

Improving Data Analysis With IBM Streams

[1]

Submitted by Rory Lattimer Tue, 2011-05-31 00:00

The [Ocean Networks Canada Innovation Centre](#) [2], in co-operation with [IBM](#) [3], is striving to implement new software for real-time analysis of video data.

This technology can increase classification rates by providing a continuous stream of objects-of-interest. The [IBM InfoSphere Streams system](#) [4] along with new image processing software will be used to automatically flag specific times in the underwater video archives. The processed video will be tagged with the appropriate metadata (e.g. object type, object size, movement, time). The result will be the ability to skip ahead to the next remarkable observation caught on camera without wading through numerous hours of insignificant video. Observation times will be reduced, allowing scientists to reach their conclusions quicker.

InfoSphere Streams Video - Google Chrome

ibmtdemo.edgesuite.net/software/data/infosphere/guided-tour/infosphere_streams/index.htm

IBM

Streams Runtime Illustrated

Can adapt to changes in resources, workload, data rates.

Truly Real Time Insights for Smarter Business

- Powerful in-motion analytics
- Handle incredible data volume and variety
- Achieve microsecond latencies

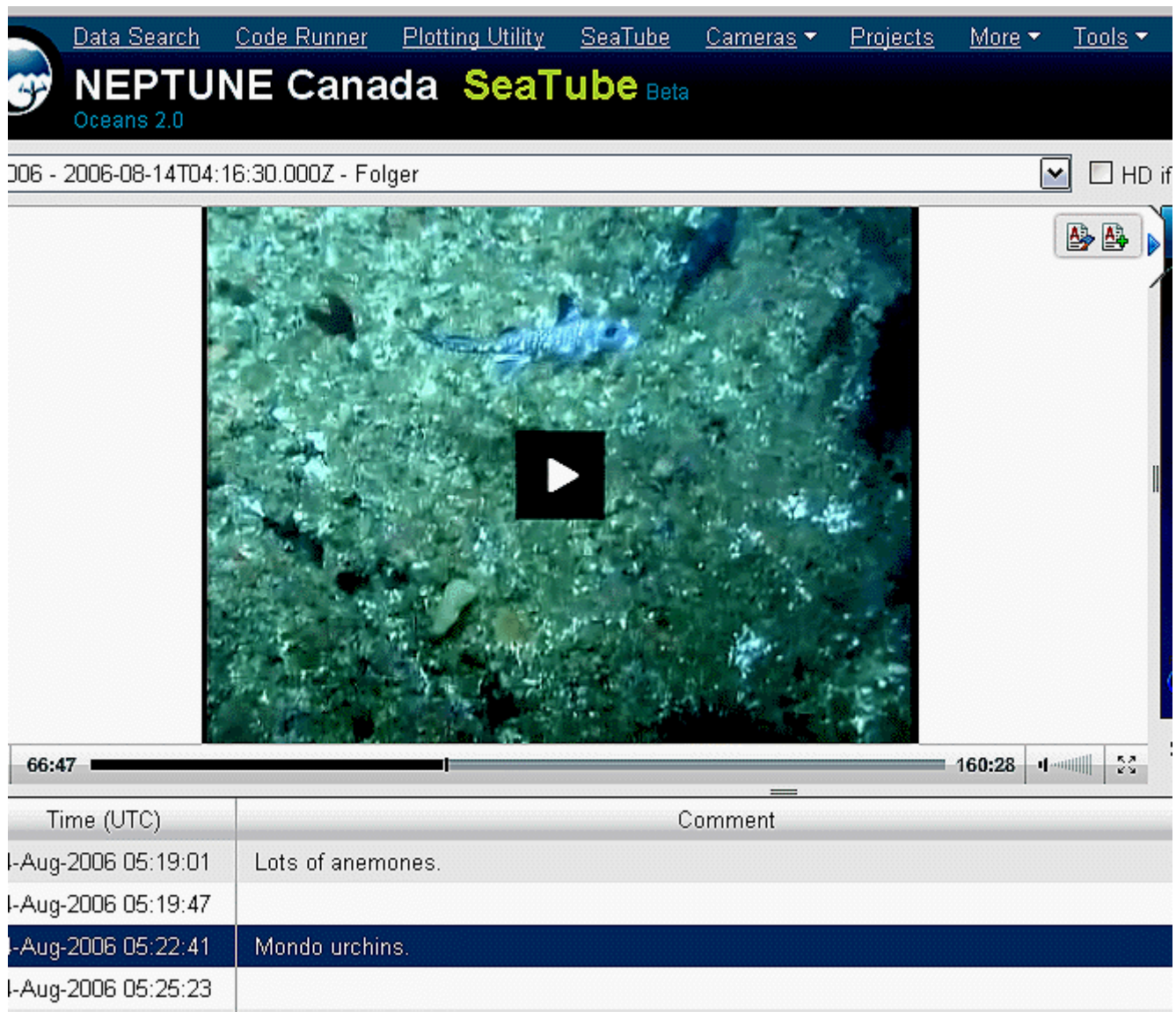
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[5]

