PROJECT NAME: Arduino controlled Rubik's Cube Solver

TEAM NAME: FANTASTIC 4

- ### TEAM MEMBERS:
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- ### PROJECT DESCRIPTION:

    We have planned to make an Arduino controlled Rubik's cube solver. The initial stage of project will be more involved in preparing mechanical framework. Then, we will write algorithms and do coding of arduino for solving Rubik's cube.

    - #### MODULE 1:

        In module 1, we will make the bot such that it will solve the Rubik's cube where inputs for the positions of blocks with their corresponding colours on each face will be given manually by the user.

    - #### MODULE 2:

        We will do module 2 if module 1 is successful. If so, in module 2, we will include image processing by which bot will automatically scan the positions of blocks with their corresponding colours on each face and solve the cube.

    - #### MODULE 3:

        We will do module 3 if module 1&2 are successful. If so, in module 3, we will include a feature to bot after which user can give his own algorithm to solve the cube to check whether it is correct or not. The bot will implement user's algorithm on cube to give the final result of user's algorithm on cube.

- ### COMPONENTS REQUIRED AND APPROX. ESTIMATION OF COSTS:
    1. Rubik's cube
    2. Servo motors (6)
    3. Camera for image processing(Webcam)
    4. Arduino
    5. Misc. – Base of the bot, connecting wires, supporting rods, screws, pins, etc.

    Estimated Cost for the above components – Rs. 7000-10,000 .

- ## LEARNING EXPECTATIONS :
    - Basic programming on Arduino.
    - Image processing basics.
    - Making mechanical design efficient and attractive.