

Big homework

Trending Russian YouTube Video Statistics Manager

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Problem statement:

Building a GUI application with the help of Qt Widgets Library. To be more precise:

- implementing such functions as loading dataset from a file, saving data from the model as a file;
- editing, deleting, sorting, videos in the model;
- adding new videos to it;
- creation of a dialog window “About” with the logo drawn by overriding the paintEvent() method;
- displaying info about one particular video (master-detail model)

Individual problem specification:

Trending Russian YouTube Video Statistics Manager

Manager program contains the list of trending Russian videos on the vastness of the Russian part of the YouTube video hosting service. The fields are: video_id, trending_date, title, channel title, category_id, publish_time, tags, views, likes, dislikes.

Master in the master-detail field is Title. Title is the name of a video.

Basic features:

1. Adding and deleting videos to the list, editing information about them.
2. Showing (UI element) the total amount of likes, updating it when the list with videos updates.
3. A UI element showing the total number of videos in the exact moment of time.

Additional features:

1. Sorting videos by some (any) field. For example: category (field category_id) or by tag (field tags)*.
2. Filtering entries by specifying a particular value of some field. For example, only a particular amount of likes or publication time.
3. A UI element showing the mean likes (field like) value for the current filtered view.

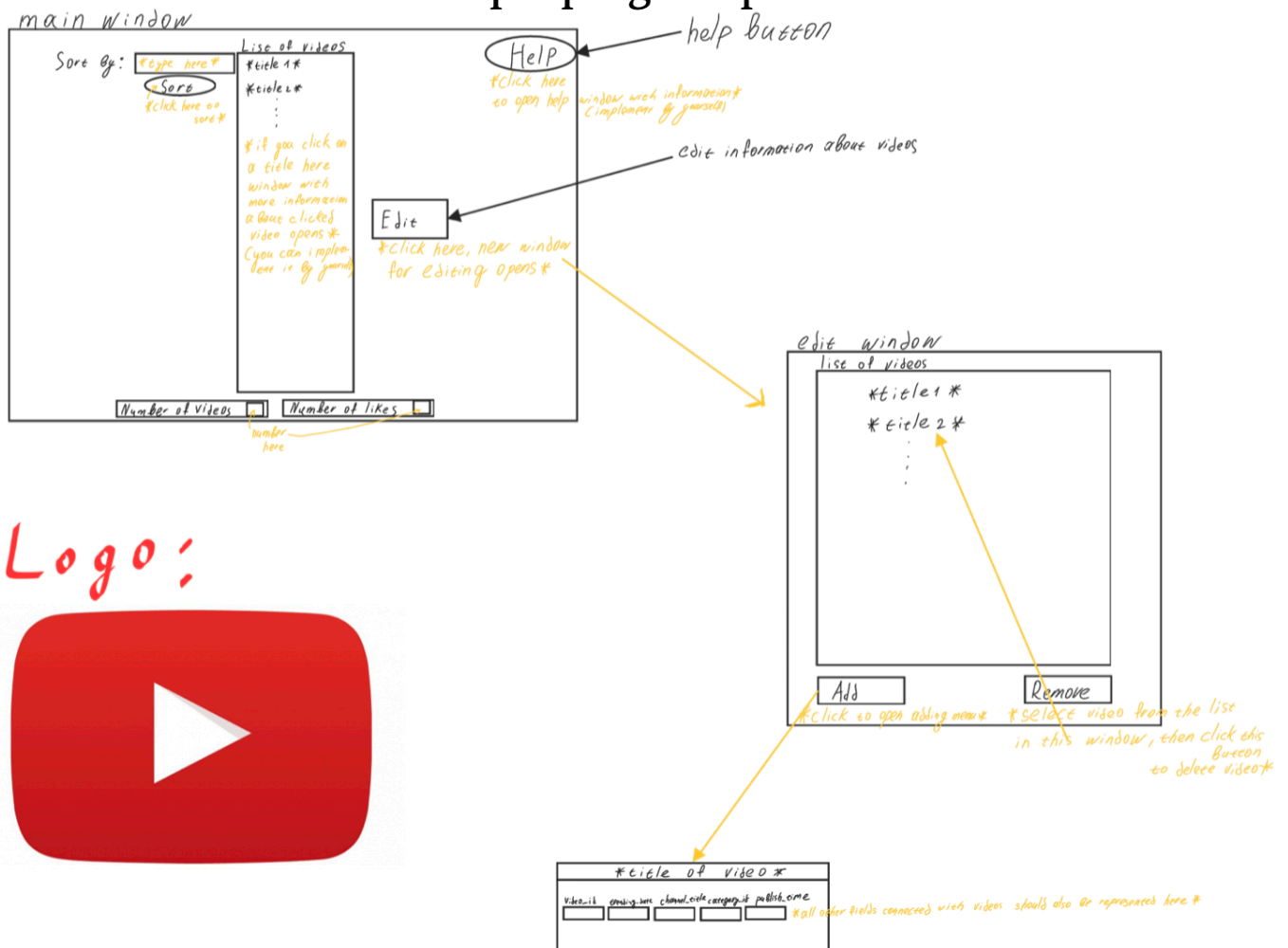
*You can choose the most preferable option for you

