

Memory Match Game

An Interactive Word Matching Game

Name : I Antony Gnanamuthu

Email Id : iantonygnanamuthu@gmail.com

Memory Match Game- Overview

Project Summary

The Memory Match Game is an engaging word-matching game designed to enhance memory and vocabulary skills. Players flip cards to find matching word pairs, revealing their meanings upon a successful match. Integrated with Firebase Firestore for tracking progress and storing game data

Key Features

- ✓ Random word generation via WordService
- ✓ Interactive gameplay with tap-based card revealing
- ✓ Power-ups like Reveal Pair and Freeze Time
- ✓ Tracks attempts and checks for game completion
- ✓ Meaning of matched words displayed
- ✓ Saves progress in Firebase Firestore

**Home page
With white mode**

Memory Card Matching

Start Game

View Scores

Select Theme

Memory Card Matching

Start Game

View Scores

Select Theme

**Home page
With dark mode**

Home page

Memory Card Matching

Start Game

This button is for starting the game.

View Scores

This opens the score board and leader board

Select Theme

This allows to select the theme of the page

My API service dart file:

```
services > word_service.dart > WordService > randomWordApiUrl
import 'dart:convert';
import 'package:http/http.dart' as http;

class WordService {
  static const String randomWordApiUrl = 'https://random-word-api.herokuapp.com/word';
  static const String dictionaryApiUrl = 'https://api.dictionaryapi.dev/api/v2/entries/en';

  Future<List<dynamic>> loadWords(int count) async {
    try {
      final response = await http.get(
        Uri.parse('$randomWordApiUrl?number=$count'),
      );

      if (response.statusCode == 200) {
        List<dynamic> words = json.decode(response.body);
        return words.map((word) => word.toString()).toList();
      } else {
        throw Exception('Failed to load words');
      }
    }
  }
}
```

Difficulty page



Rules in fire base:

Firebase rules currently allow **unrestricted access**, will be secured before deployment.

memory-card-matching ▼

Develop and Test



Mar 28, 2025 • 10:54 am



Mar 27, 2025 • 6:08 pm



Your security rules are defined as public, so anyone can steal, modify or delete data in your database

[Learn more](#)



```
1 rules_version = '2';
2
3 service cloud.firestore {
4   match /databases/{database}/documents {
5     match /{document=**} {
6       allow read, write: if true;
7     }
8   }
9 }
```

🏠 > game_completi... > 3busjM4VTQPB..

