



Tulpa (jes.cobalt): Hi everyone, and welcome to today's Science Circle presentation with Yan Lauria.

I'm Jes Cobalt, I work as the co-director of the Science Circle. I'm responsible for our presentations and educators for Asia and Oceania times.

In the current calendar Asia & Oceania contributes two presentations:

Yan's "Visualization for collaboration and Discovery in multi-user online 3D environment" and Amara Shan's "Bell's Turtle -How Modern Agriculture Threatens Freshwater Turtles in Australia"

For the next calendar we like to encourage more presentations during hours convenient for our scientists, educators and students in this timeframe!

So if you're interested in presenting for us, drop me an IM or an email and I'll get back to you promptly. ☺

Yan will be using text chat for this presentation "Visualization for collaboration and Discovery in multi-user online 3D environment".

Which will be recorded and uploaded as a PDF file on the Science Circle website.

We'll probably take photos, so if you want to see them go to: <http://sciencecircle.org/>

LinkedIn- <http://www.linkedin.com/company/science-circle>

or our facebook page- <https://www.facebook.com/groups/155012474522202/>

If you didn't get Yan's topic card send me an IM and I'll send it to you.

This presentation includes shared media (Web on a Prim including YouTube), so please use a SL Viewer ver.3 compatible viewer / Adobe Flash & Shockwave.

Use group IM if you need help in that regard.

Let's have an awesome hour everyone, and enjoy!

Chantal (nymf.hathaway): Applauds! ☺

Nukiri Kenin: ,.•*(,•*'`*•.,)`*•.,



Yan Lauria: Thank you Jes

At first, let me introduce Dugong Janus.

Dugong please.

He is practically Co-curator of Abyss Observatory.

He provides Orca's Family above you. Look up!

You all can ride on them. Please enjoy changing view point.^^

say something, Dugong?

Dugong Janus: Well...

Chuck Kalok: awesome

8-Bit (8bitbiologist): whoa

Dugong Janus: Just enjoy full-scale sea animals inworld

Vic Michalak: Yes!! Thank you!

Yan Lauria: thanks^^

He also create Blue Whale outside of Pyramid.

Skeleton is created by famous Aley.

Then self-introduction.

Vic Michalak: Even a pyramid is too small for a blue whale...

Yan Lauria: yes^^

This photo is classroom of underwater glider made by pet bottle.

motoko Moonwall: pachi pachi pachi pachi

Yan Lauria: Me

I'm a curator of Abyss Observatory,

Ocean science museum at "Second Earth 3" and "Farwell" under construction.

In RL, I'm a coordinator of Environment Data Integration and Analysis, JAMSTEC

I engaged in development of deep submersible, oceanographic research vessel, and science drill ship,

and I also engaged in planning and organizing Climate Prediction Research.

Out of office, I am Sci-Fi fan, reviewer/ collector, and I organize underwater vehicle competition for students.

So Abyss is visualization of my past projects and my hobby.

Vic Michalak: Don't forget sea creature tamer!

Yan Lauria: Then,

ahaha

Why Multi-user Online 3D Environment?

We are living in 3D world.

SL has high resolution, real time, interactive, simulate physics,

Especially, SL has a lot of good creators and good Marketplace.

But people don't realize how it is wonderful.

People are familiar with very high quality CG movies,

but the scenes are taken by very long time rendering.

"Realtime" allows "Interactive" remotely.

People, who don't have VW experience, can't understand how wonderful "Interactive" remotely is!

