BFI Launches Major Web Site Upgrade
Get ready for a whole new way to experience BFI online!

In our Spring 2003 issue of Trimtab, we described two exciting initiatives that fulfill the specific purpose of:

- providing comprehensive information about Bucky’s pioneering work to inspire a new generation of Comprehensive Designers
- attracting and serving a network of design innovators at the forefront of whole systems design.

As both initiatives—The Internet Portal to Buckminster Fuller and The Comprehensive Design Network—use bfi.org as their core infrastructure, a major overhaul of BFI’s online presence is critical to their success.

The response by members to our fundraising efforts, combined with the receipt of a major donation, is now enabling us to radically transform our web presence. Our membership will soon have the opportunity to connect and be a dynamic resource for each other.

While the Portal to Buckminster Fuller concept may perhaps be the major destination point within the site’s new architecture, bfi.org 4.0 will be redesigned around an online community model. In addition to free access areas of the site, exclusive “member areas” will allow communication among and content generation by members.

Thanks to the inspiration and commitment of BFI member and network architect Don Guarnieri (see page 3), the initial steps towards the bfi.org overhaul are underway. The schedule for these exciting changes has already been laid out. Our plan is to have a new site with network and communication tools, “members area” and an enhanced store.

The goal of the re-design is to create a web application that can:

- offer community features including:
  - collaboration tools
  - live chat
  - forum
  - instant message
  - voting
  - weblogs
  - distributed editorial
  - automated content publishing

- host a moderated link list
- eventually offer collaborative design tools
- become an interactive information service with user-contributed content
- provide user feedback
- feature a new online store, re-designed for improved usability and expanded product range.

nano
An innovative exhibit intersecting the worlds of art and science is now on view at the Los Angeles County Museum of Art’s (LACMA) Boone Children’s Gallery.

nano was born out of the collaboration of two UCLA professors—media and net artist Victoria Vesna (see also Meet The Comprehensive Design Network page 4) and nanoscience pioneer James Gimzewski. It is a ground-breaking project, which presents young and old alike the world of nanoscience through a participatory aesthetic experience. Covering 10,000 square feet of exhibit space, the various components of nano are designed to immerse the visitor in the radical shifts of scale and sensory modes that characterize nanoscience, which works on the scale of a billionth of a meter.

nano is comprised of nine installations that present different angles of approaching nanoscience, from quantum secrets of electron wavefunctions to the technology used to access the secrets of the atomic realm, to the social and cultural ramifications and expectations of this pioneering science.

“It is truly remarkable. I walked around with my mouth open, I learned, I had fun, and I watched people of all ages doing the same.”

-Neal Katz, BFI Board member

In the central area of the exhibition, visitors enter the large Inner Cell, where they interact with molecular forms through their hands and feet, as well as through their eyes and ears. With just their shadows, they are able to manipulate and reshape large-scale projected images of a “buckyball,” or...
IN FULLER’S WORDS

Buckminster Fuller on Integrity

Jaime Snyder: How would you, right now in your life, define integrity?

Fuller: I find that I have to use the word courage, due to the circumstances of humanity. The courage to cooperate or initiate are based entirely on the truth, the whole truth, and nothing but the truth as the divine mind within you tells you the truth is. It really does require courage and self-disciplining to go along with that truth. That’s the way I define it.

Jaime Snyder: A lot of what we are asking is: “What do we do?” “What do we need to do to have an impact on bringing about the realization of a successful world?”

Fuller: Darling, I say I never try to tell anybody else what to do, number one. Number two, I think that’s what the individual is all about. Each one of us has something to contribute. This really depends on each one doing their own thinking, but not following any kind of rule that I can give out, any command.

We’re all on the frontier, we’re all in a great mystery—incredibly mysterious. Each one possesses exactly what each one is working out, and what each one works out relates to their particular set of circumstances of any one day, or any one place around the world. […] So I have to say, I think that we are in some kind of final examination as to whether human beings now, with this capability to acquire information and to communicate, whether we’re really qualified to take on the responsibility we’re designed to be entrusted with. And this is not a matter of an examination of the types of governments, nothing to do with politics, nothing to do with economic systems. It has to do with the individual. Does the individual really have the courage to go along with the truth? […] Are you going to be swayed by the crowd? Are you going to be scared about your job, or whatever it may be?

