**Data Breaching**

**SOFTWARE REQUIREMENT SPECIFICATION**

**Introduction -**

Data security is a set of standards and technologies that protect data from intentional or accidental destruction, modification or disclosure. Data security can be applied using a range of techniques and technologies, including administrative controls, physical security, logical controls, organizational standards, and other safeguarding techniques that limit access to unauthorized or malicious users or processes.

High-profile data breaches remind us all that data security is a top priority for businesses. we might have discovered that organizations now face a one in four chance of a data breach that costs approximately $2.21M in the next two years. The aftermath of a breach includes decreased customer loyalty, distrust, a potential loss in revenues, and a negative brand reputation.

**Purpose** -

Companies must ensure that data is adequately protected to prevent loss or theft. Where a reach has taken place, companies may need to notify individuals as well as face negative impact on the company’s brand and customer loyalty. Under the General Data Protection Regulation, companies may face fines of up to €20 million or 4% of annual turnover.

The purpose is to possibly minimise the risk of data breaches by following a number of best practices.

**Intended Audience** **-**

Organization and its members

**Intended Use** -

Data Security protects intellectual capital, critical infrastructure, customer information, brand and much more. Data security is not just important for organizations. Data protection comes into play on the personal computer, tablet, and mobile devices which could be the next target of cybercriminals.

It  makes sure that data doesn’t go into the wrong hands.

Example -

In corporate world, It protects from getting into hands of competitor,

In School, prevents the data leakage of the PII to the criminals who could commit identity theft.

In government, prevents the revealing of the top secret information in the hands of an enemy state.

**Scope -**

Data privacy has always been important. It’s why people put locks on filing cabinets and rent safety deposit boxes at their banks. But as more of our data becomes digitized, and we share more information online, data privacy is taking on greater importance.

A single company may possess the personal information of millions of customers—data that it needs to keep private so that customers’ identities stay as safe and protected as possible, and the company’s reputation remains untarnished.

**Input Design** -

getting the required tools for patching the software, High grade Encryption, installing the latest versions, Enforcing strong authentication.

**Output Design** - data remains secured

**File Design** -

storing the tools in their corresponding formats in system,storing in high encrypted form, system having installations of latest versions.

**Procedure design** -

* Computer - procedure -

1. Advanced Encryption Standard

2. RSA Algorithm

* Non - computer -

Providing security to systems in organization physically, Staff training and creating awareness among the employees

**Control design** **-**

* Access Control - providing authorized access to  files by only required persons
* Restricted Entry - controlling the entry

**Tools and Technology Requirements:**

* **Token**: A physical device similar to an identification card that is designed to prove the identity of a single user.
* **Smart Card:** A device about the size of a credit card that contains a chip formatted with access permission and other data.
* **Biometric Authentication**: Compares a person's unique characteristics, such as fingerprints, face, or retinal image, against a stored set profile.
* **Public Key Encryption**
* **Antivirus Software**

**Hardware Requirements**

Hardware should be checked regularly and if any malware or repair found then immediately they should be replaced and server should be maintained properly to secure the databases.

**Product Perspective** -

This solution involves solving various kinds of problems to prevent Data Breaching and providing the secure and hacker free processing systems.