Dataset link:

<https://www.kaggle.com/datasnaek/youtube-new?select=RUvideos.csv>

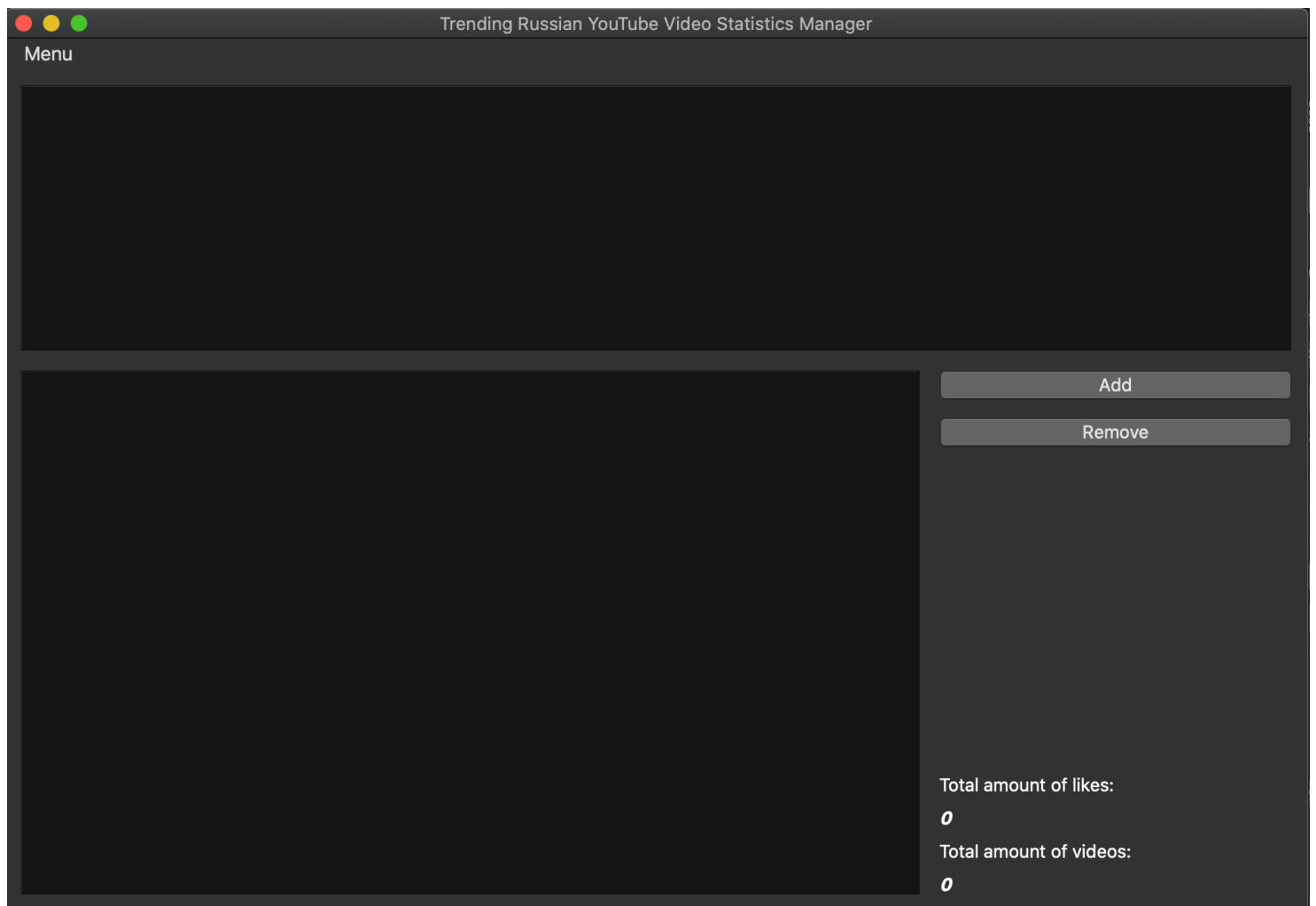
(You need RUvideos)