That’s what I think about integrity. Integrity of the individual is what we’re being judged for and if we are not passing that examination, if we don’t really have the guts, we’ll blow ourselves up. It will be all over. I think it’s all the difference in the world.

When I was born, humanity was 95 percent illiterate. Since I’ve been born, the population has doubled and the population is now 65 percent literate. That’s a gain of 130-fold of the literacy. When humanity is primarily illiterate, it needs leaders to understand and get the information and deal with it. When we are at the point where the majority of humans themselves are literate, able to get the information, we’re in an entirely new relationship with Universe. We are at the point where the integrity of the individual counts and not what the political leadership or the religious leadership says to do.

It’s a matter now of humanity getting to the point where it’s now qualifying to make some of its own decisions in relation to its own information. That’s why we’ve come to a new moment of integrity.

This segment is transcribed from Only Integrity Is Going To Count, a recording of an all-day lecture entitled Integrity Day given by Fuller in 1983. The 3 volume video set and the new 5 CD set audio recording are available for purchase from our online store by visiting www.bfi.org or calling us at (707) 824 2242.
New Geo-Stories Added

Journey of the Falcons
As reported in the Winter 2003 issue of Trimtab, the EARTHscope (ES) team completed our first interactive EARTHscope “Kiosk” (ESK). The presentation was created in collaboration with Earthspan—pioneers in satellite tracking and bird migration research—and produced by Chromatrope design studio (www.chromatrope.com). The Kiosk is on display at Virginia’s Assateague Island Chincoteague National Wildlife Refuge, which hosts over 1.7 million visitors annually.

The animated presentation traces the migration paths of four peregrine falcons. It shows the remarkable distance and pace of their journey to South America for the winter, and their return to arctic breeding/nesting grounds in the spring.

How to see it: Go to www.EARTHscope.com and click “launch EARTHscope Library,” then choose the Earthspan Logo to launch the presentation. Or visit Earthspan’s website at www.earthspan.org/CNWR.htm.

LoMap: Youth Map of Lower Manhattan

Our LoMap demo has been transformed into a full-fledged geo-story! Many thanks to Chromatrope and the rest of the EARTHscope team (including Trimtab editor Deborah Grace as content co-producer).

LoMap is a kid’s-eye view of Lower Manhattan, showing important community and natural sites through the words and illustrations of young people who live there. 250 youth of all ages from nearly 20 schools and clubs nominated, drew and described wonderful natural and cultural places they want to celebrate and raise awareness about!

Some cool features developed for the LoMap geo-story—now part of the standard ES engine—include:

- Map Pop-ups – Click on map icons for pop-up explanations of important sites
- “jump to:” Navigation – Shortcut menu automatically pans and zooms the map to specific neighborhoods or other locations
- Video – Updated Media window includes QuickTime video clips, student art gallery, and slide show with audio narration
- Expanded Map Key – activates over a dozen map layers, with controls for showing longer legends

How to see it: Go to www.EARTHscope.com and click on “launch EARTHscope Library,” then choose the LoMap Logo to launch the presentation.

ES R&D: Internet Map Service
We are delighted to report that the ES team has successfully integrated Internet Map Service (IMS) technology with basic GIS (Geographic Information System) functionality into EARTHscope’s Flash platform. This new step is a result of the talented efforts of Phillip Mielke (GIS developer for the EARTHscope team), with the support of Robert Flores at ESRI (world leaders in GIS).

IMS integration allows the EARTHscope to include online GIS maps from all over the world. Geo-referenced data sets can be displayed in a variety of formats—including the Fuller Projection. At each level of zoom, from global to local, IMS technology redraws the map to match the resolution of available data. An ES/IMS demo featuring the world’s most accurate global population data set is in the works. Stay tuned!

Web Site Upgrade
(continued from page 1)
by July of this year. We are going to make every attempt to use open source software and fully upgrade the site’s content index and search features as well.

We look forward to previewing the new look and feel in the spring, and previews of the first interactive areas will follow shortly thereafter. We are aiming high and hope to have the new site and store ready in time for the U.S. Postal Service release of the R. Buckminster Fuller postage stamp (see page 8) this summer! STAY TUNED!!!

