Science Circle Lecture on Feb 15, 2014

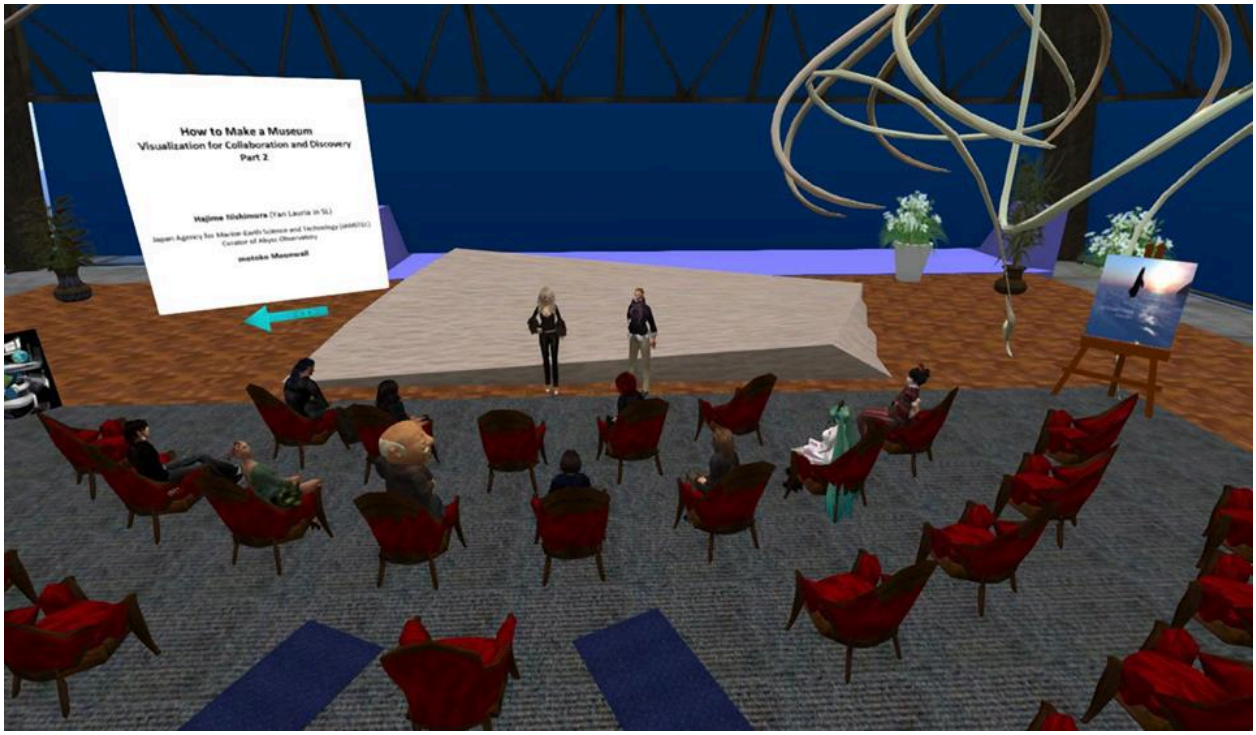
How to Make a Museum
Visualization for Collaboration and Discovery
Part 2

Hajime Nishimura (Yan Lauria in SL)

Japan Agency for Marine-Earth Science and Technology (JAMSTEC)
Curator of Abyss Observatory

motoko Moonwall

Attendants: BDSommerville, Chantal (nymf.hathaway), comet Morigi, Dae Miami, ダン (danhayase), Deepy (deepthinker.oh), Laci Luckstone, McMillan, momoko Moonwall, Patio Plasma, Patsy Stradjinski, ⓆⓊⒶⒺⓏⒶⓇ (quaezar.agnomen), つかさ (tukasa.winslet), Ţulpa (jes.cobalt), Tooyaa (thuja.hynes), XEROX01,



Jes: Welcome everyone to today's Science Circle presentation.'

Today's presentation is: "How to make a Museum" by Yan.

If you didn't receive the abstract: on the sides you will find two easels, if you click on them you will be provided with the notecard.

This presentation will be in text chat, so we will have a PDF transcript available for download afterwards.

Jes: We will probably take photos… So if you want to see them, visit one of the Science Circle social medias:

Website http://sciencecircle.org/

Twitter https://twitter.com/ScienceCircle

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

Official SC FB page https://www.facebook.com/TheScienceCircle

FB Group https://www.facebook.com/groups/155012474522202/

Flickr http://www.flickr.com/photos/science_circle/

Lets have an awesome hour everyone!

