

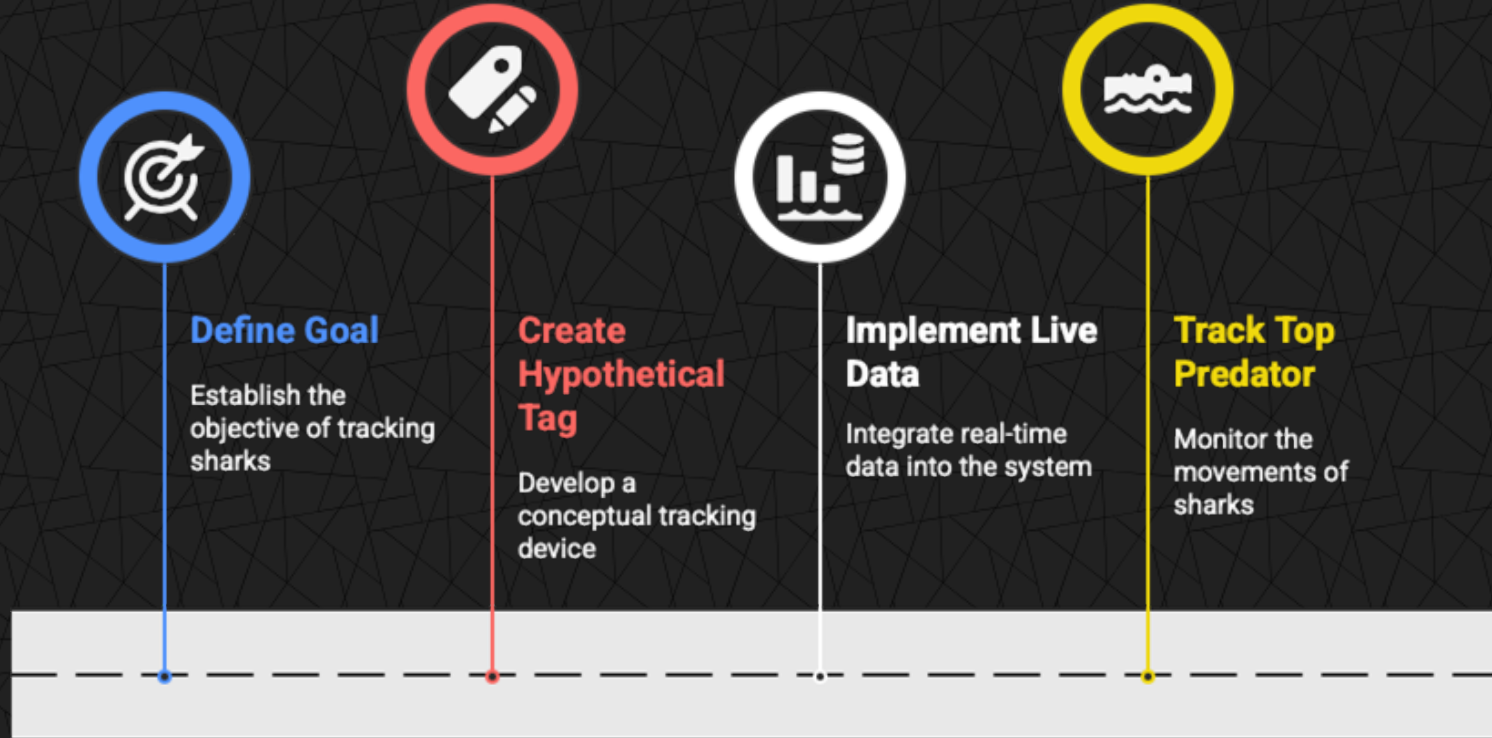


Sharks From Space

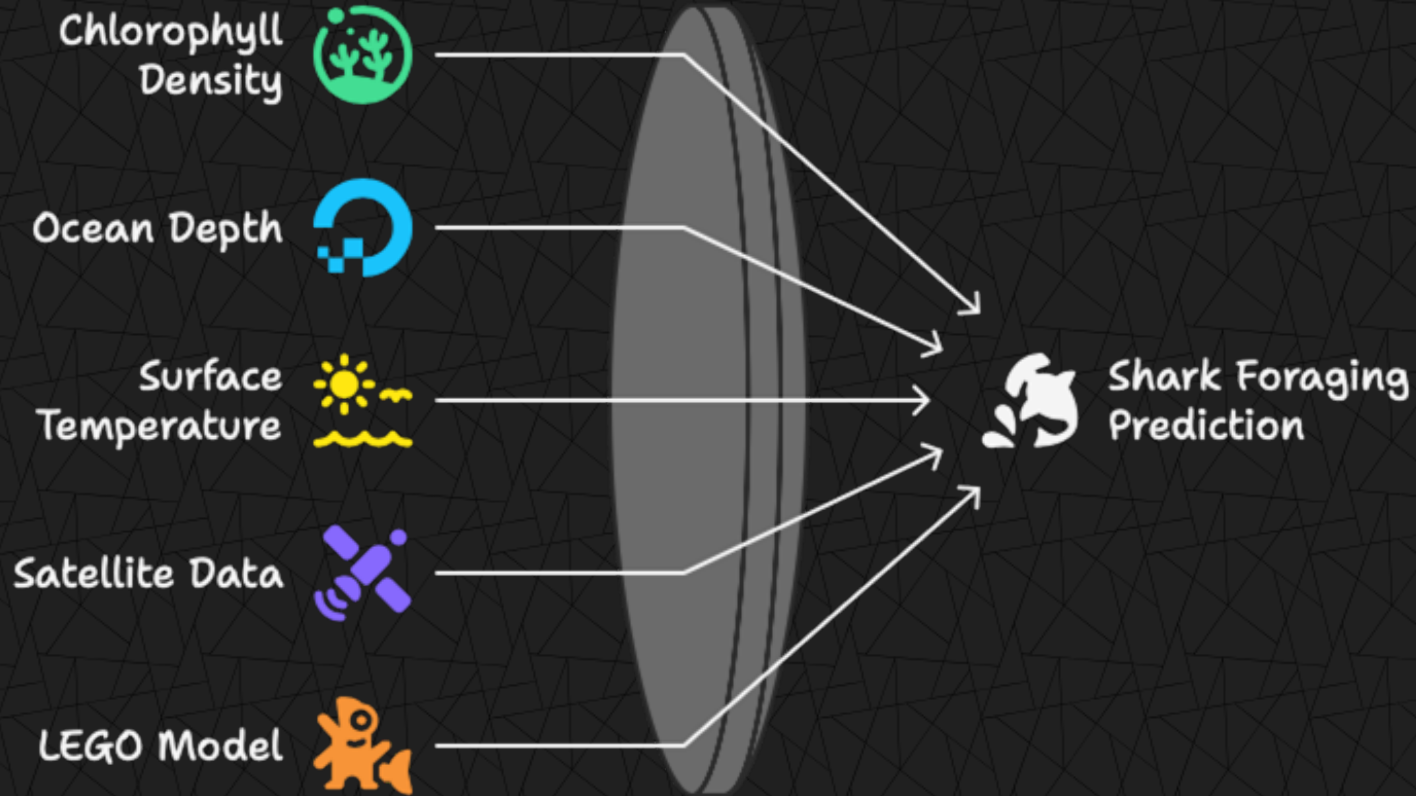
Hozay, Tanish, Sreenand

Our Goal

Shark Tracking Tag Development



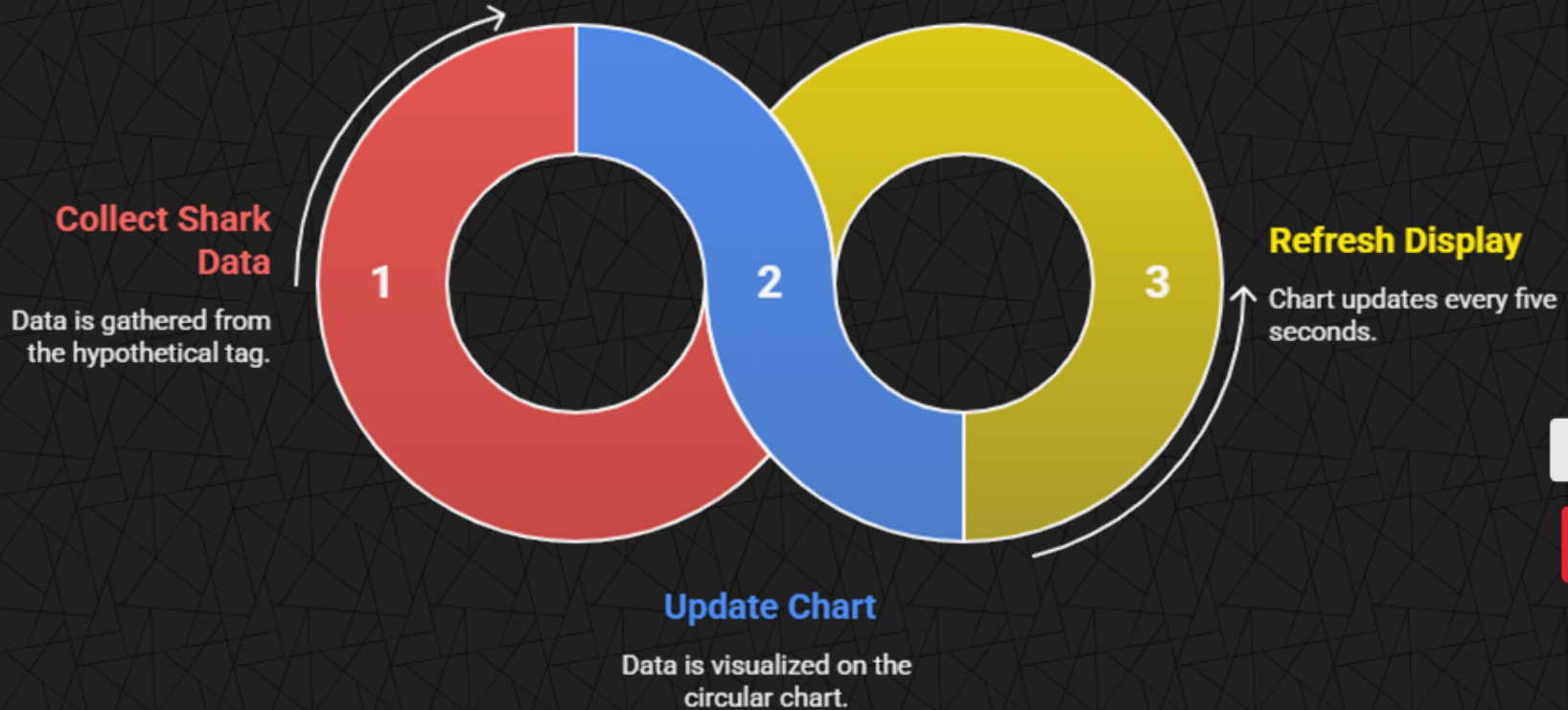
Introduction



$$A(x,y) = 0.6 * \text{Chrl_nom}(x,y) + 0.4 * \text{Temp} - \text{opt}(x,y)$$

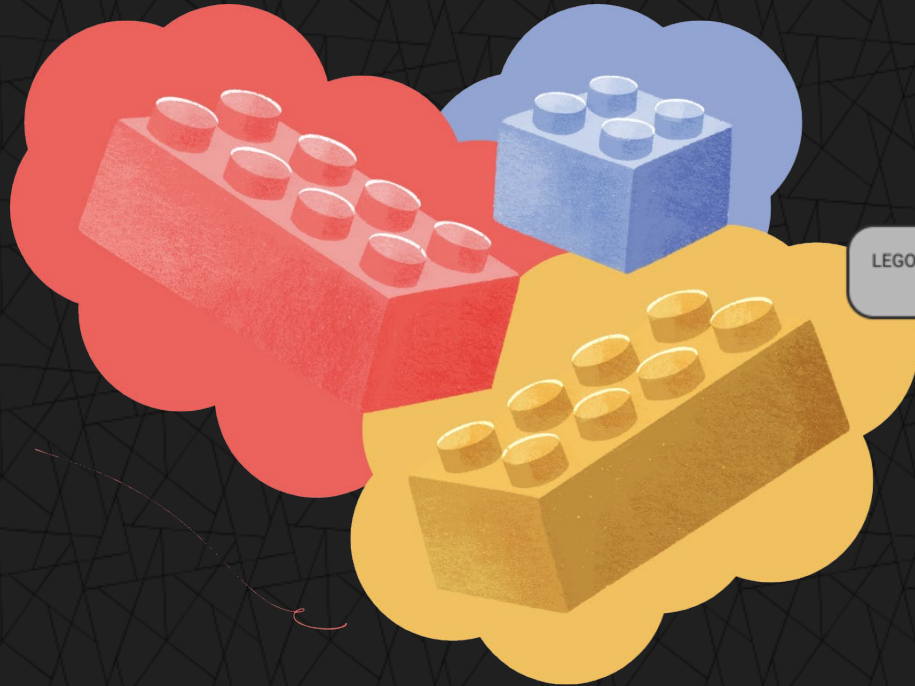
Made with  Napkin

The Prototype, “FATHOMS”*



*FATHOMS stands for “Foraging Activity Tracking & Habitat Observation Module of Sharks”

