A MINI PROJECT REPORT ON

"SPPU Result Analysis"

Submitted to
Department of Computer Engineering

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1. ABSTRACT

The Portable Document Format (PDF) (redundantly: PDF format) is a file format developed by Adobe in the 1990s to present documents, including text formatting and images, in a manner independent of application software, hardware, and operating systems. Based on the PostScript language, each PDF file encapsulates a complete description of a fixed-layout flat document, including the text, fonts, vector graphics, raster images and other information needed to display it. Today, PDF files may contain a variety of content besides flat text and graphics including logical structuring elements, interactive elements such as annotations and form-fields, layers, rich media (including video content) and three dimensional objects using U3D or PRC, and various other data formats. The PDF specification also provides for encryption and digital signatures, file attachments and metadata to enable workflows requiring these features. Similarly, Microsoft Excel was developed to contain data and store it efficiently. It allowed the user to gain control over the many features it holds. Although Excel was not designed to be used as a database, it still a relational database. An RDBMS is a collection of programs and capabilities that enable IT teams and others to create, update, administer and otherwise interact with a relational database. SPPU Result Analysis is a software designed for converting a SPPU mark sheet into an Excel file. This software enables teachers and faculty members to convert the mark sheet and get an overview of the result of every student.

Need of Software

The current method of converting the PDF into Excel takes nearly 2 days leading to inefficiency and loss of valuable time. The act of reading the PDF manually is difficult, if prior knowledge about it is not known.

Students also find it difficult to dissect their marks according to particular subjects, since subject aren't represented by their names but by their subject codes. This PDF also has a table with multiple columns encompassing the marks of the students.

Proprietary Excel Converters are unable to convert the PDF successfully, in desired manner.

2. INTRODUCTION

A PDF to Excel Converter basically converts the contents of a PDF into Excel. Time has always been a key constraint in daily life. As engineers, we are always looking for ways to save time and thus improve efficiency and productivity. Our project aims at doing just the same.

Objective

- Discarding the manual methodology and automating the system
- Reducing time taken to enter data.
- Making the data easily accessible.
- Speeding up operations.
- Understand the data easily.
- Making the process user-friendly.