Sample program plan

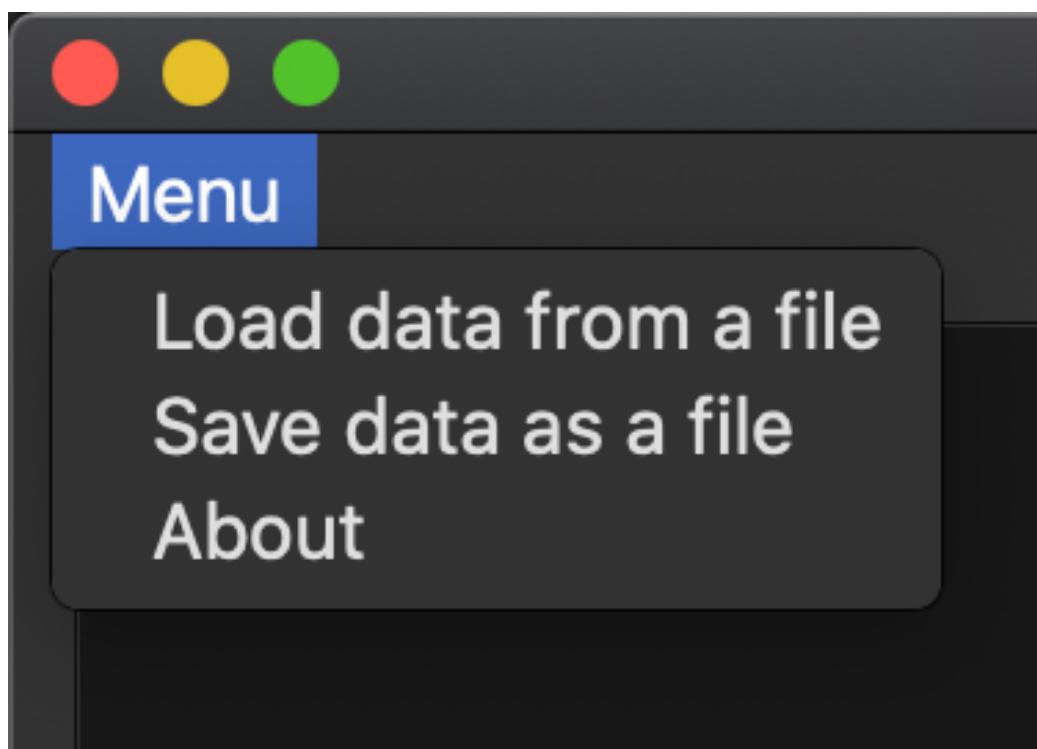


Implementation details section:

