

APHRODITE

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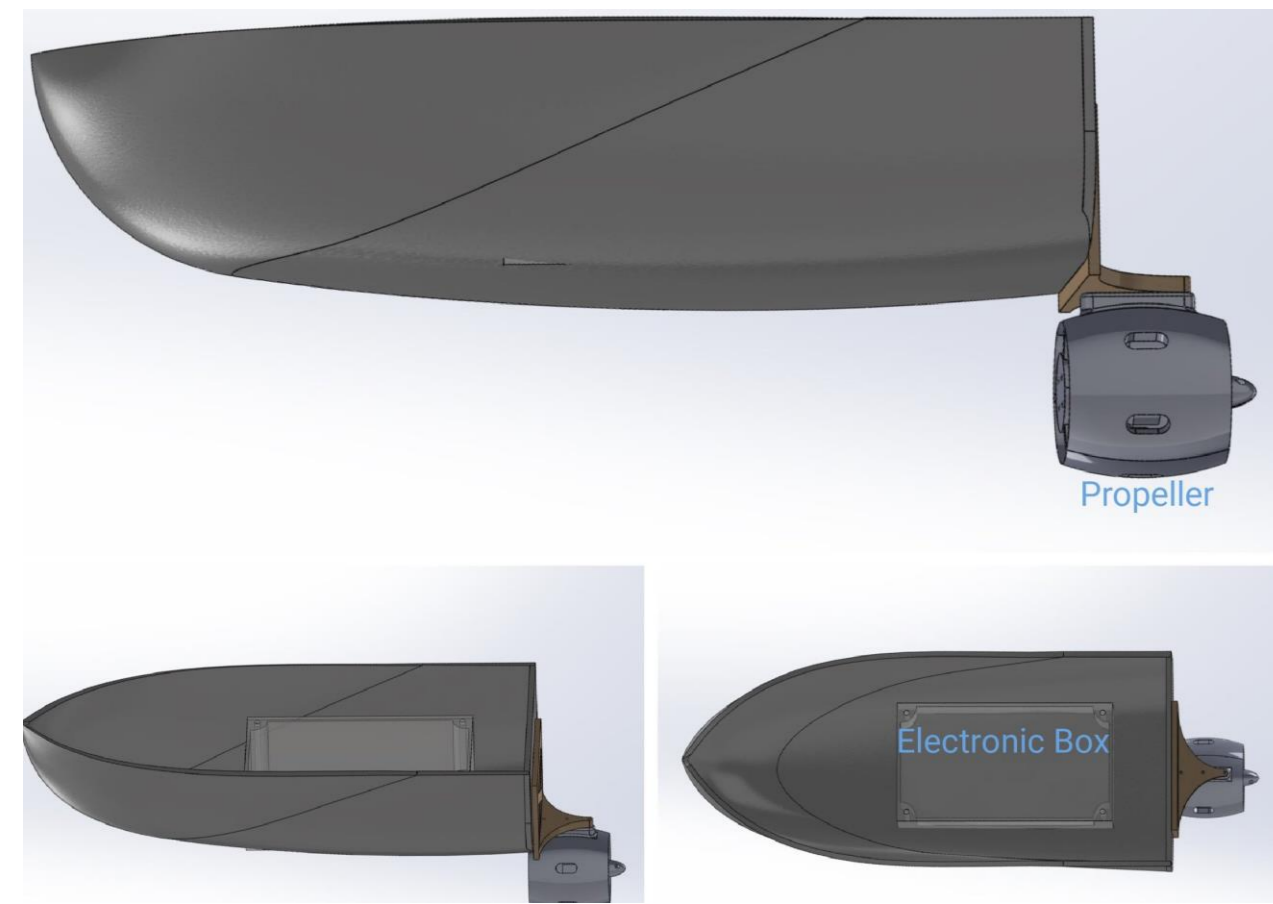


Introduction

In our project, we enthusiastically took on the task of designing and building a high-speed boat tailored for a timed competition. This required careful consideration of factors such as the boat's shape, material composition, strategic placement of electronic components, and precision in motor control. Our collaborative efforts resulted in the successful creation of a fast and agile boat that exceeded our project goals. Throughout this process, our team demonstrated creative problem-solving, effective teamwork, and a shared commitment to pushing the boundaries of innovation.