Go for it Yan ☺

Chantal: YAY ☺

Yan: Thank you Jes

Hi everyone,

At first, I was always sleeping in English class room when I was a student.

I virtually started learning English in SL by working with foreign people.

So please be care for my English usage.

And let me introduce my colleague, motoko.

Come on motoko,

Yan: She created Giant Squids and Lorenz's Chaos Waterwheel on this floor,

and is trying new curation for "Climate Prediction" and "Earth Evolution Exhibits" at Farwell.

quaezar: Nice work!

Yan: Motoko, please say something

motoko: Hi everybody, good evening. Or should I say good afternoon or morning? :)

My name is motoko. Japanese -- ah, ball-joint-doll

And I am assisting Yan in Abyss Observatory.

Jes: ☺

Chantal: with excellent work, as it seems ツ

motoko: I am not so skillful, however I made Giant squid, Lorentz waterwheel, and the Royal McBee computer which Lorentz used.

I'm not a scientist, just a designer but interested in Science, Education, and Communication beyond a special domain,

and fortunately have a good communication with Yan:)

quaezar: :)

Patio: The waterwheel motion is well done.

motoko: I'm grad if my works will help for your purpose. Thank you :)

Yan: thank you motoko

then, Today's presentation is part 2 of Science Circle lecture on last September;

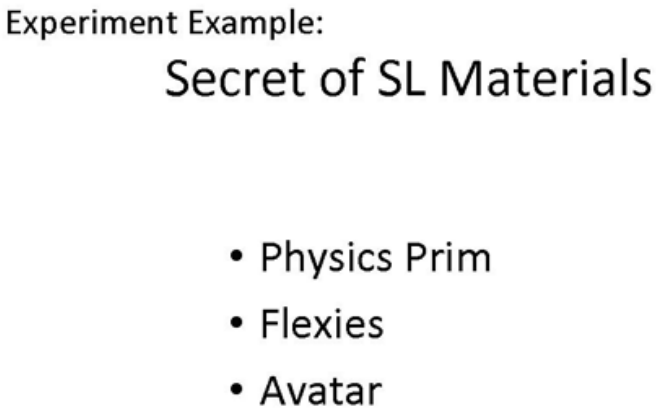
Chat log: http://aquarobo.com/abyss/SC_YanSep2013.pdf

Presentation sheets: http://aquarobo.com/abyss/SC_Yan_21Sep2013.pdf

Snapshots: https://www.facebook.com/media/set/?set=oa.628583890498389&type=1

please read them later

Then, Observation and Experiment in SL



Yan: I showed Seesaw Experiment in Part 1,

I dropped two objects simultaneously by delete the base.

please look right

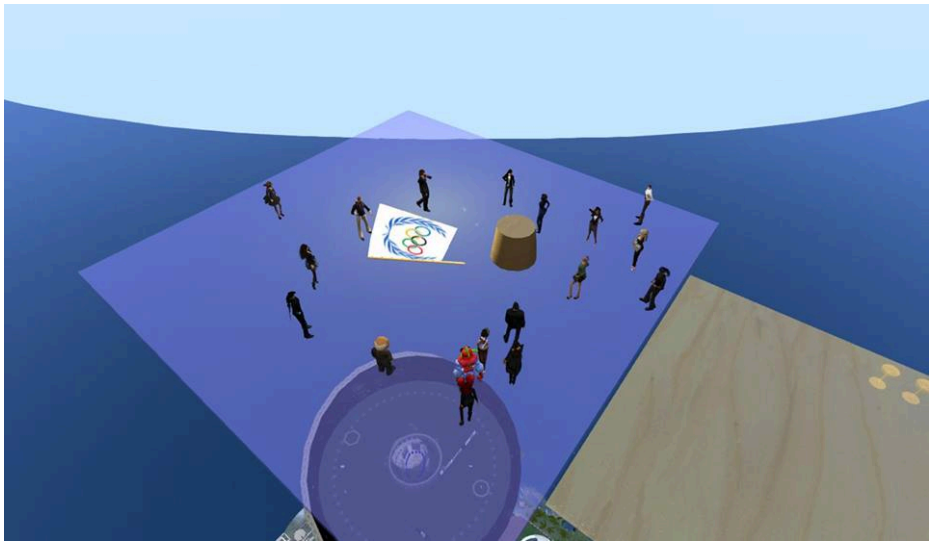
Today,

I'll drop objects and avatars simultaneously.

Please TP by click http://slurl.com/secondlife/STEM%20Island/194/229/501

please participate the experiment

please stand, and TP to above slurl



Yan: I rez a Weight and a Flag. Please gather around them.

