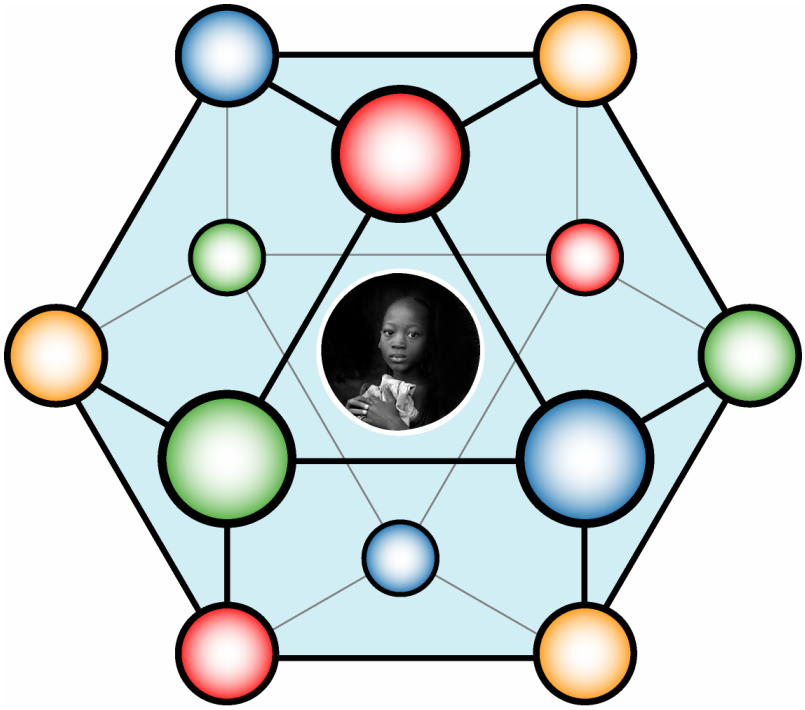
KISHA'S VILLAGE



IT TAKES A VECTOR

The Buckminster Fuller Challenge

Mark Anthony Loparco

Introduction: "Excluded and Invisible"

In "The State of the World's Children 2006," Unicef describes a world in which millions of children are living precariously close to – and often tragically beyond – the edge of survival:

> Millions of children make their way through life impoverished, abandoned, uneducated, malnourished, discriminated against, neglected and vulnerable. For them, life is a daily struggle to survive... Excluded from essential services such as hospitals and schools, lacking the protection of family and community, often at risk of exploitation and abuse.

"Excluded and Invisible," these children are all but forgotten by an indifferent and often hostile world:

> At the extremes, children can become invisible, in effect disappearing from view within their families, communities and societies and to governments, donors, civil society, the media, the private sector and even other children. For millions of children, the main cause of their invisibility is their right to protection.

This "right to protection" is much repeated throughout the UN's "Convention on the Rights of the Child" and "Universal Declaration of Human Rights," landmark documents that codified the fundamental birthrights shared by all human beings. Unicef describes several factors that violate these rights and imperil the lives of millions of innocents:

> The lack or loss of formal identification; inadequate State protection for children without parental care; the exploitation of children through trafficking and forced labor; and premature entry of children into adult roles such as marriage, hazardous labor and combat.

The eight Millennium Development Goals (MDGs) were established in 2000 to raise the standard of living for the world's poor, particularly its women and children. However, invisibility and exclusion threaten many of the MDGs themselves, especially those related to hunger, poverty, primary education and child mortality.

And yet, despite it all, a glimmer of a solution peeks through:

> **Making children visible requires creating a protective environment for them.**

Creating a "protective environment" for children is what this proposal is all about.