Design Process

3D printed Model Prototype

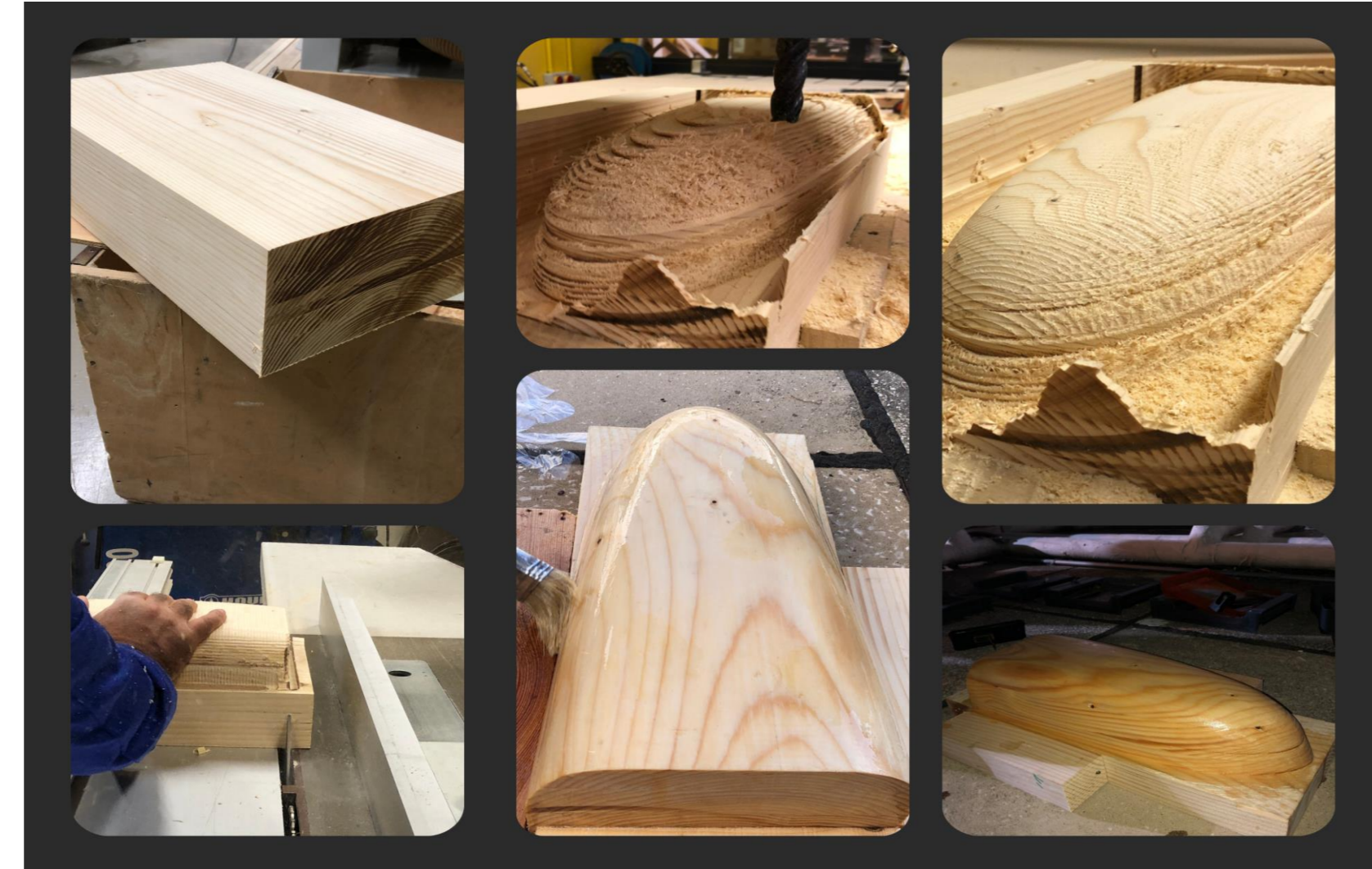


- Designed on SolidWorks the boat and created multiple prototype to find the best one based on the buoyancy, stability and overall performance,



Mold Manufacturing

- Crafted a male mold from wood, utilized CNC and performed sanding
- Applied a sealing coat to prevent resin adhesion, ensuring a clean separation.