Flag is fluttering by air drag and has buoyancy.

We'll compare 3 types of SL materials, Physics Prim, Flexies and Avatar.

please move to purple floor

You think I will delete this purple floor.

But I found in previous test, when I deleted the floor, the objects and Avatars no longer drop simultaneously due to some bug.

[So, my friend, comet taught me to use other method, to rotate the floor.

Please draw back your camera and look down to be able to see dropping objects and yourself well.

please gather around weight

Chantal: Ctrl, Alt and left mouse at the same time, Patsy

Dae: weird I would think all objects should drop almost simultaneously

XEROX01: は～い＾＾

Yan: Ready?

3, 2, 1…..

Jes: /me covers her eyes

McMillan: ouch

Jes: Hahahaha

Wonderful Yan ツ

Deep: oooffff

Tooyaa: sheesh

Yan: Sorry we have no time to try again.

Tooyaa: o that's fine

Deep: That was fun

Yan: Does anyone find something?

motoko: I can see nothing:)

XEROX01: 体重によって、落ちる速度が違う？

comet: 旗が、変だった。 the flag strangely behaved

Dae: does the drop follow the rules of physics

Deep: The weight seems to stay put

Dae: x = -1/2 a t^2

x = distance dropped, a = gravity, and t is time

BDSommerville: flag fell heaviest side down

Yan: Before, experiment is going well

but SL has bug now

Patio: feels like terminal velocity to me

comet: The fall speed was not stable of the flag ?

XEROX01: 斜塔から玉を落としたのは誰でしたっけ？

Yan: this is SL Galileo's experiment

motoko: ガリレオだとされているけど実際はやられていないらしい

Yan: Why?

XEROX01: へぇ～

Dae: most physics engines can at least do that well

Yan: Prim and Flexies are dropped at same acceleration, but avatars seems to have upper limit of dropping speed.

Deep: That's so we don't go squish when we land

Yan: Some people thought the difference is due to air resistance for Flexies of hair and cloths.

But you need not try in naked without hair, because you saw Flexies are same acceleration of Physics Prim.

then please back to hall

Next example;

Observation Example:

What shape is the SL world?

Once upon a time,

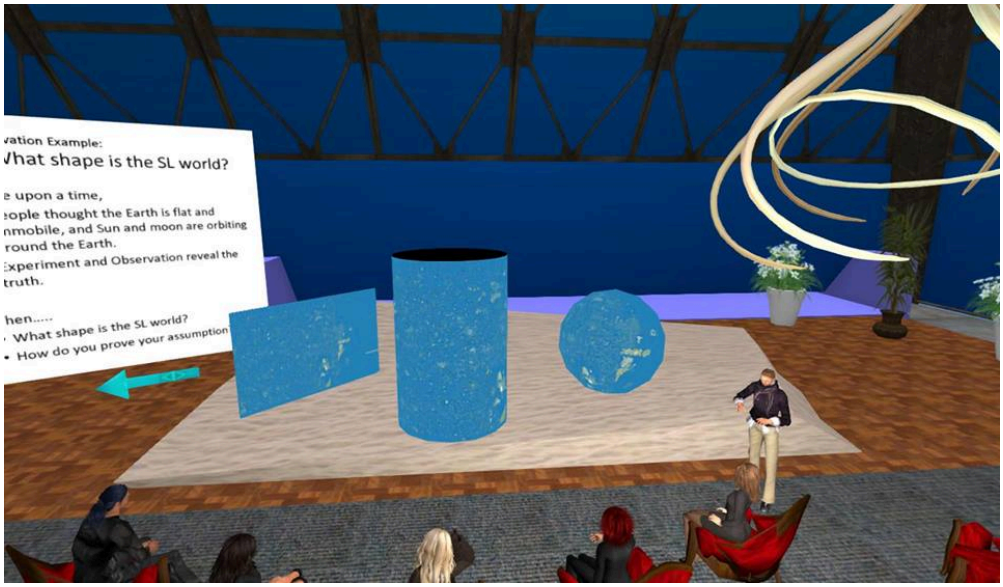
- People thought the Earth is flat and immobile, and Sun and moon are orbiting around the Earth.
- Experiment and Observation reveal the truth.

Then.....

- What shape is the SL world?
- How do you prove your assumption?

Yan: What shape is SL world?

Sphere or plane?



Deep: Plane?

Patio: Plane

motoko: SL world?

Yan: Yes SL world

Dae: the map looks like a plane

Yan: so all agree with plane?