IBM InfoSphere Streams is a high-performance computing platform that allows user-

developed applications to rapidly ingest, analyze, and correlate information as it arrives from thousands of real-time sources. Streams is a key component of the IBM Smart Planet initiative.

NEPTUNE Canada and VENUS have gathered immense collections of data through their cable-linked seafloor networks; however, analysis is slow because the vast amount of data can only be observed by a person in small increments. The same amount of data will be stored with the new system, but the rich information about marine life on the seafloor will be more rapidly available.



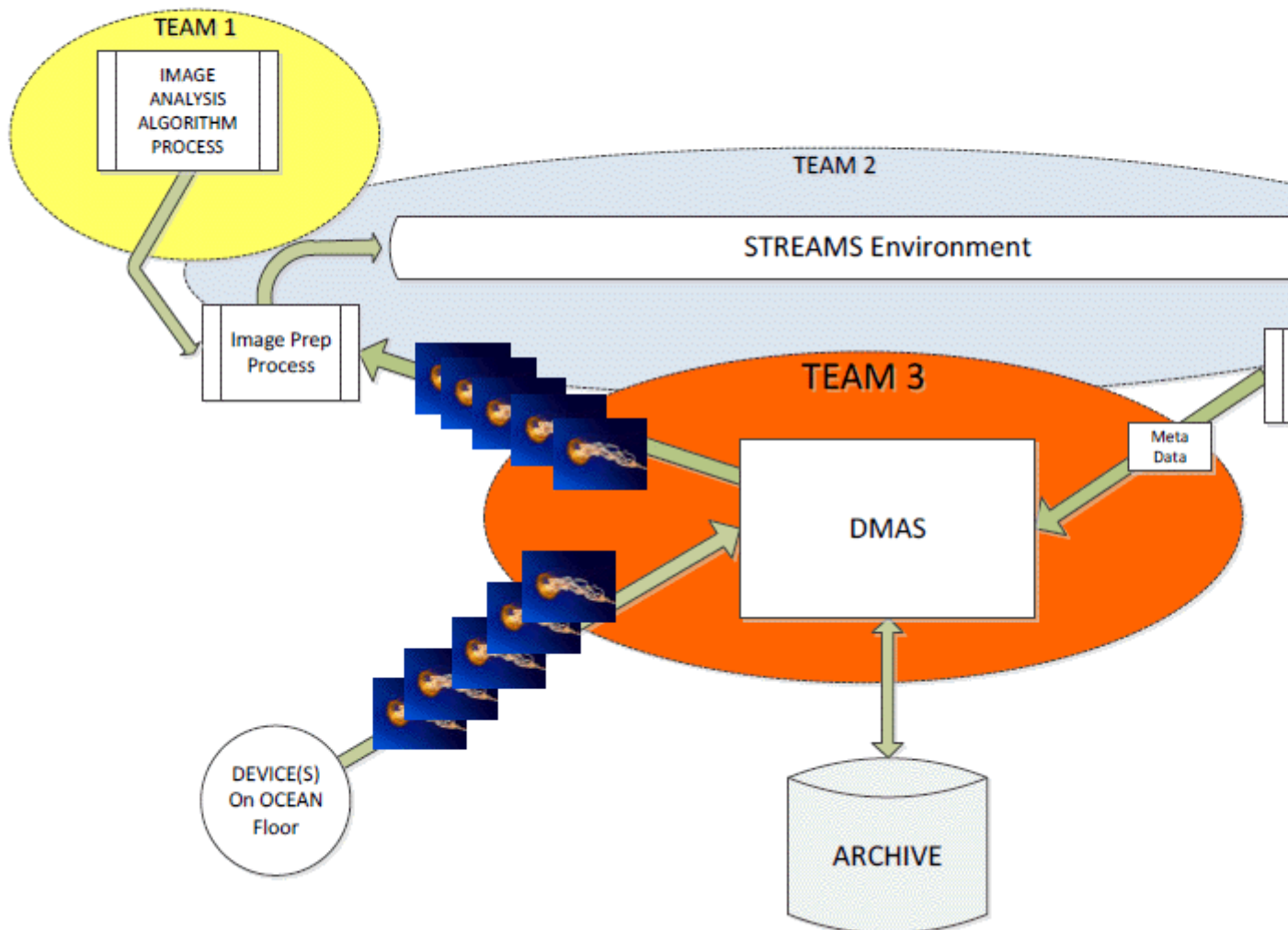
The screenshot displays the NEPTUNE Canada SeaTube Beta web interface. At the top, there is a navigation menu with links for Data Search, Code Runner, Plotting Utility, SeaTube, Cameras, Projects, More, and Tools. The main header features the NEPTUNE Canada logo and the text "SeaTube Beta Oceans 2.0". Below the header, a video player shows a live feed of a seafloor environment with a large play button in the center. The video player includes a progress bar showing 66:47 / 160:28 and a volume control icon. Below the video player is a table with two columns: Time (UTC) and Comment.

