

**APTECH COMPUTER EDUCATION**  
**(Gulshan- e – Maymar Branch)**

**PROJECT REPORT**

**Submitted in Partial Fulfillment of the Requirements for the Diploma in Software Engineering**

**Semester: Fourth**

**Project Title:** BOOK STORE APP

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eProject Report: Book Store for Our Readers

# Acknowledgement

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# eProject Synopsis

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| --- | --- |
| **Project Title** | Book Store for Our Readers |
| **Technology Stack** | Flutter (Dart), Firebase (Firestore & Authentication) |
| **Platform** | Android (Mobile Application) |
| **Database** | Cloud Firestore |
| **Authentication** | Firebase Email/Password Authentication |

This project presents a comprehensive online bookstore mobile application

developed using Flutter and Firebase technologies. The application facilitates user registration and authentication, enabling customers to browse a diverse collection of books, implement search and filtering functionality based on price ranges or

literary genres, manage selected items in shopping carts or wishlists, and complete purchases through a streamlined checkout process.

Administrative users possess privileges to manage inventory through book listing administration, including addition, modification, and removal capabilities. The application delivers a contemporary user experience with efficient data

management and secure authentication protocols. The primary objective of this

project is to demonstrate the development of a scalable, cloud-integrated mobile application solution.

# eProject Analysis

## Problem Statement:

The contemporary market exhibits a significant deficiency in mobile-optimized platforms where literature enthusiasts can conveniently explore, select, and purchase books without the necessity of visiting physical retail establishments, thus creating a substantial demand for an innovative digital solution.

## Objectives:

To develop a user-centric mobile application with the following functionalities:  Implementation of secure user registration and authentication systems

 Categorization of literary works by genre for enhanced browsability  Integration of wishlist and shopping cart functionality

 Development of an intuitive and efficient checkout interface

 Provision of administrative capabilities for inventory management

## Proposed System Architecture:

The system architecture is bifurcated into two primary functional modules:

 User Module: Facilitates end-user interaction with the application for literature exploration and procurement.

 Administrative Module: Provides authorized personnel with inventory management capabilities.

## System Benefits:

 Comprehensive access to an extensive literary collection

 Enhanced remote shopping experience with intuitive navigation  Sophisticated administrative interface for inventory control

 Implementation of Firebase technology ensuring data security and real-time synchronization

# eProject Design

* **Data Flow Diagrams**

**DFD (Context Diagram):**

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│ User │────▶│ Book Store │◀────│ Admin │

│ │ │ Application │ │ │

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┌─────────────────┐ ┌─────────────────┐

│ User Operations │ │ Admin Operations│

│ (Browse/Purchase)│ │ (Inventory Mgmt)│

└─────────────────┘ └─────────────────┘

**Level 1 DFD:**

graph TD

Auth["Firebase Authentication"] --- Login User --- Login["Login/Register"] --- Admin Login --- Home["User Home"]

User --- Browse["Browse Books"] Home --- BookDetails["Book Details"] Browse --- BookDetails

Admin --- Manage["Manage Inventory"] Manage --- BookDetails

Browse --- CartWish["Cart/Wishlist"] BookDetails --- CartWish

CartWish --- Checkout

Checkout --- Order["Order Placed"] --- DB"Firestore Database"]

* **User Interaction Flowchart**

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│ Start │

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│Splash Screen│

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│Login/Register│

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│Login│ │Register│

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│Home Page│◀───────┐

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│View Book│ │ Book List │

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│Add to Cart/

│Wishlist

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│Checkout│ │Continue │

│ │ │Browsing │

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│Order Placed │ │

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┌─────────────┐ │

│ End │◀───┘

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## Database Design (Firestore Collections)

**Collection: users**

* billingAddress: "testing"
* email: "hashir@test.com'
* name: "Muhammad Hashir"
* profileImage: "https://api.dicebear.com/8.x/initials/png?seed=M\*|
* role: "user"
* shippingAddress: "Al noor society, Ahsanabab, karachi, 75990

## Collection: books

## authorName: "Frank Herbert"

## description: " Set in a distant future, the novel follows Paul Atreides,

## whose family assumes control of the desert planet

## Arrakis. As the only producer of a highly valuable resource, jurisdiction over Arrakis is contested among competing noble families. After Paul and his family are betrayed, the story explores themes of politics, religion, and man's relationship to nature, as Paul leads a rebellion to restore his family's reign."

## genre: "Sci-Fi"

## imageUr1: "https://i.ibb.co/LWc6YMR/book-cover-1750587511972.jpg™

## price: "6400"

## title: "Dune"

## Collection: cart

## book-id: "ZLJP5q7VrfHj1QP4lUpR"

## final-price: "5000"

## quantity: 1

## user-id: "JGXI4AWOD0fxVIP2BaBX5|prvK43"

## Collection: wishlist

## book-id: "2|WwNjZcJDjtLv5jnytT"

## user-id: \*YCsNCejnMtSzadZqLFBzj5mu6001'

## Collection: orders

# book-¡d: "HsHGEJхDs5tbhM5jеаОj"

# invoice-num: "1751221246544"

# price: "2500"

# quantity: 1

# status: "orderReceived"

# timestamp: June 29, 2025 at 11:20:46 PM UTC+5

# user-id: "YCsNCejnMtSzadZqLFBzj5muбoo1"

## Collection: Reviews

## book-id: \*2lWwNjZcJDjtLv5jnytT")

## comment: "nice book"

## is-liked: true

## rating: 5

## timestamp: June 29, 2025 at 10:55:34 AM UTC+5

## user-id: "ClruNPAlanemB3hmdr94vSGciPD3\*

# The subsequent sections will include:

## Application Screenshots

## User Interface:

## 

## 

## 

## Admin Panel:

## 

## 

## Source Code Documentation

## Github link:

## User Manual

Detailed instructions for end-users on application installation, account creation, and feature utilization.

## Developer Guide

Technical documentation for future developers including setup procedures, architecture explanation, and maintenance protocols.