

CTS CAFÉ PROGRAM

PROJECT NAME:

FILE UPLOAD FUNCTIONALITY

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1.0 Introduction:

File upload is important functionality which allow users to upload a file in the cloud. Uploading file in cloud or any server should be available and easy-to-use. In this case the storage and size for the file must be taken as a concern because if the size increase then the cost will be increase. Using of this project we can reduce the size using convert the data file into json file format .Then the size will be reduce as much as possible .Then the cost also reduced

2.0 Technology/Framework used for Development:

2.1 Tools Used

- **Django framework:**

- Django is open-source Python-based web framework which is used to develop the backend of the file upload. Django comes with included batteries which provides with variety of tools and libraries to develop a web app.

Django follows the MVT design pattern (Model View Template).

- Model - The data you want to present, usually data from a database.
- View - A request handler that returns the relevant template and content - based on the request from the user.
- Template - A text file (like an HTML file) containing the layout of the web page, with logic on how to display the data.

- **MySQL:**

- MySQL is relational database management which stores data in form of tables. MySQL uses structured query language. Here MySQL use as DB.
- It may be anything from a simple shopping list to a picture gallery or the vast amounts of information in a corporate network. To

add, access, and process data stored in a computer database, you need a database management system such as MySQL Server.

- MySQL provides supports for native JSON data type from **version 5.7.8** that stores JSON document in an internal format, which enables quick and efficient read access to document objects. This data type can store JSON documents more accurately than the JSON text format we had used in the past MySQL versions.

- **Python:**

- Python is popular programming language used to wide variety of applications across the computer science branch ranging from GUI apps to being used extensively in Artificial Intelligence and machine learning. In File upload Python is used to develop Config file for converting XLSX, XLSM, CSV, XML into JSON format.
- Python is dynamically typed and garbage-collected. It supports multiple programming paradigms, including structured (particularly procedural), object-oriented and functional programming. It is often described as a "batteries included" language due to its comprehensive standard library.

- **React.js:**

- React is JavaScript-based Front-end library developed by Facebook to develop beautiful UIs based on components. In file upload React is used to develop UI of application and provide the user with user friendly messages when user makes error while uploading the file.
- React makes it painless to create interactive UIs. Design simple views for each state in your application, and React will efficiently update and render just the right components when your data changes.
- Declarative views make your code more predictable and easier to debug.

3.0 Business Scenario:

3.1 Problem in Business

- If we change our view related to business scenario mean the first thing is Cost and Time constraints because while storing multiple files it consume more space and time to upload and download
- While storing large amount of multiple data is storing means the organisation need to spend more for the storage

