NALBARI COMMERCE COLLEGE, NALBARI

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Submitted on partial fulfillment for the three years Degree Course

Bachelor of Vocational (RMIT)

Of

GAUHATI UNIVERSITY

A PROJECT REPORT

ON

"DIGITAL SIGNATURE"

ACADEMIC GUIDE:

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CERTIFICATE OF GUIDANCE

This is to certify that **TUSHAR KANTI TALUKDAR**, Roll Number **UA-211-200-0039**, Registration Number **21069048**, a student of the sixth semester in the Department of B.Voc (RMIT) at **Nalbari Commerce College**, Nalbari, has successfully completed his project titled **"Digital Signature"** under my guidance.

Throughout the duration of the project, **TUSHAR KANTI TALUKDAR** exhibited diligence, dedication, and a profound understanding of the subject matter. His commitments to excellence and willingness to learn have been commendable.

I wish him success in life.

Dr. DEVAJIT MAHANTA
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ACKNOWLEDGEMENT

I extend my sincere gratitude to all those who have contributed to my journey of understanding and working with digital signatures throughout the course of this project. It is with immense appreciation that I acknowledge the invaluable support and guidance I have received from various individuals and resources.

*I, **TUSHAR KANTI TALUKDAR**, roll number **UA-211-200-0039**, registration number **21069048**, a student of the Department of B.Voc (RMIT), in the sixth semester, have only studied, understood, experimented, and utilized digital signatures in the execution of this project on digital signatures.*

*I am deeply grateful to my guide, **Dr. DEVAJIT MAHANTA**, Assistant Professor of the Department of B.Voc (IT), whose expertise, encouragement, and insightful feedback have been pivotal in shaping my understanding and implementation of digital signatures.*

Furthermore, I would like to express my appreciation to my fellow students and colleagues for engaging in meaningful discussions and providing assistance whenever needed.

Lastly, I am thankful to my family and friends for their unwavering support and understanding throughout this endeavor.

Once again, I express my heartfelt thanks to all those who have been a part of my journey in understanding and working with digital signatures.

Sincerely,

Tushar kanti Talukdar.

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Abstract

This project report outlines the development and implementation of a digital signature system. gital signatures play a crucial role in ensuring the authenticity and integrity of digital documents and mmunications. In this project, we have designed and implemented a secure digital signature system ing modern cryptographic techniques. The report provides insights into the methodology, chnologies used, system architecture, implementation details, testing, and results.

Introduction to "Digital Signatures"

Introduction

A reliable authentication mechanism is essential for the rule of law to prevail in the online world. Digital signatures, which use cryptography to facilitate authentication and data integrity verification, have come to be regarded as the technology that can match a person with their online alter ego. Given this mapping between a person and their online identity, electronic commerce can thrive since the law will be able to enforce contracts made in cyberspace. In order to promote this type of electronic commerce, legal bodies have begun to assess the liability of the parties who sign contracts using digital signatures. This paper contends that legislatures should define regulations regarding digital signatures narrowly since the technology and infrastructure is not ready for prime time use. In particular, this paper argues that trusted computing and in certain cases biometrics is necessary components before digital signatures should be considered legally binding.

Today, handwritten signatures are commonly used to authenticate individuals and signify the integrity of a particular document. Handwritten signatures can be used to enter into legally binding agreements and seal commercial transactions. The judicial system can enforce a contract signed by an individual. Handwritten signatures made in person convey additional information. The receiver of the document can verify age, height, weight, and demeanor. A profile of the person can be developed and remembered by the receiving party. Although forgery of handwritten signatures is possible, there are techniques which can determine whether a signature has been created artificially. In the absence of forgery and severe duress, a signature is seen as a deliberate and conscious decision by the signer.

Digital signatures share several similarities with their physical world counterpart. Digital signatures like handwritten signatures attach information that is intended to uniquely identify the signer. A digital signature verifies the contents of the entire document much like a handwritten signature often indicates agreement with the stated conditions and content of a document. Given that forgery has not occurred, both digital and handwritten signatures allow parties to present the signature to a court and hold the signer to the stated agreement. However, digital signatures do have several limitations. The software or naive users may make their private key available. This would allow individuals to sign documents with a "name" other than their own.

Given most organizations limited experience with digital signatures, it is important for the government to explore and understand this technology. However, legislation concerning digital signatures and the digital signature applications that the government encourages should be narrow in scope. Developing a trusted computing platform and incorporating biometric systems will form an infrastructure in which digital signatures can be trusted and seen as legally binding.