3. SYSTEM ARCHITECTURE

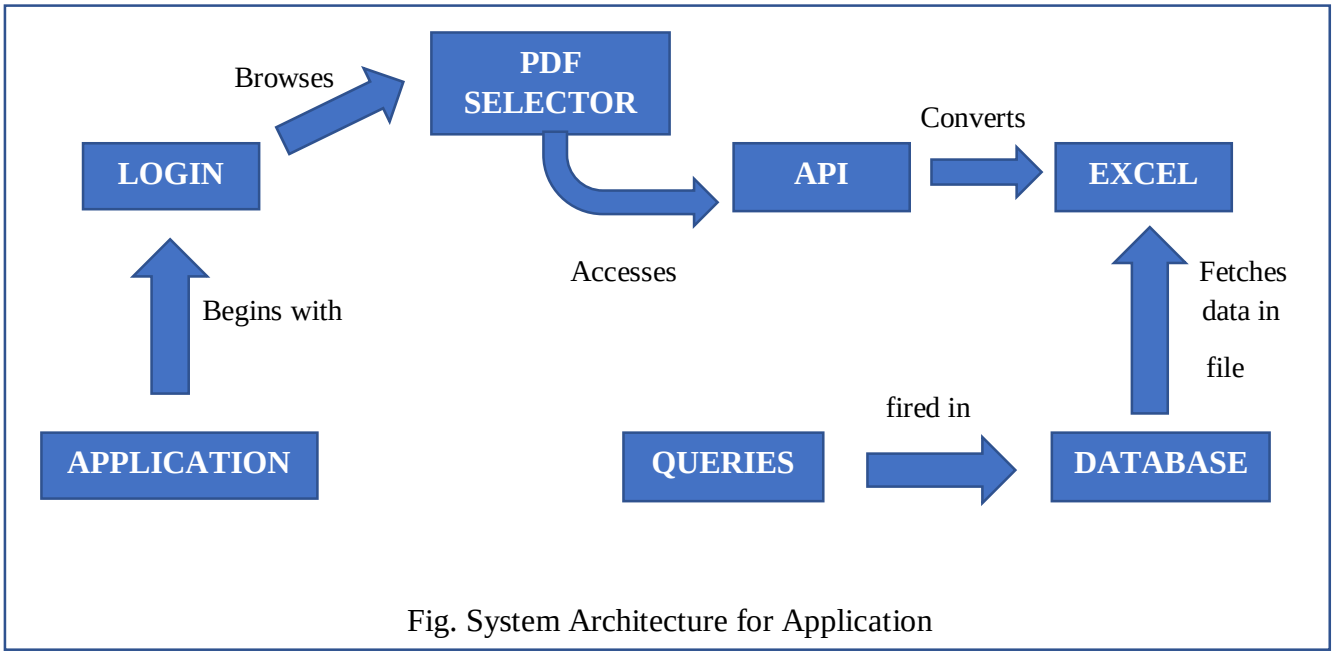

Fig. System Architecture for Application

The system architecture is a modified version of the traditional Microservices Architecture. Here, there is the main service namely PDF is connected to the API which forward the call to the correct service. The database microservice is dependent on the Excel generated.

Application: The users can start the application. It can be the faculty members of the college.

Login: This is the first GUI page that the users will see or interact with.

PDF Selector: The second GUI page that allows the user to select his choice of PDF.

API: A set of functions and procedures allowing the creation of applications that access the features or data of an operating system, application, or other service.

Excel File: The data is converted into Excel format.

Database: A database created in MySQL accesses the data from the Excel File and converts into appropriate table format.

Queries: This microservice is used to fire various conditions and obtain desired results.

4. SYSTEM REQUIREMENTS

Hardware requirements:
Processor: Intel Pentium-IV / AMD Ryzen 3-1200
Ram: 1 GB – DDR3 and above.
Hard disk: 500 MB

Software requirements:
Operating system: Windows XP / 7 / 8 / 10
Java Runtime Environment: version 8 or more
JDBC

5. IMPLEMENTATION DETAILS

GUI

The GUI is built using Java Swing. The forms are created using Swing classes. JButton, JTextField, JLabel, JPasswordField are the classes that have been used in this program.

Backend development

Backend development has been done in Java. The classes have been distributed into packages based on their utility. A modular approach has been taken which gives more flexibility while development as well as maintenance. Modules make the project look clean.

Database

We have used Excel as our primary storage option, as it is easy to use and comprehend. SQL has been used to fire queries and extract particular data or information based on various conditions.

Invoice and report generation

Invoice and report generation is done in Excel (csv Format). This is done using the API's provided by Gnostice. Similarly, we have used Gnostice PDFOne API for our application. Gnostice PDFOne provides a rich set of APIs to create, edit, view, print, merge, split, reorganize, encrypt, decrypt, bookmark, annotate, watermark and stamp PDF documents. A template made in JRXML format is populated with the required values at runtime and published as a report.

6. RESULT

This project fulfils the objectives described before creating the project. The following results have been found-

- The existing system has been automated.
- Time taken to show data has been reduced.
- Client data is easily accessible.
- Client data is easily understandable.
- The process of conversion is easily doable.

7. CONCLUSION

The PDF to Excel Converter is an exciting idea, which has been explored by many individuals and corporates alike. It has a multitude of features aiming at reducing time and increasing efficiency. Also, various APIs and; Java language as a whole has made it easier for developers to update and upgrade such applications. Our project aims at solving the problem faced in many such colleges, regarding the assessment of students. An overview enables such professionals to easily identify problems amongst the students effortlessly. This project will provide a chance to everyone; to innovate and solve problems with the use of a powerful tool, the language of computers.

8. FUTURE SCOPE

The design of this system is modular and hence any future enhancement, if proposed by the users, can be accommodated. This software can be enhanced to include features like advanced result analysis, multiple lists of different branches and an attractive GUI. Thus, this system has a very large scope in the future for enhancement as well as integration.