

Progress Presentation-2

e-Yantra Summer Internship-2018

FishBot

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June 21, 2018

Overview of Project

Progress
Presentation-2

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Overview of
Project

Overview of
Task

Task
Accomplished

Challenges
Faced

Future Plans

Thank You

- **Project Name :** FishBot
- **Objective :** To Design and Implement a bio-inspired Robotic Fish.
- **Deliverables :**
 - 1 Fishbot should be able to swim underwater.
 - 2 Wireless control must be working underwater.

Overview of Task

Progress Presentation-2

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Overview of Project

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Challenges Faced

Future Plans

Thank You

Week	Task	
	Mechanical	Electronics
1	Understanding the requirements and analysing fish dynamics & mapping the challenges that need to be addressed	
2	Finalizing the material to be used and start of design.	Finalizing the electronics needed and verifying the wireless communication medium.
3	Simulating and Finalizing the design and start of manufacturing	Finalizing the PCB design & start of manufacturing. Start writing code for fish control.
4	Assembling the 1st prototype of fishbot and testing outside water. Documenting the observations while testing.	
5	2nd prototype of the design based on design faults and electronics limitation. Assembling and testing of design and electronics.	
6	Testing the final design and electronics, underwater at constant buoyancy. Documenting the observations and creation of User Manual for fishbot.	

Tasks Accomplished

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Overview of Project

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Task Accomplished

Challenges Faced

Future Plans

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- Finalizing the Design of the fish
- Finalizing the Electronic Circuitry
- Design of Flexible Tail
- Waterproofing Test with Gaskets
- Interfacing the Remote control
- Writing the Codes for the FishBot and Remote Controller

Final Design of the fish

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Overview of Project

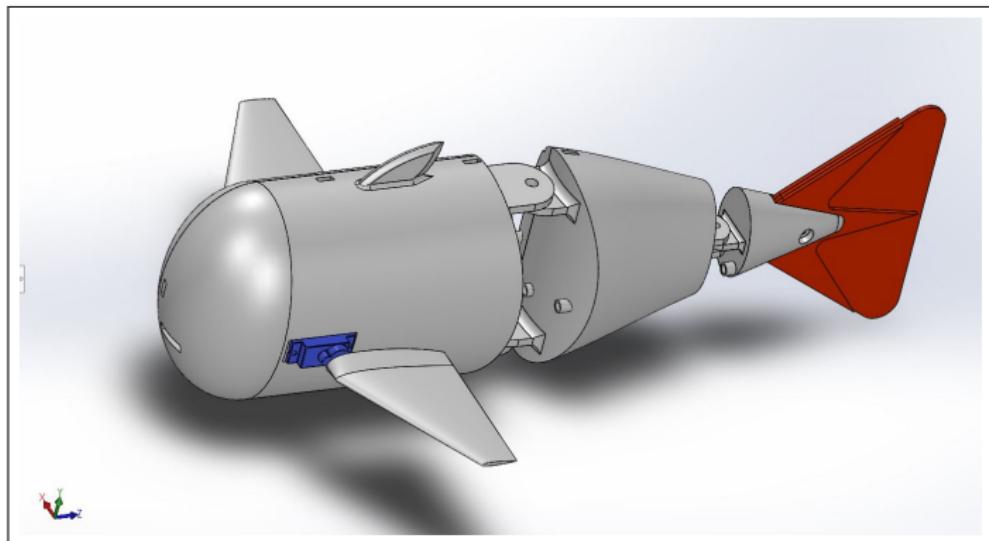
Overview of Task

Task Accomplished

Challenges Faced

Future Plans

Thank You



Sealing of Body

Progress Presentation-2

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Overview of
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Future Plans

Thank You

- Sealing with gaskets and bolts (Testing)



