

To Enhance Graphical Representation in Flutter

¹Priyanka Gupta, ²Manjeet Kaur Chahal, ³Sakshi Shetty, ⁴Sonal Balpande

¹Student, ²Student, ³Student, ⁴ Professor

¹Computer Engineering,

¹Mumbai University, Mumbai, India

Abstract : Flutter is Google's mobile app SDK that is used by various users to build application or crafting high-quality native interfaces on iOS and Android in record time. Flutter works with existing code, and hence it is easy to learn. It is used by developers and organizations around the world, and is free and open source. Fintech Software's and Interactive Dashboards are in demand. To build such software's or dashboards advance graph design is required. Such software's can also be developed by using Flutter after adding advance 2D graph libraries to it. As flutter is new platform for such application to develop.

Index Terms – Graph, libraries, flutter

I. INTRODUCTION

As Flutter still don't have 2D Advance graph libraries. By adding 2D graph libraries to flutter it would be easier to create application in efficient way. User is provided with the line graphs, bar graphs, dot plot, box graph, scatter plot graph, pictograph and histogram. One can create application with best graph chart design, which will surely make application better in looking and can be achieved in efficient time. This framework is open source, free to use without any issues we will add our libraries to it so that people all around the world can use this framework for their benefit at no cost.

II. PROJECT NEED

A. Problem Statement

To advance the features of flutter by adding the advance 2D graph libraries to it. This will give more efficiency and better design for applications. Flutter is being used in business fields, for creating application in efficient time and in easy way without any complications. By adding new libraries to flutter, will simply advance the flutter's performance.

B. Current problems

Although there are many frameworks available to build application, but in current time flutter is being used at a very high extent. As it is very easy to handle and work on. But there is a need of advance 2D graph libraries for developing Fintech software's and for interactive dashboards. As there are virtual banks, they require an interactive dashboards for day to day transactions which take place virtually. Flutter is used for that purpose also, only if advance level of graph libraries is present in flutter. The advance 2D graph libraries has not yet been integrated into the flutter.

C. Survey

The survey was actually carried with an inspection to verify about the different libraries already available such as Matplotlib, plotly, seaborn, D3. These are being referred. And also what all requirements are there for developing graphic design applications have also being surveyed, for better future outcome.

III. Proposed solution

- One should know how to use flutter.
- First analysis in being done on 2D advance libraries, in order to create new library.
- Following libraries are being referred Matplotlib, plotly, seaborn, D3.
- To create graph design library dart programming is used, as Flutter only uses dart programming for writing apps.
- Visual Studio Code is used for dart programming, so we have been creating the library using it.
- A folder is created for the new libraries. Which will be then imported and added up into GitHub, so that it will be available for everyone.
- While installing Flutter, GitHub is also required to be installed on once in the computer, which contains all libraries, so in this way libraries will be used by everyone.
- And using Flutter sdk an application will be created from our side which will be giving demo of new libraries i.e. how they work efficiently.

IV. PROPOSED METHODOLOGY

In this we make changes in the Google's flutter Framework. It is the primary method of creating applications for Google Fuchsia. In which we are going to add some of the features of graph libraries in flutter they have not been added yet the 2D graphs like line chart, box graph, scatter plot, Histogram. So by studying various data Visualization libraries like Matplotlib, plotly, seaborn, D3. They are used to plot 2D graph design. Several toolkits are available which extend Matplotlib functionality. We will

also study about Visual Studio Code. This source code is also free and open source. It is very popular for its Interactive Playground i.e. a special page containing common keyboard shortcuts.

Plotly develops online data analytics and visualization tools. Plotly provides online graphing, analytics, and statistics tools for individuals and collaboration. Seaborn is a library for making statistical graphics in Python. It is built on top of Matplotlib. There are several specialized plot types in seaborn that are optimized for visualizing data. D3 allows you to bind arbitrary data to a Document Object Model (DOM), and then apply data driven transformations to the document. For example, you can use D3 to generate an HTML table from an array of numbers. Or use the same data to create an interactive SVG bar chart with smooth transitions and interaction. By studying these several libraries we will be creating new libraries and based on our libraries we will create application.

Visual Studio Code plays an important role in this project. Visual studio is a source code editor developed by Microsoft for Windows, Linux and macOS. We used Visual Studio Code because it supports almost every major programming language. Along with keyboard shortcuts VS Code has multiple concepts like multiple cursors, split planes.

REFERENCES

- I. <https://flutter.io>
- II. <https://matplotlib.org>
- III. <https://seaborn.pydata.org>
- IV. <https://code.visualstudio.com>

