**E-Commerce Furniture App**

# Team Members

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# Abstract Project Timeline: 1. Project Start: 28-09-2024 - Research and Preparation: 28-09-2024 to 30-09-2024 2. Design and Structuring: 01-10-2024 to 03-10-2024 - UI/UX Design: 02-10-2024 3. Development: 04-10-2024 to 12-10-2024 - Front-end Implementation: 04-10-2024 to 08-10-2024 - Back-end and Firebase Integration: 09-10-2024 to 11-10-2024 4. Testing: 13-10-2024 to 15-10-2024 - User Testing and Performance Evaluation: 14-10-2024 to 15-10-2024 5. Final Documentation Preparation: 16-10-2024 6. Project Submission: 17-10-2024

# Introduction

The E-commerce Furniture App was developed as part of our graduation project. The main goal of this project is to provide a user-friendly platform that enables users to easily explore and purchase various furniture products from the comfort of their homes. With the growing trend of e-commerce, the app aims to address the common challenges associated with traditional furniture shopping by offering a convenient and efficient alternative.

# Problem Statement

In Egypt, purchasing furniture often involves traveling to cities like Damietta, which is known for its furniture markets. This process can be time-consuming and requires significant effort, as users must visit multiple stores to find products that match their tastes and preferences. Even after all this effort, they may not find exactly what they're looking for. The E-Commerce Furniture App solves this problem by offering a platform where users can browse, view product details, and make purchases easily.

# System Design/Architecture

The system is designed with a clean and intuitive interface that supports smooth navigation between features. The app uses Firebase for authentication and data management, ensuring secure user sign-up and login. The front-end is developed using Flutter, providing a cross-platform experience for Android users.

# Features and Functionalities

1. Splash Screen with Animation: Engages users with a smooth entry into the app.

2. Firebase Authentication: Secure sign-up and login system.

3. Home Page with Categories: Browse categories such as Decoration, Chairs, and Tables.

4. Product Details Page: Displays product description and price.

5. Favorites Section: Save products for later.

6. Shopping Cart: Add products to the cart, adjust quantities, and proceed to checkout.

7. Checkout Process: Smooth and quick checkout with confirmation dialog.

8. Search Feature: Search for products by name.

9. Profile Page: Manage user details.

# Implementation

The project was implemented using Flutter for the front-end development, providing a responsive and scalable design. Firebase was used for managing user authentication and real-time database functions. The app uses static data for the initial categories and products, with plans for future integration of dynamic data sources.

# Challenges

One of the main challenges was integrating Firebase with the Flutter framework to ensure real-time data synchronization for the user authentication system. Additionally, designing a seamless checkout process that remains user-friendly and efficient required extensive testing and optimization.

# Testing

Basic tests were conducted to ensure the main features of the app, like sign-up/login, shopping cart, and search, functioned correctly. The tests confirmed that the app was free of bugs and provided a smooth user experience with good overall performance.

# Future Work

Future improvements to the app may include integrating augmented reality (AR) features for users to visualize how furniture would look in their homes, expanding the product categories to include items such as sofas, beds, and lighting, and adding push notifications for sales and order updates.

# Conclusion

The E-Commerce Furniture App successfully addresses the challenges of traditional furniture shopping by offering a digital platform that provides convenience, efficiency, and detailed product information. The app simplifies the process of browsing, selecting, and purchasing furniture, making it easier for users to find the perfect items for their homes.

# References

1. Flutter Documentation: <https://flutter.dev/docs>  
2. Firebase Documentation: <https://firebase.google.com/docs>