Flexible Tail

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Overview of Project

Overview of Task

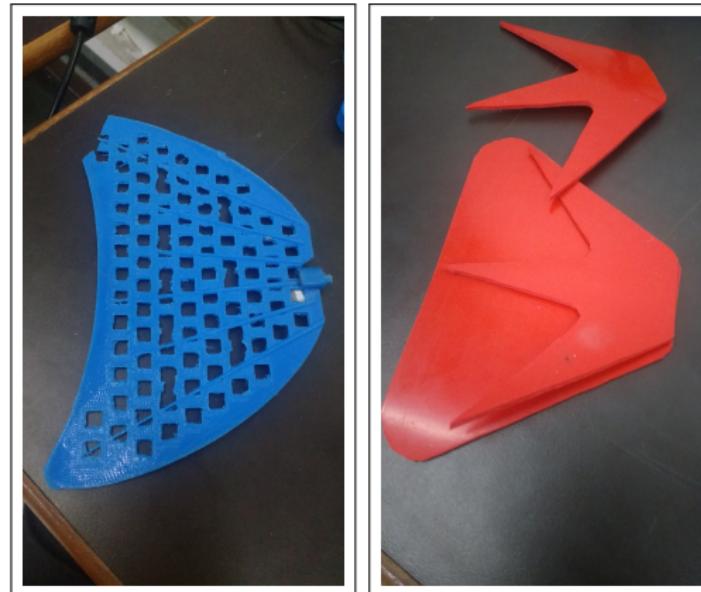
Task Accomplished

Challenges Faced

Future Plans

Thank You

■ Tail



The Electronics

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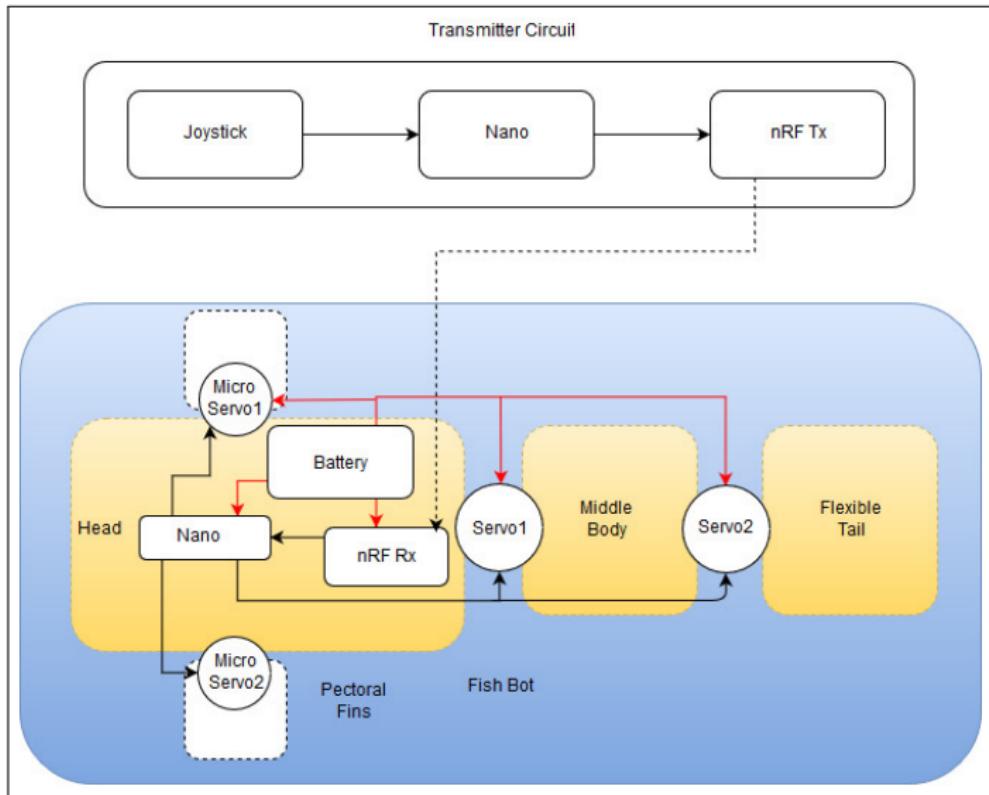
Overview of Task

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Challenges Faced

Future Plans

Thank You



Electronic components

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Overview of Project

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Task Accomplished

Challenges Faced

Future Plans

Thank You

- nRF24L01 (2.4 GHz)
- Arduino Nano
- Reed Switch
- LM2596 Buck Converter
- GS-5515MG Servo Motors
- 7.4V 1000mAh 25C LiPo Battery

Designed PCB

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Overview of Project

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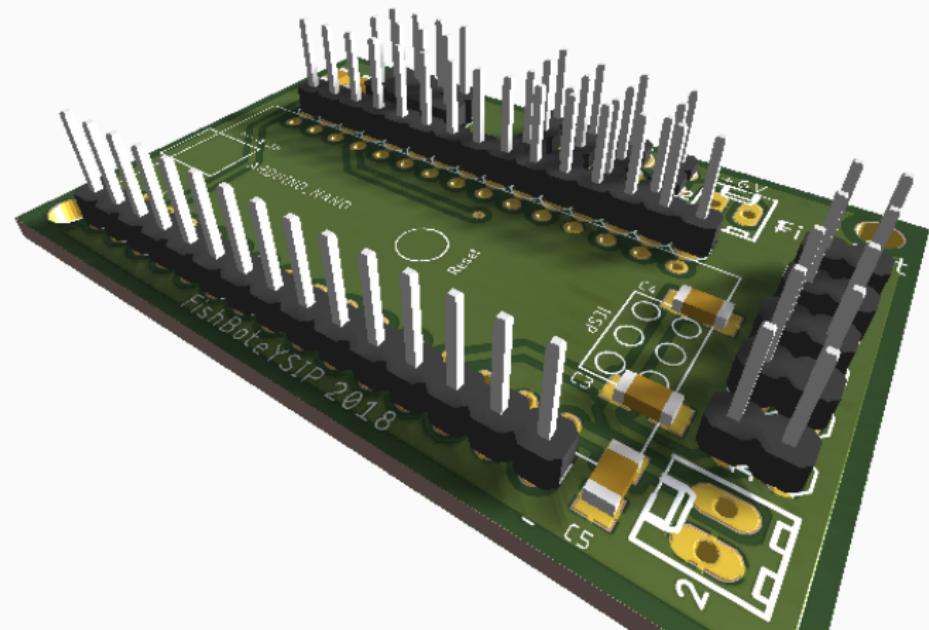
Task Accomplished

Challenges Faced

Future Plans

Thank You

■ Controller Board



Actuation

Progress Presentation-2

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Fin Actuation test

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Waterproof Servo Testing

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Challenges Faced

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Challenges Faced

Future Plans

Thank You

- Waterproofing the body
- Actuating without waterproof servos
- Buoyancy
- Maintaining CG and CB
- Underwater communications
- Miniaturizing the circuits

Future Plans

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- Completion of fabrication and assembly of the fish
- Integrating the electronics into the fish body
- Design and Manufacturing the Remote Control Case
- Leak-proofing the fish body and waterproofing the circuits
- Testing underwater

Thank You

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THANK YOU !!!