Why should you join this project?

Become part of a team working on the product of two very successful previous GEM projects. As an element of a Center for Ocean Solutions GEM project and presented in Palau at Green Palau (a GLEAN / GEM effort), this project combines social entrepreneurship and technology to solve one of the ocean's greatest threats. Engage yourself on a cutting edge approach to use new web capabilities to work on an international problem.

FishNET/GEM Team members will use their skills and knowledge of technology to solve pressing international issues and try to develop strategies and plans with a triple bottom line (social, environmental, and financial), an increasingly important approach to business across sectors. The team will work with leaders and decision makers in the Pacific Rim who are working towards solving coastal and ocean issues. Key stakeholders include the government of Palau, Ambassador to the United Nations, various conservation organizations, and private sector communities.

This project is on track for development and implementation, and successful GEM team members may have the opportunity to continue participation in the efforts beyond the GEM course. This experience will prove to be highly valuable in your training to be a global entrepreneur and steward of our planet.

Finding solutions to curb illegal fishing is an effort of great urgency with the potential to positively impact communities worldwide:

- Ninety percent of the world’s big fish (sharks, tunas, and other predators) have disappeared since the advent of modern fishing methods in the 1950s.²
- At its current rate of consumption, the world’s seafood fish stocks will be unrecoverable by 2048.²
- As of 2008, 80 percent of the world’s fish stocks were considered either vulnerable to collapse or already collapsed (meaning either fully exploited or depleted).²
- Around two billion people rely on fish and other aquatic products for some of their annual protein intake, and developing states in particular are facing plunging fish stocks, poverty and a looming food security crisis.³

Help to create the solution.

About Us

Shah Selbe works with the Center for Ocean Solutions (COS) to further develop a technological solution to prevent illegal fishing activities taking place in the Pacific. Selbe has worked with leaders at the Monterey Bay Aquarium, Greenpeace, Environmental Defense Fund, the government of Palau, and experts in academia to draft a suite of appropriate technologies. Proposed technological solutions were successfully presented in Palau in November of 2009 at the Green Palau conference, which was an effort to cultivate and develop entrepreneurial talent in Palau and Micronesia to promote self-sustainability and decrease the islands’ dependence on foreign aid. Solutions were met with a great amount of enthusiasm and support. Selbe plans to continue work with Stanford University and COS indefinitely to further develop this solution.

Selbe also works at Boeing Space & Intelligence Systems as a liquid propulsion engineer/scientist for unmanned space vehicles.

¹ GLEAN: Global Leaders, Entrepreneurs, & Altruists Network; an effort championed by Tom Kosnik.
² http://endoftheline.com
³ http://endoftheline.com/blog/archives/427
Project Details

The team will need to focus on creating a comprehensive strategic development and marketing plan to pilot and implement FishNET in the Pacific. The ultimate goal would be to finalize funding and realize this project through collaborative partnerships with influential ocean-focused NGOs and government organizations. FishNET intends to create a movement in the fishing community to increase cooperation and accountability amongst stakeholders to better protect the ocean ecosystem and developing communities that depend on it.

Through working on a solution, the following questions can be addressed:

- What is the most effective implementation strategy for a technological solution like FishNET in areas with lower technology penetration? Are there other methods to gather the data?
- What legal barriers would result in flagging a foreign vessel as an IUU ship?
- What is the go-to market strategy for entering each country market? How does it change based on the resources available (example: Palau versus Australia)?
- Who is our target audience?
- How do you attract other organizations and market this to stakeholders in the region?
- Are there any competitions or funding sources that would be interested in such a solution?
- How do you foster collaboration and ensure that it is value-added and credible?
- What are the costs involved in development and scaling of the venture?
- What are the potential barriers to FishNET?
- What is a reasonable timeline for development and implementation?

Deliverables include:

- DDART analysis presentation
- Marketing plan – Develop a go-to-market strategy and implementation approach for FishNET that is dependant on research and answers to the questions above. Analyze the existing marketing ecosystem and identify the framework necessary given the multiple partners (NGOs, international governments, Regional Fisheries Management Organizations, commercial fishing operations, local fishing communities, maritime enforcement, etc.)

Appendices shall include:

1. Contact lists in Excel format (anyone interviewed or funding sources)
2. Marketing materials (posters, email templates, online marketing, screenshots, etc.)
3. Anything else that the project sponsors or team finds relevant during the course of the project.