Donald Guarnieri – Network Architect, BFI.org

This is an auspicious time for the Buckminster Fuller Institute. After neglecting my interest in Fuller’s work for several years, I became a member of the Institute in the summer of 2003. I had gone to see the play The History and Mystery of the Universe at the Project Artaud Theater in San Francisco and it motivated me to apply my skills to support the Institute. I contacted the staff about getting more involved.

I dusted off my copies of Synergetics Vol. 1 and 2 and began to speculate about the possibilities. After several conversations with the staff, meetings with board members and consultants, and attendance at BFI’s Los Angeles networking event, it was time to act. One of the Institute’s main tools for outreach and education is the web site—one of my fields of expertise. My proposal and timeline for the web upgrade were well received by the Institute’s Executive Committee and Board, and now the project is underway!

It is an exciting time and I am thrilled to be part of it. Wish us luck and feel free to send any thoughts to webmaster@bfi.org.

Donald Guarnieri has worked as a technical consultant/manager in various information technology-related businesses since 1984. He has written two books on local area networks and holds a BFA from the Kansas City Art Institute.
Future Echoes of Bucky

by Victoria Vesna

Buckminster Fuller’s spirit first walked into my life ten years ago, although I had been aware of his work for many years previously. I had given a talk on creativity and education at UC Santa Barbara, and at the end of my lecture, a beautiful older lady came up to me and introduced herself, telling me that her father had very similar ideas about education. A few days later, I received a book, Education Automation, from Allegra Fuller Snyder, and only then realized the connection. I felt deeply honored. She opened the doors of the Buckminster Archive to me, and I spent many hours burrowing through the files of “Guinea Pig B,” discovering multiple facets of the man so often associated only with the geodesic dome.

At that time, even though I was already a tenured professor, I decided to pursue a PhD in a new interactive arts program led by Roy Ascott, visionary and pioneer in telematic arts. My interest was centered in how social networks are amplified with communication technology and the impact this amplification has on our planetary existence. As I began my research, I was very quickly confronted with the problem of how to handle vast amounts of information on the worldwide Web. My thinking about networks expanded beyond technological networks like the Internet to social, cellular, molecular networks. I realized that Fuller’s thinking prefigured the issues I was addressing, and Bucky became an inspiring mentor-in-absencia for me. The title of my thesis became: Networked Triadic Spaces: Buckminster Fuller and the Construction of the Information Personae.

I became particularly fascinated by Bucky’s philosophical backbone and his deep, spiritual interest and awe at how nature works. I saw Bucky as a “network artist” working in the analog age—a predecessor to artists today who span many disciplines and cannot be easily categorized.

It became clear to me that Fuller’s work has had profound influence on numerous artists and philosophers who laid the foundation for conceptual and theoretical issues of importance to contemporary art and technology. For instance, Fuller’s uncompleted Geoscope project could easily be seen as a predecessor of telematic art and even CNN. It was conceived at the same time that satellite technology was being launched and ARPANET initiated the beginning of the networked age, or global village. Fuller’s idea of the “Phantom Captain” as articulated in 1938, could easily be transposed to the contemporary idea of a cyborg.

The central question of my thesis shifted to asking whether these systems that Bucky employed in architecture could be applied in virtual worlds. I began exploring networks beyond the Internet, including information architectures that encompass our own bodies, our social structures and communities, all the way to the molecular and cellular systems. Donald Ingber’s research in how tensegrity plays a role in the architecture of life particularly inspired me and catalyzed my design of an online artwork called “notime.”

Initially, I thought of structuring my dissertation narrative by following technological developments in relation to Bucky’s life and ending in 1984. But I soon realized that the story continued with the discovery of the c60 molecule the following year by scientists Smalley and Kroto, who named the molecule the “buckminsterfullerene.” This led me to discover more about the emerging world of nanotechnology, which was clearly a terrain for envisioning the future, a space I like to occupy.

In 2001, I co-organized a conference, From Networks to Nanosystems, and led the panel on nanotechnology and culture. It was important for me to have a scientist in the discussion, and my colleague Maroon Tabbal pointed me to James Gimzewski, a new faculty member who had just recently moved from the IBM lab in Zurich to UCLA. Gimzewski’s participation was truly inspiring to the artists and humanists who were present.