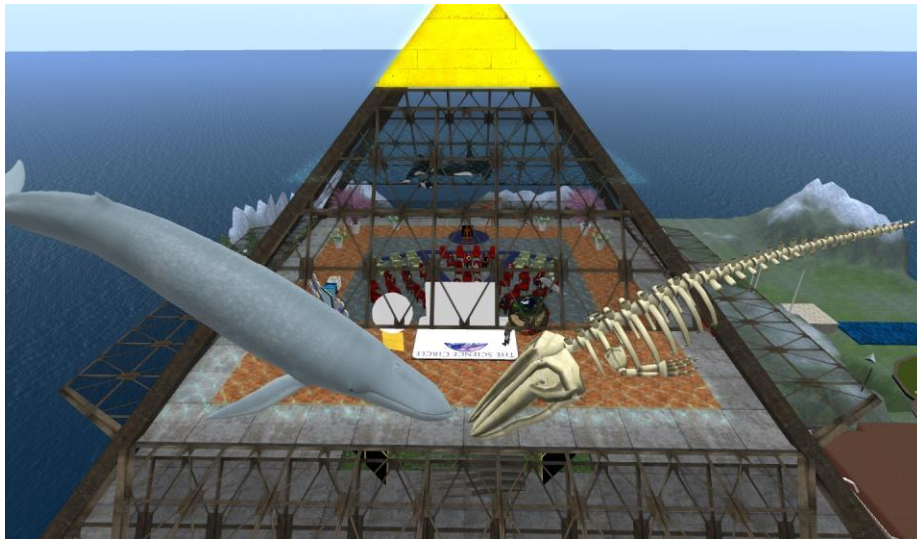
VW=Virtual World

There is possibility for most comprehensive Archives of Human knowledge,

for remote education, Self-learning

for Inter-disciplinary and Trans-disciplinary collaboration

Next, please remark important concepts.



Chuck Kalok: we are blessed to have so many creative people inworld

Chantal (nymf.hathaway): yes they do an amazing job!

Yan Lauria: Yes!

It is "How to create "Knowledge" from "Data"?"

"Data" becomes "Information" by indexing.

It means people can search by adding key words.

Next, "Information" becomes "Knowledge" by structuralizing.

Chuck Kalok: seeing it sometimes requires a paradigm shift

Yan Lauria: What is "structuralizing"?

Then, did you hear "Information Seeking Mantra"?.

This is very useful strategy.

“Overview”, first.

It is like we draw back camera when we arrived new SIM

Next,” Zoom and filter”.

Zooming camera is primary technique of SL.

Vic Michalak: Good analogies!

Yan Lauria: aha

Dae Miami: What kind of data and information are we talking about Yan

Yan Lauria: don't use Zoom for under skirt

Next, “Details-on-demand”.

Giovanni Tweak: lol

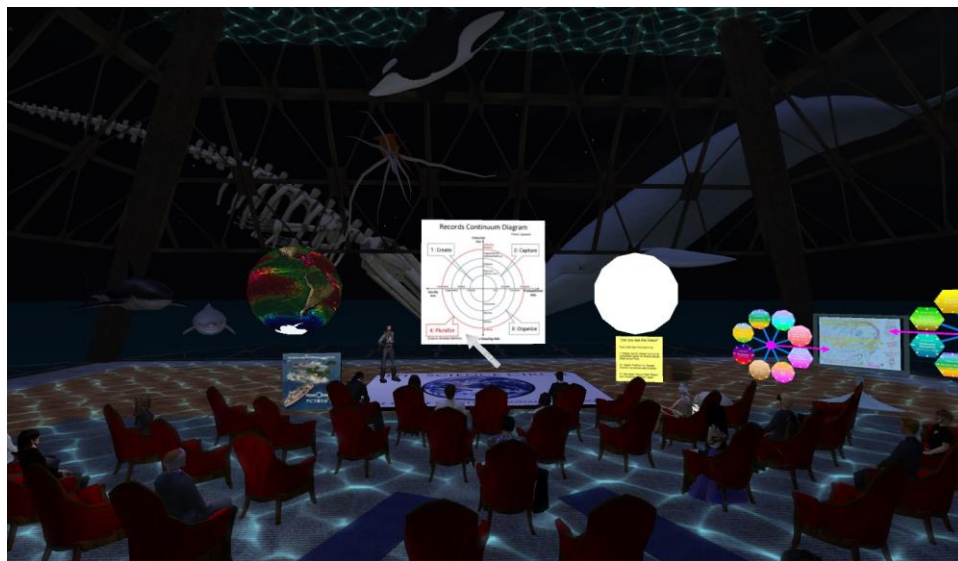
Yan Lauria: We get notecard or URL jump by touch in SL.

Chuck Kalok: LOL

motoko Moonwall: ^^;

Yan Lauria: but SL residents don't like get notecard and URL jump

Nukiri Kenin: mhmmm



Yan Lauria: that is our problem

Next, “View Relationships” and “History”.

We can find relation and history if museum curator arranged objects carefully.

and finally,

you “Extract” important findings and save for your purpose.

