



## Cover page

Project title: The Art of Gypsum

Academic Year: 2024/2025

Group Members:

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Department Name: Computer Engineering

Project Type: Hardware

Supervisor Name: Dr. Raed Alqadi

### Format:

- Single space, Times New Roman.
- 12 pt,
- Maximum 1 page.

### Abstract Body:

#### Items must be provided in the Abstract:

- Why do you think this project is important? Please explain the significance of this Project in brief.
- In your point of view what are the important aspects that should be covered in the project?
- Objective(s): In your view, please explain the main objectives of the project.
- Methodology: Give a brief outline of the application development process.
- Had this project been done before? Are there any similar applications available today?
- **Note:** Please deliver this abstract early to ensure that your Project has been approved by the department's projects committee. **Registration will not be done without this approval.**



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## Project's Abstract:

### Introduction:

Decorative gypsum products are increasingly popular for home décor and crafts. However, the traditional process of mixing, coloring, and pouring gypsum is time-consuming and inconsistent. This project presents a semi-automated machine that simplifies and enhances the production of colored gypsum pieces using silicone molds.

### Problem Statement:

Manual gypsum casting often results in inaccurate measurements, uneven color distribution, air bubbles, and extended drying time. These issues affect both quality and efficiency. Our machine solves this by automating key steps to reduce errors and manual labor.

### Objectives:

1. Automate gypsum production with accurate material proportions.
2. Provide a clean, efficient, and user-friendly system.
3. Include key features such as:
  - a. Controlled dispensing of gypsum, water, and RGB colors.
  - b. Motorized mixing and automatic pouring into molds.
  - c. Mold tray movement, vibration, and fan-assisted drying.

### Methodology Highlights:

- **Top Level:** Holds the containers for gypsum powder, water, and RGB colors.
- **Middle Level:** Features a mixing bowl with a motorized stirrer.
- **Bottom Level:** Contains a movable mold tray on a rail, with sensors to control position for pouring, vibrating, and drying.