Below are some screenshots from a previous ‘mock-up’ of the FishNET system:
What You Get

You will have the opportunity to work on an exciting project that has the attention of high profile members of the Palauan government (President Toribiong, Speaker of the House Idechong, and UN Ambassador Beck) and leaders in the ocean-focused nonprofit world (Center for Ocean Solutions, Greenpeace, etc). You will receive real product development and marketing field experience in defining a new web-based product and gaining an understanding on how to make that work on an international level. You will also get direct exposure to Professor Kosnik’s list of contacts which include high profile executives and alumni, many of whom are the movers and shakers of Silicon Valley. This network is a benefit that will be instrumental in your careers in the future.

You will have a hand in helping developing island communities protect their delicate ocean ecosystems and take a solid step towards sustainability and self-sufficiency. If the economic theft of the resources in their oceans can be minimized, that means less aid is needed to keep these economies afloat. Your assistance in creating a robust solution can help generations to come.

You will present your report to the FishNET team and advisory committee and receive proactive feedback on your presentation. This experience will teach you important product development and project management skills as well as allow for you to put, into practice, the critical lessons learned in this GEM course. The opportunity to continue work on these efforts in the future is available, dependent on the success of the GEM project.

Background

Illegal fishing is an issue that is crippling developing coastal communities and funneling profits to socially irresponsible international crime operations at the detriment of ocean biodiversity. The Pacific island nation of Palau has made a commitment to protect the shark species in their waters from poachers by declaring the EEZ (exclusive economic zone) a shark sanctuary. Illegal, Unregulated and Unreported (IUU) fishing is a complicated threat to the future state of Palauan waters. A study, conducted by Greenpeace, calculated that the loss of earnings to Pacific Island nations at US$270 million annually\(^4\). In much of the Pacific, it is fundamental to attack this problem more efficiently given the limited enforcement resources and efforts to protect their shark sanctuary.

The Environmental Justice Foundation has created a very impressive introduction video that can be viewed at: [http://vimeo.com/1709569](http://vimeo.com/1709569). Additional information regarding Palau’s shark sanctuary can be seen on Journeyman’s YouTube feed at: [http://www.youtube.com/watch?v=Da0a4JbuEDg](http://www.youtube.com/watch?v=Da0a4JbuEDg)

Illegal fishing is a multi-faceted problem, and requires a suite of solutions. The focus for technological solutions should rest in improving the poor monitoring and enforcement of fishing regulations in the coastal states. Effective solutions would exhibit means for detection, data transmission, and information collection.

a) Detection – detection technologies improve the effectiveness and efficiency of maritime enforcement agencies. It is critical that these fit within the confines of the resources available.

b) Data transmission – information channels should be established to transmit as much information as possible from a variety of sources to its final destination (presently the enforcement agencies).

c) Information collection – the vast amount of information should be collected and organized in a coherent form and disseminated from a single point for relevant stakeholders to manage responses and take action against the perpetrators

\(^4\) The Rainbow Warrior: 2004 Pacific Fisheries Tour; [http://weblog.greenpeace.org/pacific/](http://weblog.greenpeace.org/pacific/)
FishNET became an idea from thinking about a smarter way to handle IUU offense information, given the recent technological leaps we have had in IT and social media via the internet. It is the technological evolution from the typical ‘IUU blacklist’ into a more comprehensive database or IUU data management tool. The premise is that this system would be consistent across international boundaries – particularly important given IUU fishing being an international problem. FishNET incorporates a web-based data repository where to capture offense information, vessel IDs, and other media (like pictures, video, geospatial/geotagged information, etc.). The platform will operate on an open framework, allowing collaboration through a more ‘crowd sourced’ level than is currently used. Stakeholders like the NGOs, fishermen, commercial fishing operations, Regional Fisheries Management Organizations, governments, etc. are examples of some of the potential collaborators. The solution integrates the recent advances in internet technology, new media, and web 2.0 into the management of illegal fishing data. This need has been validated from key decision makers in academia and at organizations like Greenpeace, Environmental Defense Fund, Monterey Bay Aquarium and other prominent ocean NGOs.

Additional Information

- We recommend that students work in teams of three to six
- We are happy to work with multiple teams
- We will give preference to students who are interested in international ventures, economic development or social entrepreneurship
- Experience in social networking and web application design, preferably web2.0-focused, is preferred

How To Reach Us

We welcome your questions about our proposed project. Feel free to call or email at your convenience.

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