Research Article

'Pustaka Bangsa' Bookstore Application Android-based

[1]Lenny Syahputri, [2]Deci irmayani, [3]Fitri Aini Nasution*

[1,2,3]Department of informatics Management, Labuhanbatu University, North Sumatra, Indonesia

*Corresponding Author: fitriaininasution689@gmail.com

Abstract:
The bookstore needs to be Android-based to take advantage of the ease of access of customers in making purchases and orders. With an Android-based application, customers can easily browse the book catalog, place orders, and make payments online through their mobile devices. It also makes it easier for store owners to manage stock, orders, and transactions efficiently. Android-based also allows integration with various features such as GPS for delivery tracking and notifications. Thus, Android-based applications can improve the customer shopping experience and operational efficiency of bookstores. This research discusses how to create an online bookstore called 'Pustaka Bangsa' based on Android.

Keywords: online bookstore, online customer, flexible, mobile programming, android

Citation: L.Syahputri, et.al.," 'Pustaka Bangsa' Bookstore Application Android-based ". *Iota,* **2024**, ISSN 2774-4353, Vol.04, 01. https://doi.org/10.31763/iota.v4i1.700

Academic Editor : Adi, P.D.P

Received : January, 15 2024

Accepted : January, 26 2024

Published : February, 07 2024

1. INTRODUCTION

The current development of bookstores shows an increasing trend of online book sales. With Android-based bookstore apps, customers can easily browse book catalogs, make purchases, and pay online through their mobile devices. Several studies have also highlighted the importance of Android-based applications to make it easier for customers to search and purchase books online. Thus, creating an Android-based online bookstore can provide easier access for customers, improve operational efficiency, and expand the sales market for bookstore owners.

The bookstore needs to be Android-based to take advantage of the ease of access of customers in making purchases and orders. With an Android-based application, customers can easily browse the book catalog, place orders, and make payments online through their mobile devices. It also makes it easier for store owners to manage stock, orders, and transactions efficiently. Android-based also allows integration with various features such as GPS for delivery tracking and notifications. Thus, Android-based applications can improve the customer shopping experience and operational efficiency of bookstores. This research discusses how to create an online bookstore called 'Pustaka Bangsa' based on Android.

Here are some of the benefits of using an Android-based app for bookstores: Make it easy for customers to make online purchases and orders through their mobile devices. Improves bookstore operational efficiency in managing stock, orders, and transactions efficiently. Enables integration with various features such as GPS for delivery tracking and notifications. Enhance customers' shopping experience with easy access and navigation of the book catalog. Increase bookstore competitiveness by utilizing the latest

technology and digital trends. In addition, Android-based apps can also help bookstores to expand the book sales market, introduce bookstores, and increase the number of sales.

2. METHOD

The first step is to create a flowchart so that the web can be conditioned step-by-step from start to finish to create an online bookstore.

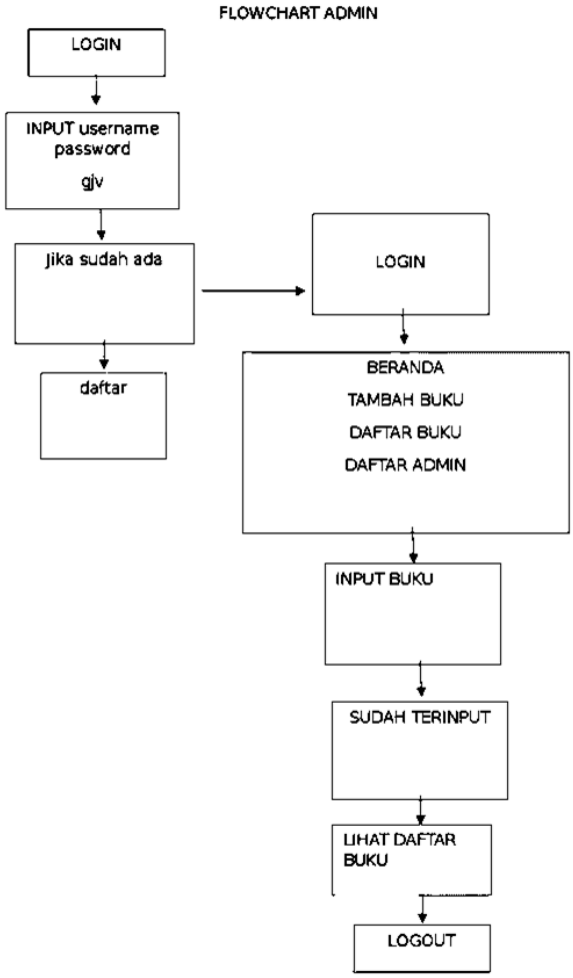

Fig 1. Flowchart of mobile or android based bookstore system

3. RESULT AND DISCUSSION

In this discussion, we will first determine the Platform, Template, and Branding, and we determine Mobile as an example of the branding we are building.

