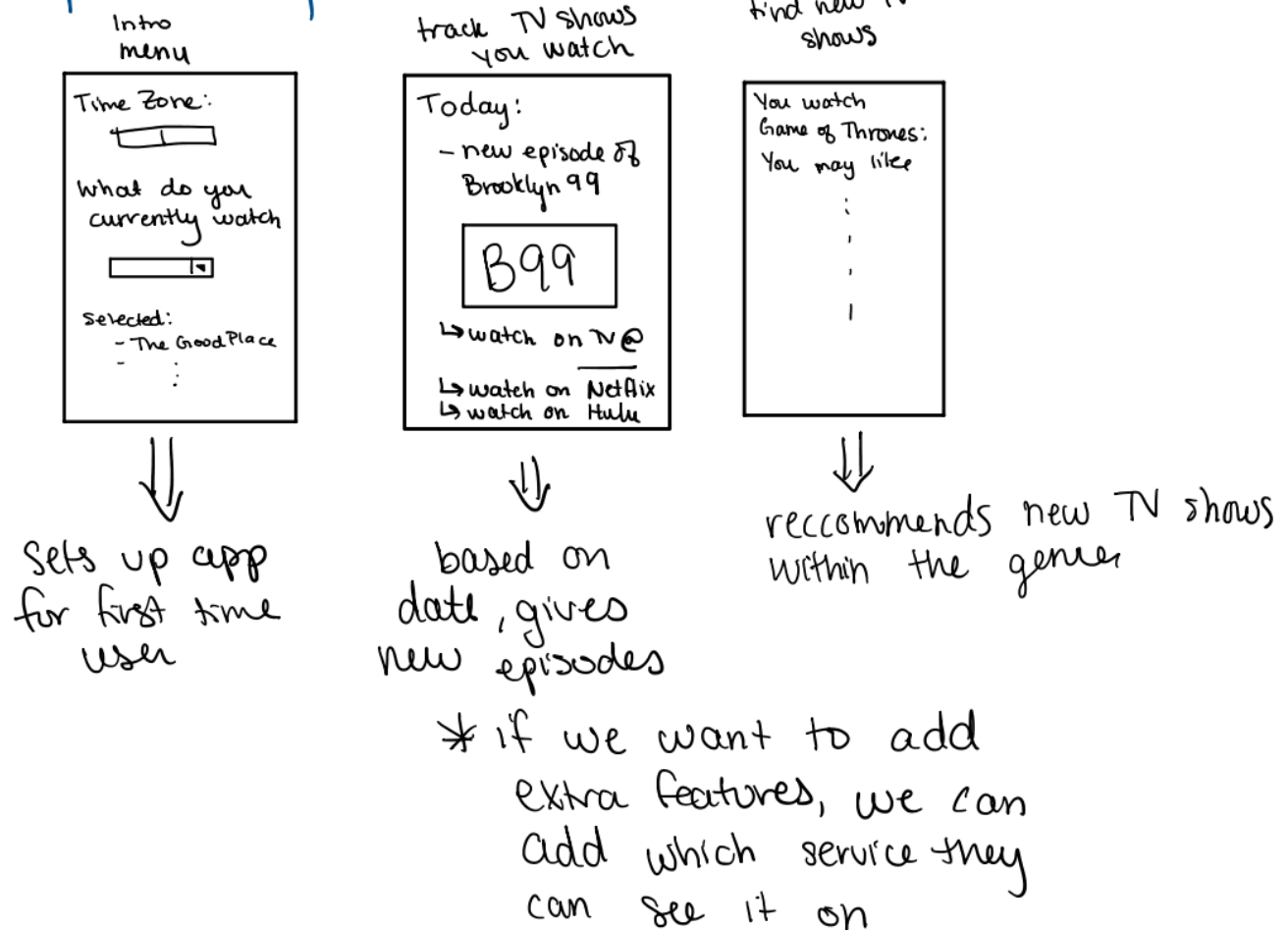
The application will be used by a wide range of populations. For each age group, there may be different levels of restrictions on the shows, for example, younger users would be more restricted on porn and violence; for elderly audience, we can show less cartoon, and provide more political, travel, classic movie shows. This help prevent inappropriate contents and recommend related shows. To sum up, this app will be used by a variety range of people, and based on their information, we prioritize the shows for them to select on timetable.

4. Graphical User Interface (GUI):

When user first log in to our app, they can type their age, gender, interest... this enables the app to recommend the relational TV (which may be interesting to user) on the upper position, and put . Starts with a welcome page that asks for user time zone and current TV shows the user watches. The app then creates a weekly list of episodes from that from the user's watch list. The list would include info such as episode summary, TV provider, and day/time premiere of the show. Some possible features that may be added later in development include:

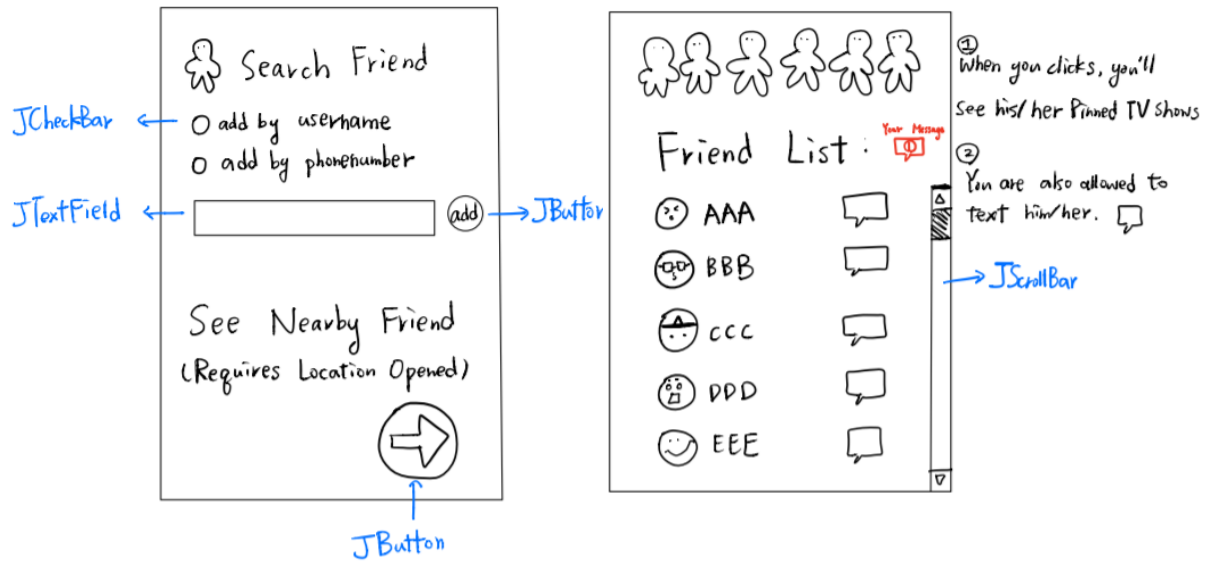
- Finding new TV shows based on
 - Genre
 - Actor
 - Provider

Graphical User Interface:



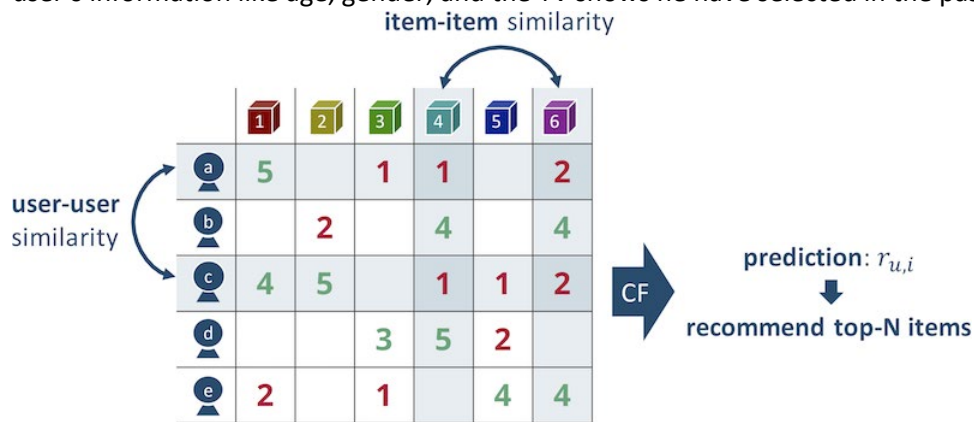
On the timetable, user can open notifications. When a TV show is about to start, the application will pop up messageDialog to remind user.

We will also have "Add Friend" function. User can invite other to be their friend, and see their friends' loved shows. User can also text their friends. Here, the interactivity is increased, which makes users feel more interesting. Also, we can gather more user data, further enhance the accuracy of our recommendation system.



5. Possible Data Structure:

We need to give out lists for user to choose, and there are lots of TV shows from multiple platform. Therefore, use collaborative filtering algorithm to recommend TV shows for specific users, based on user's information like age, gender, and the TV shows he have selected in the past.



- User data stored in ArrayList
 - This would include date/time, genres they like, providers they have
- Current TV shows being watched stored in an arraylist (or hashtable)
- Store TV shows in different hashtables
 - Each entry stores:
 - Name of TV show
 - 2Genre
 - Picture
 - Episode
 - Summary
 - Date of premiere

Would have to edit time to match user time zone and print out weekly list of episodes in order of day releasing

6. Input Data File Format:

- A .JSON file containing different arrays of:
 - User data
 - Age,
 - Gender
 - Date/time
 - Genres they like
 - Current providers they have
 - Current TV shows being watched
 - List each individual show
 - Individual TV show information
 - Name of show
 - Genre
 - Episode summary (date of premiere)

Data:

- User information
 - User location (For time zone and adjusting premiere times)
 - User gender, age, old records of the same user
- TV providers the user currently has
 - For recommending shows the user can access
- User genre preferences
 - For better recommendations
 - Can change overtime as user watches more shows
- Current date
 - To curate an accurate list of episode premiere dates and time
- Pictures of each show
 - Will show up in GUI

7. Output Example

Day/Time: 11/7/19 - 12:30 PM

NEW EPISODE:

- Brooklyn 99-S2E8

B99

↑
Clicking button plays episode
on default service/platform

Others Shows:

- Stranger Things - S4E1

ST

- The Office - S10E1

TO

GitHub Link: <https://github.com/DemonteiroWisc/easy-tv>

8. References

Collaborative Filtering graph: https://takuti.github.io/Recommendation.js/latest/collaborative_filtering/