### Title:

DocScanner – An Android Application for PDF Creation and Management

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### Problem Statement:

### In today's digital age, managing documents efficiently is a challenge for many. Users often need to convert physical documents into digital format, store them, and retrieve them when needed. While many applications offer PDF creation, they lack comprehensive features like automatic document processing, seamless searching, and effective management of deleted files. Moreover, traditional document scanning apps may require complex UI navigation, making them difficult to use.

### Proposed Solution:

DocScanner is an Android application developed using Kotlin and Jetpack Compose that addresses the need for efficient document scanning, management, and retrieval. By leveraging Google's ML Kit API, DocScanner simplifies the process of converting physical documents into PDFs by offering features such as auto-cropping, tint removal, and corner adjustment. Additionally, it includes an intuitive UI for managing PDFs, viewing files directly within the app, and a search functionality to quickly locate documents. Temporarily deleted files are stored in a bin for 30 days, providing users with a safety net to restore PDFs before permanent deletion. The app offers a user-friendly experience and all-in-one document management solution.

### Key Features:

**Create PDFs**: Users can scan physical documents and convert them into PDF format using Google's ML Kit API, which automatically processes the document by cropping, adjusting corners, and removing tints for enhanced readability.

**PDF Viewer**: A built-in PDF viewer allows users to open and read PDFs directly within the app without the need for external applications.

**Search**: A search function enables users to find specific PDFs by keyword, ensuring fast and easy retrieval.

**Search History**: Track all previously searched PDFs, allowing for quick access to recently searched documents.

**Bin**: A temporary storage feature where deleted PDFs are stored for 30 days, giving users the option to restore them before permanent deletion.

**Intuitive UI**: Developed using Jetpack Compose, the app's interface is clean, modern, and easy to navigate.

**Modules:**

**Document Scanning Module**:

* 1. Utilizes Google ML Kit API to scan physical documents.
  2. Features auto-cropping, tint removal, and corner adjustment for clean and professional PDF creation.
  3. Outputs PDFs that can be saved and managed within the app.

**PDF Management Module**:

* 1. Stores created PDFs in a library for easy access.
  2. Provides options to move unwanted files to the bin, where they are held temporarily for 30 days before permanent deletion.
  3. Includes functionality for restoring deleted PDFs from the bin within the grace period.

**PDF Viewing Module**:

* 1. An integrated PDF viewer allows users to view scanned PDFs without leaving the app.
  2. Smooth navigation and readability, ensuring that users can manage and review documents efficiently.

**Search Module**:

* 1. Allows users to search for specific PDFs by keywords, making document retrieval fast and efficient.
  2. The search history feature tracks previously searched terms, enhancing user convenience.

**Bin Module**:

* 1. Handles deleted PDFs, storing them for 30 days before permanent removal.
  2. Enables users to restore files accidentally deleted within the temporary storage period.

### Additional Functionality

1. **Storage Permissions**: The app requires storage permissions to manage PDF files, including saving scanned documents and deleting or restoring them from the bin.
2. **Search History Maintenance**: DocScanner keeps track of previous search queries, allowing users to revisit frequently searched documents with ease.
3. **User Notifications**: The app sends reminders when PDFs are about to be permanently deleted from the bin, offering users the chance to restore important files.
4. **Offline Usage**: All functionalities, including document creation and management, are available offline, ensuring users can manage documents without an internet connection.

**Summary Table**

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| --- | --- |
| ***Features*** | ***Modules*** |
| Create PDFs | Document Scanning Module |
| Auto-cropping, Tint Removal, Corner Adjustment | Document Scanning Module |
| Search PDFs | Search Module |
| Bin (Temporary File Storage) | Bin Module |
| Camera Access | Camera API module |
| File Access | Storage Access Framework |
| Storage Permissions | Storage Access Framework |