MS 101 Spring 2025 Semester Project

Project objective: To build a prototype quad drone and demonstrate its functioning using a joystick remote controller.

Project milestones

1. Design, fabricate, and assemble a Joystick remote controller for drone
2. Design, fabricate, and assemble a quad drone for a total load of 40 N.
3. Calibrate the remote controller and the drone and demonstrate a working drone by conducting a flying test.
4. Documentation of the project is made as a 2-minute video.

Project activities in sequence or parallel

- Design the joystick PCB.
- Design the remote controller case, manufacture and assemble
- Solder the components on the PCB, assemble with the case, calibrate, and test the functioning of the remote controller using the test drone.
- Design the drone frame, central hub, and landing gear, and manufacture and assemble them.
- Solder electronic components onto the drone PCB and assemble them with the drone frame.
- Calibrate the drone with the controller with motors and without propeller
- Demonstrate the drone's flying ability using the joystick controller.

The sequence of the project activity is planned in such a way as to facilitate the smooth realization of the objective. The overall project schedule is uploaded on Moodle. The team can plan their project activities among the team members to achieve the project objective, focusing on teamwork and group learning.