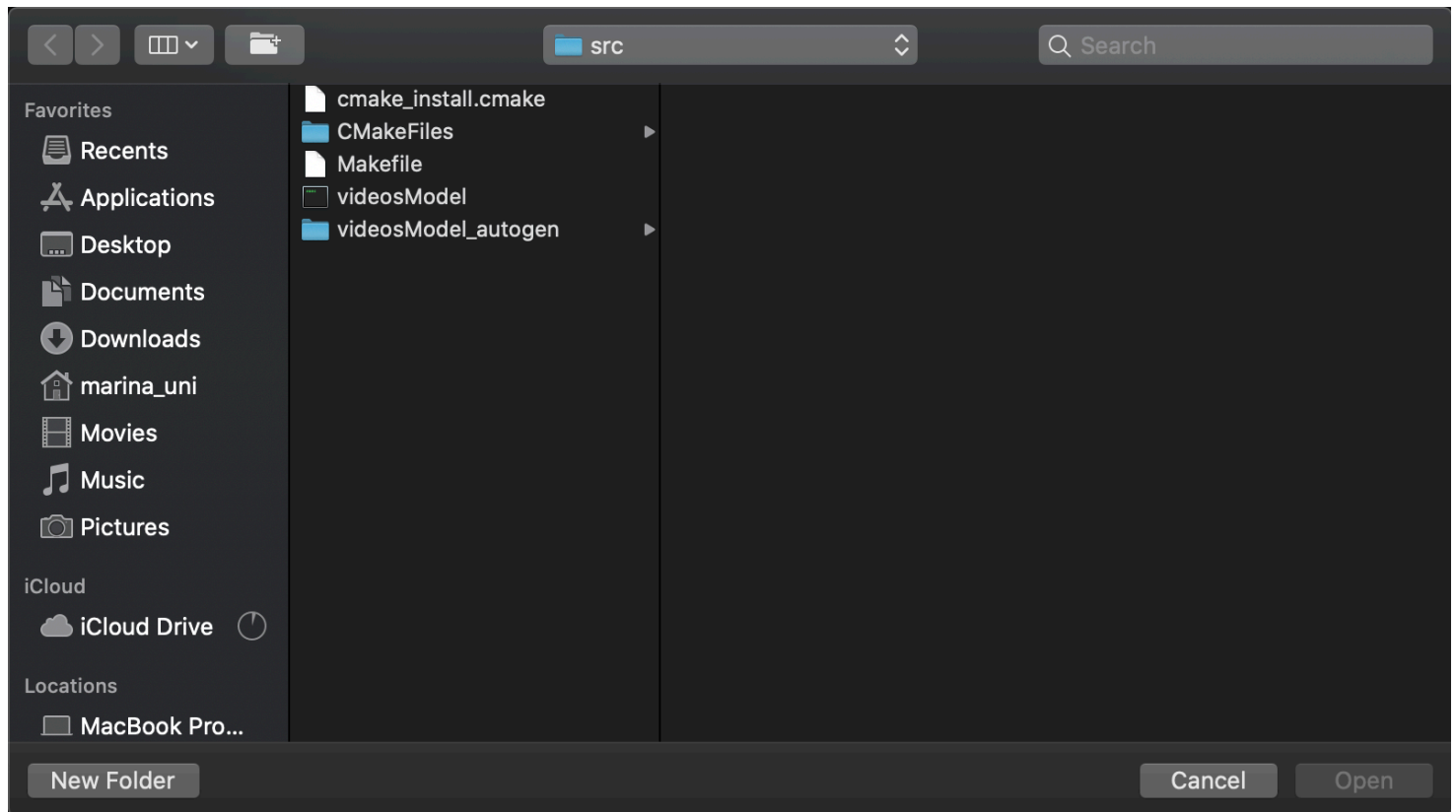
1. Here you can see the main window:



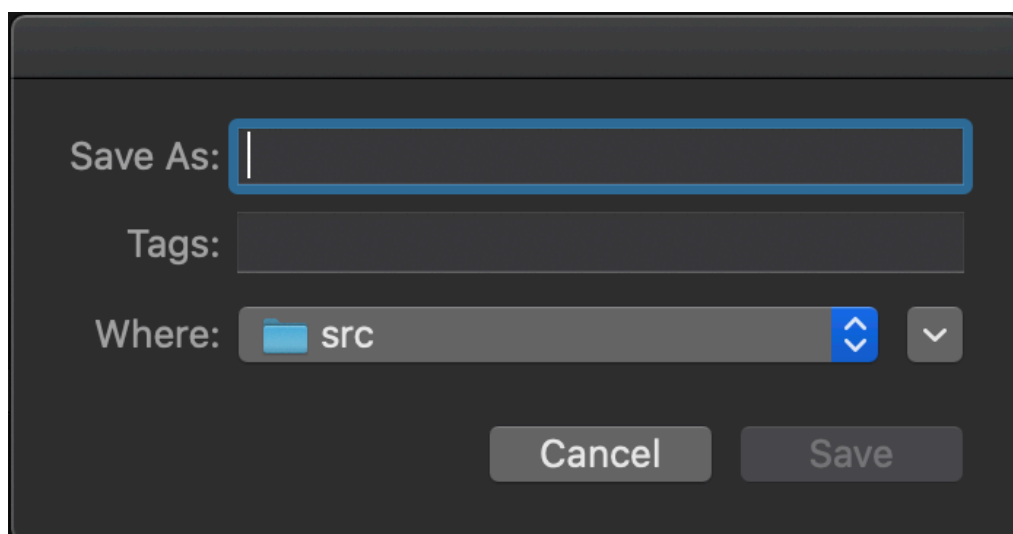
2. Menu contains the following buttons:



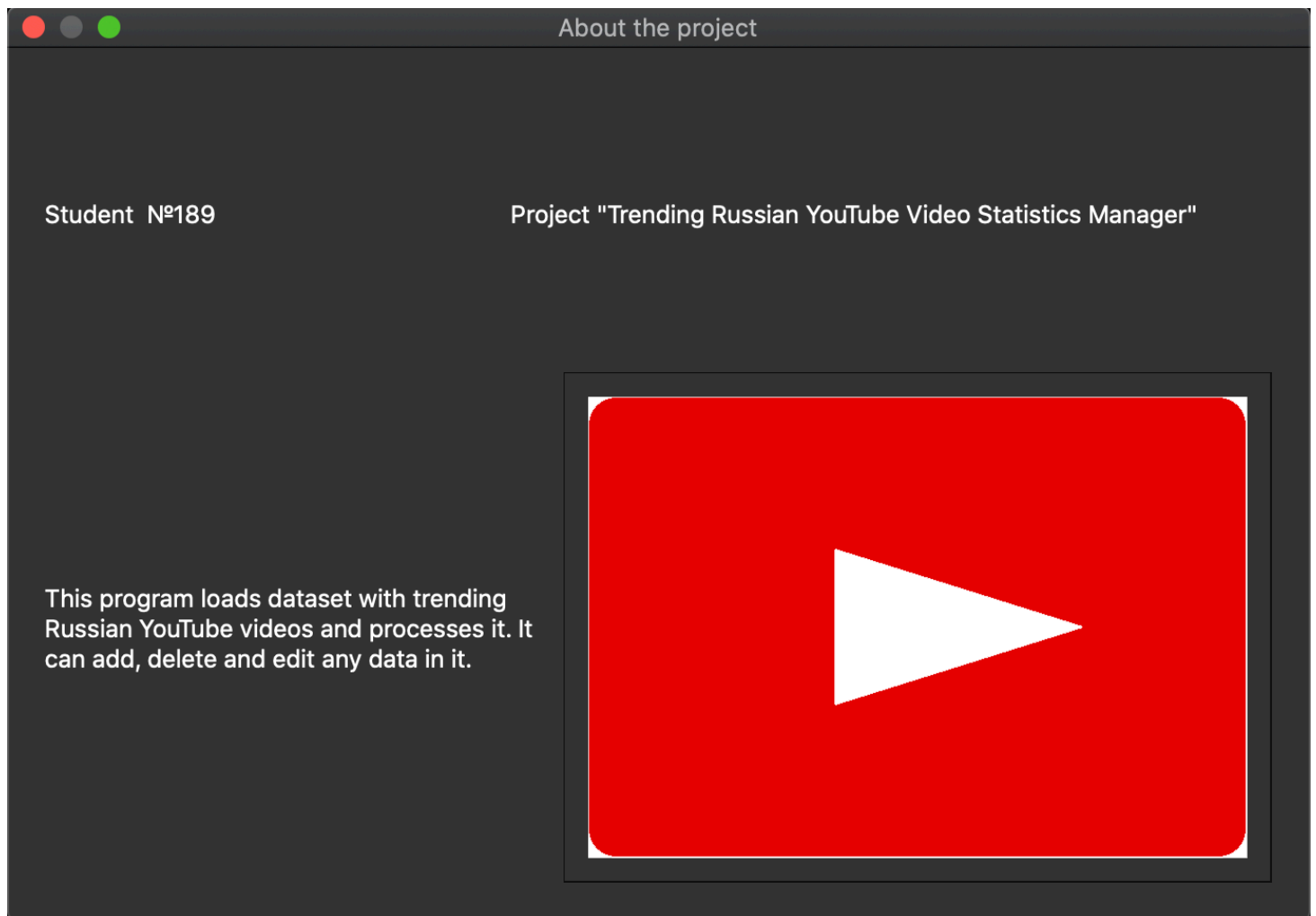
3. Loading data from a file, you can search for it on your computer or connected devices:



