



Aquanomics

A Road Map for *OceanCanada* Knowledge

Why (Motivation)

- Contribute to saving our oceans
 - Understand and address potential opportunities and threats facing Canada's coastal-ocean regions
 - Develop a shared vision for the future of these oceans.
- Inform and engage public users with
 - health and wellbeing
 - Our oceans and
 - coastal communities
- Leverage other initiatives

The image shows the MOL (Map of Life) application interface on a mobile device and its corresponding website. The top half is the mobile app, which features a navigation bar with icons for search, map, and menu, followed by a sidebar with options like 'What's around me', 'Search the map', 'Offline areas', 'Search for species', 'My Records', and 'Settings'. The main area displays a map of the Great Lakes and surrounding regions, with a search bar at the top labeled 'Search area Tap the map' and a 'son Bay' placeholder. The bottom half is the website, which has a header with the MOL logo and navigation links for 'contact us', 'login', 'register', and 'Putting biodiversity on the map'. The main content area features three large cards: 'Map species' (Views species range map, inventory, and occurrence data), 'Species by location' (Select a location, filter by distance or group, and view a list of species along with source data), and 'Indicators' (Explore trends in biodiversity knowledge, distribution, and conservation). Below these are smaller cards for 'Global Biodiversity', 'Puffin', 'Monarch butterfly', and 'Species Database'. The footer contains links for 'LATEST NEWS', 'EXPLORE THE MAP', 'NEWS', 'ABOUT MOL', and 'MOBILE'.

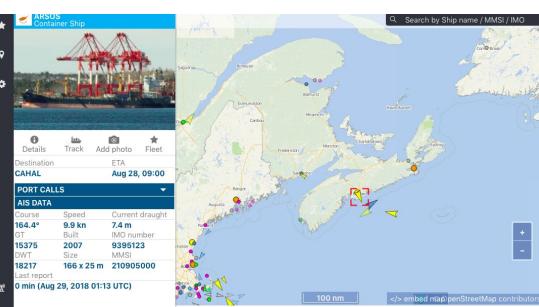
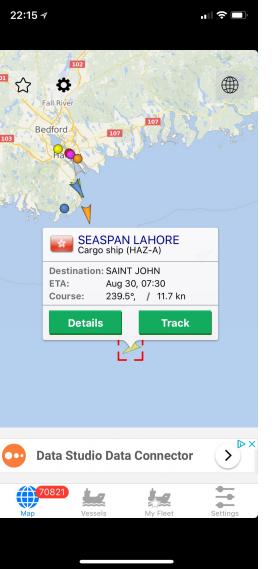
Map of Life

What (Proposal)

- Mobile app
- Provides geo-located access to data related to our oceans
 - Inform users about
 - ocean life
 - Economic activity

What is Aquanomics

- Mobile app
- Provide geo-localized data
 - practical information
 - satellite data
 - fishing license applications
 - navigation tools
 - policy documents
 - link to the OceanCanada website
- Provide citizens a mean to be able to interact and contribute with content
 - Citizen science



Vessel Finder



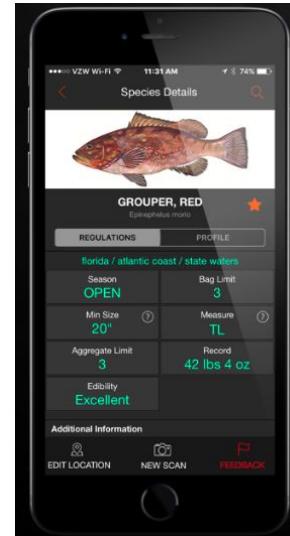
Marine Debris

Demo

Onscreen - extremely rough prototype

How to use it/Scenarios

- A person's local position from their mobile device's GPS will be the real-time entry point to:
 - information about Canada's oceans,
 - ecological systems,
 - political systems,
 - navigation,
 - fish and marine mammals, and
 - ocean-based social and economic activities.
- Users can ask
 - "What types of species am I seeing in this channel?
 - What are the fishing policies here?
 - Where can I buy sustainably caught seafood?
 - Who are the people and industries that depend on the ocean near me?
 - What are the initiatives to preserve the marine life in here?
 - What can I do to support the preservation of the krill?"



Fish Verify

What's in it for:

- Researcher
 - Increased visibility (social capital)
 - Citations (H index)
 - Networking (research collaborations)
 - New funding opportunities
 - Attracting top students
- Society/Communities
 - Awareness of dependency on ocean economy
 - Data for trends in use of oceans
 - Mechanisms to get involved
 - Access point for policy development
- Citizens
 - Information and understanding
 - Saving, Protecting, Improving Canada's Oceans
- Industry
 - Supplying relevant data from our sources to industries that can utilize it for compliance or more
- Canada
 - Recognized leadership of ocean research and policy

Roadmap for Aquanomics

Year 1: Minimal viable app

- Devoted to the technical aspects of developing the app
- Ensuring its compatibility with the OceanCanada website
- Focus group testing
- Iterative improvements based on user feedback.
- Beta launch in public centres

Year 2: User engagement

- Enrich the app with data and links to information sources
- Increasing users through advertising, community engagement, social media, and additional public events.
- Conducting Surveys from main user groups
- Updates prototyped & evaluated

Year 3: Sustainable funding model

- Continue to enrich app with new data sources
- Increase users and engagement
- Comprehensive analysis of business plan
- Seek business partners interested in collaboration
- Ensure sustainability beyond NCE funding

Year 4: Product maturity and growth

- Maintenance
- Increase user base size and engagement
- Long term plan for enterprise sustainability
- Large emphasis on maintainability
- Incorporating as a not-for-profit venture

Tools

Technical tools and languages that will be used include, but are not limited to:

- MongoDB
- SQL
- JavaScript
- React
- Python

Along with a variety of low and medium fidelity prototyping tools for front end development.

Funding opportunities

Seed money

- Tri-council: NCE KM, I2I
- Foundation funding
- Industry partnerships
- Crowdsourced

Continuity and Sustainability

To ensure sustainability beyond NCE funding, we will:

- Evolve app with data and links to information sources
- Grow user base through value-add propositions
- Business planning including industry partners
 - enterprise sustainability.
- Emphasis on maintainability from technical perspective
- Incorporate as a not-for-profit venture

How to get involved

- Ideas
- Expertise
- Materials
- Research
- Code

Summary and next steps

- Engage our group
- Enable public/private conversation and informed choices
- Interactive app to meet requirements for public access
- Granting access to *OceanCanada*, Partner, and Citizen Science data
- A four year sustainable development plan.

Who to contact

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