Do you realize above strategy are like our SL activity?

8-Bit (sbitbiologist): Yes, very much

Yan Lauria: Visitors are seeking information in SL.

It means curators need to design own museum navigation in considering with above visitor's strategy.

Vic, ok?

Vic Michalak: Yes, teleporting is like hyperlinking outside the website

Yan Lauria: Then,

“Structuralizing Information” is essential for social knowledge but not formulated well yet.

“Show relations between Whole and Parts, and Part and Part”

Do you realize it is same strategy as “Seeking Information”?

“Classification” is classical method but weak for new category.

“Mapping” is useful in SL to show relation between contents.

Last “Curation” is to arrange contents under some contexts, such as story, history, process, etc.

Do you also realize “Structuralizing Information” is also like SL activity? not visitor-side but curator-side.

Yes, “Information Seeking” and “Structuralizing Information” are both side of the coin.

Then,.

Advantage of SL

SL’s easy creation enable us to visualize own idea by oneself

It is very important advantage!

Once we visualize, we can easily collaborate.

Language depends on nations and disciplines.

But visualization is borderless.

These are Abyss collaboration.

Vic Michalak: It can be difficult to convey complex relatedness well on a flat medium and the 3D environment is easily editable. That is why the Abyss is such a great space to illustrate such as complex topic.

Yan Lauria: There are many contributors participate here

Shailey

Draceina

Dugong

comet

thank you all^^

motoko Moonwall: ^^



Yan Lauria: NOAA’s research ship.

Ship is created by French creator

and Japanese creators added Water sampler and Remotely operated vehicle .

this is first exhibits of Abyss

Submarine history,
These are 5 creators' submersible from Japan, USA and France in the Abyss.
Excavation sites of sunken city.
Archaeology and ocean science are different discipline,
but we could exhibit natural disaster and human civilization.

Vic Michalak: International and interdisciplinary collaboration at its finest!

Shailey Garfield: Thank you, Yan - it is a great pleasure.

Yan Lauria: yes!

Shailey Garfield: Yes, indeed Vic.

Yan Lauria: Why collaboration?

3D becomes very eloquent if we get help of good creators.

like Dugong

If we get help of nice scripter, 3D object can swim lively,

Dugong Janus: ^ _ ^

Chantal (nymf.hathaway): :)))

Yan Lauria: If curator arranges creators' works under some contexts,
story, history, relation, etc.

their works become eloquent.

Museum curator can make new value from them.

Especially, to visualize ecosystem relation, it needs inter-disciplinary collaboration,

Chantal (nymf.hathaway): Points to the beautiful Orca's above the audience



Yan Lauria: because ecosystem relates geology, oceanography, biology of various species.

yes

As said above, visualization needs various collaborations,

And SL enables us to collaborate remotely.

“Remote inter-disciplinary collaboration” will create new “Value”.

This is my most important purpose.

I'll show you 3 ecosystems

Seaweed forest.

Coral reef.

These are consist from desert sand bottom, exposed rocks,
ingrained seaweeds and reefs,
inhabited small animals...

Nukiri Kenin: Yan, is it possible to go back to see Seaweed forest again?

8-Bit (8bitbiologist): I think next week will be time for a field trip for my students..

Vic Michalak: (Visit them now - they are disappearing)

Nukiri Kenin: Thank you

Chantal (nymf.hathaway): Smiles at 8Bit... love that

Yan Lauria: Welcome

They are depending on depth, temperature and food chain.

Tulpa (jes.cobalt): ♦ ♦ ❄️ 5 ♦ ♦

Yan Lauria: This is Hydrothermal ecosystem.

Most frequently dived researcher to Hydrothermal advised me about distance from hot water
to each species of deep sea lives.

School of dolphins

at Abyss Observatory at Farwell

School is usual form of ocean lives but there are few exhibits of school in SL until now.

Please see following YouTube.

<http://www.youtube.com/watch?v=uzD92u-Lqw0>

Yan Lauria: This is Japan-Singapore exhibits in SL10B

8-Bit (8bitbiologist): beautiful

Yan Lauria: Next example, Earth simulation

There are two methods to display animation on a sphere.

Here is Ocean Current Simulation using GIF animation

Can you see? Pls type y or n.