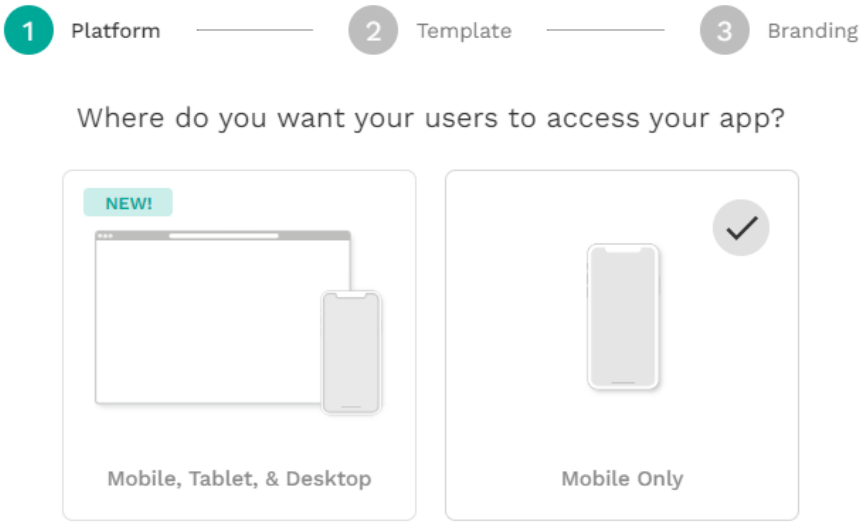

Fig 2. Mobile platform

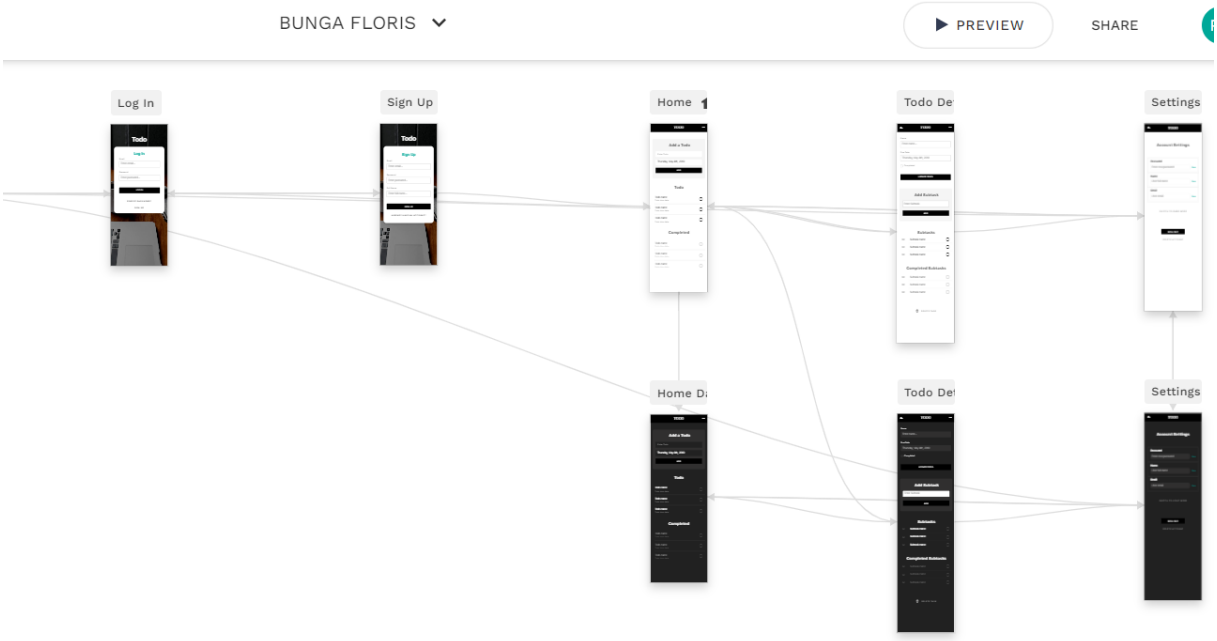

Fig 3. System Connection between pages

Some of the coding applied is as follows:

1. Create a class for book representation

```
data class Book(val id: Int, val title: String, val
author: String, val price: Double)
```

```
import android.content.ContentValues
import android.content.Context
import android.database.Cursor
import android.database.sqlite.SQLiteDatabase
import android.database.sqlite.SQLiteOpenHelper

class DatabaseHelper(context: Context) :
    SQLiteOpenHelper(context,        DATABASE_NAME,        null,
DATABASE_VERSION) {

    companion object {
        private const val DATABASE_VERSION = 1
        private const val DATABASE_NAME = "BookStoreDB"
        private const val TABLE_NAME = "books"

        private const val KEY_ID = "id"
        private const val KEY_TITLE = "title"
        private const val KEY_AUTHOR = "author"
        private const val KEY_PRICE = "price"
    }

    override fun onCreate(db: SQLiteDatabase) {
        val createTableQuery = ("CREATE TABLE $TABLE_NAME("
                + "$KEY_ID INTEGER PRIMARY KEY,"
                + "$KEY_TITLE TEXT,"
                + "$KEY_AUTHOR TEXT,"
                + "$KEY_PRICE REAL)")
        db.execSQL(createTableQuery)
    }
```

```
    override fun onUpgrade(db: SQLiteDatabase, oldVersion: Int,
newVersion: Int) {
        db.execSQL("DROP TABLE IF EXISTS $TABLE_NAME")
        onCreate(db)
    }

    fun addBook(book: Book) {
        val db = this.writableDatabase
        val values = ContentValues()

        values.put(KEY_TITLE, book.title)
        values.put(KEY_AUTHOR, book.author)
        values.put(KEY_PRICE, book.price)

        db.insert(TABLE_NAME, null, values)
        db.close()
    }

    fun getBook(id: Int): Book? {
        val db = this.readableDatabase
        val cursor: Cursor = db.query(
            TABLE_NAME,
            arrayOf(KEY_ID, KEY_TITLE, KEY_AUTHOR, KEY_PRICE),
            "$KEY_ID=?",
            arrayOf(id.toString()),
            null, null, null, null
        )

        return if (cursor.moveToFirst()) {
            val book = Book(
                cursor.getInt(cursor.getColumnIndex(KEY_ID)),
```

```
cursor.getString(cursor.getColumnIndex(KEY_TITLE)),

cursor.getString(cursor.getColumnIndex(KEY_AUTHOR)),

cursor.getDouble(cursor.getColumnIndex(KEY_PRICE))
            )
            cursor.close()
            book
        } else {
            cursor.close()
            null
        }
    }

    fun getAllBooks(): List<Book> {
        val bookList = mutableListOf<Book>()
        val selectQuery = "SELECT * FROM $TABLE_NAME"
        val db = this.readableDatabase
        val cursor: Cursor = db.rawQuery(selectQuery, null)

        if (cursor.moveToFirst()) {
            do {
                val book = Book(

cursor.getInt(cursor.getColumnIndex(KEY_ID)),

cursor.getString(cursor.getColumnIndex(KEY_TITLE)),

cursor.getString(cursor.getColumnIndex(KEY_AUTHOR)),

cursor.getDouble(cursor.getColumnIndex(KEY_PRICE))
                )
```

```
                bookList.add(book)
            } while (cursor.moveToNext())
        }

        cursor.close()
        return bookList
    }

    fun updateBook(book: Book): Int {
        val db = this.writableDatabase
        val values = ContentValues()

        values.put(KEY_TITLE, book.title)
        values.put(KEY_AUTHOR, book.author)
        values.put(KEY_PRICE, book.price)

        return db.update(
            TABLE_NAME,
            values,
            "$KEY_ID = ?",
            arrayOf(book.id.toString())
        )
    }

    fun deleteBook(id: Int): Int {
        val db = this.writableDatabase
        return    db.delete(TABLE_NAME,    "$KEY_ID    =    ?",
arrayOf(id.toString()))
    }
}
         ---- 2. class for management databases ------
```

```
import android.os.Bundle
import android.widget.Toast
import androidx.appcompat.app.AppCompatActivity
import kotlinx.android.synthetic.main.activity_main.*

class MainActivity : AppCompatActivity() {

    private lateinit var db: DatabaseHelper

    override fun onCreate(savedInstanceState:
Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)

        db = DatabaseHelper(this)

        // Tambah buku
        btnAdd.setOnClickListener {
            val title = etTitle.text.toString()
            val author = etAuthor.text.toString()
            val price =
etPrice.text.toString().toDouble()

            val newBook = Book(0, title, author,
price)
            db.addBook(newBook)

            Toast.makeText(this, "Buku ditambahkan!",
Toast.LENGTH_SHORT).show()
        }

        // Tampilkan semua buku
```

```
        btnDisplay.setOnClickListener {
            val books = db.getAllBooks()

            if (books.isNotEmpty()) {
                for (book in books) {
                    println("Book:     ${book.title},
Author: ${book.author}, Price: ${book.price}")
                }
            } else {
                Toast.makeText(this,    "Belum    ada
buku.", Toast.LENGTH_SHORT).show()
            }
        }

        // Perbarui buku
        btnUpdate.setOnClickListener {
            val id = etId.text.toString().toInt()
            val title = etTitle.text.toString()
            val author = etAuthor.text.toString()
            val                price                =
etPrice.text.toString().toDouble()

            val updatedBook = Book(id, title, author,
price)
            val            rowsAffected            =
db.updateBook(updatedBook)

            if (rowsAffected > 0) {
                Toast.makeText(this,            "Buku
diperbarui!", Toast.LENGTH_SHORT).show()
            } else {
                Toast.makeText(this,          "Gagal
memperbarui buku.", Toast.LENGTH_SHORT).show()
```

```
            }
        }

        // Hapus buku
        btnDelete.setOnClickListener {
            val id = etId.text.toString().toInt()
            val rowsAffected = db.deleteBook(id)

            if (rowsAffected > 0) {
                Toast.makeText(this, "Buku dihapus!",
Toast.LENGTH_SHORT).show()
            } else {
                Toast.makeText(this, "Gagal menghapus
buku.", Toast.LENGTH_SHORT).show()
            }
        }
    }
}
```