Deep: Like all good mythological places it should have an edge that you fall off of

Tooyaa: could be cylinder

Dae: to me the way to test is look for overlap on all sides

Chantal: ツ Deep

Patio: if you fly to the east do you ever come in from the west to the same place?

Tooyaa: would act the same as a plane

Yan: ahaha

How do you prove?

Dae: ignoring teleports that is a good way to test Patio

Yan: At Sunset or Sun rise time, please TP around the SL world and observe sun direction.

Chantal: Really, Yan

Yan: Then you will find SL world shape.

Dae: this is a good thinking activity Yan

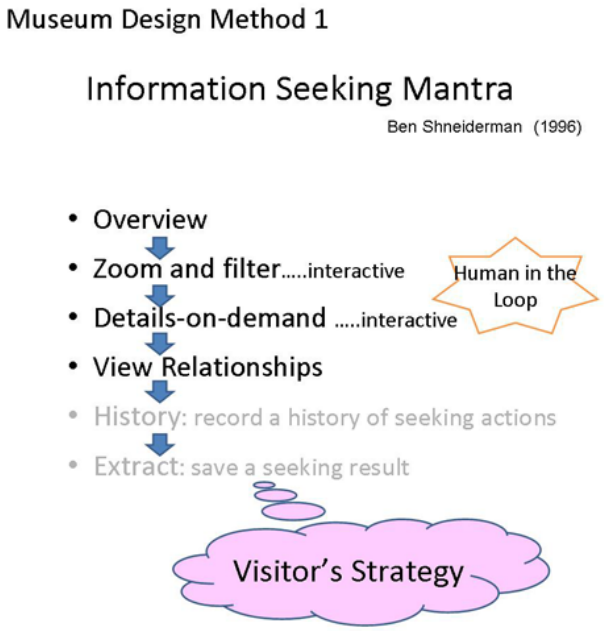
Yan: And please observe starry sky at night.

You'll find moon rise and moon sink, but Star pattern is not move.

Then you will find SL solar system

SL has many possibility to develop student capabilities.

Change the subject, How to make a Museum



Yan: This is "Information Seeking Mantra"

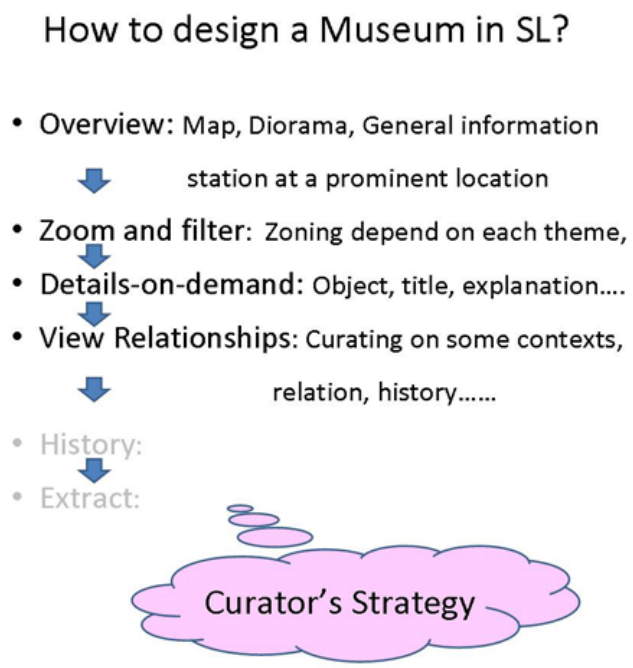
Overview - zoom - view relation…are useful viewpoint

not only for information seeking but also for museum design.

This is Visitor's Strategy,

Then change the viewpoint,

This become Curator's Strategy



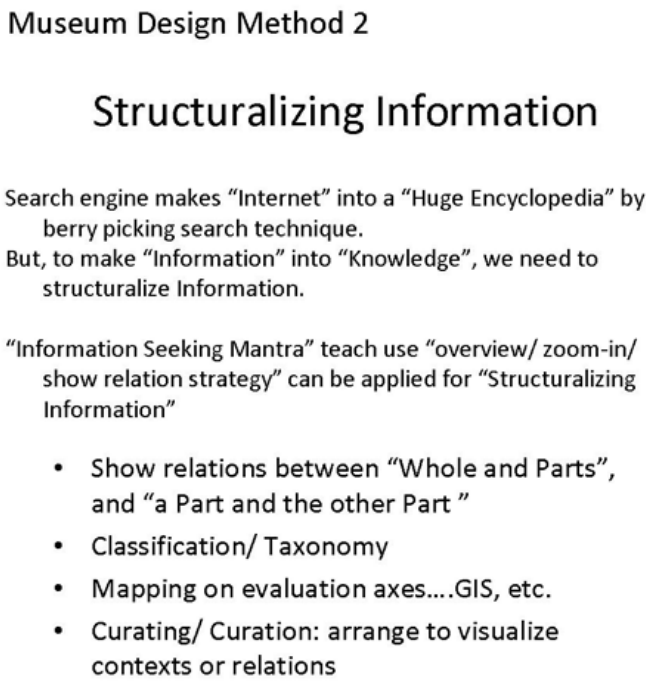
Yan: Overview function is very important for museum

