# MPL EXPERIMENT : 4
## D15A-30
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## (an interactive page made named chat page )

**Chat_page UI:**

**Theory:**

The ChatPage is a simple yet effective chat interface that allows users to send and display messages dynamically. It maintains a list of messages and updates the UI in real time when a new message is sent. Below is a breakdown of the widgets used and their functionality.

**Widget & properties:**

1. StatefulWidget (ChatPage)

- Since chat messages need to be updated dynamically, we use a StatefulWidget.
- The _ChatPageState class manages the state, including the list of messages and the text input controller.

2. Scaffold

- The Scaffold widget provides the basic structure, including an AppBar and the main body content.

3. AppBar

- title: Text("Chat") → Displays the title "Chat" at the top.
- backgroundColor: Colors.teal → Matches the theme with a teal-colored AppBar.

4. Column

Used to organize two main sections:

1. Expanded (List of Messages)
2. Message Input & Send Button

5. Expanded (ListView.builder for Chat Messages)

- The Expanded widget ensures the chat messages take up all available space above the input field.
- ListView.builder dynamically generates message bubbles from _messages list.

- reverse: true → Shows the latest messages at the bottom (like most chat apps).

Message Bubble Design

Each message is styled based on whether it is a user message or received message:

- User message (right-aligned, light color) → Colors.teal.withOpacity(0.2)
- Received message (left-aligned, dark teal) → Colors.teal
- Text color:
    - User messages: black
    - Received messages: white
- Padding & Border Radius:
    - margin: EdgeInsets.symmetric(vertical: 5.0, horizontal: 10.0)
    - padding: EdgeInsets.symmetric(vertical: 10.0, horizontal: 14.0)
    - borderRadius: BorderRadius.circular(8.0)

6. Message Input Field & Send Button

A Row is used to align the input field and the send button horizontally.

TextField (Message Input)

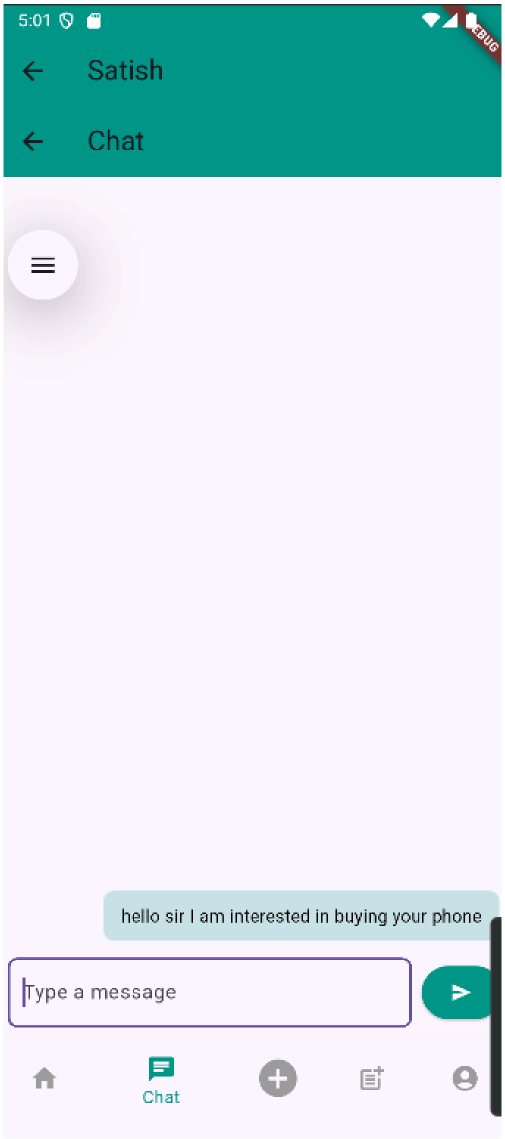
- controller: _messageController → Captures user input.
- hintText: "Type a message" → Placeholder text inside the input field.
- border: OutlineInputBorder(borderRadius: BorderRadius.circular(8.0)) → Stylish rounded input box.

ElevatedButton (Send Button)

- Logic (onPressed):
    - Retrieves text from _messageController.
    - If not empty, inserts the message at index 0 (so latest messages appear at the bottom).
    - Clears the input field after sending.
- Button Styling (ElevatedButton.styleFrom):
    - backgroundColor: Colors.teal → Matches the theme.
    - padding: EdgeInsets.all(12.0) → Proper button sizing.
    - child: Icon(Icons.send, color: Colors.white) → White send icon.

**Code:**

```
import 'package:flutter/material.dart';

class ChatPage extends StatefulWidget {
  @override
  _ChatPageState createState() => _ChatPageState();
}

class _ChatPageState extends State<ChatPage> {
  final TextEditingController _messageController = TextEditingController();
  final List<String> _messages = []; // List to store chat messages

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        title: Text("Chat"),
        backgroundColor: Colors.teal,
      ),
      body: Column(
        children: [
          // Chat messages list
          Expanded(
            child: ListView.builder(
              itemCount: _messages.length,
              reverse: true, // Show the latest message at the bottom
              itemBuilder: (context, index) {
                final message = _messages[index];
                final isUserMessage = index % 2 == 0; // Simulate sender/receiver

                return Align(
                  alignment: isUserMessage
                      ? Alignment.centerRight
                      : Alignment.centerLeft,
                  child: Container(
                    margin: EdgeInsets.symmetric(
                        vertical: 5.0, horizontal: 10.0),
                    padding: EdgeInsets.symmetric(
                        vertical: 10.0, horizontal: 14.0),
                    decoration: BoxDecoration(
                      color: isUserMessage
                          ? Colors.teal.withOpacity(0.2)
                          : Colors.teal,
                      borderRadius: BorderRadius.circular(8.0),
                    ),
                    child: Text(
                      message,
                      style: TextStyle(
                        color: isUserMessage ? Colors.black : Colors.white,
                      ),
                    ),
                  ),
                );
              },
            ),
          ),

          // Input field and send button
          Padding(
            padding: const EdgeInsets.all(8.0),
            child: Row(
              children: [
                Expanded(
                  child: TextField(
                    controller: _messageController,
                    decoration: InputDecoration(
                      hintText: "Type a message",
                      border: OutlineInputBorder(
                        borderRadius: BorderRadius.circular(8.0),
                      ),
                    ),
                  ),
                ),
                SizedBox(width: 8.0),
                ElevatedButton(
                  onPressed: () {
                    final message = _messageController.text;
                    if (message.isNotEmpty) {
                      setState(() {
                        _messages.insert(0, message); // Add new message
                      });
                      _messageController.clear(); // Clear input field
                    }
                  },
                  style: ElevatedButton.styleFrom(
                    backgroundColor: Colors.teal,
                              padding: EdgeInsets.all(12.0),
                            ),
                            child: Icon(Icons.send, color: Colors.white),
                          ),
                        ],
                      ),
                    ),
                  ],
                ),
              );
            }
          }
```



hello sir I am interested in buying your phone