4. Saving data, you need to enter the name of a non-existing file where your data will be saved. For further reuse of the data, you need to enter ".csv" at the end of the name of the file. Also, you need to choose where the file will be saved:



5. If you want to look at a brief description of my project (my unique student number, project name, logo and short description), you can click on the button “About” and see this window:



6. When you load the data to my program, you can see the table view with all the data shown in a convenient way, list with data about one video currently chosen. Also, you can see the total amount of likes and total amount videos in the model (bottom right):

Trending Russian YouTube Video Statistics Manager

Menu

AOCJIFEA_jE

17.14.11

Биржа Мемов #29. Большой выпуск

Druzhko Show

22

2017-11-13T17:32:11.000Z

"биржа мемов|""лев шагинян""|""мемы""|""пикчи""|""дружко""|""дружко шоу""|""анонимус""|""борщ""|""ftp""|""мхк""|""на случай важных переговоров""|"

330043

43841

2244

2977

ID	Trending date	Title of a video	Title of a channel	Category (ID)	Time of publishing	Ti
gDusIQ9avLc	17.14.11	Захар и ...	Т—Ж БОГАЧ	22	2017-11-13T...	"захар
AOCJIFEA_jE	17.14.11	Биржа Мем...	Druzhko Show	22	2017-11-13T...	"бирж
VAWNQDgw...	17.14.11	ХАЙП КЭМП...	Юлик	24	2017-11-13T...	"юмор
gknkFwKQfHg	17.14.11	Сочная ...	Hochland	22	2017-11-13T...	"хохла
3sYvZcwzZr8	17.14.11	КЛИПЫ ...	Совергон	24	2017-11-13T...	"Совер
SLF34Gt_UxQ	17.14.11	АНОНС / ...	versusbattleru	24	2017-11-12T...	[none]
YVcroDDi24s	17.14.11	ЗАМОРОЗК...	ТОПЛЕС	28	2017-11-12T...	"топле
TZdNwUSgR...	17.14.11	РПЦ ...	Нет ...	22	2017-11-13T...	[none]
YxEJVGfP74Y	17.14.11	Итальянцы ...	Итальянцы ...	24	2017-11-13T...	"Италя
oZYT_vC4-pc	17.14.11	КВН 2017 ...	Официальн...	23	2017-11-12T...	"КVN]"
3KdggIRWiR0	17.14.11	Яценюк. ...	Анатолий ...	23	2017-11-13T...	"шари
6X4YapxVq0A	17.14.11	ПИПЛТØК - ...	PEOPLETALK	23	2017-11-13T...	"Пипи

