**Capstone Project:** Simple Vulnerability Matcher.

**Synopsis:**

**Title:** -Simple Vulnerability Matcher

**Introduction:**

Software application security has, over the years, emerged as an important part of the digital world. Malfunctions and data breaches arising from vulnerabilities may pose significant risks to systems. This project aims at developing a Simple Vulnerability Matcher that is designed for finding known vulnerabilities in software components with regard to a dataset given.

**Objectives**:

1. Designing a tool that matches software components against a database of known vulnerabilities.

2. An easy to use interface for filling in component information.

3. Produce vulnerability reports based on its findings.

**Methodology: -**This project will be based on the following steps:

1. Data Gathering: a known set of vulnerabilities, in particular as in CVE database.

2. Parsing Input: Receive input from the user, which is basically software components.

3. Algorithm Matching: A simple algorithm should match given input components against known vulnerabilities.

4. Reporting: The algorithm results should be output in some way to make it readable.

The tool will allow users to view the list of vulnerabilities associated with their software components, hence giving them a chance to act on those vulnerabilities appropriately to secure applications.

**Conclusion:**

The Simple Vulnerability Matcher will enable developers and security teams to identify and mitigate vulnerabilities effectively, which will have overall better security for software.