----------3. Activity for User interaction ----------

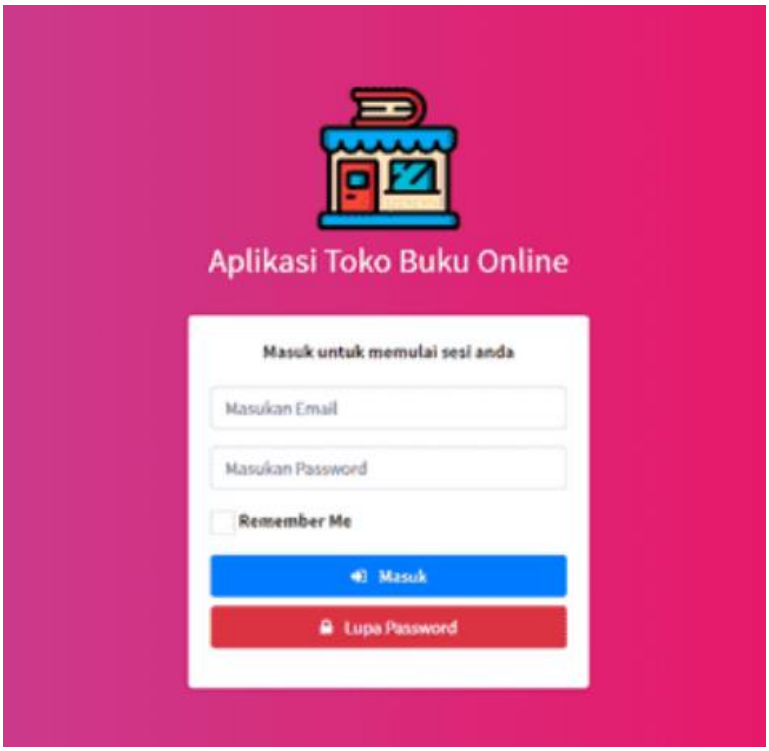

Fig 4. Example of a bookstore display on mobile

4. CONCLUSION AND SUGGESTION

Advantages of using an Android-based application for bookstores: Make it easy for customers to make online purchases and orders through their mobile devices. Improves bookstore operational efficiency in managing stock, orders, and transactions efficiently. Allows integration with various features such as GPS for delivery tracking and notifications. Enhance customers' shopping experience with easy access and navigation of the book catalog. Increase bookstore competitiveness by utilizing the latest technology and digital trends. In addition, Android-based apps can also help bookstores to expand the book sales market, introduce bookstores, and increase the number of sales.

5. ACKNOWLEDGMENTS

Thanks are given to organizations or institutions that assist in research directly, or indirectly, in thinking and funding.

AUTHOR CONTRIBUTIONS

All Author is responsible for building Conceptualization, Methodology, analysis, investigation, data curation, writing—original draft preparation, writing—review and editing, visualization, supervision of project administration, funding acquisition, and have read and agreed to the published version of the manuscript.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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