ROBOTIC FISH

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ABSTRACT

Robotic Fish, as the name implies, mimics the motion of fish and is capable of agile swimming maneuvers in aquatic terrain.

The motivation for our project is to create a device that can swim independently with real fish and study underwater life without disturbing the natural ecosystem.

The main approach to embody the bionic movement of the tail usually uses multiple servo-motors for the tail link, but here we use only one servomotor and a symmetric set of ropes which allow the motion of the tail along with the fin.

Our robotic fish is based on the principle of tensegrity. The main flexible structure of our robotic fish body consists of a series of rigid segments connected to tensegrity joints by tension members. Each rigid segment can rotate around a joint and does not come into direct contact with each other.

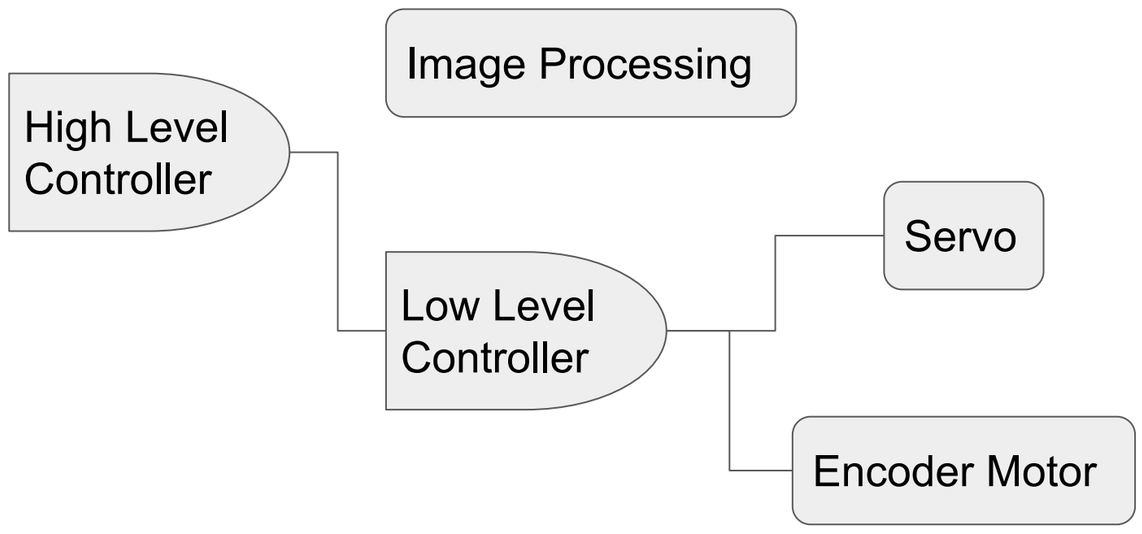
METHODOLOGY

A lot of methods and ideologies were discussed before finalising the approach that we would be taking for our model.

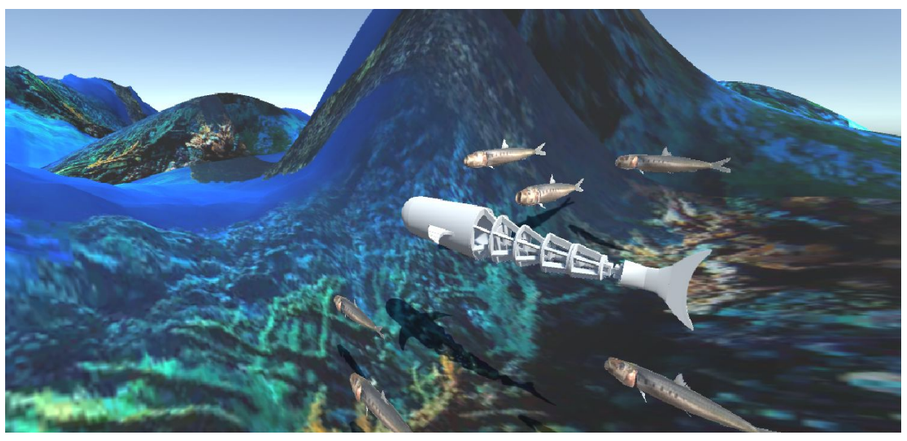
Our final **ONE SERVO** method was finalised to move the back fin of the fish, while a syringe system will be used for intaking some amount of water, thus changing the density and allowing buoyancy control.

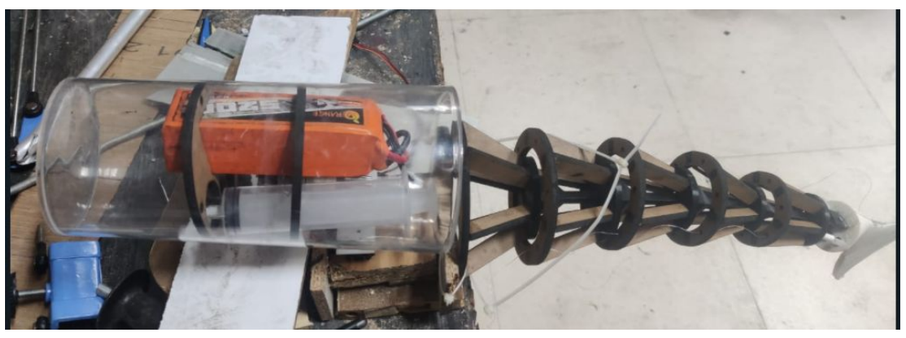
A servo is used for back fin, while DC motor is used for syringe control, the onboard camera gives us live footage of the robot

CONTROLS



RESULTS





CONCLUSION

The final model of the fish is as shown in the pictures, and communication , even though underwater , is established successfully.
This model can now be used to study marine life while ensuring proper control.

REFERENCES

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