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Experiment - 3

Aim -

Theory -

In essence, Flutter widgets serve as fundamental building blocks for crafting the user interface of a Flutter application. They can be broadly classified into two categories: `StatelessWidget`, representing immutable aspects of the UI, and `StatefulWidget`, representing mutable components that can undergo changes over time.

Some noteworthy Flutter widgets include:

1. **Scaffold**: Provides the basic structure for a Flutter app, incorporating layout elements like AppBar, BottomNavigationBar, and a body for primary content.

2. **Container**: A versatile box model utilized for layout, padding, margin, decoration, and constraints, capable of containing other widgets.

3. **Row & Column**: Widgets designed for arranging child widgets horizontally (Row) or vertically (Column), pivotal for creating flexible and responsive layouts.

4. **Text**: Used for displaying text on the screen, with support for various styling options such as font size, color, and alignment.

5. **TextField**: Captures user input, such as text, numbers, or passwords, with the `onChanged` property enabling dynamic updates based on user input.

6. **Buttons**: Various button widgets like `ElevatedButton` or `TextButton` trigger actions when pressed, providing a means for user interaction.

7. **Forms**: The `Form` widget manages a group of `TextFormField` widgets, facilitating input validation and submission.

8. **Icons**: The `Icon` widget displays icons from libraries, enhancing visual elements and conveying meaning through symbols.

Key Design Principles emphasized include:

- **Consistency**: Utilizing common widgets fosters a consistent design language throughout the app.
- **Responsive Layouts**: Widgets like `Row` and `Column` assist in creating responsive and flexible layouts, adapting to different screen sizes.
- **User Input Handling**: `TextField` and `Form` widgets facilitate proper handling, ensuring data integrity and validation.
- **Interactive Elements**: Buttons and icons contribute to interactivity and user engagement within the app.
- **Visual Styling**: The `Container` widget and styling properties of other widgets allow for visual customization and theming.

Code -

For Image and card creation -

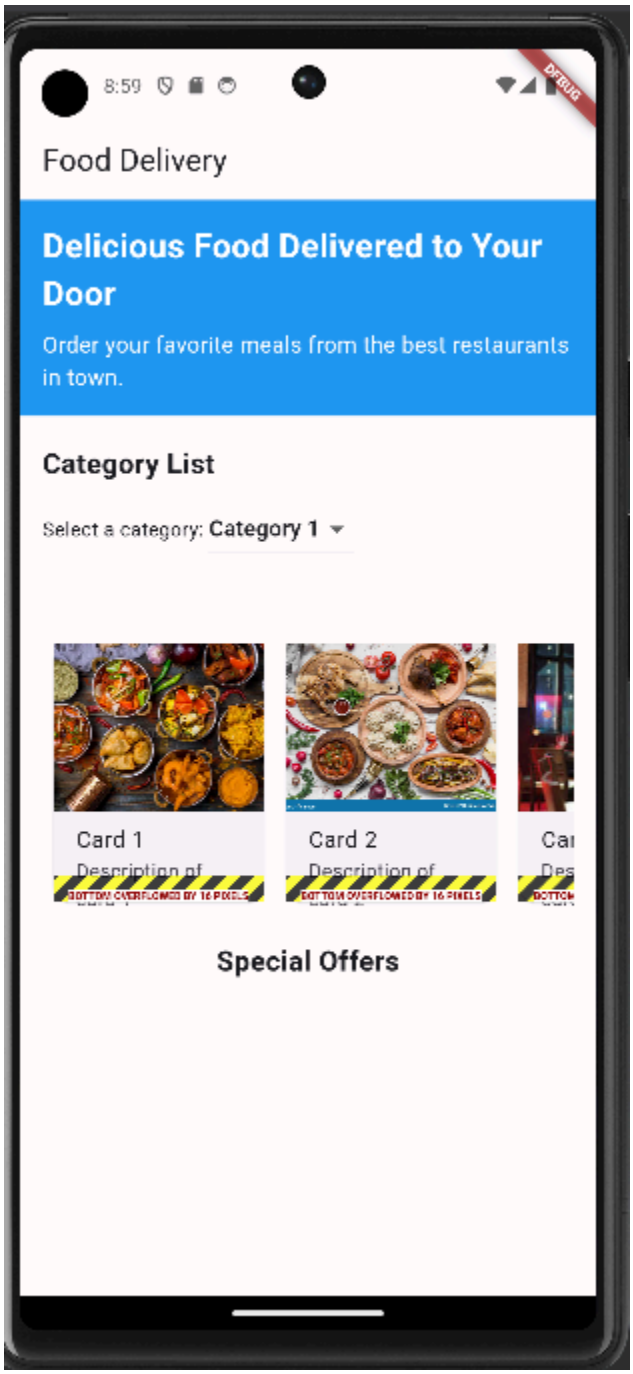
```
class _CategoryListState extends State<CategoryList> {
 final List<String> categories = ['Category 1', 'Category 2', 'Category 3'];
 String selectedCategory = 'Category 1'; // Default category

 @override
 Widget build(BuildContext context) {
  return Container(
    padding: EdgeInsets.symmetric(horizontal: 16.0),
    child: Column(
      crossAxisAlignment: CrossAxisAlignment.start,
      children: [
        Text(
          'Category List',
          style: TextStyle(
            fontSize: 20.0,
            fontWeight: FontWeight.bold,
          ),
        ),
        SizedBox(height: 8.0),
        Row(
          children: [
            Text('Select a category: '),
            DropdownButton<String>(
              value: selectedCategory,
              onChanged: (String? newValue) {
                // Update the selected category when the dropdown changes
                if (newValue != null) {
                  setState(() {
                    selectedCategory = newValue;
```

```
          });
        }
      },
      items: categories.map((String category) {
        return DropdownMenuItem<String>(
          value: category,
          child: Text(category),
        );
      }).toList(),
    ),
  ],
),
SizedBox(height: 50.0),
// Updated section with 4 cards and images
Container(
  height: 200.0,
  child: ListView.builder(
    scrollDirection: Axis.horizontal,
    itemCount: 4, // Number of cards
    itemBuilder: (context, index) {
      return Card(
        margin: EdgeInsets.all(8.0),
        child: Container(
          width: 150.0, // Customize the card width as needed
          child: Column(
            children: [
              // Add an Image widget with the image path
              Image.asset(
                'assets/card_image_${index + 1}.jpeg',
                height: 120.0,
                width: 150.0,
                fit: BoxFit.cover,
              ),
              ListTile(
                title: Text('Card ${index + 1}'),
                subtitle: Text('Description of card ${index + 1}'),
                // Add onTap callback if needed
              ),
            ],
          ),
        ),
      );
    },
  ),
```

```
          ),
        ],
      ),
    );
  }
}
```

Output -


8:59
DEBUG
Food Delivery
Delicious Food Delivered to Your Door
Order your favorite meals from the best restaurants in town.
Category List
Select a category: Category 1
Card 1
Card 2
Special Offers