LEADING UNIVERSITY

**Project Report
On
Android PDF Viewer**

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APPROVAL

This Project titled "**Android PDF Viewer**", submitted by Supriyo Talukder and Mohi Uddin Pabel to the Department of Computer Science and Engineering, Leading University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering (B.Sc.) and approved as to its style and contents.

Approved By:

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PROJECT PROPOSAL

Proposal for the project impartial fulfillment of the requirements for the Degree of Bachelor of Science in Computer Science and Engineering.

Project Title: "Android PDF Viewer".

Date of Submission: 24th September 2019.

Project Supervisor:

Arafat Habib Quraishi
Senior Lecturer
Department of Computer Science and Engineering
Leading University, Sylhet.

Supervision Agreement

The outlined in this project is required for the degree of Bachelor of Science in Computer Science and Engineering. The supplies and facilities that we needed are available and we are willing to supervise and evaluate the project work.

Supervisor Signature

Arafat Habib Quraishi

Senior Lecturer

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Students Signature

Supriyo Talukder   Mohi Uddin Pabel

DECLEARATION

We hereby declare that, this project has been done by us under the supervision of Arafat Habib Quraishi, Senior Lecturer, Department of Computer Science and Engineering, Leading University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

ACKNOWLEDGEMENT

Our first and foremost gratitude is to our GOD Almighty who has been with us all along and giving us the strength to complete the 3rd year project successfully.

We would like to acknowledge our deepest gratitude to our supervisor Arafat Habib Quraishi, Senior Lecturer of Department of CSE. This project would not have come into being without the guidance of him. His valuable suggestions and guidance helped us a lot in the project. He has been very supportive and his feedback has greatly improved our work.

Many thanks to the Department of Computer Science and Engineering Head, Md. Asaduzzaman Khan for approving and letting us to do the project.

Special acknowledgements to all our teachers, honorable faculty members of CSE, Leading University, for their continuous support, motivation during the project process and encouraging us to finish the project.

Android

PDF

Viewer

ABSTRACT

The Portable Document Format (PDF) is a file format which stores the texts, graphical contents of a document in exactly the intended format. We are going to develop an android application that will be able display the pdf document on android devices, it will also be able to create text document that will be saved as pdf and can also convert other text formatted document to pdf format.

This application can be used by almost everyone who owns a phone with the android OS. The individual will be able view their pdf documents on their phone, make short note and save that note as pdf formatted file and also convert other document format to pdf as it is very convenient. Students like us will get benefit from it as we have to use many document files and pdf is the most reliable document format for phones.

Table of Contents

1. Introduction

We named our project "Android PDF Viewer". This application will run on android devices this is why we choose "Android", it will be dealing with pdf files this is why "PDF" and its main functionality would be displaying pdf formatted document so, we named it "Android PDF Viewer".

2. System Requirement

2.1 Software Requirements

- Android Studio
- Android SDK
- JDK (Java Development Kit)
- XML
- Programming Language: Java

2.2 User Requirements

- Platform: Android
- Version: Android 5 or above
- RAM: 512MB or above
- ROM: 30MB

