Name - Prafful choudhary (META LAB DOCUMENT - 1)

- **Description -** The main idea behind our project META LAB is to create a virtual environment for students attending online lectures, practical labs and making the lab sessions more interactive. Our designed 3D machine parts for civil and mechanical students will be an upgrade or enhancement in the existing online practical lab types. Students will be able to interact with machines, making changes and getting better descriptions about every single part of the machine.

- **On what problem we are working -** We are working on the problem of less interactive online practical labs available now. The project may enhance the existing method of online practical lab and help students to understand the concept in a more easy way.

- **What is the approach for finding the solution for this problem -** We can create a virtual environment in which we provide the 3D interactive models of machines on which a student can perform a practical session. These 3D machine models will work the same as the real machines and provide an exact working situation of the machine for students.

- **Technology stack for problem statement -**
  - We will be using a game engine called UNITY. Unity is the most user-friendly gaming engine for beginners.
  - C# language is used to create scripts within unity.
  - Designing parts can be done on Blender, Sculprits, Wings 3D etc.
  - For further animation process we can use Unity.

- **What are the problems in the existing solution -** The existing online practical lab provides a 2D environment which is less interactive and comparatively more complex to understand.

- **How our solution is different from existing solution -** The existing solution for the practical lab sessions was implemented in a two dimensional model, with our solution we will enhance the existing solution with more interactive 3D machine or circuit models.

- **Reference links -**
  - Game development roadmap-
    - https://www.codelivly.com/game-development-roadmap-2022/