Ever since, Gimzewski and I have been in active dialogue, collaborating on a number of art/science works that help further the creation of a “third culture.” C.P. Snow had articulated the “Two Culture” divide, and Fuller was in contact with him and worked consciously to bridge this gap and help create a third culture.

The most recent project, nano (see nano page 1), is imbued with Bucky’s spirit on all levels, from the collaborative process among media artists and nano scientists, to the architecture created by architects at Johnston Marklee. We created a synergistic environment where art, science, architecture, museum and academia meet, and where adults and children alike explore the dynamic forms of nature—future echoes of Bucky’s work.

Dr. Victoria Vesna is an artist, professor and chair of the department of Design | Media Arts at the UCLA School of the Arts. Her work can be defined as experimental research that resides in between disciplines and technologies. She explores how communication technologies affect collective behavior and how perceptions of identity shift in relation to scientific innovation. View her projects at http://vv.arts.ucla.edu

Resources
PhD program in Interactive Arts - www.planetary-collegium.net/
Networks to Nanosystems - www.ucdarnet.org/projects/netwrk.htm
www.calit2.net/events/2001/11-8_N2N.html
Nano Exhibit - http://nano.arts.ucla.edu and www.bfi.org/nano.html
My relationship with Buckminster Fuller began when I encountered one of his exquisite artifacts, the sky-break bubble dome located at the Expo 67 site in Montreal, Canada. Three years later I met Bucky in person, on my 21st birthday. Ever since, his life and work have been a guiding inspiration for me.

More than ever before, Fuller’s ideas are timely and needed. From Synergetics to the World Game, Bucky’s legacy contains tangible tools and strategies for “making humanity a success.” Fuller’s work serves as a bountiful source of wisdom that brings clarity and reveals pathways for action. Inspired by Bucky and his vision of possibility, I formed the WorldLink organization in 1986 to develop and produce “dramatic educational tools,” a term that Fuller introduced in the 1960’s. Following are two examples from WorldLink’s current initiatives.

Interactive Earth

In the early 1990’s, I met Jim Knighton, a computer scientist at the Jet Propulsion Laboratory in Pasadena, California. Jim, who had worked with Bucky, showed me a cloud-free, digital mosaic image of Earth that he had assembled from satellite observations. It was a beautiful and powerful image of our home planet. Soon, I begin to envision an interactive multimedia tool that would allow people to explore Earth systems and world resources. One of our inspirations was Bucky’s invention of the Geoscope, a large-scale, three-dimensional sphere for displaying such patterns as “changing geology, population growth, and resource transpositioning.” We wanted to create a desktop Geoscope and world gaming tool.

From this original vision, WorldLink developed a multimedia CD-ROM and curriculum entitled Interactive Earth. Released in 1997, the CD-ROM re-maps the world with more than 1,000 satellite and space shuttle images. Within a few years of its release, Interactive Earth was being used in 5,000 schools around the nation.

In 2003, the National Science Foundation awarded WorldLink a grant to develop the next generation of Interactive Earth. This educational package will feature a DVD-ROM, a companion web site with regular global data updates from NASA and the World Resources Institute, and a secondary school curriculum focused on Earth systems science. As part of the new version, we plan to incorporate the Fuller Map projection as one option for displaying global data.

Power Shift

In 2002, WorldLink received a grant from the state of California to produce a half-hour television program and companion web site on the issue of energy and sustainability. When we embarked on the project, I was reminded of Bucky’s words that “there is no energy crisis, only a crisis of ignorance.” As I began to speak with students and teachers about the energy issue, I discovered that very few people were in fact “energy literate.” What seemed to be lacking was a comprehensive, anticipatory perspective on the issue.

Motivated by this need, WorldLink developed a television program entitled Power Shift: Energy + Sustainability. Providing vital context, the program touches on renewable energy, energy efficiency, climate change, green buildings, and hybrid and fuel cell cars. The program also weaves in Fuller’s concepts for “autonomous dwellings” and a global energy grid. Power Shift is scheduled to air nationally on PBS on Earth Day 2004, April 22 (check local listings for times). A web site, www.powershiftnow.org, will debut at the same time.

One of my favorite Fuller texts is Education Automation, the transcript of a presentation that Bucky gave in April 1961 at Southern Illinois University. In his far-ranging and visionary comments, Fuller remarked to his audience: “Education is going to be number one amongst the great world industries.” With that being said, there is much work to be done.