Stephen Xootfly: y

Dae Miami: y

8-Bit (8bitbiologist): y

Chantal (nymf.hathaway): Y

Nukiri Kenin: n

Patsy Stradjinski: y

Yan Lauria: good^^

You need to use v.3 viewer.

Tulpa (jes.cobalt): w!

Laci Luckstone: y

Yan Lauria: If you see only white sphere, please touch sphere and zoom.

Can you see file reading bar?

comet Morigi: y

Yan Lauria: Demerit is GIF file size need less than 100MB, and limited 256 color,

motoko Moonwall: y

Yan Lauria: and take long time to read large GIF file.

Here is Continents drift using Youtube.

Can you see? Pls type y or n.

Dae Miami: y

Laci Luckstone: y

8-Bit (8bitbiologist): n u.u

Nukiri Kenin: n

motoko Moonwall: / y

Stephen Xootfly: y

Yan Lauria: please read yellow panel

There is no limitation of file size and you need not to wait for reading file.

But you need V.3 viewer, Google chrome, Adobe Real player and Shockwave player.

Nukiri Kenin: chrome and or Firefox?

Yan Lauria: very impressive animation by Chris Scotese

Both are very easy exhibits.

Nukiri Kenin: ahhh - GIF finally loaded on other sphere

Dae Miami: For more info click: www.scotese.com

Chris would love to work with you

Yan Lauria: thank you Dae^^

Yan Lauria: Next demonstration,

SL has Havok 2k10 physics engine.

We can experiment physical law easily

There are heavy cube and light cube.

wait a moment

There are heavy cube and light cube.

When I drop the weight, which cube will jump higher?

You know the answer, light cube.

do you agree?

Please draw your camera to see result

Giovanni Tweak: yes

Tulpa (jes.cobalt): yes

Yan Lauria: Then, 3, 2, 1,...

8-Bit (8bitbiologist): unless we're in a vacuum

Tulpa (jes.cobalt): true!

Nukiri Kenin: ???

Yan Lauria: yes light cube jump higher^^

Next Seesaw,

Vic Michalak: [I remember when one of the astronauts on the moon dropped a feather and a hammer at the same time and both landed at the same time... very impressive back then]

8-Bit (8bitbiologist): it's still a great jawdropper for the kids

Yan Lauria: ahaha

2 cube on one board.

Chantal (nymf.hathaway): Never even saw that footage Vic :(

Yan Lauria: Then, which cube will jump higher?

Pls type the answer

Dae Miami: is this for a vacuum

Nukiri Kenin: both same

Dae Miami: same

Stephen Xootfly: same.

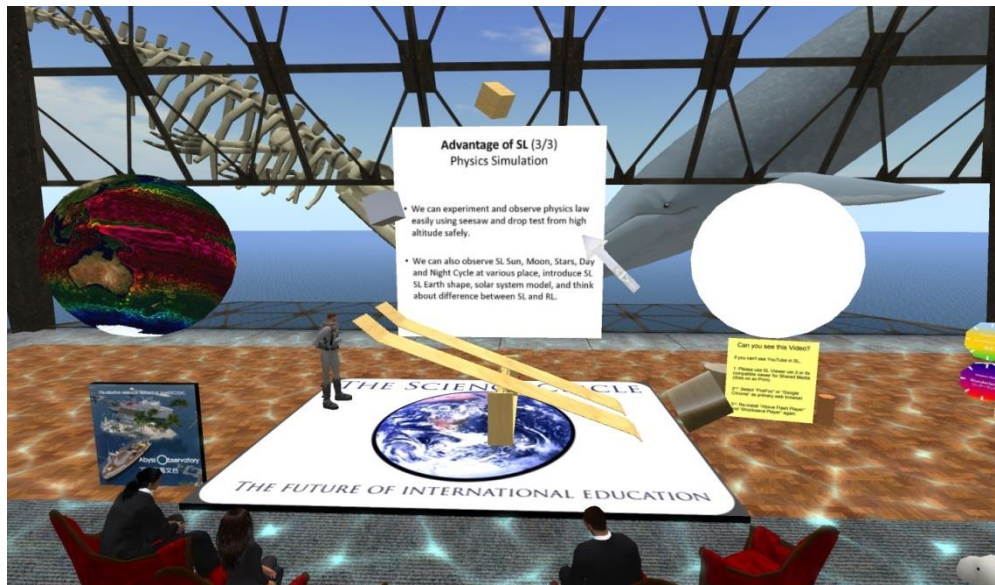
Giovanni Tweak: lighter higher

Vic Michalak: Lighter still - same force but lighter object (I think)

Yan Lauria: no air resistance

Nukiri Kenin: physics engine here prob not using air resistance

Yan Lauria: Then, 3, 2, 1,...



