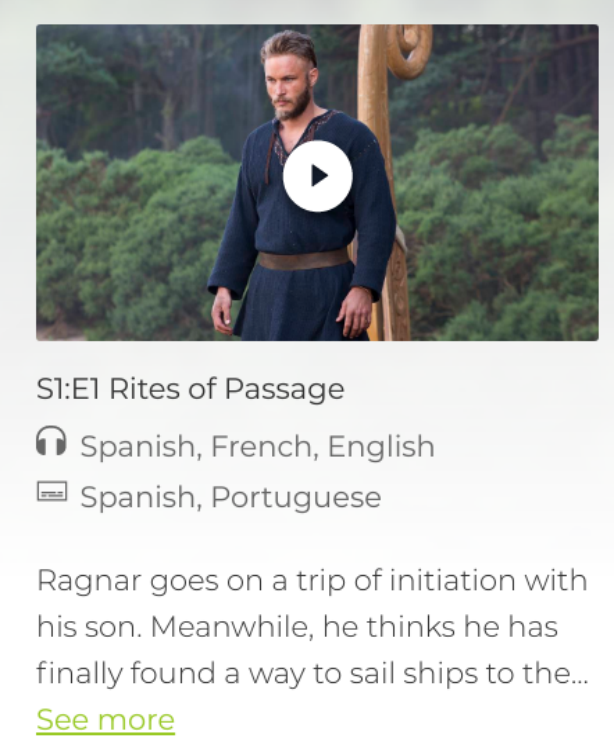
Immfly Backend Test

We need to define an API for our media platform, which allows us to display contents following a hierarchical structure.

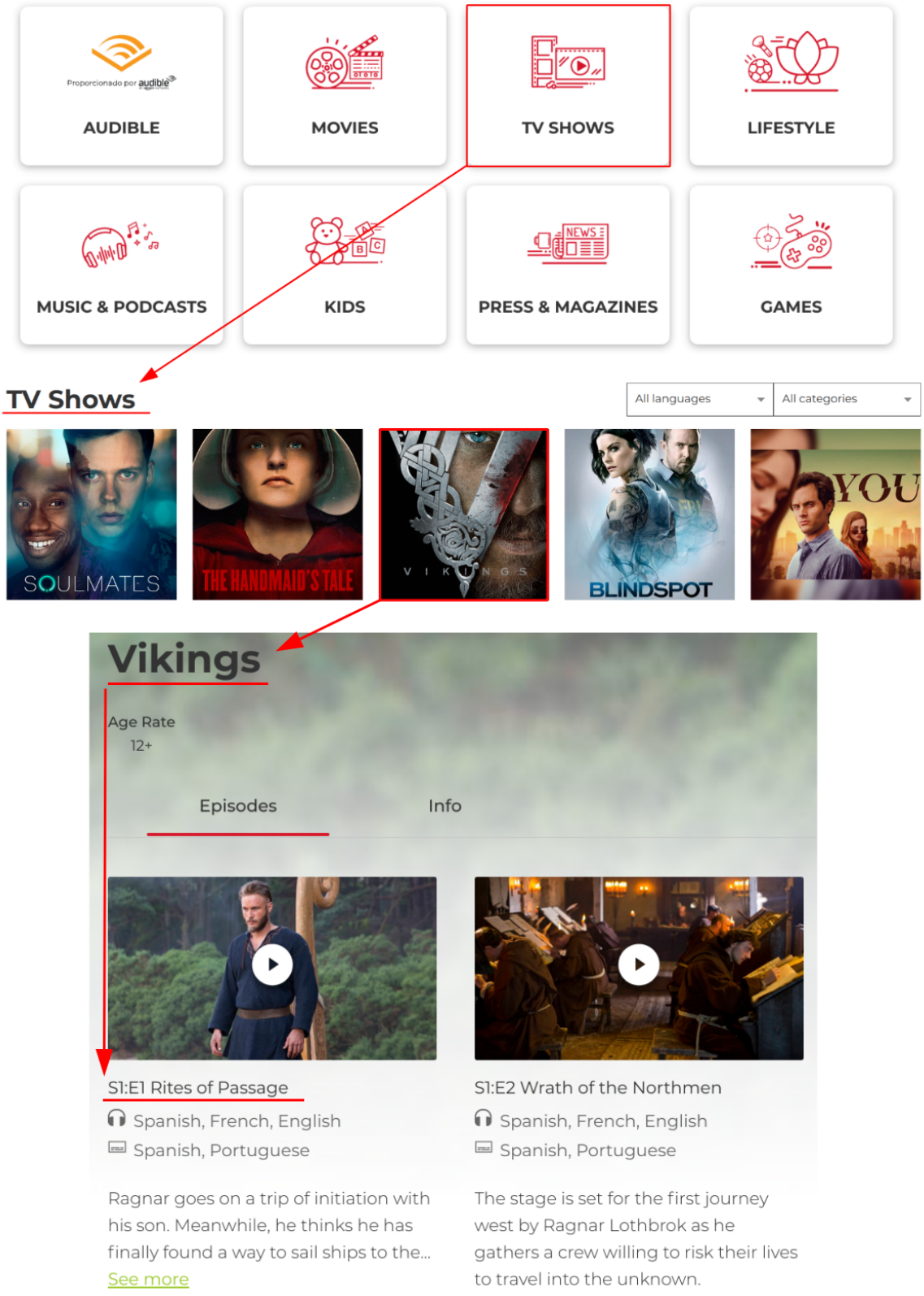
A ***Content*** can contain files (such as videos, pdfs, or text), a set of **arbitrary metadata** associated with the content (content descriptions, authors, genre, etc.) and a rating value which is a decimal number between 0 and 10.

See the following example of a Content, corresponding to an episode of a TV series.



We organize the contents in the platform through the use of *Channels*. A ***Channel*** stores the hierarchical structure and has a **title**, a **language**, and a **picture.** A channel can contain references to either other channels or contents. If a channel has subchannels, **it cannot have any content underneath**, conversely, if a channel has contents, **it cannot have any subchannel underneath**. A channel **must** have at least one content or one subchannel.

In the following images, you can see an example of the channels that could be provided by your API.



The rating of a channel is the average of the ratings of all the channels underneath, if the channel has no subchannels its rating is the average of the ratings of its contents. If a channel has no contents, it does not affect the ratings of its parent since its value is undefined.

Channels can’t store this rating directly (because the structure can change at any time), so we need a way to compute it from the content structure behind them.

The requirements we ask for this test are:

- Create a Django project to define an API
- Define models to represent the structure explained above
- Create a **management command** to **efficiently** calculate the ratings of every channel and export them in a **csv file** sorted by rating (i.e. the highest rated channels on top). The csv contains two columns: *<channel title>, <average rating>*
- *Create endpoints to retrieve the channels, their subchannels and its contents*
- Add unit tests to test the channel rating algorithm

Get bonus points for:

- Adding *Groups* to the channels. Considering that each channel can belong to multiple groups.
    - Allow filtering by group on Channels API.

  Note: Take into account that any channel's groups set should be included in its parent's group set

- High test coverage through unit tests
- Usage of docker to run the services
- Addition of type annotations (bonus for passing strict mypy type checks)
- Adding CI/CD (Gitlab CI is preferred, but you can use anything you want)

You can use any libraries, DBMS or tools you need to accomplish the task.
We encourage you to define a readme file with some explanations about your solution.

Send the repository URL to francesc.lapedriza@immfly.com and camilo.castro@immfly.com