3. Design

3.1 System Architecture

System Architecture shows the relationship between different component of system. This diagram very useful to understand the overall concept of system.
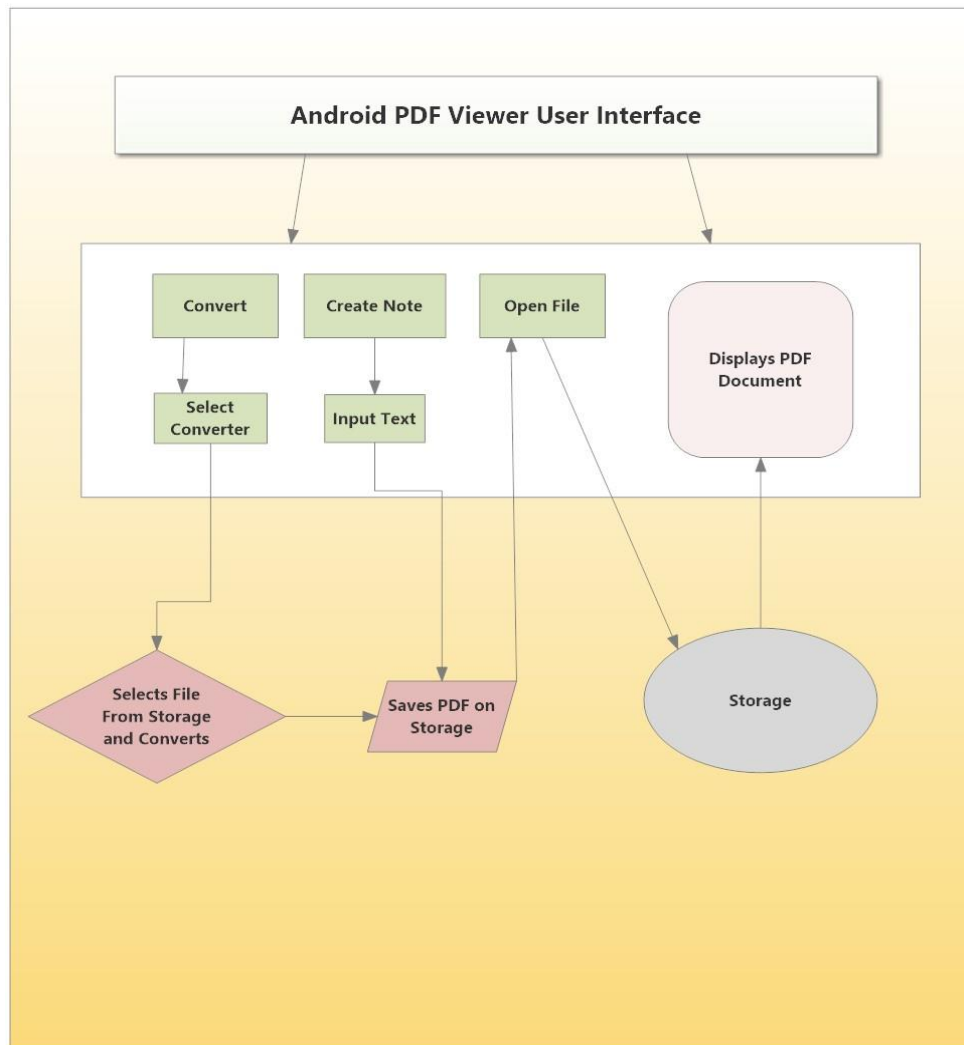

Figure 1: Overall System Architecture Diagram
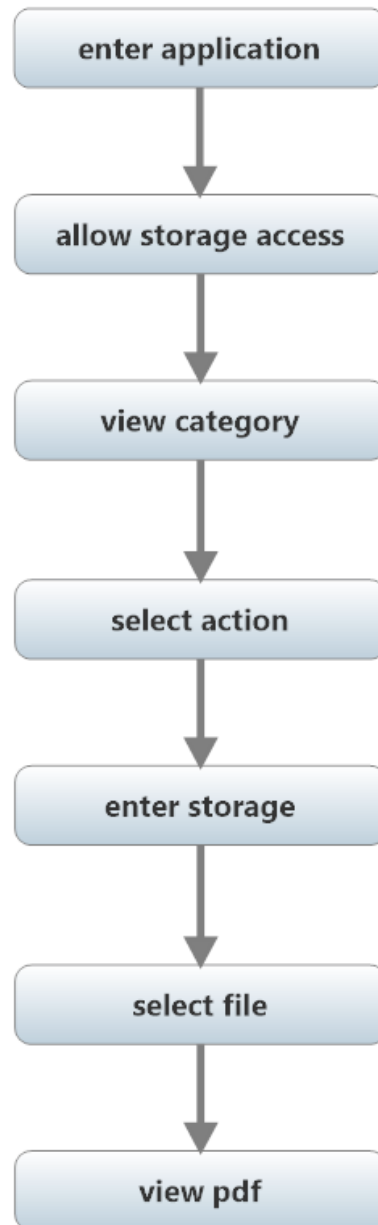
3.2 Activity Diagram

Figure 2: Overall Activity Diagram

3.3 GUI Design

The GUI for this application is built using a collection of activities which are the basic unit of an Android application. All the components of the GUI are defined in XML file and this file is loaded during a runtime.