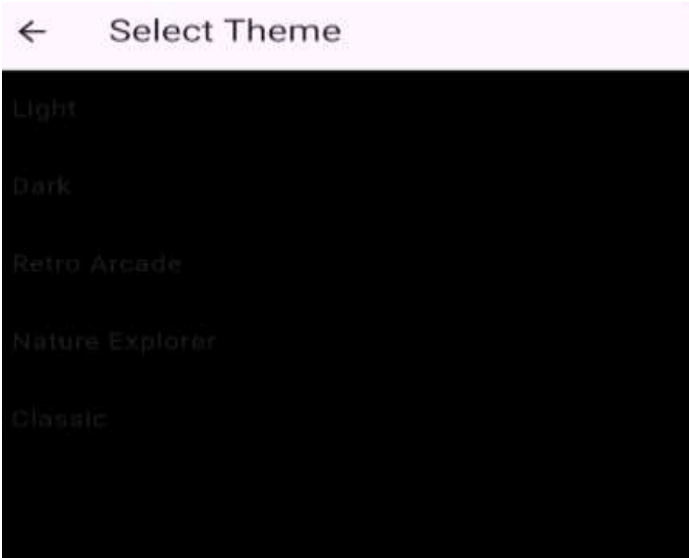
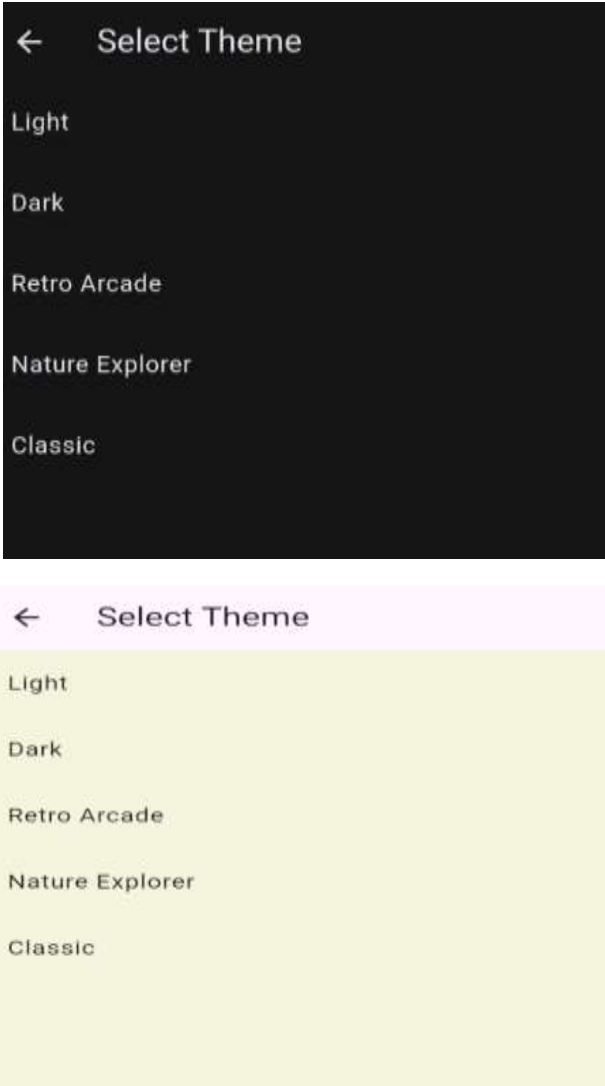
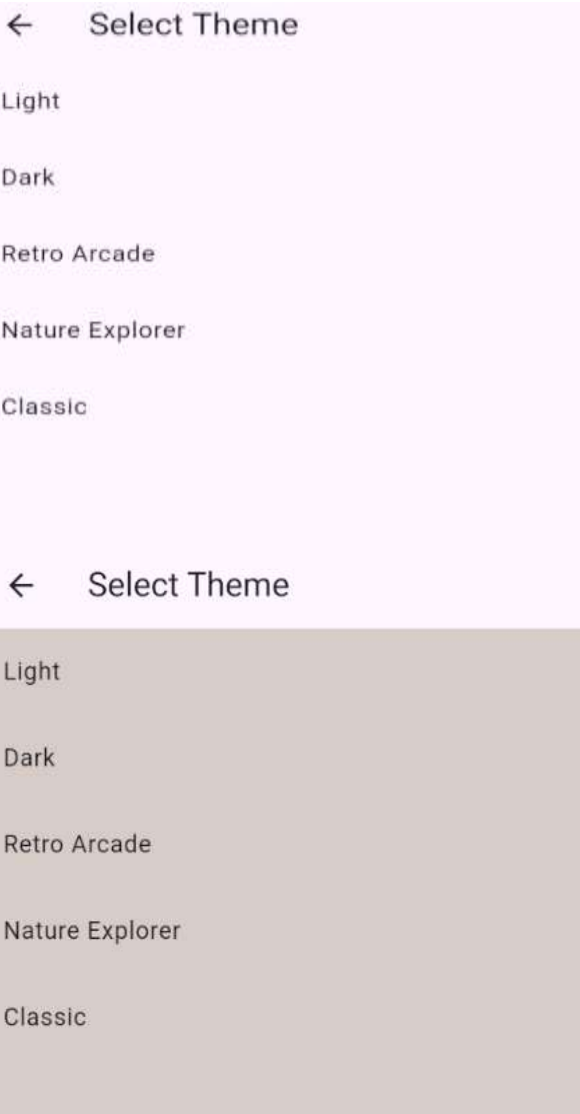
☁ More in Google Cloud ▾