Project Goal: Create a "Protective Environment" for Children

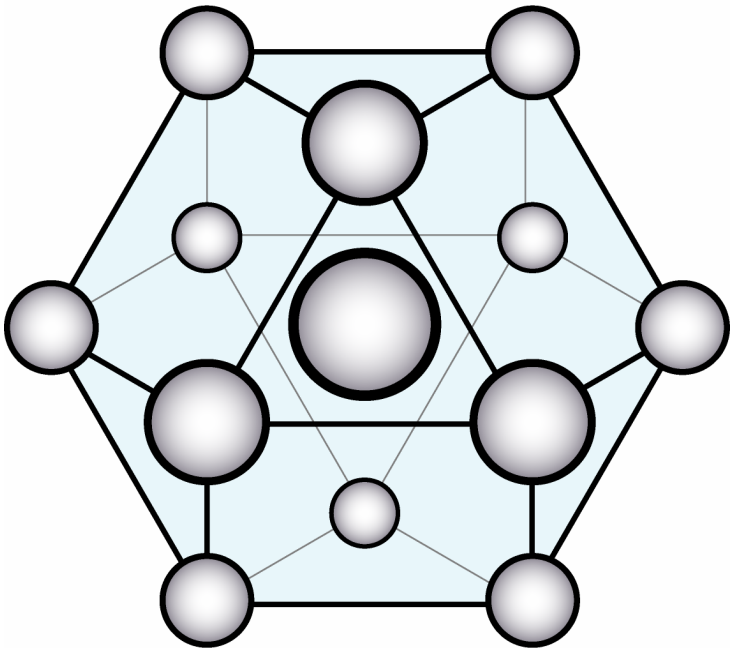
Creating meaningful environments – both physical and metaphysical – was one of Buckminster Fuller's greatest contributions and gifts. By "seeking to change the environment and not the man," Bucky engaged in a prolific lifelong quest to improve the world through the creation of environment-enhancing artifacts.

In creating a "protective environment" for children, we here propose not a physical environment but a metaphysical one – a "virtual village" whose members are distributed both locally and around the globe, connected by wireless networks and collaborating on a deep and meaningful level. This protective environment is child-centric, embracing and surrounding the child not with physical walls but with a network of supportive people, resources and information. This protective environment seeks to provide safety in an unsafe world, structure in an unstructured life, and an inclusion and visibility that validates the child's very existence and worth.

To create such an environment takes the dedication of many people, both young and old, near and far. It takes an advanced – and accessible – technology that reaches to the remotest parts of the Earth. It takes a dynamic supporting structure with the capacity for rapid replication based on mathematic principles. And most of all, **IT TAKES A VECTOR.**

"Our Friend the Vector Equilibrium"

The Vector Equilibrium (VE) holds a particularly powerful place in the Buckminster Fuller story and philosophy. As anyone who has "jitterbugged" with children can attest, "our friend" the VE has some truly enchanting properties: It collapses and springs back to life due to an unceasing dynamic potential (an apt metaphor for the human condition itself); it is omni-directional, non-hierarchical and completely democratic (not unlike Stafford Beer's icosahedric "Syntegrations"); it represents the fundamental building block of three-dimensional space ("closest packing" per Synergetics). And above all, for our purposes, it provides the ideal structural framework for building a tightly interconnected and networked protective environment for children:

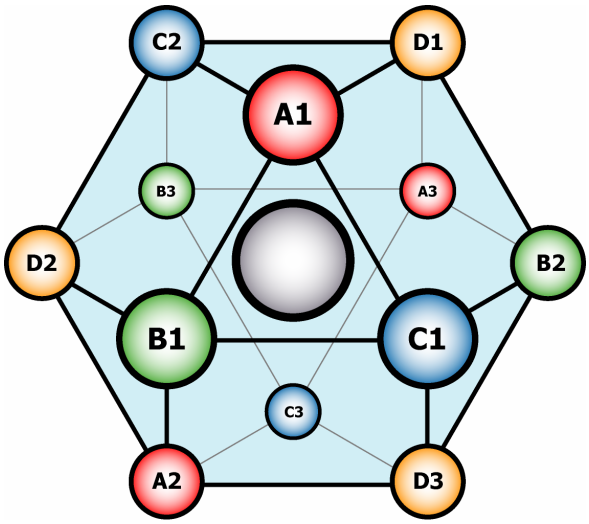


The VE in its initial "expanded" state

In its "initial" state, the VE has twelve nodes that surround a nuclear center, creating in effect a "protective environment" around that center. Now imagine that the twelve nodes are **people**, with the center node a child (e.g., "Kisha") imperiled by exclusion and invisibility. These twelve people form Kisha's "virtual village," a group of caring and connected individuals chartered with bringing Kisha back from the brink of oblivion.