8-Bit (8bitbiologist): Neat!

Tulpa (jes.cobalt): :D

Dae Miami: yes same

Yan Lauria: same height^^

Vic Michalak: I think you can add resistance in physics engine (or at least friction)

Yan Lauria: The board gave same acceleration to both cubes, so same height.

It is same principle as Galileo's experiment at Pisa

We can plan various observation and experiment in SL cheaply, easily and safely.

Then, I'll talk about only one of problems

High quality 3D modeling needs professional creators

This is Deepsea Comb Jelly using Unity-3D.

Vic Michalak: Acceleration (A) = v/t (independent of mass) - gotcha

Yan Lauria: This modeling needs 8 month!

8-Bit (8bitbiologist): amazing

Yan Lauria: Why?

There are only several clear 2D photos and video by Remote Operated Vehicle.

Vic Michalak: Stunning 3D model

Yan Lauria: But researchers can re-construct perfect 3D model in his/her mind.

But they don't have enough skill to communicate to the creator.

They should exercise dessan

I don't know the word

drawing training?

This is another example.

There are many giant squid created by SL creators.

But there are several misunderstandings.

Nukiri Kenin: Note- future hardware updates will be in all pads/computers, with gesture control - someday will be interact in SL!

At IDF 2013 this week, Intel unveiled its plans to make 3D input as common as the mouse and touch have become. Front and center was Creative's new \$200 Senz3D, which supports applications developed using Intel's free perceptual computing SDK. In addition to demos of the Senz3D, Intel announced that its upcoming 14nm Broadwell chip — available for ultrabooks in late 2014 — will support integrating a 3D camera directly into the bezel of laptops.

<http://www.extremetech.com/extreme/166289-intel-moves-to-make-3d-gesture-control-as-pervasive-as-the-mouse>

Yan Lauria: I hope so^^

Thanks Nukiri^^

Nukiri Kenin: well, we will have to wait and see what happens

Yan Lauria: I'll teach them^^

These are knowledge getting from video, papers and discussion.

Chantal (nymf.hathaway): :)))

Yan Lauria: I create this by basic prims to communicate with creators.

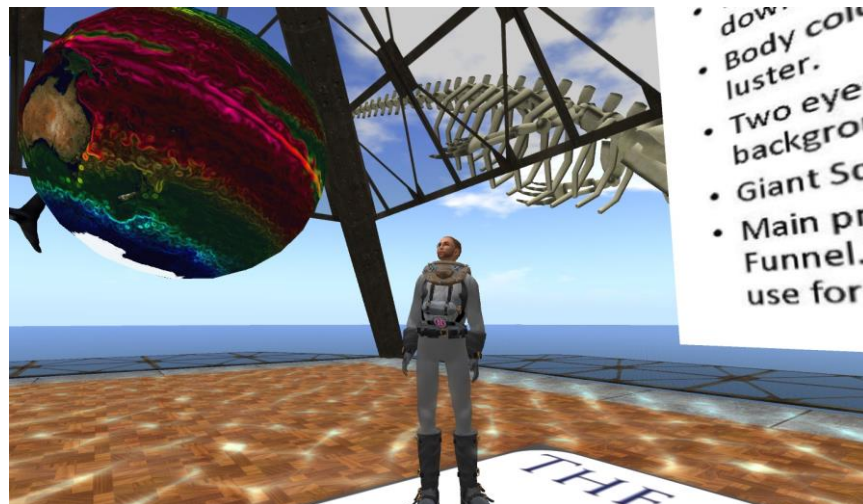
Squid swims like this

Back is upward, there are fins. Dark color

Front is downward there is a funnel, Bright color

For Camouflage from brighter upward background.

Move by water jet from funnel, attack to prey like this



Shailey Garfield: This is beautiful, Yan.