(default)	game_completions	3busjM4VTQPBb8Tzw1Ur
+ Start collection	+ Add document	+ Start collection
game_completions >	⋮ 3busjM4VTQPBb8Tzw1Ur >	+ Add field
highest_scores	82ZWQhaJcEBY24qF9gbE	attempts: 8
power_up_usage	B41sIsINF6QaF9avNb6J	cardCount: 8
scores	Bd4ZbAbHspHwWE107Dg6	difficulty: "Easy"
users	PnCDzSkuThD0Hy1rRkk1	matchedPairs: 4
	RNNqWKYHeEbKg6qZtLM9	time: 7
	UL8QNRceqcmASFk1kwLd	timestamp: 28 March 2025 at 11:46:59 UTC+5:30
	UXXGPtU5BRPHntWT4Cy5	
	Z2aSZmcNIgwZ1mieUHA	
	aRM0uVtgccp5YR0f1wiM	
	aiJzcknLxZtDkZbLv8o	

Example data

+ Add field		
attempts: 8	(number)	 
cardCount: 8		
difficulty: "Easy"		
matchedPairs: 4		
time: 7		
timestamp: 28 March 2025 at 11:46:59 UTC+5:30		

Theme page



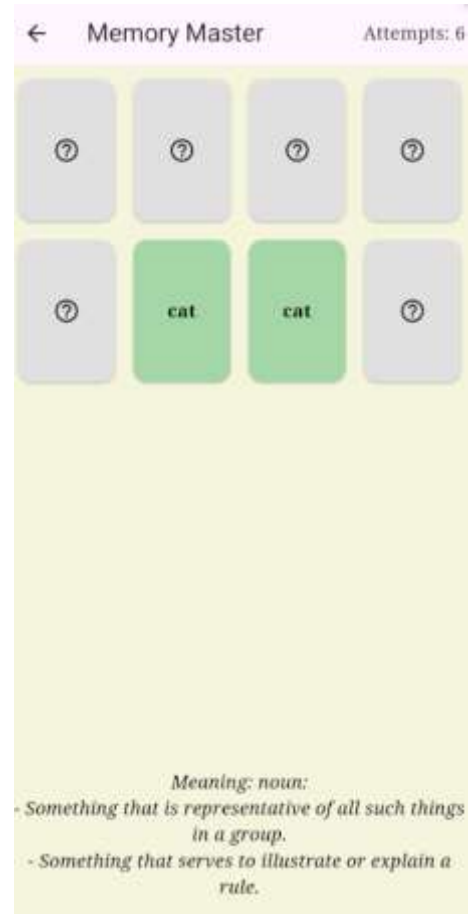
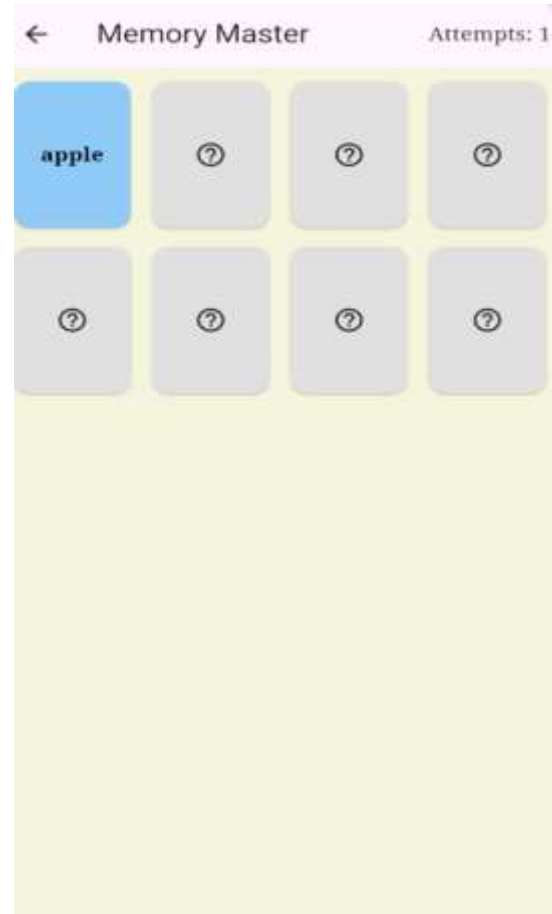
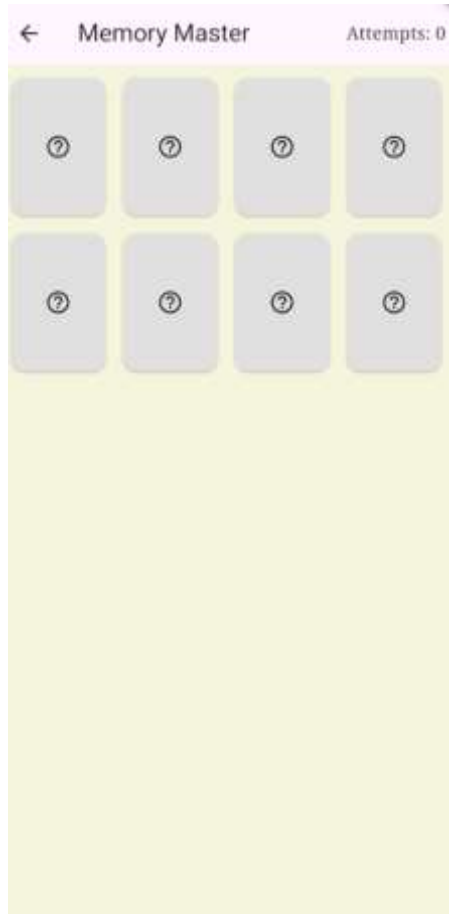


