

Digital Signatures using iTextSharp

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ABSTRACT

In a PDF file we can create a digital signature to give our identity and show that the document is approved electronically. If a document is digitally signed, a sender cannot say that he did not sign on it, and also it specifies that the file has not been modified in the transmission. In this paper we are showing how to create digitally signed PDF documents by using iTextsharp library. In addition, we can give an option whether to make the signature visible or not.

Keywords : Digital Signature, iTextSharp, Cryptography.

I. INTRODUCTION

In public key cryptography two keys are used one for the encryption and other for the decryption. Digital signatures are one of the main applications of public key cryptography[1][2][3]. Many organizations are choosing digital signatures for their documents to save money, to be assured that the files of their organizations will not be modified, and also to make the work efficient.[4][5][6]. This procedure for creating digital signatures includes three algorithms. First algorithm gives a private key and corresponding public key. Second algorithm creates signature by using a message and a private key. And Third algorithm verifies the signature by using the message, public key and signature. Depending on the verification one can accept or reject the document.

A PDF library known as iText is used to create PDF documents. And also it is used to maintain these documents. It can create PDF files dynamically and also manipulate them for a web server. Developers of many high level languages use iText to improve PDF functionality. iTextSharp is a .NET port, which is used for PDF generation, modifications to PDF files, filling forms, and for digital signatures. We have other software for PDF document digital signatures, like Nova pdf, pdf creator, and expert.

II. RESULTS

Application is developed using Visual Studio C# Forms application. And Signature can be created using iTextSharp component "CreateSignature" method.

```
PdfReader rd = new PdfReader(inputPDF);
```

```
PdfStamper stamp = PdfStamper.CreateSignature(rd,
new FileStream(outputPDF, FileMode.Create,
FileAccess.Write), '\0', null, true);
```

The following are the screen shots depicting the procedure to create digital signature.

Figure 1: Form is created by visual studio form control to give the details of Source and Target files.

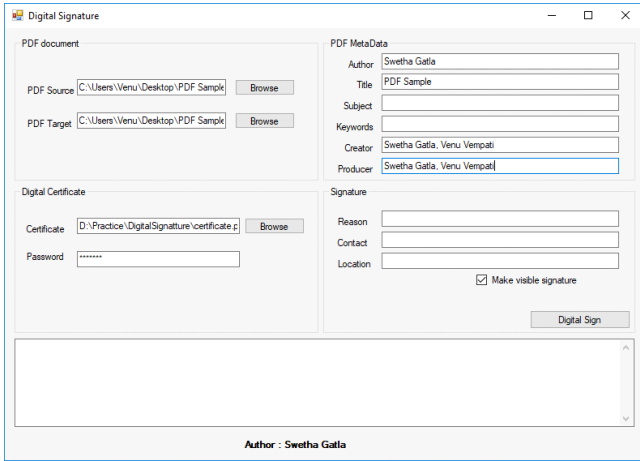


Figure 2. Author and title details are given as a meta data

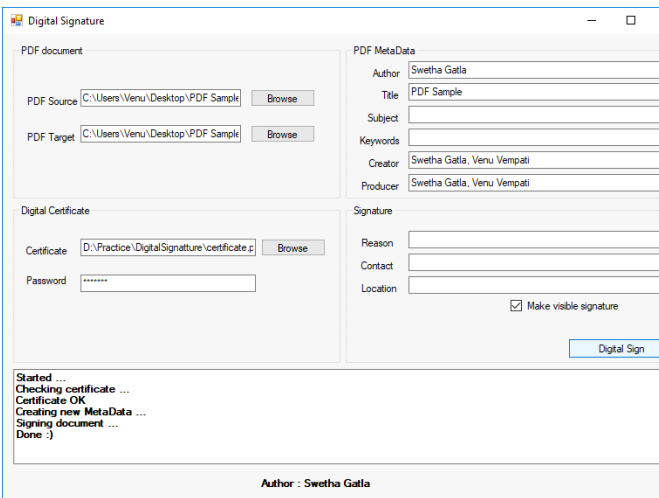


Figure 3. Checked the text box to make the signature visible

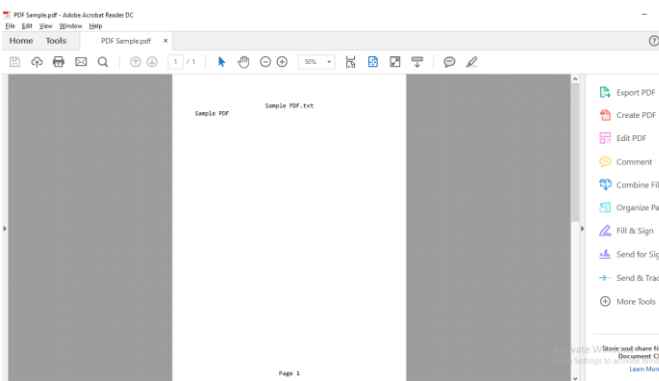


Figure 4. The Document before digitally signed.

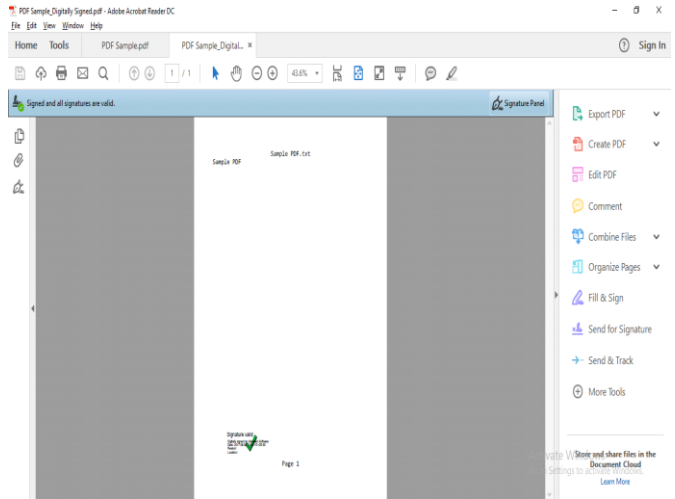


Figure 5. Digitally signed PDF file using iTextSharp library

III. CONCLUSION

Digital signatures are useful for security of our documents. We can convert different types of files to PDF format, and provide digital signature to it. iTextSharp is a .NET library, by using which you can create your signatures easily. We can also make the signature visible by using the check box.

IV. REFERENCES

- [1]. An Introduction to Digital Signature Schemes Mehran Alidoost Nia, Ali Sajedi, Aryo Jamshidpey.
- [2]. A New Variant of RSA Digital Signature Ashish Vijay, Priyanka Trikha ,Kapil Madhur .
- [3]. An Efficient Implementation of Digital Signature Chiranjib Dutta, Swati Sarkar, Animesh Kar .
- [4]. A Survey on Digital Signature Shraddha Kalbhori , Anita Gaikwad, Kajal Bhise , Prof. Dipmala Salunke , Varsha Bangar.
- [5]. Survey on Techniques Developed using Digital Signature: Public key Cryptography Shivendra Singh, Md. Sarfaraz Iqbal , Noida, India Arunima Jaiswal.
- [6]. A survey on digital signatures Venkateswara Rao Pallipamu, Thammi Reddy K, Suresh Varma P.