3.3.1 Lunch Icon

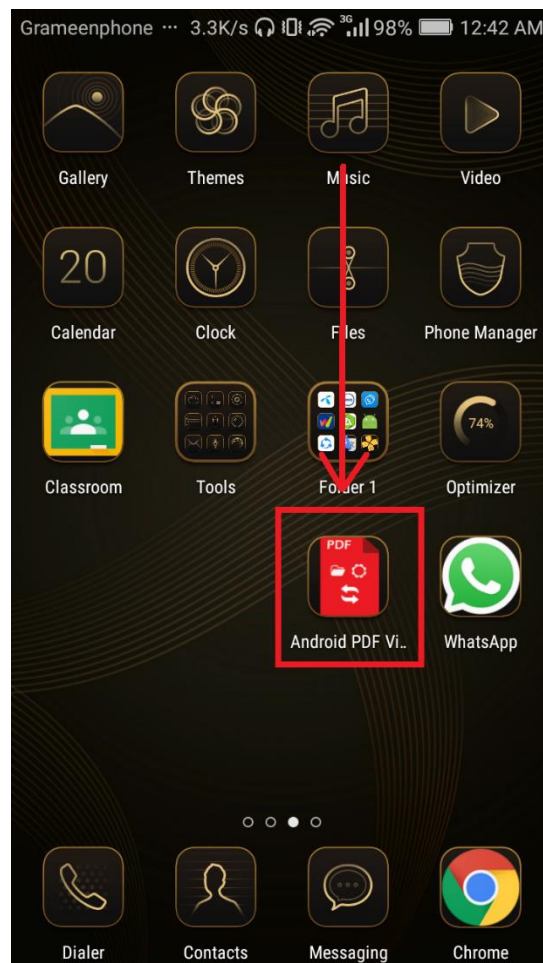The application is launched by clicking or tapping the icon showed in the red colored rectangle.

Figure 3: Launcher Icon Page

3.3.2 Main Activity Design

The main activity is consisting four buttons. Each button has different functionality. The user will be able to identify which button has what kind of functionality by seeing the button name and the unique logo. The main activity also contains a TextView "Choose an action.." which indicates the user to choose a button to continue.
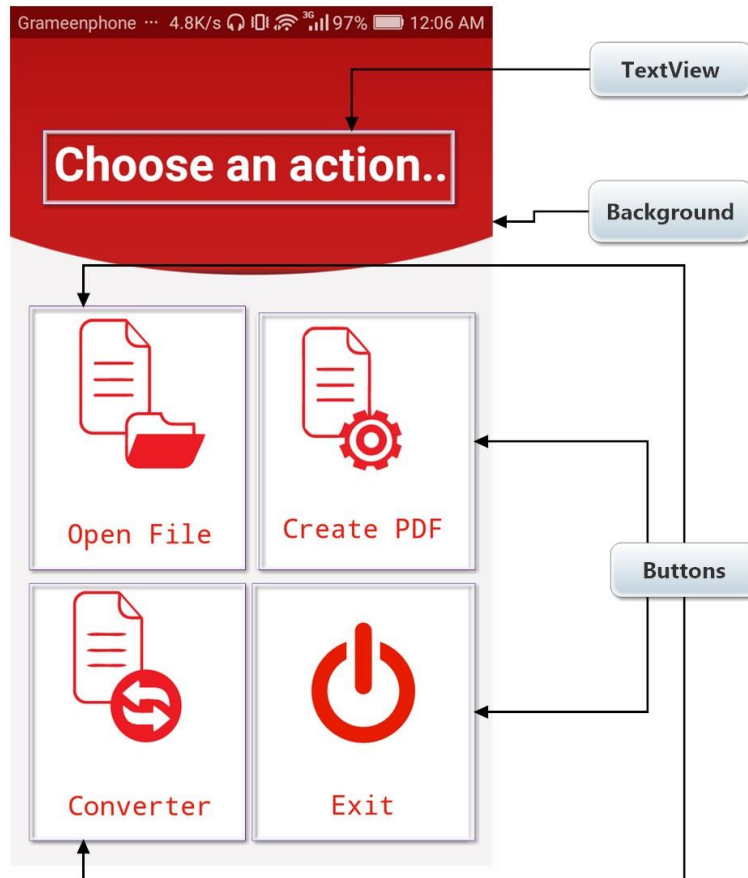

Figure 4: Main Activity Page

The pdf document is shown in a blank page where it will contain the contents of the pdf document like text, pictures etc. And it will be scrollable for multiple pages.

4. Implementation

Hardware Interface: Windows 10.

Development Software: Android Studio.