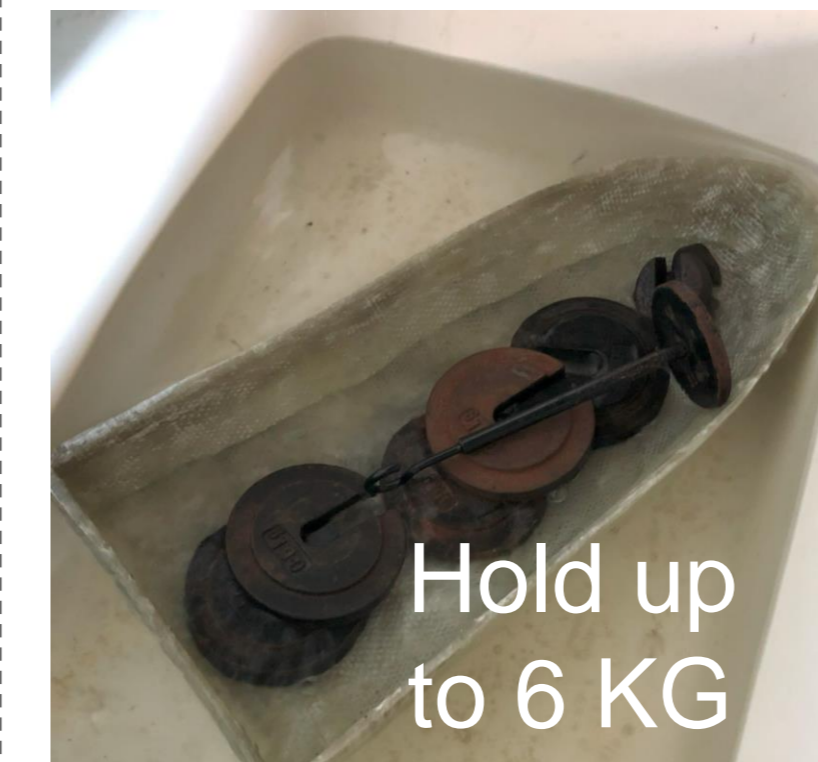


Fiber Glass Manufacturing

- Layer 4 coats of resin, embedding 0/90 biaxial fiberglass between each layer.
- Ensured comprehensive coverage of the boat's structure to enhance strength and durability



- Removed excess material with precision, maintaining the integrity of the boat's design.
- Painted the boat with antifouling Paint.