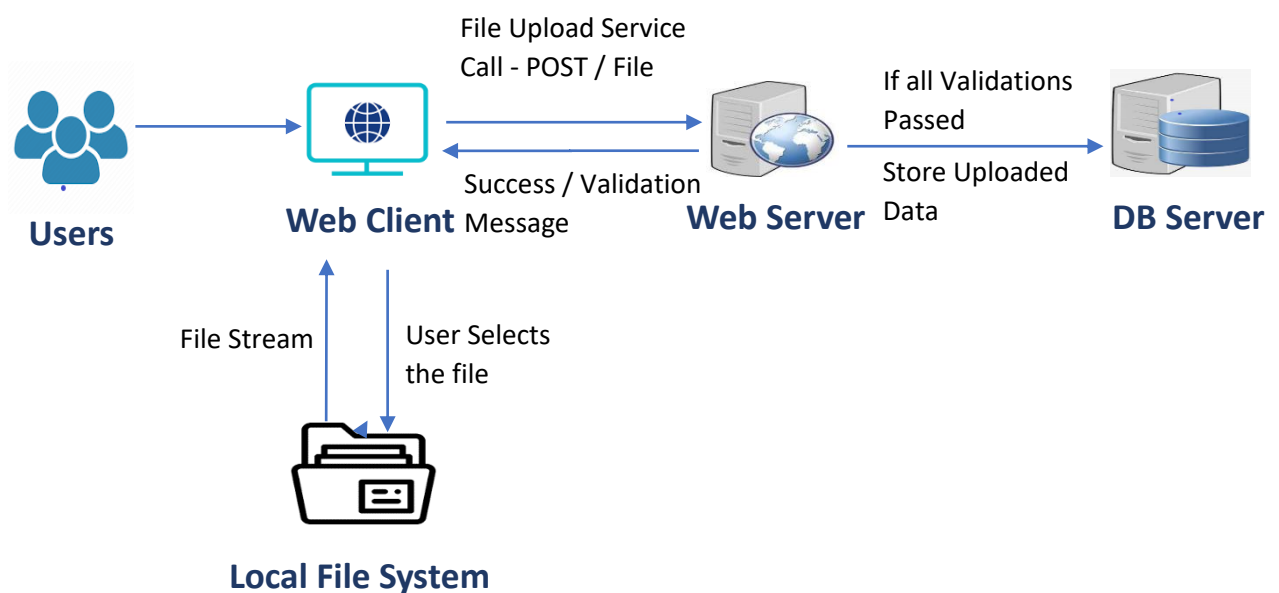
3.2 Overcome by Solution

- This component is usable when there is scenario of developing file upload functionality in This component can be used in 2 business scenarios like Reusable within same application and Reusable across applications.
- In the application, the uploaded file size is reduced. This result in usage of space is reduced.
- The uploaded file is converted into JSON format, which is easy manageable, light-weight and well structured.
- It is much more flexible which is used to various applications.

4.0 Workflow:

- The following takes place at client side:
 - The user uploads the file.
 - The validation of file takes place which checks whether the file format is XLSX, XLSM, CSV, XML and the file should be less than 10MB.
- After the validation the file is converted in JSON format. In conversion process the following take place:
 - The rows and columns are converted into JSON format.

- The blank space present in between columns are ignored.
- Duplicate records are removed before insert or updating.
- The Converted JSON file is uploaded in DB.



In server side the total conversion part will be happen in this we use Python module and framework to convert the file

In this the constraints as doubly checked by both in frontend side as well as backend side also respectively

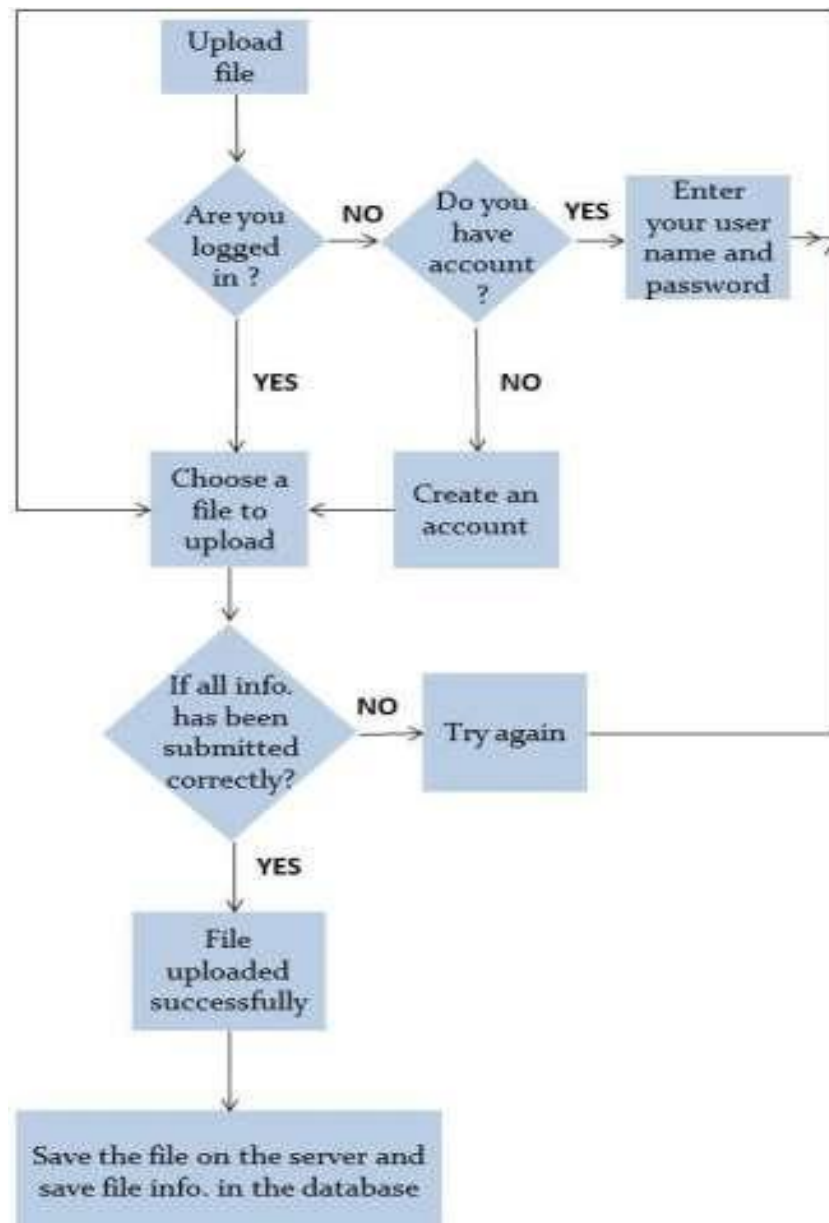
Why we choose json format?