Zoning depend on each theme.

Arrange explanation depend on visitors interest,

Curation: Visualize contents, relation, history,

Curator need to consider these things.



Yan: "Structuralizing Information" is need to make information into knowledge.

Museum Design Method 3

Difficulty to provide Detail Explanation

- **Museum in RL** can arrange displays with detailed explanations seamlessly.

  Visitors **walk around** compartments

  → **overview** whole arrangement of displays in a compartment

  → **zoom into** a favorite display

  → read the Name and Brief Indication

  → finally read **detailed explanation**.

- SL residents don't like taking notecards and URL jump, so, exhibits in SL becomes ineloquent then RL exhibits.
- But nature in RL has no tag and explanation. If a curator arrange contents carefully and narratively, visitors can find relations without language.

Yan: Detail Explanation of Displays are difficult in SL.

In RL, detail explanation is seamlessly provided.

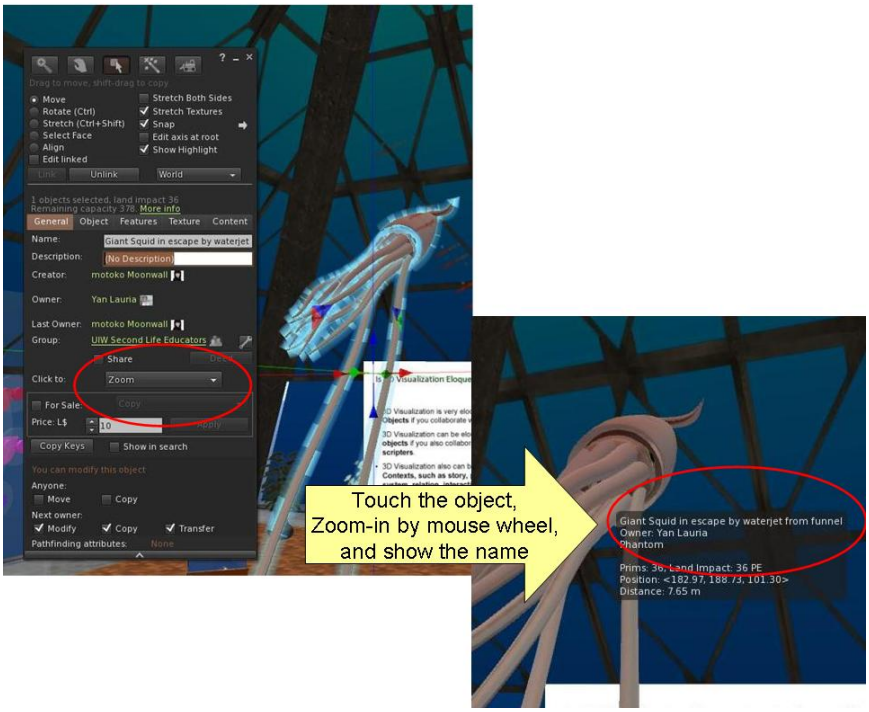
But in SL, residents don't like to take note card and jump to website.

Curator need to arrange contents carefully and narratively

so that visitors can find relations without language.

Museum Design Method 4

Click to "Zoom" setting is useful.



Yan: This is a useful technique.

Please look up to see Giant Squids.

Please touch there tentacles, then automatically zoom up.

Please touch the eye, funnel….then zoom up there.

Ok everyone?