High Scores

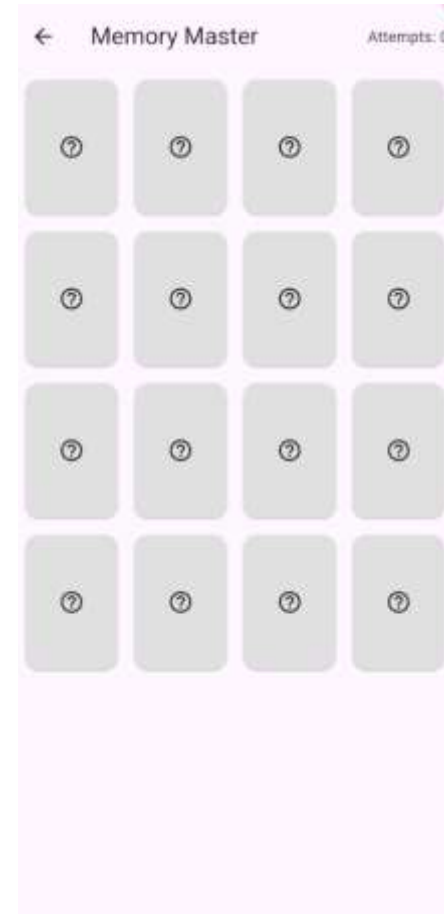
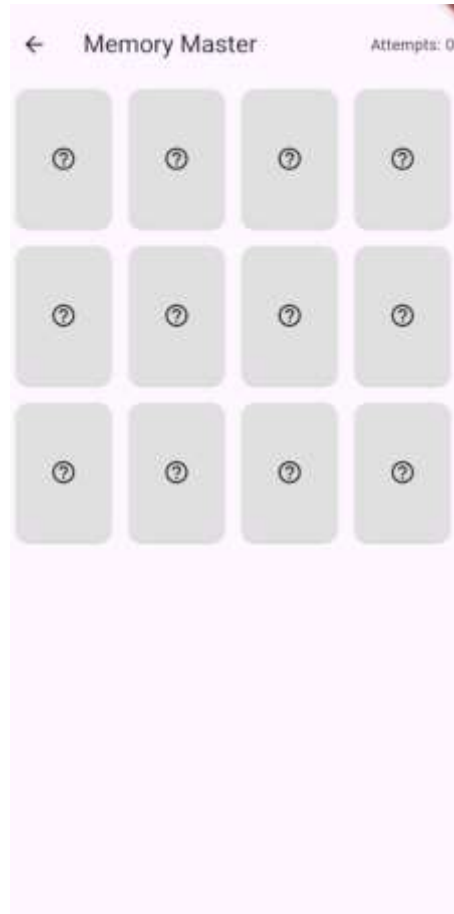
Game completions

button to reach leaderboard

Game page



Different difficulty level



Power ups

- When we double tap it opens 2 cards for the user to see.
- When the screen is swiped it freezes time.