Control and Steering

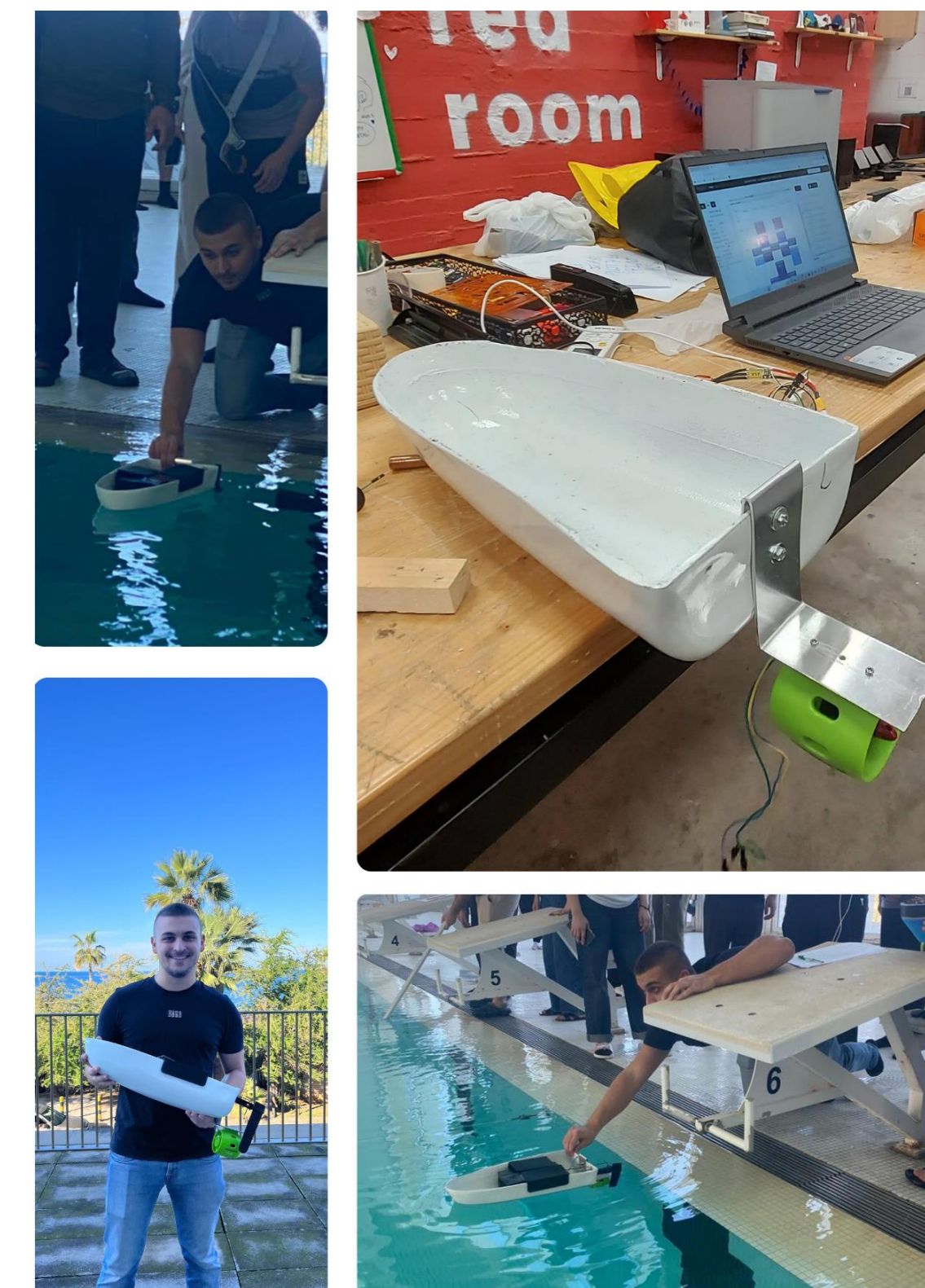
- Achieved wireless control capabilities, enabling seamless maneuvering and operation of the boat via Wi-Fi Connectivity.



Competition Day

- Accomplished an outstanding feat by covering a **50-meter pool distance in 15 seconds** during the competition, which established as the fastest boat in the competition, showcasing not only design proficiency but also exceptional speed and efficiency.

• [MSFEA AUB Article](#)



Conclusion

In the end, our boat Aphrodite won first place as the fastest in the competition, showing off our careful work. This success proves how dedicated we are to doing great things together. Looking back, it's clear that our team's teamwork and hard work have helped us achieve something awesome in designing high-speed boats.