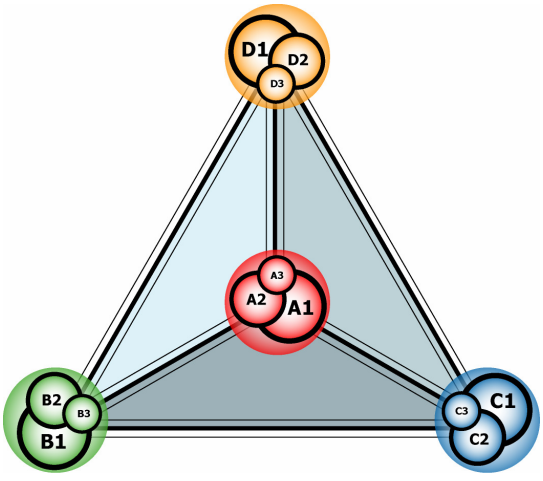
Kisha's Village - Composition

Taking a closer look at the composition of Kisha's Village, this time with labels and colors to denote the village's various sub-groups and members, we notice some patterns:



Embracing

The twelve nodes may be divided into four sub-groups of three, with each threesome residing on a common intersecting hexagon. These nodes coalesce most strikingly in the "collapsed" form of the VE – i.e., the Tetrahedron:



Strategizing

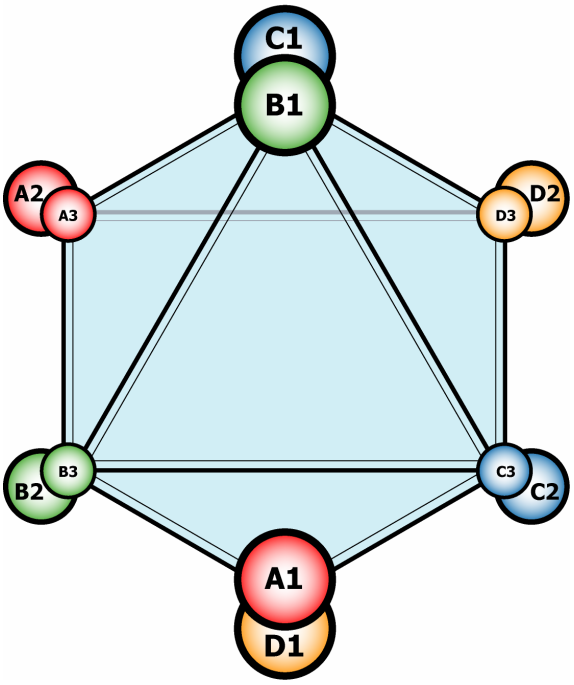
The composition of the sub-groups forms the heart of the design, with each sub-group containing exactly one child. As evidenced by the UN's successful "Child-to-Child Survey" that reintegrated many of the 120 million school-age children not attending school, children play an absolutely crucial role in the peer reintegration process. The VE accommodates and celebrates the central role of the child.

Kisha's Village - Collaboration and Configuration

Through the VE, we can create a collaborative environment where twelve caring people can embrace the central child (Kisha). Each of the four groups contains one child from Kisha's immediate world, resulting in four children per village (A3, B3, C3, D3). In addition, each child is accompanied by a trusted guardian or friend (A2, B2, C2, D2). Finally, each child-guardian pair is augmented by a mentor/advisor (A1, B1, C1, D1) who possesses skills and connections appropriate to the composition and needs of Kisha and her village.

In its tetrahedral configuration, the four sub-groups are highly collaborative both internally and with other sub-groups. The tetrahedral configuration is thus the "strategizing configuration" because each sub-group confers especially closely with itself. The original expanded VE configuration is the "implementation configuration" since Kisha resides at the center with the members disbursed all around her.