McMillan: ok

Jes: Yes ♡

Dae: yes worked fine

Tooyaa: y

Deep: cool

Yan: You can see the name of objects by holding your mouse on the objects

Tooyaa: that is the Click to : Zoom setting in the Build/Edit?General tab

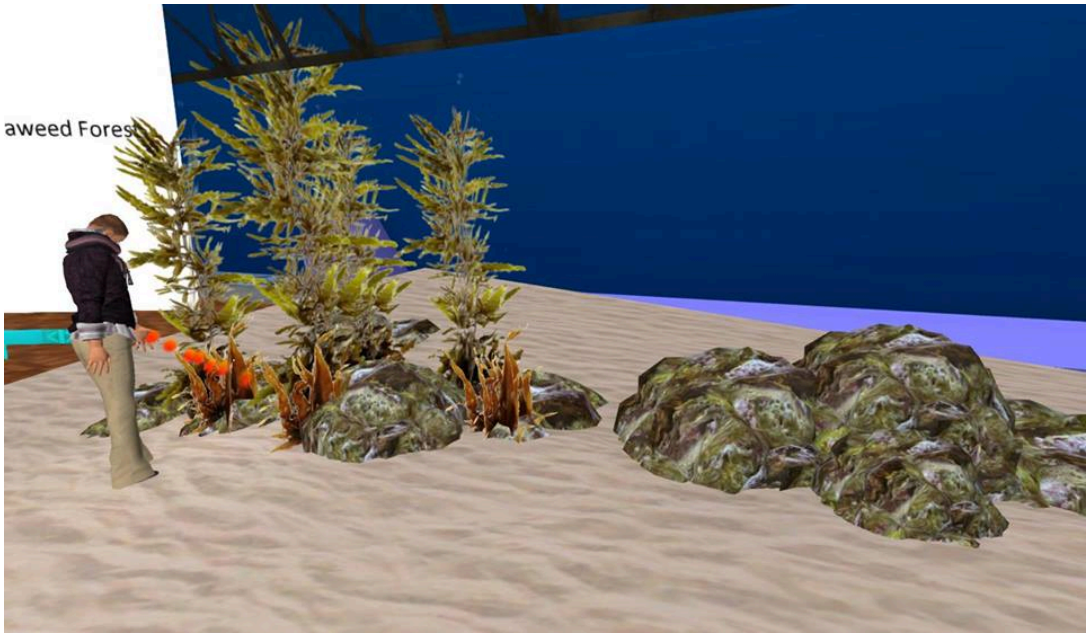
Yan: yes Tooya

Then

Museum Design Method 5

Visualization of relations

How to create Seaweed Forest



Yan: I'll demonstrate to create seaweed forest.

There is sand desert bottom.

Rez a rock,

Copy, resize, rotate.

And Copy, resize, rotate.

Arrange them random

but you can add some order to reflect geological structure.

Then seaweed settles at niche of rocks,

Copy, resize, rotate.

Brown seaweed settles under tall seaweeds.

Yan: Other type of seaweed settles at other rocks.

Patio: I like the bubbles, O2 I presume

Dae: very pretty scene and yes I presume the bubbles are particles that rise up

Tooyaa: Patio is referring to the buoys on that seaweed I think

Yan: They have each territory, so don't mix them randomly.

These techniques are learned from Delia Lake and Kaikou Splash.

Dae: I notice there appears to be a reflection on the rocks is that done by changing the material on the rocks

Yan: Yes Dae

I'm not marine ecologist, so these are made only theoretically,

But some relations are visualized and specialists can criticize, then we can correct.

Dae: also looks like the specularity is changing

anyway it is a good effect. makes you feel you are underwater

Curating examples by motoko Moonwall

- Chaos and Climate Prediction
  - Edward Lorenz found “Butterfly effect” using LGP-30 computer.
  - Lorenz showed “Strange Attractor” by Chaos Waterwheel
  - Such a effort incubate current super computer for weather forcasting and climate change prediction
- Earth and Life Evolution
  - Global warming and Glacial-Interglacial cycle
  - Magma ocean- Snowball Earth- Superplume- Current Earth and Life evolution

Yan: I’ll introduce motoko’s trial for curation.

I learn

so I hope more scientists involvement

Yan: This is Chaos and Climate Prediction

Lorenz found “Butterfly effect” in weather forecasting.