Vic Michalak: Like military aircraft and submarines

Dae Miami: yes great use of sl

Nukiri Kenin: impressive coloring gradients on model, Yan

Vic Michalak: SL is getting sophisticated in design ability - I have seen it evolve - will lead to Unity3D/HTML5 and Web access in the not too distant future --- then many people will know about the potential of 3D worlds

Shailey Garfield: Yes, absolutely, Dae; I don't think that students can forget easily when they see such fantastic 3D structures

Yan Lauria: I show this model to Aley, then she improved and tentacles become move

Shailey Garfield: Yes, Vic. I do hope so.

Vic Michalak: Collaboration between biologists and graphic designers - important for realism

8-Bit (8bitbiologist): needs skin layers - muscle, bone, nerves, vascular
like GIS, can add layers, remove layers

Vic Michalak: THAT would be next step... if prims allow... ☺

8-Bit (8bitbiologist): well, in the case of squid, cartilage..

Yan Lauria: umm, interesting talk^^

At last, final theme

Shailey Garfield: Even after working hard on proving that 3D VWs have a significant role in education and particularly STEM education, I don't think that I have won the battle as yet or overcome the mental barriers of colleagues who have never come and visited 3D VWs themselves

8-Bit (8bitbiologist): Tough sell Shailey

Chantal (nymf.hathaway): yes sad enough it still is :(

Vic Michalak: I agree completely with Shailey (after trying for years to win battles at my university)

Dae Miami: We need to advertise what we do in mainstream journals

8-Bit (8bitbiologist): But if I can convince a public high school to spend money on virtual space, there is hope yet

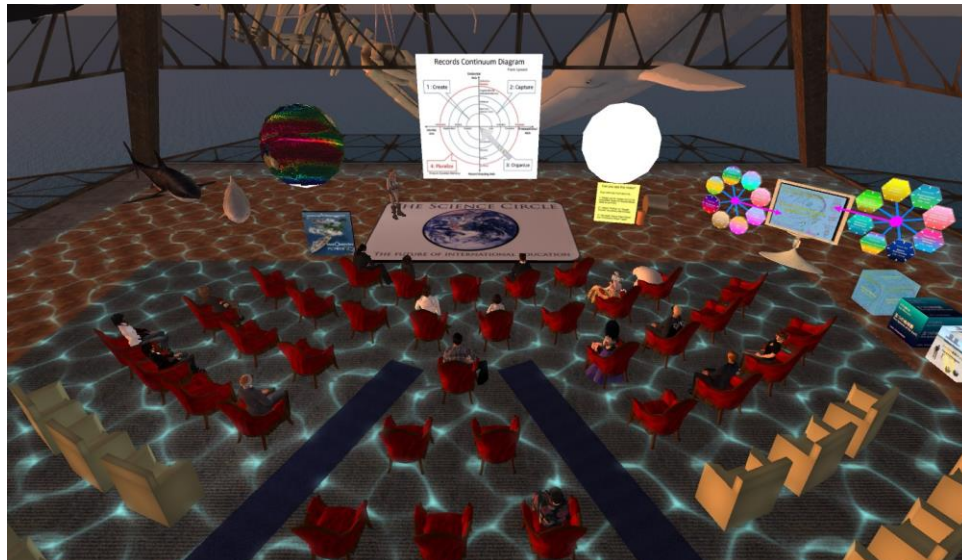
Yan Lauria: then, continue^^

Dae Miami: I face the same problem in Virginia USA

Yan Lauria: Inter-disciplinary Efforts

I'll read your discussion later^^

Vic Michalak: Yes, I have some strong proponents in my university in graduate nursing and pharmacy programs



Yan Lauria: This is Records Continuum Diagram

1. create data
2. capture by indexing, etc.
3. organize records in each organization

4. Integrate with other organization records
to ensure social knowledge.

Usual organizations are struggle from 1 to 2.

Only major data center try to reach stage 3

Vic Michalak: The "Integrate" part is hardest and the key

Yan Lauria: Yes

Stage 4, There are a few activities to integrate for social knowledge.

Important thing, this diagram says not stage by stage 1, 2, 3...

not 1,2,3..

but simultaneously consider all stage 1 to 4

like a stone into water creates a ripple and spread. Do you understand?