Between the two configurations lies yet a third, "the dialogue configuration" as represented by the third VE state -- the Octahedron:



Dialoguing

Each of the three configurations offers a different collaborative experience. By oscillating between configurations, an extremely rich and dynamic collaborative environment emerges.

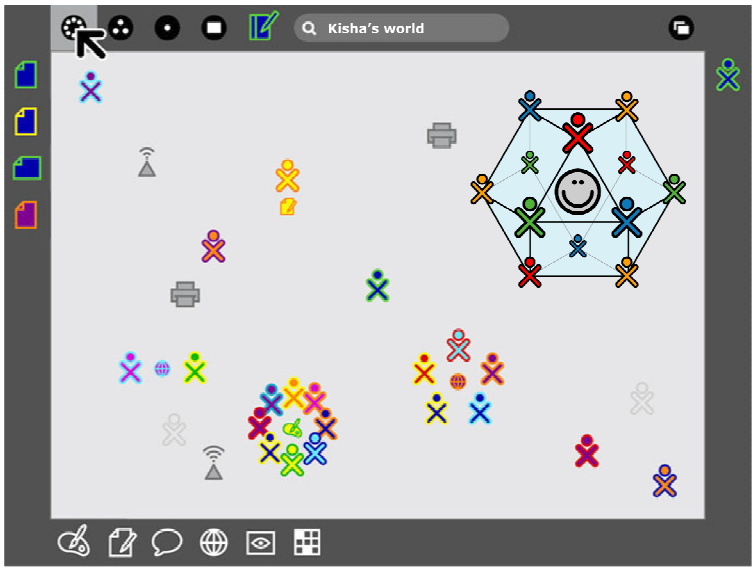
Implementing the Vision – Technological and Development Resources

To achieve the goal of creating a protective environment for the world's excluded and invisible children based on the Vector Equilibrium, several critical resources are needed:

1. A technological platform that is accessible, extensible, affordable and capable of networked communication in the remotest parts of the Earth
2. A network of children and trusted guardians ("N3" and "N2" in the VE) in developing nations who can lead in rescuing their excluded and invisible peers
3. International mentor volunteers to serve as the "N1" nodes in the VE
4. Data centers for housing server components
5. Software developers skilled in the Smalltalk/Squeak environment
6. Software designers who can create compelling software for children

Regarding Resource #1, such a platform already exists in the "One Laptop Per Child" (OLPC) initiative championed by MIT Media Lab founder Nicholas Negroponte. The OLPC is chartered with providing state-of-the-art computer technology to the world's most underserved children. Revolutionary in design and execution, the "OLPC" provides the world's children an unprecedented tool for connecting with information and each other.

The proposed interface below illustrates the suitability of the VE as an OLPC interface:



Proposed VE-Powered OLPC Interface

Because of its vision, far reach and technological innovation, the OLPC is an ideal and compelling platform upon which to implement this vision.

Implementing the Vision – Financial Resources

This project is conceived as an open-source non-profit initiative. Like other similar projects, including the OLPC, it will rely in large part upon the individual initiative of like-minded individuals and angels. As Bucky so often stated, it is the individual initiatives of committed people that change the world for the better. The technology industry is replete with "trim-tabs" who have altered the course of events through the application of individual initiative, much of it expended by the flickering lights of no-car garages.

Partnering with the OLPC initiative is certainly a potentially great point of leverage. The markets and goals are identical, and the respective hardware- and software-orientations are absolutely complementary -- the OLPC needs compelling software; compelling software needs a ubiquitous platform like the OLPC.

Taking the Vision to the Next Level

As an architect and software developer, I have had the opportunity to build environments both physical and virtual. Many of the same principles apply – navigation, clarity, delight. In addition, I have designed a great deal of software for children, including working with Alan Kay at the Open School in Los Angeles on the development of a programming language for children. Given that the OLPC incorporates the Smalltalk/Squeak language, Alan would be a wonderful resource to tap. There are many other phenomenal resources from which to draw in my immediate area, and I would indeed look forward to collaborating on this vision.

Thank you very much for your consideration. I look forward to seeing all the great designs offered by my co-contributors.

Kind regards,

Mark Loparco