And he showed “Strange Attractor” by Chaos Waterwheel

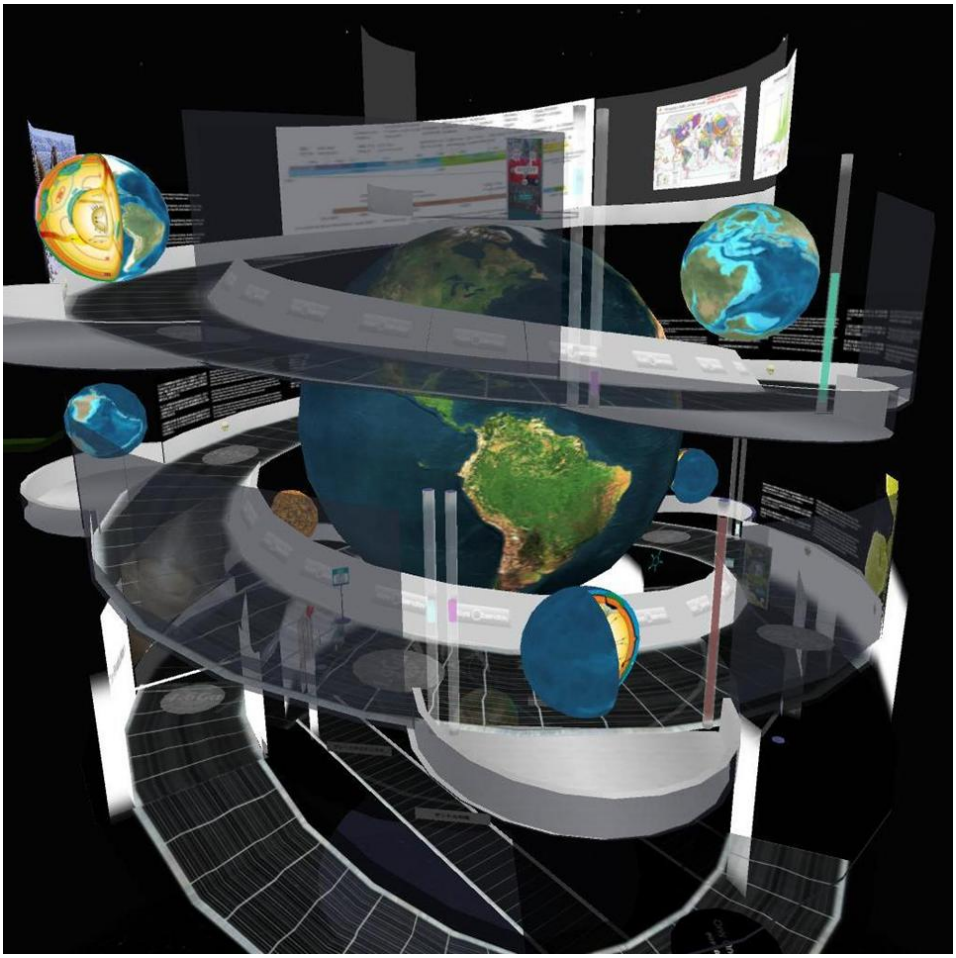
Please look left side.

This is motoko’s Waterwheel

You can see random change of rotation

She is trying to show relation between Lorenz’s research and climate prediction by supercomputer.

motoko: Lorentz waterwhee



Yan: This is other curating trial for Earth and Life Evolution Exhibits.

Spiral walkway is time stream.

Both trials are not complete, but for your reference, please visit there.

You can get LMs from these panels.

To visualize own idea realize
inter/ trans-disciplinary collaboration
by visual communication

- SL provide us object oriented intuitive 3D modeling method which enable us to visualize own idea by ourselves.
- Once we visualize own ideas, SL enable us to collaborate inter-disciplinary and multi-disciplinary beyond distance and time zone difference.

Yan: This is what I want to emphasize.

SL enable us to visualize own idea by ourselves

Once we visualize, we can collaborate inter/ trans-disciplinary

Museum Design Method 6

Navigation and Wayfinding

- 3D environment is too free to move but narrow view angle, so visitors easily lost there way.
- Curators need to distribute displays vertically to reduce reading time of polygons and textures in considering with visitor's various condition.
- Tour ride is difficult where needs vertical teleportation. Then, almost of visitors don't realize sky exhibits. So special consideration is required.
- Curators luck this consideration because he/she knows where contents are.

Collaboration with Shailey Minocha, Christopher Leslie Hardy ,
Open University, UK

Yan: Last theme: Navigation.

Curators incline to underestimate navigation in museum.

Because he/she knows where contents are.

Shailey and Chris, Open Univ, UK are very tenacious evaluator,

And I struggle on navigation of Abyss Observatory with them

Abyss and Open Univ, UK applied following design rules;

- Set **central hub** where visitors can get overview and find their way to destinations at a prominent location. Overview map or diorama is useful.
- Divide viewing route into 4 mini-tours depending on themes and each route is traversable.
- Set enough **guide signs and arrows**: Visitors don't like read notecard and web page. Guide arrow on the floor is useful in 3D environment.
- Named all exhibit locations and indicate the names at the places to know **where visitors arrived at**.
- Set enough teleporters for "Exit to Central Hub".

