

Experiment 2

Name	Roshan Bhagtani
Roll no.	4
Class	D15C
DOP	
DOS	
Grade	
Sign	

Aim: To write metadata in a Web App manifest file for an E-commerce Progressive Web App (PWA) to enable the **"Add to Home Screen"** feature. This functionality allows users to install the web app on their devices and use it like a native application.

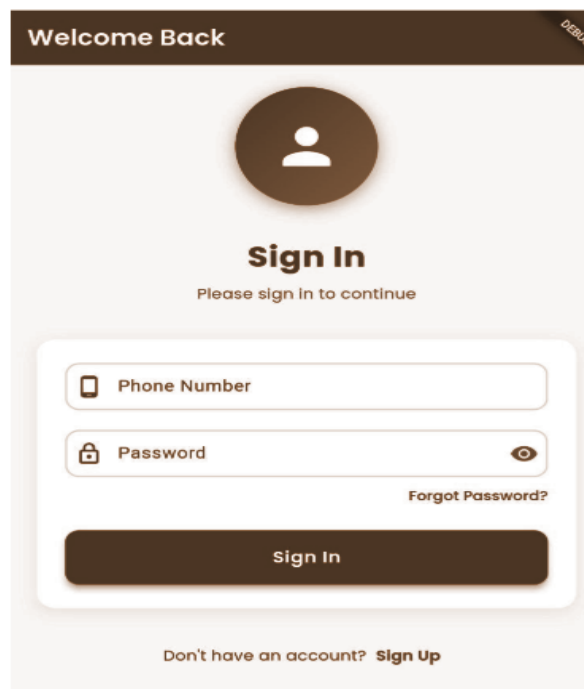
Theory:

The purpose of this experiment is to implement a user interface in Flutter by leveraging its collection of commonly used widgets. Flutter is an open-source UI software development toolkit developed by Google, based on the Dart programming language. It follows a declarative and component-based architecture, allowing developers to construct highly customizable and natively compiled interfaces from a single codebase.

In this context, the experiment involves the utilization of fundamental Flutter widgets to structure and compose the UI. Key structural widgets include `Scaffold`, which provides the basic layout structure with built-in support for material design components such as `AppBar`, `FloatingActionButton`, and `Drawer`. The `Column` and `Row` widgets are employed to manage vertical and horizontal layouts respectively, while the `Container` widget is used for styling, alignment, padding, and positioning of child widgets.

Interactive widgets such as `TextFormField` enable user input and form management, often in conjunction with `Form` and `GlobalKey` for validation and state handling. Actionable elements like `ElevatedButton`, `IconButton`, and `GestureDetector` are integrated to provide user interaction and event handling. `ListView` and `GridView` facilitate dynamic list rendering and efficient scrolling behavior.

Output:



Conclusion:

This experiment successfully demonstrated the integration of standard Flutter widgets to build a modern, animated, and user-friendly login UI. It reflects effective state management, validation, Firebase integration, and UI best practices essential for scalable Flutter application development.