Stephen Xootfly nods

Chantal (nymf.hathaway): yes 😊

Vic Michalak: That is what we are doing! We are the stones in the water — if we ripple enough others will understand 3D worlds later...

Yan Lauria: yes^^

So I also consider stage 4, inter-disciplinary.

This teleport hub is one of such a model.

Shailey Garfield: Yes, indeed Vic - your statement is very encouraging

Yan Lauria: Touching upper part shows Natural Science categories.

8-Bit (8bitbiologist): O.O Who do I need to arm wrestle to get one of these?

Vic Michalak: Yan!

Yan Lauria: these are lower part

8-Bit (8bitbiologist): oh uh.. he looks very formidable

Yan Lauria: And select one of category,

Vic Michalak: Yan would love for you to put them in different spots in SL

8-Bit (8bitbiologist): look.. at all.. the links.. *swoons*

Yan Lauria: I enjoy quest in SL^^

Vic Michalak: Much work went into this --- including updating a famous website that used to keep track of all science spaces in SL

Yan Lauria: Draceina Pinion develop this system

Nukiri Kenin: YAY Dracy

Yan Lauria: Then, each board is teleporter to the destination

Draceina Pinion: T Y

8-Bit (8bitbiologist): I was told that once there was a place to go on Darwin's Voyage on the Beagle.. but the group left second life

Chantal (nymf.hathaway): applauds for Draceina 😊

8-Bit (8bitbiologist): and took the entire experience with them

Dae Miami: shame

Vic Michalak: I HAVE the Beagle here on STEM Island! Look to the NW

Nukiri Kenin: *winces* at thought of keeping database updated, even with robots helping
Yes, very impressive and a good idea to go through one prim

Vic Michalak: Yes! (teaches database management systems)

Yan Lauria: Final page, this is inter-disciplinary workshop for science exhibits.
Next MIWoSE is here and by Vic.

Dae Miami: You mentioned Unity Yan, my students and I are making progress in web based
vw , check out this website

Yan Lauria: Vic, do you say something?

Dae Miami: <http://www.evwillc.co/oceans/WebPlayer.html>

Yan Lauria: oh thank you^^

Dae Miami: and vw for ios devices are possible too

Vic Michalak: (said too much I'm afraid, but this is exciting stuff...)

Yan Lauria: iOS?

Dae Miami: check out Science Island and Geology Island 2 on the app store for ipads, ipod
touch 5, and iPhone 5, yes ios

8-Bit (8bitbiologist): For Mac

Vic Michalak: Wow! Thanks, Dae.... always like learning new things at these meetings

Dae Miami: the website I put up: <http://www.evwillc.co/oceans/WebPlayer.html> works on the
mac

Chantal (nymf.hathaway): Thank you Dae!

8-Bit (8bitbiologist): Yan I will put up at my classroom if you would share a copy of
teleporter with me

Yan Lauria: So you are December speaker of MIWoSE, Dae^^

Yan Lauria: Next Oddprofessor

Yan Lauria: Please check <http://aquarobo.com/abyss/MIWoSE.htm>

Stephen Xootfly thinks Dae walked into that one.

Yan Lauria: Thank you very much for your attention^^

Draceina Pinion: Thank you

8-Bit (8bitbiologist): Great Job!!

Yan Lauria: Is there any question?

Stephen Xootfly: Thank you, Yan.

Dae Miami: Great job

Tulpa (jes.cobalt): YAY! Thank you so much Yan, for this presentation ☺

Yan Lauria: ty^^

Dae Miami: Yan always has interesting presentations

Nukiri Kenin: Thank you for your excellent overview

Chantal (nymf.hathaway): Applauds ☺

motoko Moonwall: pachi pachi pachi pachi!

Vic Michalak: What a wonderful presentation! You put a lot of work into this...