Kirk Bergstrom is the President of WorldLink, a media and education group based in San Francisco. He is a documentary film-maker, multimedia designer and curriculum designer and a guest presenter in BFI’s New College course. He can be reached at kirk@worldlinkfoundation.org.
**Spirit into Matter**

*by Foster Gamble*

I was captivated by the depth of insight in *Synergetics* for two decades. I read it over and over, even on vacations, with a fascination that seemed to make little sense, even to me. I was similarly passionate about the visionary science of Arthur Young and Walter Russell.

Then, five years ago, the pieces began fitting exquisitely together, and in 1998, I co-convened the Sequoia Symposium to learn from and to share my integrative insights with other unification researchers from traditional sciences as well as psychology, mysticism, and paranormal experience.

Over the next three years, the vector equilibrium structure and the torus flow dynamic meshed beautifully in a way that I saw verified as fundamental to virtually all visible levels of perception—from molecules and cells, to human bodies and energy fields, and even at the level of stellar and galactic systems. When a team of Italian astronomers finished a ten-year study showing that galaxies in the “Great Wall” were clustered in a pattern similar to his geodesic inventions. Another visual media experiences I have never encountered before that are both amazing and challenging. While the exhibition seeks to provide a greater understanding of how art, science, culture and technology influence each other. Modular, experiential spaces using embedded computing technologies engage all of the senses to provoke a broader understanding of nanoscience and its cultural ramifications. Participants can feel what it is like to manipulate atoms one by one and experience nano-scale structures by engaging in art-making activities.

The exhibition, a collaboration between LACMA, a multidisciplinary think tank exploring *Unified Field Theory*. He is currently Chairman of OmniCenter, developing a “media compass for sustainable evolution.”

This film will be born out of an intergenerational exchange wherein proven “whole systems” mentors will explore this energy dynamic, its ramifications and applications, with young leaders from throughout the world who are committed to forging a sustainable path for life on Earth. Together, they will spend three weeks on retreat, applying insights from this fundamental energy patterning to reveal and integrate sustainable options in every area of human endeavor.

The film and ongoing series will be widely distributed via the global information system—broadcast, Internet, DVD and publications. It will refer interested viewers to a comprehensive website cataloging follow-on training opportunities in each area of interest. The system is intended to provide a practical path for interior development and for applying integral awareness to navigate a thriving response to our current planetary predicament.

**Resources**

http://nano.arts.ucla.edu

As we go to print, a special event, Buckminster Fuller @ LACMA Lab and UCLA team of nanoscience, media arts, and humanities experts, is free to the public and runs through September 6, 2004.

**Meet the Comprehensive Design Network**

**nano** (continued from page 1)

buckminsterfullerene, the carbon 60 molecule named in honor of Buckminster Fuller for its likeness to his geodesic inventions. Another encounter includes audience controlled robotic balls, or “atoms,” that roam the space and project high-pitched sounds, emulating the physical actions of cells.

Further along, visitors are invited to “draw” in space, using a cutting-edge computer design program and tool that translates physical movements into virtual 3-D images. The natural world and digital display merge in this exploration of crystallography, creating a shared space where viewers experience physical properties beyond traditional visual means.

To reinforce the understanding of the nano scale, one installation connects to the process of the recent creation of a sand mandala at

**LACMA**, from a nano-scale view of a grain of sand to the completed eight-foot mandala (a cosmic diagram and ritualistic symbol of the universe, used in Buddhism and Hinduism).

The exhibition seeks to provide a greater understanding of how art, science, culture and technology influence each other. Modular, experiential spaces using embedded computing technologies engage all of the senses to provoke a broader understanding of nanoscience and its cultural ramifications. Participants can feel what it is like to manipulate atoms one by one and experience nano-scale structures by engaging in art-making activities.

The exhibition, a collaboration between LACMA Lab and UCLA team of nanoscience, media arts, and humanities experts, is free to the public and runs through September 6, 2004.

