Marine data portals as tools for dissemination: what makes them engaging?

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Rationale

- Marine data portals are **key** to disseminate data, metadata, products and services from ocean observatories to users
- **Engaging** data portals will have many users, thus contributing to the ocean observatory **success**

So the question is ...
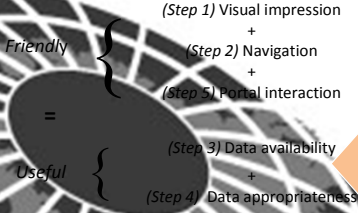
What makes a marine data portal engaging?

Yes, indeed, it all depends on the user!

1) Consider a user's experience while visiting a marine data portal and identify **ELEMENTS** to describe that experience.

Follow a user

ENGAGING

Friendly { (Step 1) Visual impression + (Step 2) Navigation + (Step 5) Portal interaction

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Useful { (Step 3) Data availability + (Step 4) Data appropriateness

Approach

2) *Populate those* **ELEMENTS** *with a list of key attributes*

3) TEST — Use the list to evaluate a portal and shed light on how to consider the "user-dependence"

ELEMENTS + Attributes	Description
Step 1: VISUAL IMPRESSION	Appearance may be deceptive, but matters. A good first visual impact can be crucial to attract visitors and to keep them navigating
Appeal	• this attribute can incorporate elements like originality, sobriety, design consistency. It may be personal, but very important
Visual hierarchy	• content is highlighted using different sizes, colors, positions, fonts to draw visitor's attention toward certain items
Typography	• text should be comfortable to read, have a reasonable variety of fonts to avoid boredom etc.
Step 2: NAVIGATION	Users should be able to identify the shortest path to the data they are searching for, and find them as fast as possible
Language clarity	• vocabulary is adapted: not too technical jargon, explanations if needed
Structure	• a complex internal data structure should not reflect be reflected in the data presentation, which should have an intuitive structure
Simplicity	• non indispensable elements avoided, reduced number of clicks
Guidance	• guiding explanations: inclusion of FAQ section, tutorials...
Step 3: Data AVAILABILITY	Data portals can make available data sets, products and services in various ways, and this impacts users' experience
Data access services	• discovery, searching, filtering, viewing, downloading...
Data policy	• restricted, with moratorium, immediately accessible
Pricing policy	• from cost charges applying to available for free
Formats	• different data formats available
Interoperability	• web on-line services interoperability (OGC standards: WFS, WMS...)
Responsiveness	• ability to process a request in a certain amount of time
Reliability	• portal not failing and accessible from common web browsers
Step 4: Data APPROPRIATENESS	To what extent the data available to the users meet their expectations and fulfils their needs
Spatial/Time extent	• geographic/temporal maximum boundaries
Spatial/Time resolution	• size of the smallest interval of distance/time resolved by data
Completeness	• degree of absence of excess of data in a dataset
Accuracy	• positional accuracy, temporal accuracy, thematic accuracy
Metadata	• accurate, complete metadata
Step 5: INTERACTION with the portal	Two-ways communication proves effective to attract users back to the portal
Advanced Plotting/Mapping	• possibility of manipulating data and creating your own products directly through the portal (without previous downloading)
Help features	• possibility of getting assistance (info email, 7d/24h helpdesk services...)
Feedback	• possibility of making comments, suggest improvements
Info about the portal	• possibility of receiving info on portal upgrades (news section, by email...)
Attributes relevant for OCEAN OBSERVATORIES	Data portals serving Ocean Observatories have their own specificities and some features can be particularly important for users
Spread of data across relevant domains	• data spreading multiple areas of knowledge or fields
Spread of data across measuring platforms	• e.g. vessels, buoys, gliders, drifters, radars...
Type of outputs provided (1)	• time series, plots, animations...
Type of outputs provided (2)	• real time, delayed mode, historical...
Type of outputs provided (3)	• in-situ, satellite, models...
OTHER attributes	This is a miscellaneous and expandable category, comprising other relevant features not falling in any of the previous ones
Several languages	• crucial for the some users, irrelevant for others. English is essential for any portal with more than local remit
Social media	• access to facebook, twitter, linkedin...
Access from other devices	• possibility of operating from tablets, mobile phones...
Entry profiles	• pre-defined user profiles leading to different web pages...

Is this list enough ?

Scoring	COMMENTS
	VISUAL IMPRESSION
4	Attractive layout, choice of colors, images, some original elements...
3	Important elements are identified easily for their position and there are not distractive elements
4	The size by default is small, but there is a menu to change it and make visualization more comfortable
	NAVIGATION
4.5	The wording is clear and simple
5	It is very easy to understand where to go
3.5	The number of intermediate steps seems reasonable
2	Few explanations provided
	Data AVAILABILITY
2	Downloading is not possible, this is a major limitation. Other services OK
0	This attribute is not applicable since we cannot download data through the portal!
5/0 ?	Visualization, filtering are for free but this attribute loses meaning since downloading is not possible, so the scoring here is tricky. 5? 0?
0	This attribute is not applicable since data cannot be downloaded through the portal.
0	Same comment as above
5	Accessing the data is instantaneous, without delays
5	The portal seems very robust. It has never failed in all the times visited and works fine from most popular web browsers
	Data APPROPRIATENESS
5 ?	Not easy to evaluate globally without having a concrete application in mind. Given the type of network it is based on (good coverage, functioning since several years), one expect that the spatial/time extent is as good as it could be, hence the high score
3	Downloading not possible, the time resolution is limited (because the visualization in charts makes it senseless to show high-frequency data), hence the low score
4	Time series present some gaps, but they seem always lower than a 20%
5	This scoring is based on the fact that networks are using recent technology, so we presume that the accuracy will be up to the most recent and exigent standards
3	Some ancillary information about instruments, measuring stations and so on is provided: enough, but not very abundant
	INTERACTION with the portal
2	No, there is no room for advanced manipulation of data beyond zooms
3	Not assistance available beyond an info email address
2	There is no clear indication as whether it is possible to ask questions or give opinions
1	There is a small news section, but it is very generic
	Attributes relevant for OCEAN OBSERVATORIES
3	It's only physical data, but that is the purpose of the portal and the number of variables presented is reasonable
4	Instruments providing data to the portal are remarkably varied
4	Different types of charts, plots, maps, animations
3	RT and delayed mode Ok, but historical time series are only accessible on reports
4	In-situ and models
	OTHER attributes
3	National language + English, so, average score
1	Links to facebook and twitter not working!
3	Access from mobile phones work well, but from tablets it is not that good
5	Possibility of identifying as expert user or new user

What do you think?

Difficulties → *ideas to overcome them*

- Some ELEMENTS are subjective (e.g. Visual Impression) → *Ok, give opinions ("Data Portal Advisor")*
- Objective, quantifyable ELEMENTS depend on the application → *Define a particular task (EMODnet checkpoint concept)*
- Attributes relevance depend on the type of user → *assign weights according to user type (e.g., through a survey?)*

Potential applications

- Self-assessment: "*check-list*" to identify areas for improvement
- Comparison of data portals: *controversial*

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