**Initial Project Document**

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| **Title of the Project: Matrix Calculator** | |
| **Group No. 8** | **Name of Student 1: Vivek Kumbhar** |
| **Name of Student 2: Sufiyan Chougule** |
| **Name of Student 3: Nimesh Kuthe**  **Name of Student 4: Satyam Singh** |
| **Name of the Supervisor: Prof. Bhagyalaxmi** | |

**Abstract:**

Title: Matrix Calculator – An efficient software program for performing quick and precise mathematical operations on matrices.

When large numbers are involved in the already complex calculation methods for matrices, an average human mind is very likely to run into errors or complications such as low calculation speed, imprecise methodology and inaccurate results.

By means of a menu-driven matrix calculator, the user can get accurate results for the chosen matrix operation in matter of seconds. This not only eliminates possibility of error and duration of calculation but provides the user a structured interface to work with to exactly describe the required matrices. Unlike a simple calculator, the user doesn’t have to perform individual operations and will just get the final answer after providing the correct input in the calculator interface.

The Matrix Calculator can be used by Students to cross-check their self-calculated answers while understanding and performing matrix calculations.

It can also be of use to the examiners to verify a student’s answers accurately and in a short time span.

**Objectives of the Project:**

(Every purpose / feature of project should be enumerated point wise.)

1. Perform Addition of 2 Matrices as per user input.

2. Perform Subtraction of 2 Matrices as per user input.

3. Perform Multiplication of 2 Matrices as per user input.

4. Find and Display Transpose of a Matrix.

5. Calculate Determinant of a Square Matrix.

6. Find the Inverse of a Non-Singular Matrix.

**Hardware / Software Platform used:**

1. Computer / Laptop
2. Windows Command Prompt
3. Visual Studio Code
4. GitHub Repository

**Group Members / Roll Nos. / Signature:**

1. Vivek Kumbhar 21
2. Sufiyan Chougule 06

1. Nimesh Kuthe 23



1. Satyam Singh 59



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Prof. Bhagyalakshmi

Internal Guide