JSON is self-describing. The syntax and hierarchical structure of the JSON strings can in some cases be interpreted by applications that do not already know what data to expect.

5.0 Flowchart:

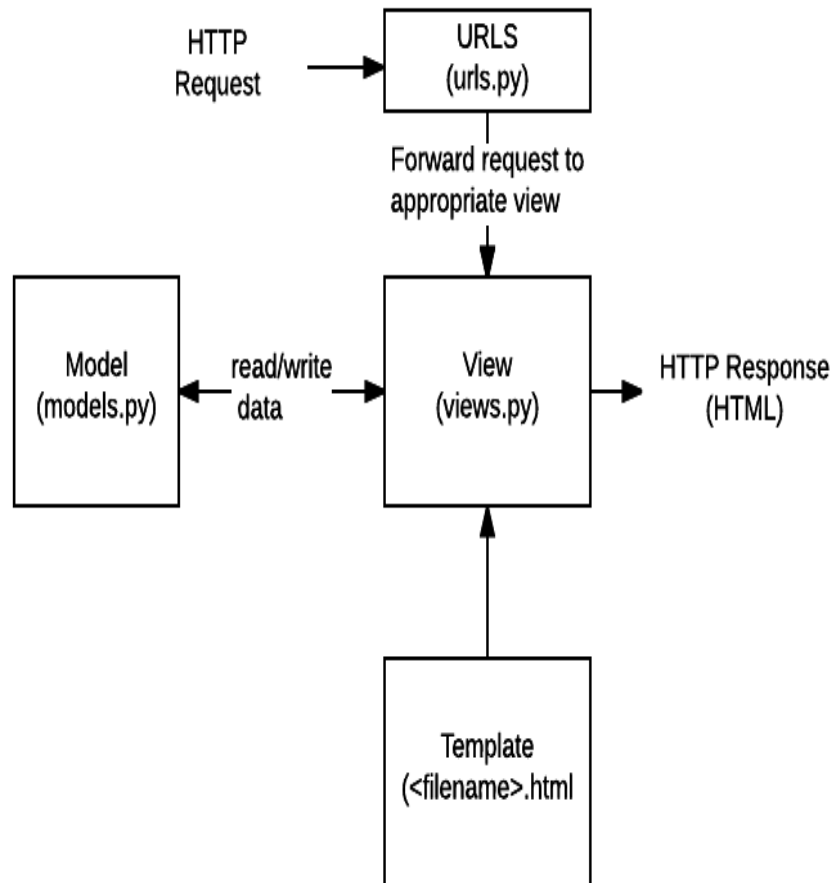
5.1 Frontend Flowchart

5.1.1 The total frontend was done by React and its components



In this the background flow the validation and constraints all are checked

5.2 Backend Flowchart



6.0 Exception Handling:

- Timeout issues or any failed issues is stored in log files.
- Incorrect data and format are returned to user with friendly message.
- Empty file is returned with user friendly message.

7.0 Conclusion

Because of this project the many problem and demerits in the business a technical field will be overcome and save the most valuable time in development

