

Participatory Science & Live Collaboration in the 3D Internet

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Real Life

Second Life

The **3D Internet** ("Second Life", OpenSim) is a shared 3D online space, where users – as graphical "avatars" – can meet, communicate, experiment, and collaborate naturally.

3D Internet become "Thrust Area" at SC'09 (Portland, OR, USA)

Live Collaboration

data sharing
>>
experience sharing

Environmental Study



Agriculture

live image
Okay, I will decrease the water supply
humidity
temp
Looking at temperature and humidity records, I think you over-water the plants
wisdom sharing across 'borders' (age, skill level, country)

Astrophysics

Globular star cluster
I think it was a 4-body interaction
Or, two single stars meeting a double-star simultaneously
collaborative exploration, discovery, and understanding
Interactive labeling of star by color

Molecular Science



GLOBAL LAB

Education



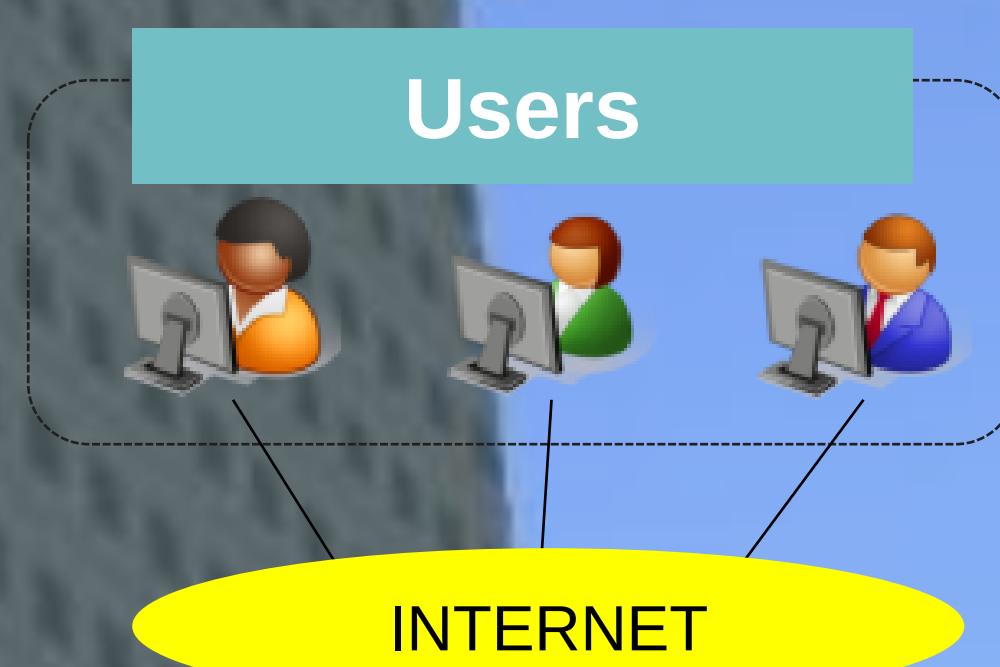
24/7 live experience of research and discussion

Let's collaborate



with emotion!

Users



INTERNET

3D Internet Servers & Technologies



Platform for **Participatory Science**: not only experts, but also general public can easily contribute to scientific discovery and innovation (=democratization of e-Science)

Bridges the gap between large-scale data and users.

INTERNET

SINET3

SINET3

INTERNET



• Video
• Temp
• Humidity
• CO2
• ...

Sensor / video data

NAREGI Middleware



Star cluster evolution

Cray XT4



国立天文台
NAOJ

Galaxy formation

Simulation data



NII Website

• Poster
• Abstract

Web data

NII

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