Dugong Janus: Great presentation

Patsy Stradjinski: Thank you

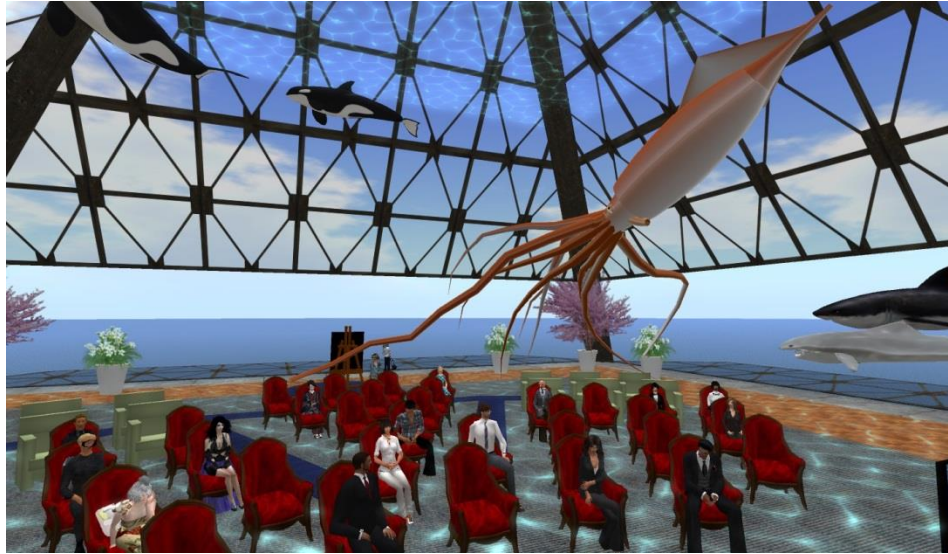
Giovanni Tweak: Thank you Yan

Tulpa (jes.cobalt): agrees, was really awesome Yan ☺

Shailey Garfield: Thank you, Yan. I like your systematic and thoughtful approach to analysis
and reflection.

Yan Lauria: I didn't talk about Abstract all

Nukiri Kenin: putting the squid in the audience was dramatic - it almost ate Chantal



Chantal (nymf.hathaway): hehehhehehe

Shailey Garfield: Yes, I am with Vic - lot of work would have gone into the preparation.

Stephen Xootfly: QUESTION: Do you have any instructions or written guidelines so that educators in VW can relatively easily integrate it into classrooms? Some prepackaged learning lessons?

Shailey Garfield: A beautiful location!

8-Bit (8bitbiologist): We need a storehouse of categorized build for education

Yan Lauria: I wrote only one paper

8-Bit (8bitbiologist): in a cloud space independent of SL so if the builders leave, the content is still available

8-Bit (8bitbiologist): maybe paid by contributions from Circle and other education related groups

Vic Michalak: Stephen -- wish it were so but it takes a lot of work to put that together and SL is usually just a few dedicated individuals on any sim..

Chantal (nymf.hathaway): Sounds like a plan 8-Bit

Yan Lauria: <https://journals.tdl.org/jvwr/article/view/6304>

8-Bit (8bitbiologist): Great Educators that are also great builders are rare

Chantal (nymf.hathaway): we have a few ☺

8-Bit (8bitbiologist): But if the educators had access to the builds, more likely to come use the space

Stephen Xootfly: I understand, Vic. It's a lot of work. One reason I haven't been good at it myself for my stuff.

Yan Lauria: I'll write new paper using today's topics

Tulpa (jes.cobalt): ☺

Nukiri Kenin: Thank you, evryone. have to poof

QUAEZAR (quaezar.agnomen): Bye ☺

Chantal (nymf.hathaway): Waves at everyone leaving

8-Bit (8bitbiologist): I'm going to go ride the orcas now, if that's ok <.<

Tulpa (jes.cobalt): Thanks for coming ^^

Tulpa (jes.cobalt): please do 8bit

Patsy Stradjinski: Bye

Yan Lauria: ahaha bye, thanks^^

8-Bit (8bitbiologist): awesome!!

Dugong Janus: If you have time, please try riding orcas above

Chantal (nymf.hathaway): Yan, wonderful presentation!

Yan Lauria: thank you all^^

Tulpa (jes.cobalt): great Yan 😊 loved it. Thank you

Stephen Xootfly is off to put that teleport hub on his land

Yan Lauria: I need to learn from you all

Chantal (nymf.hathaway): 😊

Tulpa (jes.cobalt): seeya Stephen 😊

8-Bit (8bitbiologist): Yan, if we want copy of teleporter to put up?

Vic Michalak: Thank you for all your work! And thank you to all of the contributors to The Abyss!

QŪAƎZĂR (quaezar.agnomen): that's the idea.. we learn from each other