

Low level design document

Google Drive API team

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1. Introduction

a. Definitions :

- i. Google Drive API - The Google Drive API allows you to create mobile, web, and desktop apps that read, write, and sync files in Google Drive.
- ii. Django - Django is a high-level Python web framework that enables rapid development of secure and maintainable websites. Built by experienced developers, Django takes care of much of the hassle of web development, so you can focus on writing your app without needing to reinvent the wheel.
- iii. HTML - Hypertext Markup Language is the standard markup language for documents designed to be displayed in a web browser.

2. General Description

a. Tools used

- i. Google Drive API provides results from Google Drive databases of the user according to search.
- ii. Django in the backend runs this query in Google Drive API and collects the required results and adds them to the HTML page.
- iii. HTML for frontend - takes user input and provides results on the same page

b. Product Perspective

- First, the user will have to sign in to his/her Google Drive.
- The User will land on the home page in case of successful sign in. The home page will contain a search box, where the user can enter the text related to what he/she wants to search on his/her drive.
- On entering text-input, on the backend Django function will run a query related to this Input text on Google Drive API. Google Drive API will provide all related data from the Google Drive database of the user. Django will consider data of the best results and it will be stored as a dictionary and will be forwarded to the HTML page.
- On selecting any one of the results on the same HTML page, Django will run a query on the Google Drive API and provide the embedded file corresponding result will be displayed.

3. Design Details

a. Frontend Design (HTML):

- ✓ Search Box: To add the text to search related results.
- ✓ Submit Button : On submission, this text input will be sent to the backend

- ✓ List of results: On successful execution of the query, the list of results with link to download and titles will be displayed.
- ✓ No result: In the case of successful execution of the query with zero search results, 'no search result' message will be displayed.
- ✓ Embedded File: On selecting a particular result from the list, the embedded file (video or document...) will be displayed.

b. Backend Design (View.py):

- ✓ glogin and glogout functions:
The glogin function uses **LocalWebserverAuth()** method of **GoogleAuth()** class provided by Google drive API to do the authorization. Credentials.json file is updated accordingly. glogout function simply logout a user and redirect to logout.html.
 - ✓ gdrive_process function :
For the given text input it will create a query for Google drive API (with a specified api key).
The **file_list** variable contains all the files in which the requested file name is contained. For example if one search for 'pirates' then 'pirates of Caribbean' will be in the file_list. This file is included in the result if its size is less than 100MB.
All the results are stored in a dictionary variable **out**.
 - ✓ download function :
The **request** parameter is used to extract the id and name of the file. Then we use **CreateFile()** of Google drive API to make a copy of the file to download it.
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