**Resources**

http://nano.arts.ucla.edu

As we go to print, a special event, Buckminster Fuller @ LACMA Lab, is being organized for March 21st, 2004. Presently by the Los Angeles County Museum of Art, UCLAs Department of Design/Media Arts and BFI, the event will feature tours and presentations related to nano, Fuller and Design Science. Visit www.bfi.org/nano.html.
BFI Launches Course at New College of California

Buckminster Fuller’s Problem Solving Methodology: Designing a World that Works for Everyone

For the first time in several years, BFI is offering an accredited college course. The three unit undergraduate elective, offered at the New College of California, Santa Rosa campus, is an introductory course on Fuller’s problem solving methodology known as Comprehensive Anticipatory Design Science. It addresses a variety of questions including: How did Fuller address global problems? What can we learn from his principles and design process that can inform our work today? How can we become more effective designers and change agents for a sustainable world?

Over the course of eight class sessions, students explore the thinking and principles of Buckminster Fuller and his contributions to the modern movement of sustainability. Applying the Comprehensive Anticipatory Design Science approach, they develop an actionable solution to a problem they have defined.

BFI’s Board Challenge Grant a Resounding Success!

We exceeded our goal by $25,974 and raised $45,974! Combined with the Board’s initial Challenge of $20,000 our campaign totaled: $65,974.

Thank you to all who responded to the call to meet the Board’s Challenge. You did it!

We are extremely inspired by the outpouring of support—it clearly demonstrates to us the dramatic potential they have defined. Look for invitations to participate and support this project in the future!

Together we can make a real difference and catalyze awareness and action toward humanity’s option for success!

Thank you for your support!

Become a BFI Member and receive:

- One year subscription to our newsletter, Trimtab
- 10% off all products
- Free gift for all memberships of $30 or more (see below)

- $30 Fuller Projection Satellite Fold-up Globe.
- $50 Guine Pig ‘B’, by Buckminster Fuller.
- $100 Organic Cotton Spaceship Earth Crewmember t-shirt. Size [ ] Small [ ] Medium [ ] Large [ ] X-Lg
- $250 Your Private Sky, Discourse, previously unpublished work and key text by Fuller not easily available elsewhere.
- $500 All of the above

- Thanks, but no need to send my gift!

The highly interactive course is facilitated by sustainability entrepreneur Christopher Peck, and each class hosts a guest presenter familiar with Fuller’s work and thought. Guest presenters include: Jay Baldwin, Buckminster Fuller artifact and Design Science icon. Kirk Bergstrom, founder, WorldLink Media; mastermind and chief designer of the award-winning Interactive Earth educational program. Bonnie DeVraco, 3-D immersive education expert and former Fuller Archivist. Katherine Chargin, former Dymaxion Laboratory trainer and course developer for BFI, technical writer and editor. Rick Kirschner, motivational speaker “The Art of Change.” Thanks to Lauren Darges who spearheaded this project!

Find out more about the class at: www.bfi.org/methodologyClass.html

Buckminster Fuller Institute

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Bucky Stamp Release!

Spreading Fuller Awareness One Letter at a Time

On July 12th, 2004, Fuller’s 109th birthday, the U.S. Postal Service is releasing a commemorative Buckminster Fuller Stamp! 2004 was chosen as the year to release the stamp as it marks the 50th anniversary of Fuller’s patent for the geodesic dome. The image by artist Boris Artzybasheff originally appeared on the cover of TIME magazine on January 10th, 1964.

Plans are underway for a first day of issue celebration in Palo Alto, California at Stanford University, home of the Buckminster Fuller Archive. First day of issue ceremonies are generally free and open to the public. These colorful and often inspiring events highlight the subject matter featured on the stamp design. Additional celebrations, scheduled for July 13th (second day of issue), are in the works for Bear Island, Maine, Carbondale, Illinois and St. Louis, Missouri. We encourage you to plan your own second day issue celebration at your local post office! Let us know and we will post the event announcement on our web site and alert other Institute members and friends!

Details for the Stanford University first day of issue event will be also posted on our web site and highlighted in our monthly BFI_News e-bulletin as they become available, so stay tuned!

We plan to produce a special series of first day of issue commemorative products, which we will make available to our members in July. Check the web site for product release dates!

Special thanks go out to BFI Board member Thomas Zung, who spearheaded this effort for a commemorative USPS stamp in honor of Bucky!

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Stay connected by signing up for our free monthly BFI_News e-bulletin at www.bfi.org

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