Yan: These are our design rules.

Central hub at a prominent location

4 mini-tours

Enough guide signs and arrows

Named all exhibit locations

Enough teleporters for Exit

and unified designed information post

etc.

I recommend all curators of science museum to consider navigation!

My presentation is over but let me announce my next presentation.

Announcement of 10th MIWoSE:

Monthly International Workshop on Science Exhibits

- Title: "Multiplayer Unity 3D and Oceanography"
- When?: 22 Feb (Sat), 6 am PST/ 14:00 GMT/ 23:00 (Japan)
- Who?: Dae Miami, Yan Lauria
- Where?: orientation at Abyss Observatory
  http://slurl.com/secondlife/Second%20Earth%203/201/78/1102
  and Multiplayer Unity 3D
  http://www.evwllc.co/Oceansmultiplay2/Oceansmultiplay2
- Detail Info?: Please search "MIWoSE" on internet

Yan: on next Saturday at same time with Dae Miami.

Detail info is here http://aquarobo.com/abyss/MIWoSE.htm

Dae, do you have something to say?

Dae: Sure, thanks for the announcement. We will be showing off a prototype of a multiplayer unity 3d ocean world

I hope you can all come to it

Yan: I hope so^^

Dae: There will be a presentation and then a virtual field trip to find animals and answer ocean questions

Yan: Thank you all!

Tooyaa: thank you

Dae: Thank you Yan for presenting today

Chantal: Thank you Yan ツ

Dae: Good presentation!

Jes: Thank you Yan ツ

Deep: Wonderful presentation

motoko: ぱちぱちぱちぱちぱち

Patio: Thank you that was excellent information and inspiring displays

Patsy: Thanks al lot!

Jes: /me applauds

Yan: thank you all

Laci: Thank you :)

danhayase: ぱちぱちぱちぱちぱちぱちぱちぱちぱちぱちぱちぱちぱちぱちぱちぱちっ！

quaezar: :)

McMillan: thank you so much, well done

Yan: I want to try again falling test^^

Patio: me too

quaezar: Thanks Yan!

Dae: I have to log but it was nice seeing you all

Tooyaa: we could try sitting on objects & compare too

Jes: See you Dae

Patio: see you next week Dae

Jes: I need to go afk, will be back

Yan: bye

Chantal: bye bye

Laci: bye bye

Patio: give the landmark for the teleport again Yan

Yan: http://maps.secondlife.com/secondlife/STEM%20Island/194/229/501

Chantal: Pops over to the SC sim

Yan: I need to reset floor

Jes: back, but TPing, Thank you again Yan ツ

Yan: so if you have time, TP there from now

motoko: オブジェクトに座っていたらいっしょにおちるのでしょうね？

Yan: だね

XEROX01: SIT

motoko: アバターのほうがゆっくりおちるそうだけど

comet: だって、オブジェクトに張り付いたままになるから。座ってると。

Yan: patsy please come to purple floor

motoko: すわったらもうアバターではなくなるのかしら

リンクプリムのひとつなのかな

comet: 身に付けていると、アバターの速度で、座ってると、オブジェクトの速さで？

Yan: then are you ready?

McMillan: ready

Patio: ready

Yan: 3

2

1

quaezar: :)

motoko: 旗のほうがわたしより早く落ちていったわ

McMillan: we were stuck on the floor

Yan: how about?

Patio: the objects fell faster

comet: ゼロックスさん、何か遅れることをしました？

旗は、不安定だった。

ゼロックスさん、オブジェに乗ってたんじゃないかな。

Patio: and the flag seemed to drift sideways

motoko: 落ちるときは乗っていなかったかな

comet: 載ってると、落ちるのに、ワンテンポ遅れる。

Yan: I hope SL physics become more pricize

quaezar: In time it will..

Yan: So thank you everyone

Patio: be careful what you wish for, every time they try to upgrade physics it breaks more things than it helps

Yan: time to go to bath and sleep

quaezar: Thank you and Mokoto as well :)

motoko: thank you, Yan!

quaezar: Sleep well :)

Patio: Thank you all

quaezar: You all have a nice weekend!

Yan: ahaha

LL break wind field

Patio: I loved every build you showed us today, well done.

motoko: Have a good dream :)

Yan: and break fluttering motion in wind

quaezar: :)

Patio: and Hi quaezar

Yan: yw

motoko: おやすみなさい＾＾

Patio: good night/morning to you all I am off to breakfast

Yan: good night all

XEROX01: おやすみなさい

comet: good night

Yan: have a nice breakfast

byebye