Android Studio is Android's official IDE. It is purpose built for Android to accelerate the development and help the developer build the highest-quality apps for every Android device. It offers tools custom-tailored for Android developers, including rich code editing, debugging, testing, and profiling tools.

XML: XML is used for making UI templates for the app in android studio. Analogous to HTML in web development, XML is used to structure static views and layouts for the application.

Java: Java is the programming language used in development of this application. All the logical work behind the GUI design is done by java. The GUI of the application that are designed through XML are linked with Java part to fulfil the logical work of the application.

Library Files and Plugins:

All these library implementations are legally free to use in making new application. The following library files are implemented in the app gradle scripts

- com.itextpdf:itextg:5.5.10
- com.github.barteksc:android-pdf-viewer:2.8.2
- com.karumi:dexter:5.0.0

One extra plugin used for creating automated sized drawable files that fits for different screen resolutions

- android drawable importer v0.5-81

Tools:

We used the following tools in designing logo and icons for the application.

- Adobe Photoshop
- Adobe Illustrator

5. Platform Testing

The application is tasted on Android 6.0 called Marshmallow; API level 23, Android 7.0 called Nougat; API level 24, Android 7.1 also called Nougat; API level 25 and on the latest version Android 10.0; API level 29. The application will run on Android versions which are in between Android 5.0 and Android 10.0. This is because the Android SDK platform package includes API level 21 to API level 29.

During testing, different AVDs were created for different API levels and the application run and showed all the expected outcomes with the only exception that the application couldn't select any image from store because there was not any image on the emulator.

6. Advantages

The Android PDF Viewer application has multiple functionalities that can perform different operations related to pdf documents and the pdf documents are compatible in android devices. The main functionality is to display pdf documents. For displaying pdfs, the advantage is it loads the contents of the pdf document faster than other major pdf viewer applications. The difference of loading contents faster than other pdf viewer application become noticeable while loading large number of paged pdf document. Besides displaying the pdf document on android devices, it can do two more major operations.

The first one is it can create pdf documents. Means the user will be able to create a pdf document by inputting text contents. The user will get an edit text box on the application interface after choosing the 'Create Note' action where user can put the text then save the text as pdf document format. In this way user can create short notes and save them as pdf. This functionality works more like a notepad but the advantage is it allow the user to save the note as pdf in storage.

Second major operation is it can convert other text format documents to pdf format document. Since the pdf document format is most reliable format for phones, the user can convert other document format to pdf document so that the document will become a pdf and the user can view the converted document within the application. It can convert image files to pdf document. Image files like jpg, png etc. In this way user can save their important notes from notebook as pdf. The user has to take a picture with their android phone then access the picture through the application Android PDF Viewer and it will save the picture as a pdf document. The advantage is the user can instantly save their picture document as a pdf document on storage with the application.

Another advantage is the newly converted or created pdf document can be display on the device within the app. So, the user won't have to use other pdf viewer application. And as the app can perform these mentioned multiple operations, the user will not have to use different application for different operation.

6.1 Key Advantages

- Works faster.

- Has multiple functionalities.

- Display pdf documents.

- Works like a Notepad.

- Can create a short text note.

- Save note as pdf.

- Convert Image files (jpg, png etc.).

- Can display the created pdf and converted pdf files.

7. Limitations

Limitation of an app usually refers to what the defined system is unable to do as of its present state. The Android PDF Viewer has some limitations that the application is not able to do. The limitations are:

- Unable to show page numbers while displaying multiple paged pdf document.

- Text size and text format cannot be changed on notepad.

- Page format also cannot be changed.

- Font size are comparatively small for displaying on phone.

- User have to zoom the created pdf file contents.

- Only can put text as a content in creating notes.

- Cannot edit the pdf documents.

- It can only convert one file format to pdf document format.

- Only able to convert image file to pdf document format.

8. Future Plan

We have many plans for this application. We want to make it more like a PDF all-rounder in the future, means which will do any operation related to PDF documents, like converting any document format to PDF document. For example, docx to pdf, pptx to pdf, xlsx to pdf, txt to pdf etc. Also want to add functionality like editing pdf documents etc. We want to develop this app in a well-organized way, where it will have less complexity so that the probability of app crash will be very low. Want to make it user friendly so the user will feel comfortable using it. We will keep up with the update of the app so the next released version of android will be able to run the application. And if we succeed in achieving our goals, we'll release this application publicly.

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