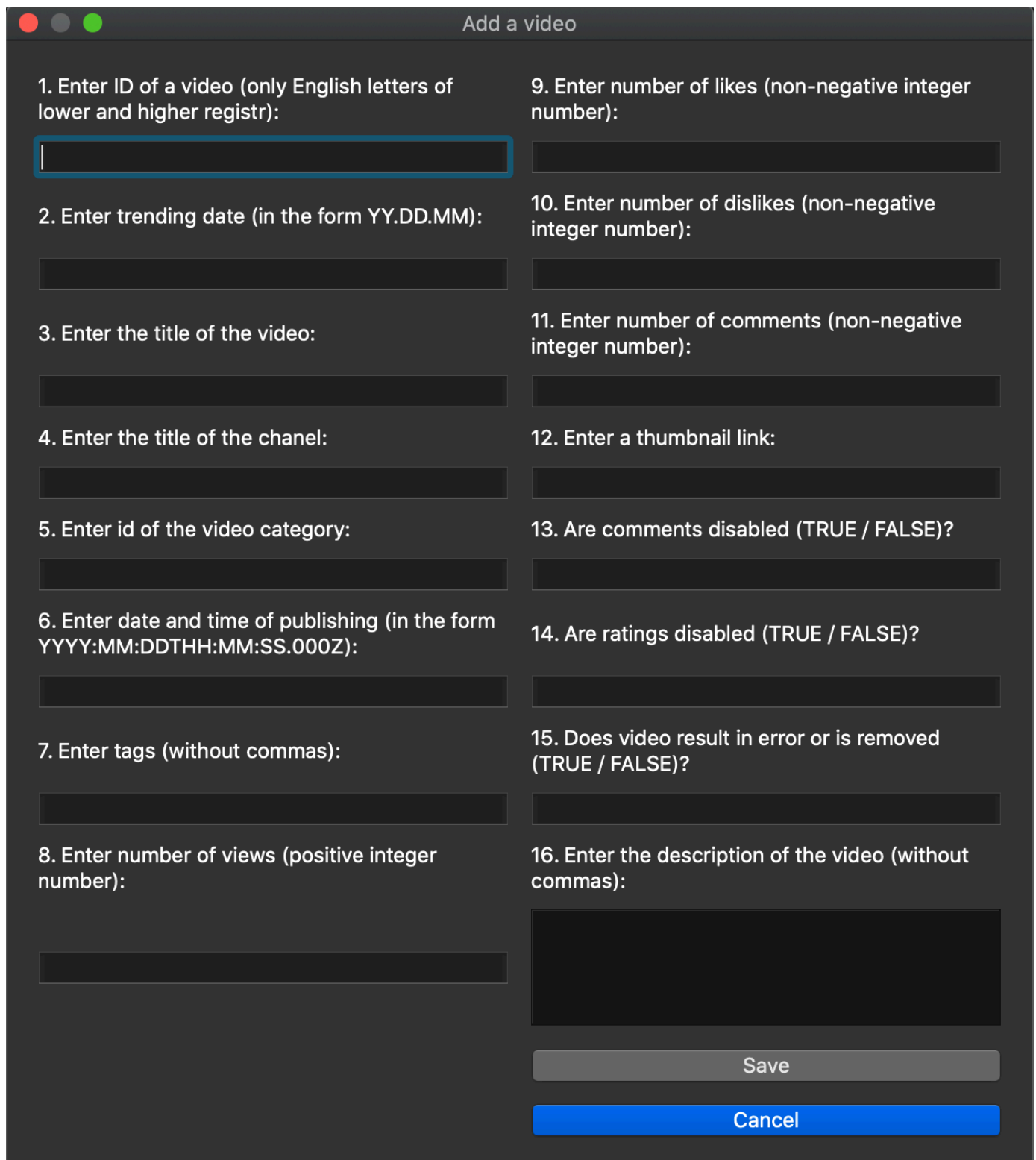
Add

Remove

Total amount of likes:
1939023

Total amount of videos:
239

7. Adding of a new video to the model looks like this:



The image shows a dark-themed window titled "Add a video". It contains 16 numbered input fields arranged in two columns. The first column contains fields 1 through 8, and the second column contains fields 9 through 16. Field 1 is highlighted with a blue border. At the bottom right, there are two buttons: "Save" (gray) and "Cancel" (blue).

Field Number	Field Description
1	Enter ID of a video (only English letters of lower and higher registr):
2	Enter trending date (in the form YY.DD.MM):
3	Enter the title of the video:
4	Enter the title of the chanel:
5	Enter id of the video category:
6	Enter date and time of publishing (in the form YYYY:MM:DDTHH:MM:SS.000Z):
7	Enter tags (without commas):
8	Enter number of views (positive integer number):
9	Enter number of likes (non-negative integer number):
10	Enter number of dislikes (non-negative integer number):
11	Enter number of comments (non-negative integer number):
12	Enter a thumbnail link:
13	Are comments disabled (TRUE / FALSE)?
14	Are ratings disabled (TRUE / FALSE)?
15	Does video result in error or is removed (TRUE / FALSE)?
16	Enter the description of the video (without commas):

8. To sort the entries of the table, you need to click on one of the headers.

Results and discussion:

As a result of working on this project, I've learned or acquired a better understanding of the following topics:

- Interaction between various objects of programs;
- Inheritance of the classes;
- Signals and slots mechanism;
- Identifying and fixing/handling errors occurring as a result of the program running (program crashing after some event, errors like “undefined symbols for architecture x86_64” and some more specific ones);
- Creation and usage of dialog windows;
- And some smaller topics.

I guess I mostly succeeded working on this project, though, it is not perfect and has some room for improvement

Conclusion:

Adding filtering, as it is mentioned in my specification, would be a great improvement.