“FATHOMS” Lego Model



LEGO Model Shark Tag

Casing

Titanium

Toonie Size

Sensors

Pressure Sensor

Temperature Sensor

Accelerometer + Gyroscope

Hydrophone

Power Source

Lithium Battery

Power-Saving Functions

Communication

GPS

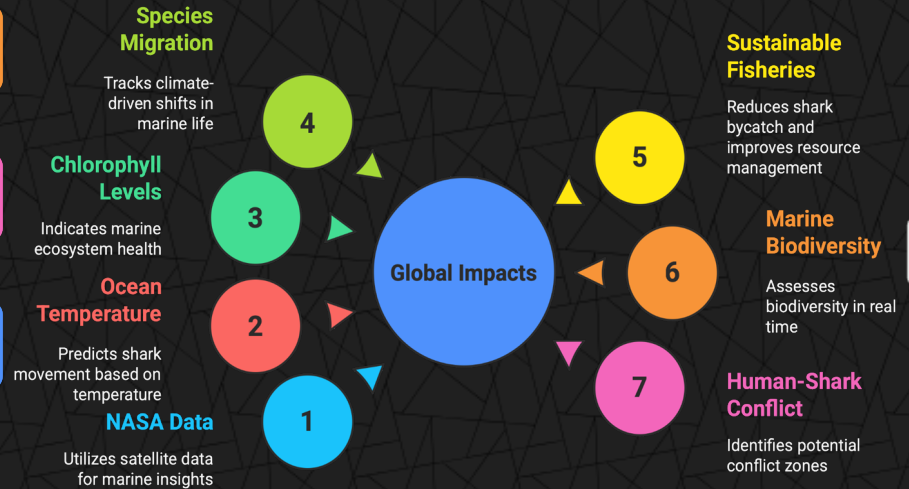
Satellite Link

Impacts

Local Impacts



Global Impacts



Made with Napkin

Resources Used

<https://chatgpt.com/>

Napkin AI - The visual AI for business storytelling. (n.d.). Napkin AI. <https://www.napkin.ai/>

NASA PACE - Home. (n.d.). <https://pace.gsfc.nasa.gov/>

MODIS web. (n.d.). <https://modis.gsfc.nasa.gov/data/>

Surface Water and Ocean Topography (SWOT) | PO.DAAC | JPL | NASA. (2025, May 21). Physical Oceanography Distributed Active Archive Center (PO.DAAC). <https://podaac.jpl.nasa.gov/SWOT>

Braun, C. D., Gaube, P., Sinclair-Taylor, T. H., Skomal, G. B., & Thorrold, S. R. (2019). Mesoscale eddies release pelagic sharks from thermal constraints to foraging in the ocean twilight zone. *Proceedings of the National Academy of Sciences*, 116(35), 17187–17192. <https://doi.org/10.1073/pnas.1903067116>

Gaube, P., Braun, C. D., Lawson, G. L., McGillicuddy, D. J., Della Penna, A., Skomal, G. B., Fischer, C., & Thorrold, S. R. (2018). Mesoscale eddies influence the movements of mature female white sharks in the Gulf Stream and Sargasso Sea. *Scientific Reports*, 8(1). <https://doi.org/10.1038/s41598-018-25565-8>