Leader Board



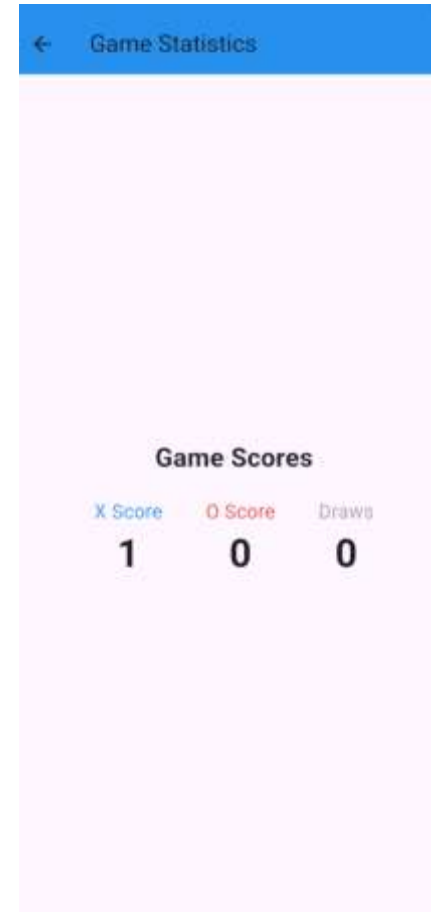
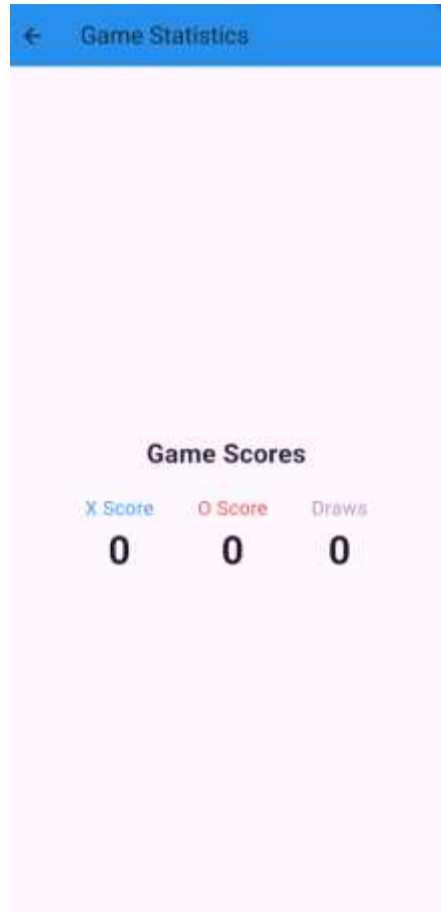
Leaderboard	
1	Unknown Difficulty: Hard Time: 42 seconds
2	Unknown Difficulty: Medium Time: 30 seconds
3	Unknown Difficulty: Medium Time: 39 seconds
4	Unknown Difficulty: Easy Time: 7 seconds
5	Unknown Difficulty: Easy Time: 12 seconds
6	Unknown Difficulty: Easy Time: 15 seconds
7	Unknown Difficulty: Easy Time: 15 seconds
8	Unknown Difficulty: Easy Time: 19 seconds

Additional game

← XO Challenge - X vs O		
Player X Score: 0		Player O Score: 0
X		X
	O	
O's Turn		

← XO Challenge - X vs O		
Player X Score: 0		Player O Score: 1
X	O	X
	O	X
	O	
O Wins!		

Game statistics



Thank you