| Time (UTC) | Comment |
|---------------------|-------------------|
| 1-Aug-2006 05:19:01 | Lots of anemones. |
| 1-Aug-2006 05:19:47 | |
| 1-Aug-2006 05:22:41 | Mondo urchins. |
| 1-Aug-2006 05:25:23 | |

[6]

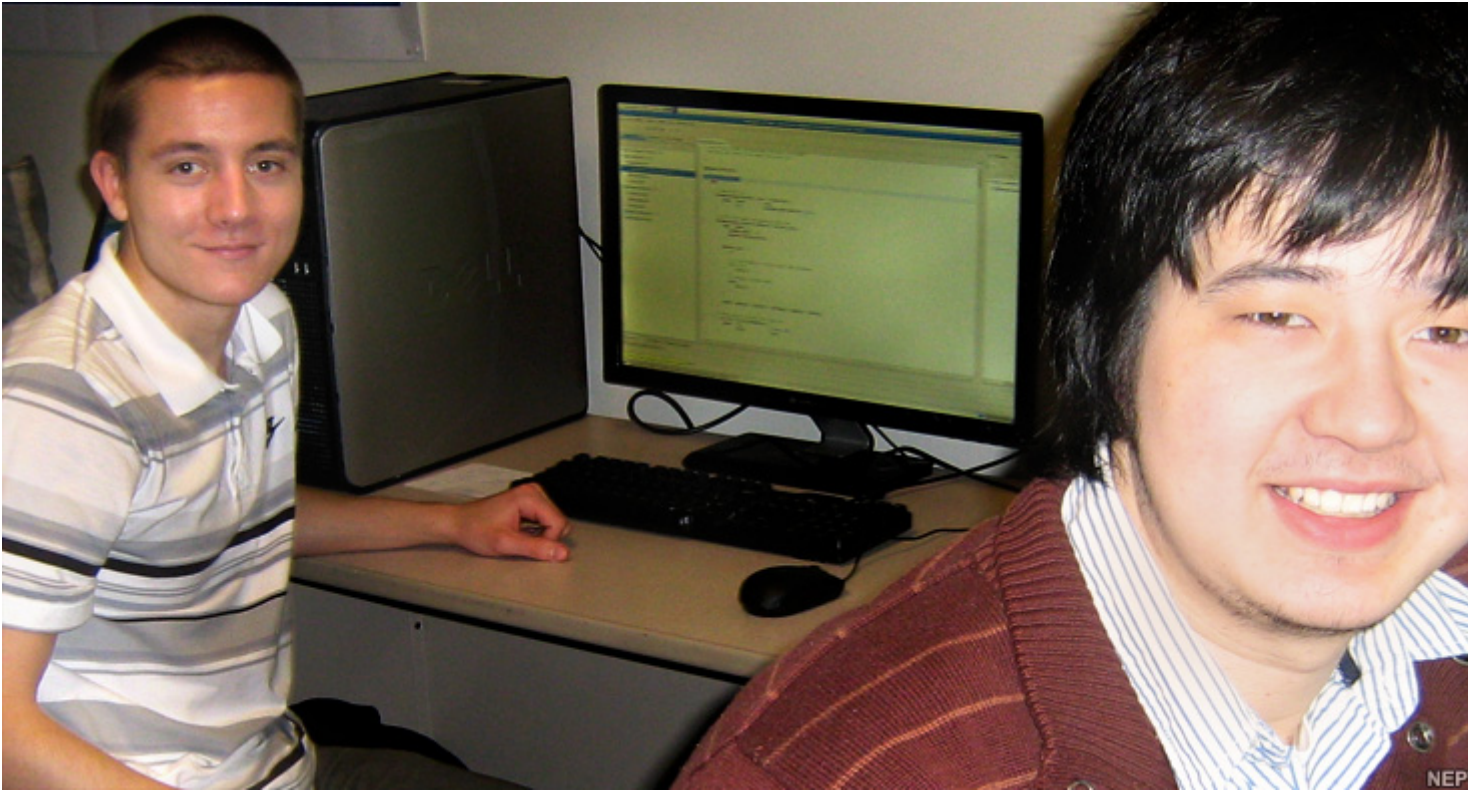
Collaboration on this project encompasses the broader University of Victoria [7] (UVic) and global community. UVic's Dr. Alexandra Branzan Albu (Associate Professor, Electrical and Computer Engineering) and her graduate student Aleya Gebali (M.A.Sc. candidate) are developing a new algorithm for the automatic detection of salient events in underwater video to meet the specific needs of NEPTUNE Canada and VENUS. Dr. Branzan Albu and Gebali will also collaborate with a team in IFREMER [8], France for integrating the video processing algorithms developed by each team into the Streams framework.

DMAS – Streams Interactions



[9]

Next, the software team will develop a toolbox for automatic detection of movement and of objects-of-interest. Two UVic Co-op students, Josh Erickson and Daniel Conti, and Celina Gibbs, PhD. (UVic Computer Science Dept.) are responsible for adapting the algorithms to the Streams environment. They will also work with the Digital Management and Archive System (DMAS) group to properly integrate this new software with the existing database system.



[10]

Claire de Grasse (Ocean Networks Canada Innovation Centre) is managing this project and says that the goal is to implement a prototype of the system by the end of August 2011. Ocean Networks Canada is the first undersea network exploring use of the IBM InfoSphere Streams software for improved data management and analysis.

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// FIXES AMPERSAND IN BREADCRUMB var ONC_breadcrumb =  
document.getElementById("breadcrumb"); if (ONC_breadcrumb) { var ONC_innerHTML =
```

```
ONC_breadcrumb.innerHTML; ONC_innerHTML = ONC_innerHTML.replace("&", "&");  
ONC_breadcrumb.innerHTML = ONC_innerHTML; }
```

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```
(function () { var d = new Date; var year = d.getFullYear();  
document.getElementById("copyright-date").innerHTML = year; })();
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Source URL: <https://www.oceannetworks.ca/improving-data-analysis-ibm-streams>

Links:

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